W. B. No. 660

Received August 12, 1918
Issued Oct. 26, 1918

U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

CHARLES F. MARVIN, Chief

MONTHLY WEATHER REVIEW

SUPPLEMENT No. 12

AEROLOGY No. 7

I. FREE-AIR DATA AT DREXEL, NEBR., AND ELLENDALE, N. DAK., AEROLOGICAL STATIONS. JANUARY, FEBRUARY, AND MARCH, 1918, INCLUSIVE

By The Aerological Division, Willis Ray Gregg, In Charge

II. FREE-AIR TEMPERATURES DURING THE COLD WINTER OF 1917–18

By Willis Ray Gregg

III. THE ELLENDALE AEROLOGICAL STATION

By Vincent E. Jakl

QC
983
.A21
no. 12
1918

WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

National Oceanic and Atmospheric Administration

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March 21, 2005

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CORRIGENDA.

Supplement No. 3 (Aerology No. 1)—

Page 47: In record of November 23, 1915, the altitude in second line from bottom should be 500 instead of 550.

Supplement No. 5 (Aerology No. 2)—

Page 28: Time of last entry should be 12:32 instead of 2:32.

Supplement No. 7 (Aerology No. 3)—

Page 49: Time for June 28, 1916, series (No. 3) should be p. m. instead of a. m.

Supplement No. 8 (Aerology No. 4)—

Page 6: Table 3, in last column, opposite 2,000 meters, value should be −4.3 instead of −5.3.

Page 34: In record of August 18–19, 1916, series (No. 5), time of last entry should be 3:16 instead of 8:16.

Page 47: In record of September 19, 1916, series (No. 1) make wind direction during descent at 2,000 and 1,750 meters wsw. instead of w., and at 1,500 meters sw. instead of w.

Page 76: In first record the number of the series should be 8 instead of 9, and the time should be p. m. instead of a. m.

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SUPPLEMENTS TO THE MONTHLY WEATHER REVIEW.

During the summer of 1913 the issue of the system of publications of the Department of Agriculture was changed and simplified so as to eliminate numerous independent series of Bureau bulletins. In accordance with this plan, among other changes, the series of quarto bulletins—lettered from A to Z—and the octavo bulletins—numbered from 1 to 44—formerly issued by the U. S. Weather Bureau have come to their close.

Contributions to meteorology such as would have formed bulletins are authorized to appear hereafter as Supplements of the MONTHLY WEATHER REVIEW. (Memorandum from the Office of the Assistant Secretary, May 18, 1914.)

These supplements comprise those more voluminous studies which appear to form permanent contributions to the science of meteorology and of weather forecasting, as well as important communications relating to the other activities of the U. S. Weather Bureau. They appear at irregular intervals as occasion may demand and contain, approximately, 100 pages of text, charts, and other illustrations. Subscribers to the MONTHLY WEATHER REVIEW receive the SUPPLEMENT without extra charge. Copies may be procured at the prices indicated below by addressing the Superintendent of Documents, Government Printing Office, Washington, D. C.

SUPPLEMENTS PUBLISHED.

No. 1. Types of storms of the United States and their average movements. By E. H. Bowie and R. H. Weightman, Washington, 1914. 37 p. 114 ch. 4°. Price 25 cents. (W. B. No. 538.)

No. 2. I. Calendar of the leafing, etc., of the common trees of the eastern United States. By G. N. Lamb. 19 p. 4 figs. II. Phenological dates, etc., recorded by T. Mikesell at Wauseon, Ohio. By J. Warren Smith. 73 p. 2 figs. Washington, 1915. 4°. Price 25 cents. (W. B. No. 558.)

No. 3. (*Aerology No. 1.*) Sounding balloon ascensions at Fort Omaha, Nebr., May 8, 1915, etc. By W. R. Blair and others. 67 p. 23 figs. Washington, 1916. 4°. Price 25 cents (W. B. No. 592.)

No. 4. Types of anticyclones of the United States and their average movements. By E. H. Bowie and R. H. Weightman. Washington, 1917. 25 p. 7 figs. 73 ch. 4°. Price 25 cents. (W. B. No. 600.)

No. 5. (*Aerology No. 2.*) Free-air data at Drexel Aerological Station: January, February, and March, 1916. By W. R. Blair and others. Washington, 1917. 59 p. 6 figs. 4°. Price 25 cents. (W. B. No. 603.)

No. 6. Relative humidities and vapor pressures over the United States, including a discussion of data from recording hair hygrometers for a period of about 5 years. By P. C. Day. Washington, 1917. 61 p. 7 figs. 34 charts. 4°. Price 25 cents. (W. B. No. 609.)

No. 7. (*Aerology No. 3.*) Free-air data at Drexel Aerological Station: April, May, and June, 1916. By W. R. Blair and others. Washington, 1917. 51 p. 4 figs. 4°. Price 25 cents. (W. B. No. 619.)

No. 8. (*Aerology No. 4.*) Free-air data at Drexel Aerological Station: July, August, September, October, November, and December, 1916. By W. R. Gregg and others. Washington, 1918. 111 p. 12 figs. 4°. Price 25 cents. (W. B. No. 642.)

No. 9. Periodical events and Natural Law as guides to agricultural research and practice. By A. D. Hopkins. Washington, 1918. 42 p. 22 figs. 4°. Price 25 cents. (W. B. No. 643.)

No. 10. (*Aerology No. 5.*) Free-air data at Drexel Aerological Station: January, February, March, April, May, and June, 1917. By W. R. Gregg and others. Washington, 1918. 101 p. 11 figs. 4°. Price 25 cents. (W. B. No. 651.)

No. 11. (*Aerology No. 6.*) Free-air data at Drexel Aerological Station: July, August, September, October, November, and December, 1917. By W. R. Gregg and others. Washington, 1918. 108 p. 11 figs. 4°. Price 25 cents. (W. B. No. 658.)

No 12. (*Aerology No. 7.*) I. Free-air data at Drexel, Nebr., and Ellendale, N. Dak., Aerological Stations: January, February, and March, 1918. By W. R. Gregg and others. II. Free-air temperatures during the cold winter of 1917–18. By W. R. Gregg. III. The Ellendale Aerological Station. By Vincent E. Jakl. Washington, 1918. 82 p. 10 figs. 4°. Price 25 cents. (W. B. No. 660.)

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FREE-AIR DATA AT DREXEL, NEBR., AND ELLENDALE, N. DAK., AEROLOGICAL STATIONS, JANUARY TO MARCH, 1918, INCLUSIVE.

By the AEROLOGICAL DIVISION, WILLIS RAY GREGG, Meteorologist, in Charge.

GENERAL STATEMENT.

During the three months, January to March, 1918 inclusive, kite flights were made at Drexel on all but 12 days, 5 of these failures occurring at the end of February, when the gasoline engine was out of order. On the other 7 days surface winds were too light for flying. The average altitude reached was 3,025 meters. The highest flight thus far made at Drexel occurred on March 25, 1918, when an altitude of 6,843 meters above sea level was reached.

At Ellendale,[1] owing to delay in securing a suitable motor, kites were reeled in by hand and could therefore not be flown except under very favorable wind conditions. In spite of these limitations observations were obtained on 65 days during the period, the mean altitude being 2,201 meters, and the greatest height reached being 4,363 meters on February 20, 1918. Flights were begun at Ellendale on December 17, 1917, three being made during that month. The data for these three flights may be found in Table 13. The number of flights and their mean altitudes for the different months at the two stations are given in Table 1.

TABLE 1.—*Distribution and mean altitudes of kite flights at Drexel, Nebr., and Ellendale, N. Dak., during the period January to March, 1918, inclusive.*

	Drexel.			Ellendale.		
	January.	February.	March.	January.	February.	March.
Number of flights	46	31	43	19	21	26
Mean altitude, meters	2,959	3,358	2,856	2,077	2,308	2,206

SPECIAL NOTES ON KITE FLIGHTS.

Drexel, Nebr.—January 11.—"Unusually brilliant halos, one of 22° and the other of 46°, were observed during the forenoon of this day. The smaller halo was first noticed about sunrise and became complete when the sun had reached an altitude of 22°. Two very bright parhelia and an upper tangent arc were observed. Portions of a parhelic circle passed through the parhelia and the sun, one part extending from the sun to the 46° halo at the right, and the other part from the 22° halo to the 46° halo at the left. The parhelia, when the sun was at a low angle, were elongated vertically, but became very nearly circular by 1:00 p. m. The arcs of the parhelic circle were last seen at 10:25 a. m., when the sun had reached an angle of 20°. The upper tangent arc was about 10° in length and at the point of contact with the halo was exceedingly bright.

"The 46° halo was first observed at 8:50 a. m., when the sun was at an altitude of 8°. This halo was less brilliant than the smaller one, its brightest portions being directly above the sun and near the southern horizon, apparently indicating the presence of a circumzenithal arc and an infralateral tangent arc, respectively. These, however, were not well developed.

"At the time of the occurrence of the halos very thin, cirrus clouds were present which could easily have been mistaken for haze. Later these dissipated and the sky was partly covered by alto-stratus and strato-cumulus, but the parhelia still continued."—*H. W. B.*

The last paragraph in this note is of considerable interest in view of the frequency, during the past winter, with which halos were observed, when no cirrus or cirro-stratus clouds were present. In most cases they occurred when the sky was partly or entirely covered by relatively low clouds, such as alto-stratus, alto-cumulus, strato-cumulus, and stratus. See, for example, the records for January 10, 12, 16, 18, 30, and February 20, at Drexel, Tables 10 and 11; and for January 10, 15, 19, 28, and February 7 at Ellendale, Tables 14 and 15. On all of these days it will be observed that the temperatures both at the surface and in the upper levels, were very low, ranging from −20° to −35° C., and the relative humidity was high, usually between 80 per cent and 100 per cent. Under these conditions it is probable that the moisture, in condensing, assumed the form of ice needles rather than snow crystals, thus producing conditions favorable for the formation of halos. The question arises as to the propriety of calling such clouds "stratus," even though their altitude entitles them to that classification. Other accounts of the occurrence of halos when no clouds of the cirrus type were present may be found in the Monthly Weather Review for December,[2] 1915, and January,[3] 1916.

February 2, series (No. 5).—A lunar halo of 32° radius was observed at 5:02 a. m. So far as known this is the first observation of a halo, either solar or lunar, with a radius of 32° that has ever been reported, although Besson,[4] in "Different Forms of Halos and their Observation," states that halos with radii of 26°–29° and 34°–38° have been observed on five or six different occasions.

[1] For a description of this station see p. 12, this Supplement.

[2] Weeks, J. R. A halo in the making. MONTHLY WEATHER REVIEW, Vol. 43, p. 591.

[3] Kimball, H. H. Solar and Sky Radiation Measurements during January, 1916. MONTHLY WEATHER REVIEW, Vol. 44, p. 3.

[4] MONTHLY WEATHER REVIEW, July, 1914, 42, p. 443.

Ellendale, N. Dak.—January 15, 1918.—"At 10:17 a. m., with four kites out and 3,000 meters of wire, a small patch of what appeared distinctly to be cirro-stratus clouds appeared in the southeast, somewhat lower than midway between the zenith and the horizon. Kite No. 21 was 2,500 meters out from the kite reel, at an angle of about 36°. Suddenly the observer at the kite reel observed a streak in the cirro-stratus clouds, apparently beginning exactly at the point where kite No. 21 appeared in the sky, and running perpendicularly toward the horizon, but stopping at the lower edge of the clouds. The phenomenon resembled the rapid ripping of a piece of cloth. I was at the time observing the direction of the clouds, which were moving rapidly from the northwest, and saw the streak distinctly immediately after it was complete. It was but a fraction of a degree in width, appeared as an opening in the clouds and extended from kite No. 21 downward about 10°. Upon observing this phenomenon we stopped the reel, thus causing the kites to rise rapidly, while the clouds moved farther toward the horizon and gradually dissipated. The streak consequently separated from the kite and gradually shortened, apparently from both ends, its disappearance taking about 3 minutes. At about the same time the surface humidity rose, and low alto-cumulus clouds appeared, obscuring three of the kites. However, while the streak was observed not even the head kite showed any indication of being obscured by intervening clouds."—*V. E. J.*

For a description of similar occurrences at Drexel, Nebr., and at Mount Weather, Va., together with an attempted explanation, see Supplement No. 11 (Aerology No. 6), page 5, and MONTHLY WEATHER REVIEW, Vol. **45**, pages 269–270.

Free-Air Temperatures.

Table 2 contains mean monthly temperatures at different levels, as observed at Drexel and Ellendale during the period January to March, 1918, inclusive; also, for purposes of comparison, the three-year means for Drexel and the five-year means for Mount Weather, Va. Ellendale is approximately 550 kilometers north of Drexel, and its temperatures, both at the surface and at higher levels, are between 4° and 6° C. lower. At Drexel, temperatures at all levels were much below normal in January, practically normal in February, and considerably above in March.

TABLE 2.—*Mean monthly temperatures at Drexel and Ellendale for January to March, 1918, inclusive; also, 3-year means at Drexel, and 5-year means at Mount Weather, Va.*

Altitude, sea level.	January.				February.				March.			
	Drexel.		Ellendale, 1918.	Mount Weather, 5-year mean.	Drexel.		Ellendale, 1918.	Mount Weather, 5-year mean.	Drexel.		Ellendale, 1918.	Mount Weather, 5-year mean.
	1918	3-year mean.			1918	3-year mean.			1918	3-year mean.		
meters.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*
[a] Surface	[b]−11.7	− 8.7	[c]−16.1	.....	[d]− 5.0	− 5.3	[e]− 9.4	.....	[f] 8.3	4.9	[g] 1.5	.....
500	−12.1	− 8.9	−16.1	[h]− 1.3	− 4.7	− 5.5	− 9.3	[h]− 0.8	7.6	4.3	1.8	[h] 4.6
750	−12.5	− 8.9	−16.3	− 1.7	− 3.1	− 5.5	− 8.4	− 1.6	6.2	3.2	2.0	3.5
1,000	−12.0	− 7.8	−15.5	− 2.0	− 2.1	− 4.7	− 7.3	− 2.4	5.6	2.7	2.2	2.5
1,250	−11.2	− 6.9	−14.7	− 2.5	− 1.6	− 3.6	− 6.7	− 2.9	5.7	2.6	1.8	1.6
1,500	−10.8	− 6.7	−14.3	− 2.9	− 1.8	− 3.5	− 6.9	− 3.4	5.4	2.3	1.2	0.7
1,750	−10.9	− 6.8	−14.5	− 3.4	− 2.0	− 3.5	− 7.6	− 4.1	4.6	1.5	0.1	− 0.3
2,000	−11.1	− 7.1	−15.1	− 4.0	− 2.8	− 4.1	− 8.7	− 4.8	3.6	0.5	− 1.2	− 1.3
2,250	−11.9	− 7.8	−16.2	− 4.7	− 3.7	− 5.0	− 9.6	− 5.6	2.5	− 0.6	− 2.4	− 2.4
2,500	−12.9	− 8.8	−17.4	− 5.7	− 4.7	− 6.0	−10.9	− 6.8	1.3	− 1.9	− 3.8	− 3.6
2,750	−14.1	− 9.9	−18.9	− 6.8	− 5.9	− 7.2	−12.5	− 7.8	0.1	− 3.3	− 5.6	− 4.9
3,000	−15.1	−11.0	−20.4	− 8.2	− 7.2	− 8.5	−13.9	− 9.0	− 1.0	− 4.6	− 7.3	− 6.2
3,250	−16.2	−12.1	−22.4	− 9.6	− 8.8	− 9.9	−14.1	−10.5	− 2.4	− 6.0	− 8.9	− 7.6
3,500	−17.3	−13.1	.....	−10.9	−10.4	−11.3	−14.9	−12.0	− 3.6	− 7.3	−10.3	− 8.9
3,750	−18.6	−14.2	.....	−12.2	−12.4	−12.9	−15.4	−13.3	− 4.5	− 8.5	.....	−10.3
4,000	−20.0	−15.5	.....	−13.6	−14.2	−14.3	−15.8	−14.8	− 5.9	− 9.7	.....	−11.8
4,250	−21.2	−16.7	.....	−15.0	−15.9	−15.9	−16.3	−16.3	− 7.5	−11.3	.....	−13.5
4,500	−22.8	−18.2	.....	−16.4	−17.9	−17.9	.....	−17.7	− 9.7	−13.5	.....	−15.1
4,750	−24.5	−19.9	.....	−18.0	−19.9	−19.9	.....	−19.9	−11.7	−15.5	.....	−16.6
5,000	.....	.....	.....	.....	−21.8	−21.8	.....	−21.1	−13.1	−16.9	.....	−18.1
5,250	.....	.....	.....	.....	−23.7	−23.7	.....	−22.9	−14.7	−18.5	.....	−19.5
5,500	.....	.....	.....	.....	.....	.....	.....	.....	−16.7	−20.5	.....	.....
5,750	.....	.....	.....	.....	.....	.....	.....	.....	−18.7	−22.5	.....	.....
6,000	.....	.....	.....	.....	.....	.....	.....	.....	−20.6	−24.4	.....	.....
6,250	.....	.....	.....	.....	.....	.....	.....	.....	−22.6	−26.4	.....	.....
6,500	.....	.....	.....	.....	.....	.....	.....	.....	−24.5	−28.3	.....	.....
6,750	.....	.....	.....	.....	.....	.....	.....	.....	−26.5	−30.3	.....	.....

[a] Drexel, 396 meters; Ellendale, 444 meters.
[b] Actual 24-hour mean temperature, −11.9° C.
[c] Actual 24-hour mean temperature, −17.0° C.
[d] Actual 24-hour mean temperature, −3.9° C.
[e] Actual 24-hour mean temperature, −10.6° C.
[f] Actual 24-hour mean temperature, 7.2° C.
[g] Actual 24-hour mean temperature, 1.6° C.
[h] At surface, 526 meters above sea level.

Diurnal Series Observations.

During the three months five series of observations of diurnal variations were made at Drexel; none at Ellendale, because of lack of suitable power. The number of observations and the average altitudes reached in each series are shown in Table 3.

TABLE 3.—*Number of observations and average altitudes reached in diurnal series at Drexel, Nebr., January to March, 1918, inclusive.*

Date.	Number of flights.	Mean altitude.
		meters.
January 16-17	8	3,112
January 24-25	8	2,941
February 1-2	7	3,504
March 1-2	8	2,990
March 18-19	8	2,914

An attempt to make a series on January 3-4 was unsuccessful, owing to trouble with kites. The duration of each successful series and the temperatures observed are shown in figures 1 to 5. Weather conditions, except pressure distribution, and all other observed data may be found in Tables 10 to 12.

Pressures and Winds During the Series Flights.

Throughout the series of January 16-17, high pressure (about 1,030 mb.) prevailed over the northern Rocky Mountain region, including Montana and Idaho and a part of Canada to the north of these States. Low pressure was central over the upper Lake region and decreased in energy from 989 mb. to 1,003 mb. Winds, both surface and aloft, were northwesterly and north-northwesterly.

At the beginning of the series of January 24-25 a moderate HIGH (1,028 mb.) was central over Nevada and Utah and a pronounced LOW (994 mb.) just north of the Dakotas. The western HIGH moved southeastward and dissipated, and was followed by a LOW which rapidly increased in energy and at the end of the series had moved to Colorado with a pressure of 993 mb. In the meantime, the northern LOW had moved eastward to the lower Lake region and was followed by a HIGH, central north of the Dakotas, with a pressure of 1,034 mb. Under the influence of these changes in pressure distribution, surface winds at Drexel veered from west-southwesterly to northwesterly and, late in the series, to northeasterly. Aloft the winds were northwesterly and west-northwesterly, backing to west-southwesterly during the 25th under the influence of the approaching western LOW. The decrease in the velocity of easterly winds with altitude is well illustrated in the record of the eighth flight of this series (Table 10). Above this layer of practically calm conditions the wind turned clockwise and rapidly increased in velocity. This is characteristic of easterly winds, as observed at all aerological stations in the temperate zones.

The series of February 1-2 was made immediately following a severe cold wave. High pressure (1,037 mb.) was central over Iowa and Missouri, and low pressure (1,006 mb.) north of the Dakotas. The HIGH moved eastward to the Atlantic coast and diminished in energy (1,025 mb.). The LOW moved eastward and was followed by another from north of Montana. This LOW was of moderate intensity (about 1,006 mb.) and moved southeastward to South Dakota by the end of the series. Winds at the surface were southwesterly throughout the series; aloft, they backed from west-northwesterly to west-southwesterly, this change being accompanied by a decided rise in temperature at the higher levels.

At the beginning of the series of March 1-2 high pressure (1,037 mb.) was central over western Kansas and low pressure (1,009 mb.) north of Montana. The high moved eastward to the Atlantic coast and diminished in energy (1,023 mb.). The LOW also passed eastward and was followed by a moderate HIGH (1,030 mb.), which at the close of the series was central over the Dakotas. Winds at the surface were southwesterly, veering late in the series under the influence of the northwestern HIGH as it passed north of the station, to northeasterly. Aloft the winds were westerly, backing to southwesterly and later veering to north-northwesterly. In the lower levels during the last flight they were northeasterly and light.

Throughout the series of March 18-19 high pressure (about 1,023 mb.) was central over the Middle Atlantic States. Low pressure moved eastward from north of Montana to western Ontario and diminished in intensity from 986 mb. to 997 mb. Winds, both at the surface and at higher levels, were southwesterly and south-southwesterly.

Electric Potential.

Observations of electric potential have not been made at Ellendale, owing to the impossibility of procuring suitable apparatus at this time. They have been continued at Drexel, but, in the tables, only the actual observed values have been given. These have been entered opposite the altitudes nearest which they were observed. No effort has been made to give interpolated values at intermediate altitudes, as in previous publications, because the accuracy of these interpolations is believed to be very questionable. For that matter the readings themselves are of doubtful value, at any rate when considered in a quantitative sense, owing to the imperfect insulation of the kite reel, and more particularly to the varying states of the atmosphere in respect to its ability to carry off the charge on the kite reel and wire. These facts and the probable frictional effect of the wind on the wire, especially when the kites are rapidly changing altitude, make it difficult to interpret with any certainty the meaning of the results obtained, at any rate until they can be compared with more direct means of measuring the potential gradient.

Gravity Potential.

In previous Supplements[5] containing free-air data obtained at the Drexel Aerological Station, values of gravity potential at the various altitudes have been included in the published tables. At any one station these values are always the same for given altitudes, such as those for which interpolated values of pressure, temperature, etc., are computed—e. g., 500, 750, and 1,000 meters. In order to avoid these repetitions it has been decided to omit the values from the tables and to publish in each Supplement a short table giving these values at intervals of 100 meters, with a proportionality table from which interpolations may readily be determined. First, however, it seems advisable to discuss briefly the term gravity potential and the need for it in aerological studies.

Gravity potential, or geopotential, as it is sometimes called, may be defined as the potential energy represented by a mass of one gram at any altitude under the influence of gravity.[6] If sea-level gravity were everywhere the same over the earth, there would be no need of expressing the state of a given mass of air in any other way than that at present in use, viz, its actual distance, in meters, feet, or any other geometrical unit, above sea level; but, as is well known, gravity does vary both progressively with latitude and altitude and irregularly by reason of local influences of topography and isostatic compensation. From this it results that the force of gravity at equal heights above the sea is not the same from place to place, and that therefore different amounts of work are required to lift unit mass from sea level to any specified elevation above it at places having different values of gravity. For example, since gravity increases from the Equator to the pole, unit mass represents a smaller potential at a certain altitude above the former than at the same altitude above the latter. This difference is small at such altitudes as are reached by kites, but may be considerable at altitudes reached by sounding balloons.

The unit for expressing gravity potential is 10^5 ergs and has been given various names, such as dynamic meter, leometer, and grav, none of which has as yet been universally adopted. The last name, grav, was proposed in 1915 by Dr. (now Maj.) Wm. R. Blair, in a paper on "The Planetary System of Convection" (MONTHLY WEATHER REVIEW, Vol. 44, p. 191, footnote). As there pointed out this name lends itself readily to combinations, such as "equigravs" for lines of equal gravity potential and "equigravic surfaces" for surfaces of equal gravity potential. It has the further advantages of brevity and etymological consistency. No objection to it having been raised, it will henceforth be used in its abbreviated form, gv., in the tables published by the Weather Bureau.

In the application of the foregoing considerations we require to know the best value of gravity at the several stations. These have been secured upon the advice of the U. S. Coast and Geodetic Survey by applying to the theoretical value of gravity at assumed sea level below the station, as computed by the gravity formula on page 134 of Special Publication No. 40 of the Coast and Geodetic Survey, the corrections for elevation, topography, isostatic compensation, and anomaly. The results furnished us by Mr. William Bowie of the Coast and Geodetic Survey are: Drexel, Nebr., 980.174; Ellendale, N. Dak., 980.582. These are believed to be the best known values of gravity at the stations themselves.

The normal decrease of gravity with altitude is .0003086 dyne per meter. (See p. 55, Investigations of Gravity and Isostasy, Special Publication No. 40, by William Bowie, U. S. Coast and Geodetic Survey.) Using this value and integrating between any two given heights, Bjerknes, in Dynamic Meteorology and Hydrography, part 1, chapter 2, has developed the following formula for computing gravity potential:

$$Gv=\frac{g}{1000}z-.0000001543\ z^2 \qquad (1)$$

in which Gv=gravity potentials in gravs,
g=force of gravity on a gram mass, in dynes, and
z=altitude in meters above some fixed point.

This "fixed point" may be the altitude of the station, or some altitude above it, or it may be sea level. When data from several stations are considered, it is desirable to use a common reference plane, in order that the data may be intercomparable, and, as altitudes are generally expressed in meters above sea level, it seems best to adopt sea level as the reference plane from which to compute values of gravity potential. In the case of any station not at sea level, however, it is impossible to ascribe any really definite significance to the value designated g in equation (1), although it takes on the semblance of a so-called sea-level value of gravity under the particular station in question. Waiving these unimportant technicalities the following procedure has been adopted for present purposes.

The values of surface gravity at the stations given above have been reduced to the so-called sea-level reference plane by the formula—

$$g=g_s+.0003086\ z_s \qquad (2)$$

in which g_s=the station values of gravity given above, and
z_s=the altitude of the stations above sea level.

Introducing into formula (2) the appropriate values of g_s and z_s for the two stations, we obtain the following values of g: Drexel, Nebr., 980.296; Ellendale, N. Dak., 980.719.

Table 4 has been prepared by introducing these values, for the two stations respectively, in formula (1). For

[5] Supplements Nos. 3, 5, 7, 8, 10, and 11 (Aerology Nos. 1 to 6, inclusive).

[6] Gravity is here considered in terms of force (expressed in dynes) that is exerted on a mass of one gram rather than its numerical equivalent, acceleration (expressed in centimeters and seconds).

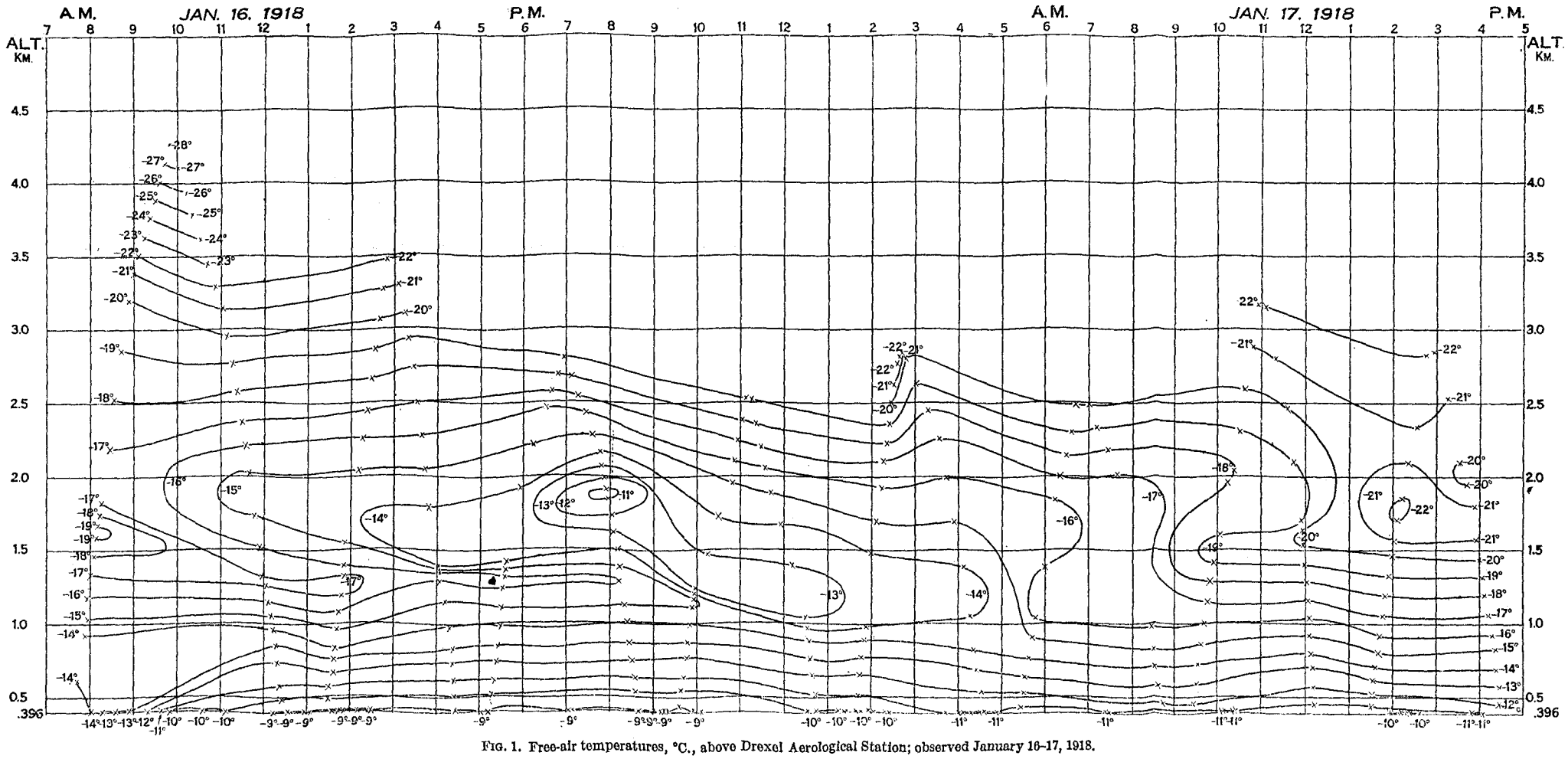

FIG. 1. Free-air temperatures, °C., above Drexel Aerological Station; observed January 16-17, 1918.

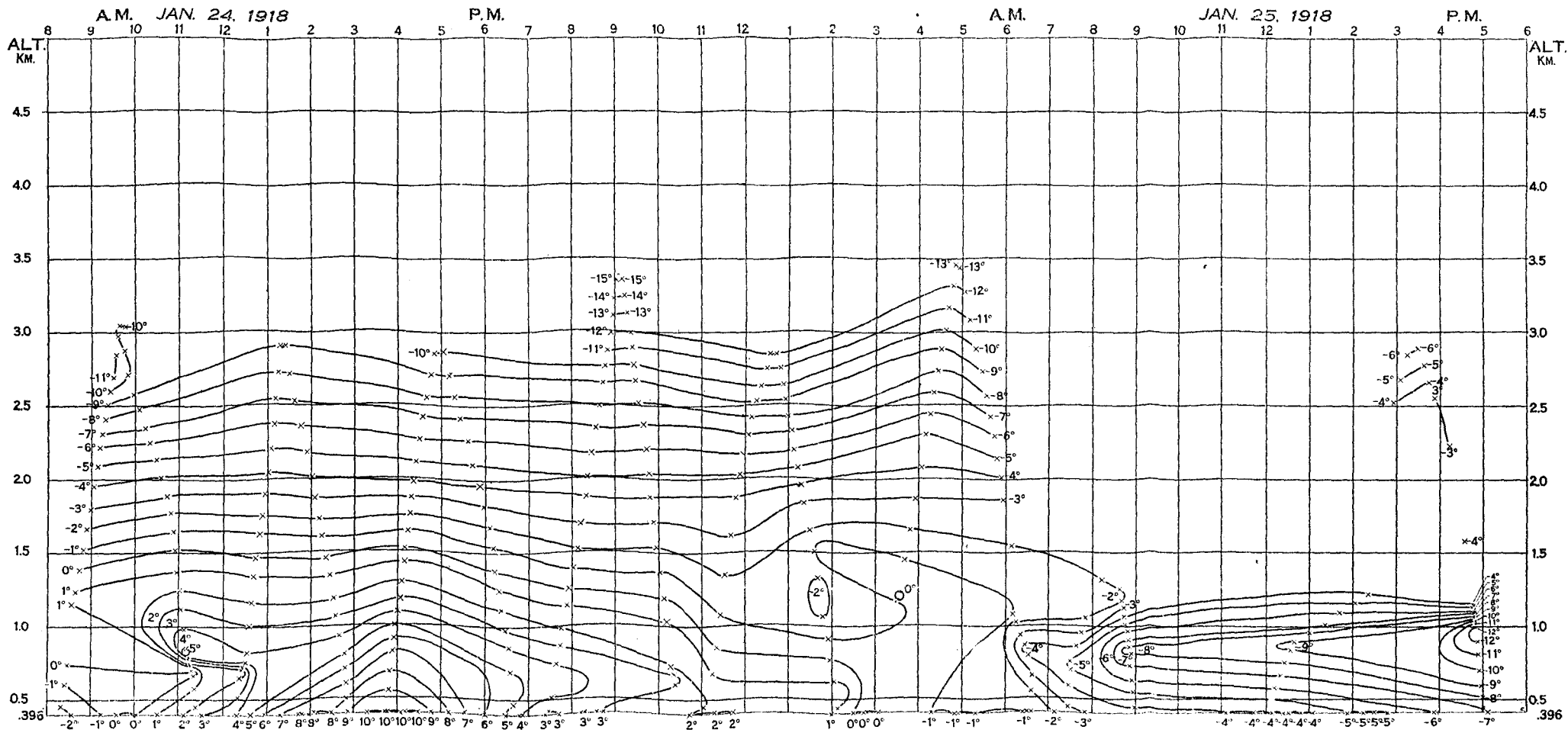

FIG. 2. Free-air temperatures, °C., above Drexel Aerological Station; observed January 24-25, 1918.

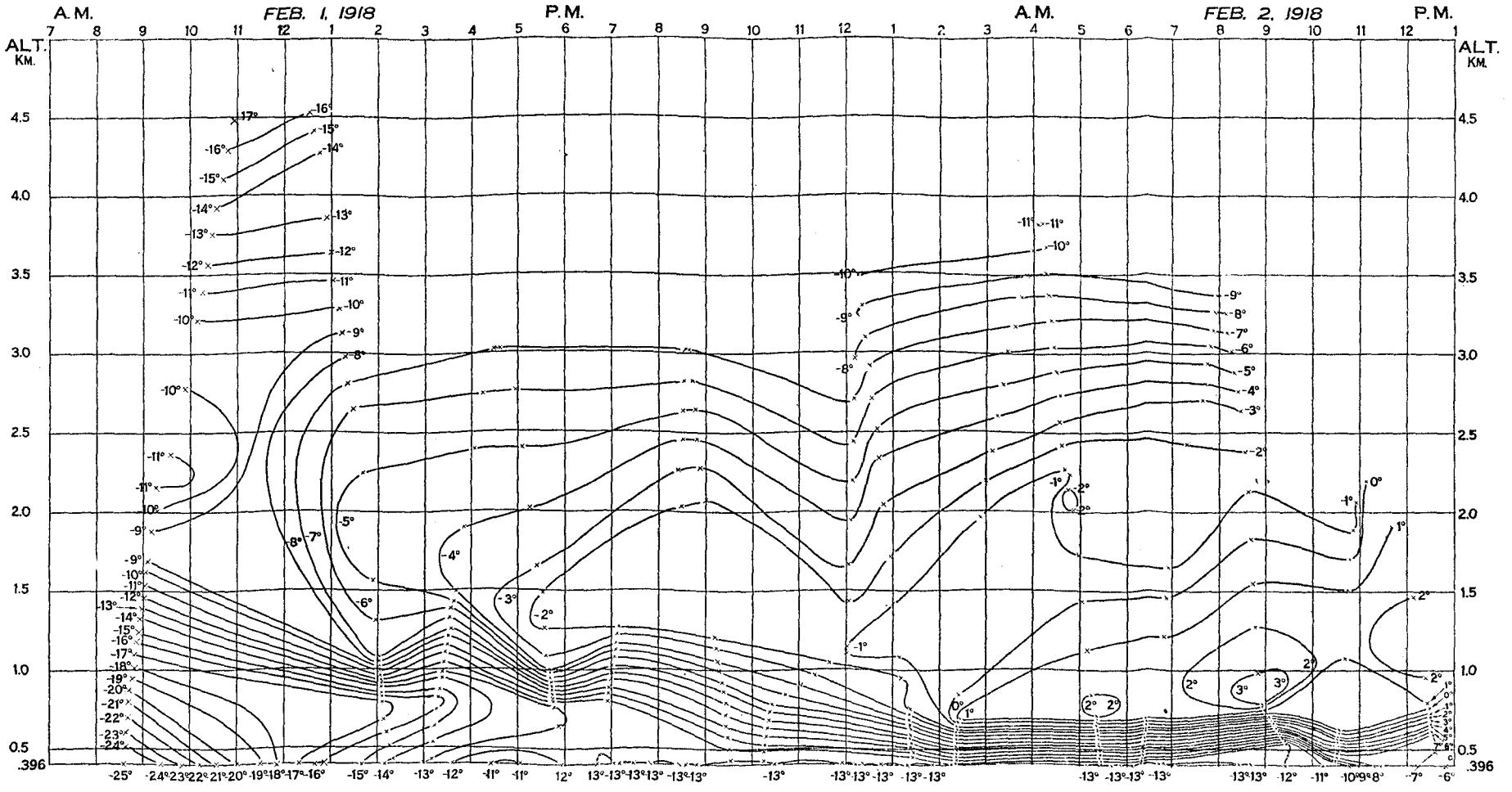

FIG. 3. Free-air temperatures, °C., above Drexel Aerological Station; observed February 1–2, 1918.

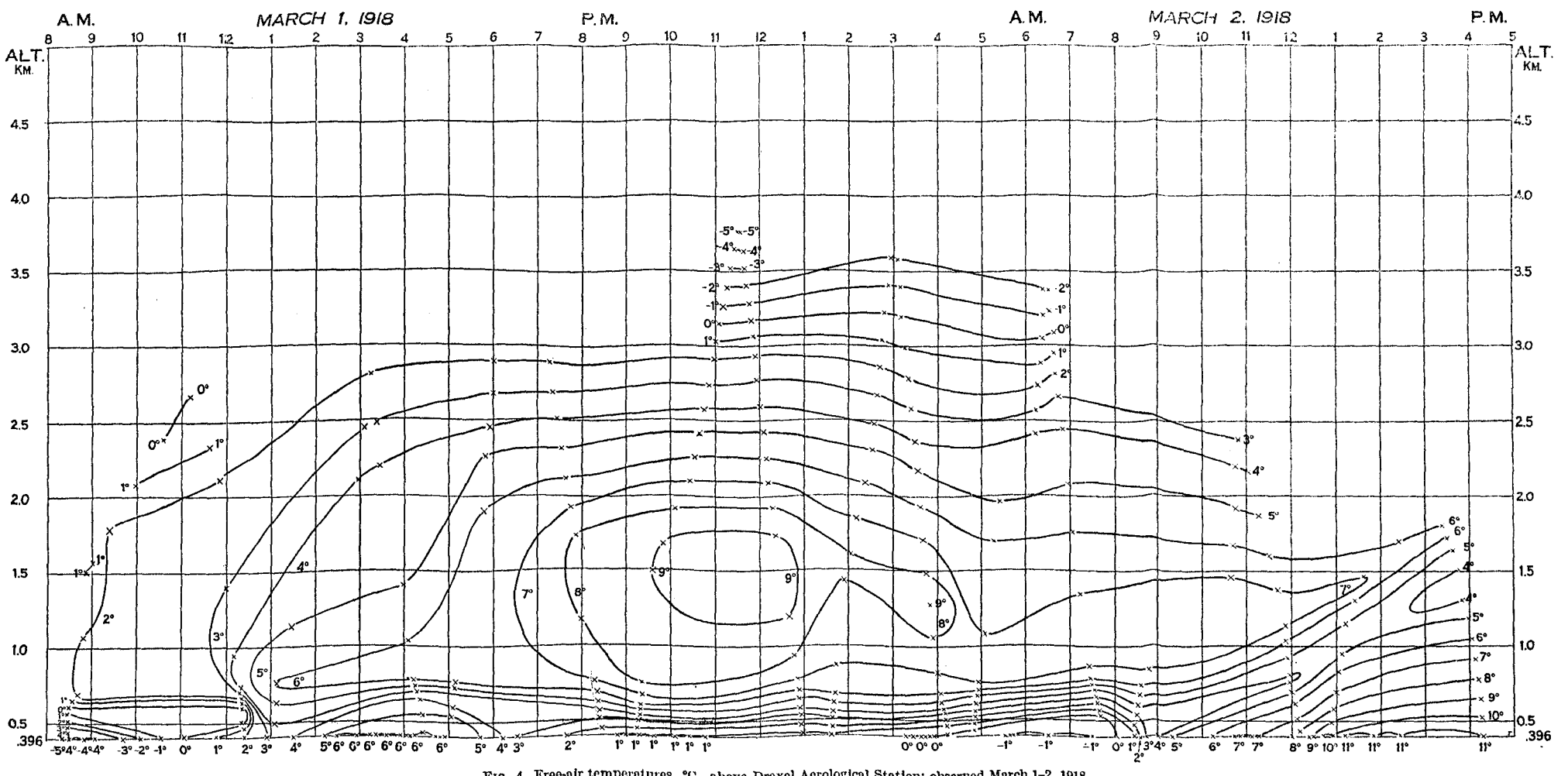

FIG. 4. Free-air temperatures, °C., above Drexel Aerological Station; observed March 1–2, 1918.

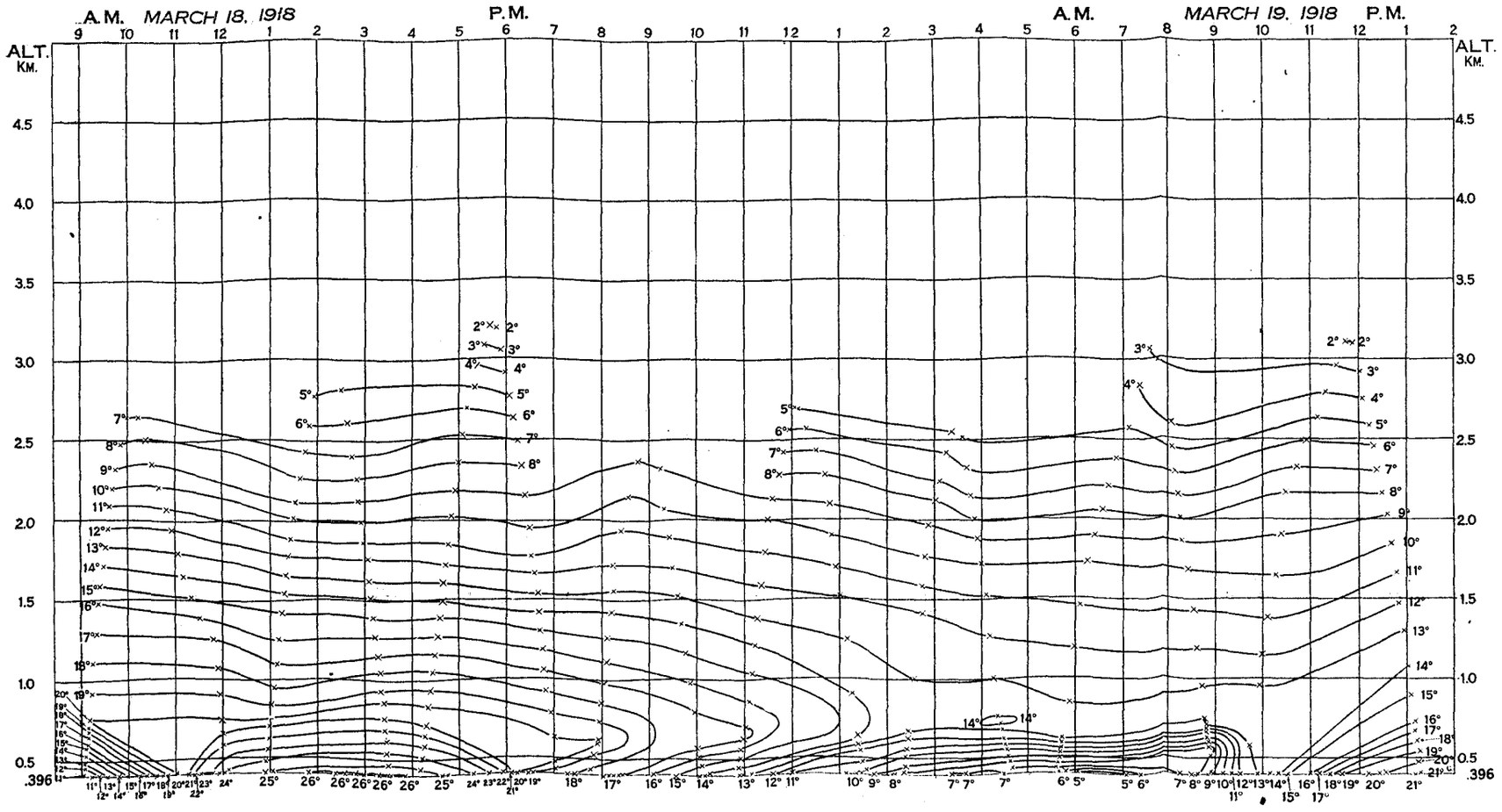

FIG. 5. Free-air temperatures, °C., above Drexel Aerological Station; observed March 18–19, 1918.

the sake of comparison this table also contains values of gravity potential for standard sea-level gravity—viz: 980.665. As before stated the differences are very small at altitudes reached by kites, and even at an altitude of 30 kilometers they are less than 200 gravs between the equator and the pole. To reduce them all to standard gravity would, however, defeat the very purpose aimed at in introducing them at all, and they are, therefore, given as actually computed for the estimated sea-level value of gravity of the stations themselves.

TABLE 4.—*Values of gravity potential, gv. for standard gravity and for Drexel, Nebr., and Ellendale, N. Dak.*

STANDARD GRAVITY, g=980.665.

Altitude above sea level, meters.	0	100	200	300	400	500	600	700	800	900
	gv.	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*
0	0	98	196	294	392	490	588	686	784	882
1,000	981	1,079	1,177	1,275	1,373	1,471	1,569	1,667	1,765	1,863
2,000	1,961	2,059	2,157	2,255	2,353	2,451	2,549	2,647	2,745	2,843
3,000	2,941	3,039	3,137	3,235	3,332	3,430	3,528	3,626	3,724	3,822
4,000	3,920	4,018	4,116	4,214	4,312	4,410	4,508	4,606	4,704	4,802
5,000	4,899	4,997	5,095	5,193	5,291	5,389	5,487	5,585	5,683	5,781
6,000	5,878	5,976	6,074	6,172	6,270	6,368	6,466	6,564	6,661	6,759

DREXEL, NEBR., g=980.296.

0	0	98	196	294	392	490	588	686	784	882
1,000	980	1,078	1,176	1,274	1,372	1,470	1,568	1,666	1,764	1,862
2,000	1,960	2,058	2,156	2,254	2,352	2,450	2,548	2,646	2,744	2,842
3,000	2,940	3,037	3,135	3,233	3,331	3,429	3,527	3,625	3,723	3,821
4,000	3,919	4,017	4,115	4,212	4,310	4,408	4,506	4,604	4,702	4,800
5,000	4,898	4,996	5,093	5,191	5,289	5,387	5,485	5,583	5,681	5,778
6,000	5,876	5,974	6,072	6,170	6,268	6,365	6,463	6,561	6,659	6,757

TABLE 4.—*Values of gravity potential, gv. for standard gravity and for Drexel, Nebr., and Ellendale, N. Dak.*—Continued.

ELLENDALE, N. DAK., g=980.719.

Altitude above sea level, meters.	0	100	200	300	400	500	600	700	800	900
	gv.	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*	*gv.*
0	0	98	196	294	392	490	588	686	784	883
1,000	981	1,079	1,177	1,275	1,373	1,471	1,569	1,667	1,765	1,863
2,000	1,961	2,059	2,157	2,255	2,353	2,451	2,549	2,647	2,745	2,843
3,000	2,941	3,039	3,137	3,235	3,333	3,431	3,529	3,627	3,724	3,822
4,000	3,920	4,018	4,116	4,214	4,312	4,410	4,508	4,606	4,704	4,802
5,000	4,900	4,998	5,096	5,193	5,291	5,389	5,487	5,585	5,683	5,781
6,000	5,879	5,977	6,075	6,172	6,270	6,368	6,466	6,564	6,662	6,760

PROPORTIONAL PARTS.

	0	1	2	3	4	5	6	7	8	9
	97									
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	16	17	18
20	19	20	21	22	23	24	25	26	27	28
30	29	30	31	32	33	34	35	36	37	38
40	39	40	41	42	43	44	45	46	47	48
50	48	49	50	51	52	53	54	55	56	57
60	58	59	60	61	62	63	64	65	66	67
70	68	69	70	71	72	73	74	75	76	77
80	78	79	80	81	81	82	83	84	85	86
90	87	88	89	90	91	92	93	94	95	96
	98									
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	20	21	22	23	24	24	25	26	27	28
30	29	30	31	32	33	34	35	36	37	38
40	39	40	41	42	43	44	45	46	47	48
50	49	50	51	52	53	54	55	56	57	58
60	59	60	61	62	63	64	65	66	67	68
70	69	70	71	72	73	74	74	75	76	77
80	78	79	80	81	82	83	84	85	86	87
90	88	89	90	91	92	93	94	95	96	97

FREE-AIR TEMPERATURES DURING THE COLD WINTER OF 1917–18.

By WILLIS RAY GREGG, *Meteorologist.*

Observations of free-air conditions were made at Drexel Aerological Station, Washington, Nebr., throughout the cold winter of 1917–18, and at Ellendale Aerological Station, Ellendale, N. Dak., during January and February, 1918. The latter station has only recently been established, but observations have been obtained at Drexel since October, 1915. Opportunity is offered, therefore, of comparing free-air temperatures at this station during the period under discussion with those during similar periods in the two previous years. Before doing so, however, a consideration of surface temperature departures from normal conditions during these three years is of interest. The Drexel station has been in operation for too short a time to make it possible to determine normal values, and it has seemed best therefore to take those for Omaha, Nebr., which is situated about 30 kilometers east of Drexel, and for the Missouri Valley climatological district, the Drexel station being located in this district. The following table gives these values as published in the MONTHLY WEATHER REVIEW:

TABLE 5.—*Mean temperatures, °C., and departures from normal for Omaha, Nebr., and for the Missouri Valley during winter months, 1915–16, 1916–17, and 1917–18.*

Month and year.	Omaha.		Missouri Valley.	
	Mean temperature.	Departure from normal.	Mean temperature.	Departure from normal.
	°C.	*°C.*	*°C.*	*°C.*
December, 1915	− 1.3	+1.4	− 0.9	+1.9
December, 1916	− 5.4	−2.7	− 5.3	−2.5
December, 1917	− 7.8	−5.1	− 7.2	−4.4
January, 1916	− 8.2	−1.8	− 7.8	−1.7
January, 1917	− 5.2	+1.2	− 4.4	+1.7
January, 1918	−10.7	−4.3	−10.8	−4.7
February, 1916	− 4.7	−0.1	− 3.9	+0.3
February, 1917	− 5.8	−1.2	− 5.6	−1.4
February, 1918	− 2.5	+2.1	− 2.1	+2.1

An examination of this table shows that the mean departures for the first two years in each month are very small, and it is believed, therefore, that the mean free air temperatures for these two years may be accepted as normal values without appreciable error. Table 6 con-

tains, for purposes of comparison, the mean free air temperatures for the three years; also, normal values based on those observed during the first two years, and departures of the third year means from these normal values.

TABLE 6.—*Comparison of free air temperatures at Drexel Aerological Station during December, January, and February, 1915 to 1918.*

Altitude.	December.					January.					February.				
	1915	1916	2-year mean.	1917	Departures.	1916	1917	2-year mean.	1918	Departures.	1916	1917	2-year mean.	1918	Departures.
meters.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*
396	− 2.0	− 6.2	− 4.1	− 8.0	−3.9	− 8.3	− 6.2	− 7.2	−11.7	−4.5	− 3.8	− 6.9	− 5.4	− 5.0	+0.4
500	− 2.4	− 6.1	− 4.2	− 8.0	−3.8	− 8.7	− 6.1	− 7.4	−12.1	−4.7	− 4.1	− 7.5	− 5.8	− 4.7	+1.1
750	− 1.8	− 6.1	− 4.0	− 7.8	−3.8	− 8.8	− 5.6	− 7.2	−12.5	−5.3	− 4.3	− 8.6	− 6.4	− 3.1	+3.3
1,000	− 1.5	− 5.2	− 3.4	− 6.4	−3.0	− 6.7	− 4.7	− 5.7	−12.0	−6.3	− 3.2	− 8.4	− 5.8	− 2.1	+3.7
1,250	− 1.5	− 4.6	− 3.0	− 5.1	−2.1	− 4.8	− 4.7	− 4.8	−11.2	−6.8	− 1.8	− 7.1	− 4.4	− 1.6	+2.8
1,500	− 2.2	− 5.3	− 3.8	− 4.0	−0.2	− 4.3	− 4.9	− 4.6	−10.8	−6.2	− 2.0	− 6.5	− 4.2	− 1.8	+2.4
1,750	− 2.9	− 6.2	− 4.6	− 3.9	+0.7	− 3.8	− 5.4	− 4.6	−10.9	−6.3	− 1.7	− 6.5	− 4.1	− 2.0	+2.1
2,000	− 3.5	− 7.1	− 5.3	− 4.0	+1.3	− 4.1	− 5.9	− 5.0	−11.1	−6.1	− 1.9	− 7.2	− 4.6	− 2.8	+1.8
2,250	− 4.6	− 8.2	− 6.4	− 4.6	+1.8	− 4.8	− 6.7	− 5.8	−11.9	−6.1	− 2.9	− 8.0	− 5.4	− 3.7	+1.7
2,500	− 5.7	− 9.3	− 7.5	− 5.7	+1.8	− 5.8	− 7.6	− 6.7	−12.9	−6.2	− 4.0	− 9.0	− 6.5	− 4.7	+1.8
2,750	− 6.9	−10.5	− 8.7	− 7.1	+1.6	− 6.9	− 8.8	− 7.8	−14.1	−6.3	− 5.2	−10.1	− 7.6	− 5.9	+1.7
3,000	− 8.1	−11.6	− 9.8	− 8.5	+1.3	− 8.1	−10.0	− 9.0	−15.1	−6.1	− 6.8	−11.0	− 8.9	− 7.2	+1.7
3,250	− 9.0	−12.6	−10.8	− 9.9	+0.9	− 9.1	−11.1	−10.1	−16.2	−6.1	− 8.4	−12.0	−10.2	− 8.8	+1.4
3,500	−10.0	−13.8	−11.9	−11.3	+0.6	−10.2	−12.0	−11.1	−17.3	−6.2	− 9.9	−13.3	−11.6	−10.4	+1.2
3,750	−11.0	−14.9	−13.0	−12.6	+0.4	−11.2	−13.0	−12.1	−18.6	−6.5	−11.2	−14.7	−13.0	−12.4	+0.6
4,000	−12.5	−15.8	−14.2	−14.1	+0.1	−12.5	−14.1	−13.3	−20.0	−6.7	−12.3	−16.1	−14.2	−14.2	0.0
4,250	−13.7	−17.5	−15.6	−15.6	0.0	−13.6	−14.9	−14.2	−21.2	−7.0	−13.5	−17.7	−15.6	−15.9	−0.3
4,500	−15.1	−18.9	−17.0	−16.8	+0.2	−14.9	.....	−15.5	−22.8	−7.3	.....	.....	.....	−17.9	.....
4,750	−16.3	−19.6	−18.0	−17.9	+0.1	.....	.....	.....	−24.5	.....	.....	.....	.....	−19.9	.....
5,000	−17.8	.....	−19.5	−19.2	+0.3	.....	.....	.....	.....	.....	.....	.....	.....	−21.8	.....
5,250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	−23.7	.....

Although, as before stated, no comparisons with previous years can be made in the case of the Ellendale temperatures, they are of interest in connection with the values observed at Drexel during the same periods. Such a comparison from the surface to 3,000 meters is presented in Table 7.

TABLE 7.—*Comparison of mean temperatures and mean gradients at Drexel and Ellendale, January and February, 1918.*

Altitude.	January.				February.			
	Drexel.		Ellendale.		Drexel.		Ellendale.	
	Mean temperature.	Δt/100m.	Mean temperature.	Δt/100m.	Mean temperature.	Δt/100m.	Mean temperature.	Δt/100m.
meters.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*
[a] Surface	−11.7	.....	−16.1	.....	−5.0	.....	− 9.4	.....
500	−12.1	0.40	−16.1	0.00	−4.7	−0.12	− 9.3	−0.04
750	−12.5	0.16	−16.3	0.08	−3.1	−0.64	− 8.4	−0.36
1,000	−12.0	−0.20	−15.5	−0.32	−2.1	−0.40	− 7.3	−0.44
1,250	−11.2	−0.32	−14.7	−0.32	−1.6	−0.20	− 6.7	−0.24
1,500	−10.8	−0.16	−14.3	−0.16	−1.8	0.08	− 6.9	0.08
1,750	−10.9	0.04	−14.5	0.08	−2.0	0.08	− 7.6	0.28
2,000	−11.1	0.08	−15.1	0.24	−2.8	0.32	− 8.7	0.44
2,250	−11.9	0.32	−16.2	0.44	−3.7	0.36	− 9.6	0.36
2,500	−12.9	0.40	−17.4	0.48	−4.7	0.40	−10.9	0.52
2,750	−14.1	0.48	−18.9	0.60	−5.9	0.48	−12.5	0.64
3,000	−15.1	0.40	−20.4	0.60	−7.2	0.52	−13.9	0.56

[a] Drexel, 396 meters; Ellendale, 444 meters.

A most interesting and unexpected condition is disclosed in Table 6, viz, a change from a strong negative departure at the surface to a large positive departure at higher levels in December, 1917, and a consistently large negative departure at all altitudes in January, 1918, this in spite of the fact that surface temperature departures over the entire country had similar characteristics in the two months as shown in Chart IV, MONTHLY WEATHER REVIEW, December, 1917, and January, 1918. In both months there was a large negative departure east of the Rocky Mountains and a large positive departure from the Rocky Mountains to the Pacific Coast. However, the positive departure was greater in December than in January and, on the other hand, the most intense negative departures in December occurred in northeastern Montana and northern North Dakota, whereas in January they were recorded in and near the Ohio River Valley. With these differences in free-air and surface departures in mind it is of interest to consider the free-air wind resultants for these two months. In Table 8 are given these resultants for all winter months from 1915 to 1918, as observed at Drexel. Table 9 contains similar data for Ellendale during January and February, 1918, and, for purposes of comparison, the data for these months at Drexel are repeated in this table.

TABLE 8.—*Wind resultants, m. p. s., at Drexel Aerological Station during December, January, and February, 1915 to 1918.*

Altitude.	December.						January.						February.					
	1915		1916		1917		1916		1917		1918		1916		1917		1918	
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
		m.p.s.		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*
396	s61°w	0.7	n72°w	0.9	s67°w	0.8	n87°w	2.4	n79°w	1.5	n33°w	2.7	n69°w	1.4	n45°w	2.5	s70°w	3.0
500	n84°w	1.1	n88°w	1.2	s84°w	1.3	n85°w	2.8	n75°w	2.8	n39°w	4.1	n63°w	2.1	n45°w	3.5	s70°w	4.0
750	n59°w	3.2	s82°w	3.3	s89°w	2.0	s85°w	5.0	n73°w	4.6	n36°w	7.1	n60°w	5.0	n38°w	6.4	s81°w	7.1
1,000	n61°w	4.5	s89°w	4.7	n84°w	4.3	s83°w	6.2	n74°w	6.4	n38°w	8.6	n57°w	6.6	n38°w	7.6	s82°w	8.5
1,250	n73°w	5.9	s85°w	6.2	n86°w	5.9	s85°w	6.7	n77°w	7.6	n44°w	9.0	n51°w	7.7	n45°w	8.4	s83°w	9.5
1,500	n77°w	5.8	s82°w	8.4	n81°w	7.1	s85°w	7.6	n76°w	9.1	n42°w	9.8	n54°w	9.8	n50°w	10.9	s88°w	10.7
2,000	n75°w	8.3	s84°w	10.9	n72°w	9.2	s88°w	10.3	n81°w	11.9	n51°w	12.7	n51°w	13.1	n60°w	13.1	s87°w	13.0
2,500	n80°w	12.0	s86°w	11.9	n75°w	12.9	s87°w	15.5	n84°w	13.4	n50°w	15.5	n54°w	14.0	n65°w	14.7	s84°w	15.9
3,000	n76°w	14.5	s85°w	13.4	n83°w	13.7	s88°w	19.2	n87°w	14.3	n56°w	18.2	n59°w	15.6	n68°w	16.8	s81°w	18.5
3,500	n81°w	13.6	s83°w	17.5	s86°w	16.2	w	19.3	n88°w	16.7	n58°w	20.1	n61°w	18.0	n60°w	16.8	s89°w	19.6
4,000	n78°w	16.8	n77°w	20.8	n75°w	16.4	s80°w	20.5	n87°w	22.5	n59°w	18.1	n68°w	20.6	n69°w	17.3	s85°w	16.3
4,500	n75°w	18.4	n67°w	19.5	n62°w	18.8	n79°w	22.6	w	24.4	n78°w	18.8	w	24.5	n81°w	20.4	n86°w	17.3
5,000	n86°w	18.7	n67°w	20.0	n55°w	16.4					w	18.9					n76°w	19.6
5,500																	n67°w	20.0

TABLE 9.—*Wind resultants at Drexel and Ellendale Aerological Stations, January and February, 1918.*

Altitude.	January.				February.			
	Drexel.		Ellendale.		Drexel.		Ellendale.	
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
meters.		*m.p.s.*		*m.p.s.*		*m.p.s.*		*m.p.s.*
[a] Surface	n33°w	2.7	n40°w	6.2	s70°w	3.0	n72°w	2.9
500	n39°w	4.1	n41°w	6.9	s70°w	4.0	n77°w	3.4
750	n36°w	7.1	n34°w	9.2	s81°w	7.1	n84°w	5.8
1,000	n38°w	8.6	n31°w	9.6	s82°w	8.5	n76°w	6.5
1,250	n44°w	9.0	n30°w	11.5	s83°w	9.5	n71°w	8.2
1,500	n42°w	9.8	n31°w	11.4	s88°w	10.7	n75°w	11.0
2,000	n51°w	12.7	n37°w	13.9	s87°w	13.0	n71°w	12.9
2,500	n56°w	15.5	n39°w	15.6	s84°w	15.9	n73°w	14.6
3,000	n56°w	18.2	n46°w	18.1	s81°w	18.5	n65°w	15.9

[a] Drexel, 396 meters; Ellendale, 444 meters.

In Table 8 it will be seen that the resultant winds for December, 1917, were from very nearly a westerly direction, whereas those in January, 1918, had a strong northerly component. This northerly component in January prevailed also at Ellendale, as shown in Table 9. It has already been stated that in December, 1917, surface temperatures were abnormally high from the Rocky Mountains to the Pacific coast and abnormally low east of this region, particularly along the Canadian border. This condition would produce in the upper levels a strong pressure gradient from west-southwest to east-northeast and at Drexel the wind resultants at those levels would, therefore, be very nearly from the west and would bring to Drexel air that was relatively warm. Table 6 shows that this actually occurred, the inversion layer extending to practically 3,000 meters, whereas, during the winter months it rarely reaches higher than 2,000 meters. On the other hand, in January, 1918, the coldest surface temperatures occurred in and near the Ohio River valley and temperatures were relatively high, though not greatly above normal, over the extreme northwest. This condition would result in winds with a strong northerly component, and hence would bring cold air to Drexel and Ellendale at the higher levels. That this was the case is clearly shown in Tables 6 and 7. These and other cases that have been examined indicate that the prevailing westerlies are considerably modified in the higher levels by the effect of surface temperature distribution upon the pressure gradient at those levels, and that this modification in the wind resultants largely determines the vertical temperature gradients that prevail.

Tables 7 and 9 are of interest chiefly in that they show similar temperature and wind conditions at Drexel and Ellendale, when the difference in latitude between the two places, about 5°, is considered. In January the temperature gradients and wind resultants are very nearly the same at both places; in February a higher temperature gradient at Ellendale than at Drexel is accounted for by a rather strong northerly component in the wind resultants at the former place and a slight southerly component in those at the latter place.

The foregoing discussion attempts to point out briefly the effect of surface temperature distribution upon the horizontal pressure gradients in the free air, the consequent modification in the prevailing westerlies, and the effect of this modification upon the vertical temperature gradients. Simultaneous free-air observations at a large number of places are needed to establish these relations more definitely. Such isolated observations as we have can hardly be made a basis for explaining the remarkable temperature abnormalities that prevailed during the past winter. The cause is rather to be sought in the observed movements of the HIGHS and LOWS across the country and the resulting locations of mean barometric maxima and minima. Mr. T. A. Blair, in "Some Temperature Correlations in the United States," [7] has pointed out that, when the center of the continental anticyclone lies along the eastern slope of the Rocky Mountains, cold weather prevails over the eastern and southern States and warm weather over the trans-Rocky Mountain States. In December, 1917, no less than nine well-developed HIGHS of the Alberta type moved southeastward to the Ohio Valley, thence northeastward to the St. Lawrence

[7] MONTHLY WEATHER REVIEW, Vol. 45, pp. 444-450.

Gulf. (See Chart 2, MONTHLY WEATHER REVIEW, Vol. **45**.) The LOWS for the most part were of the Alberta and North Pacific types, but these took a great diversity of routes across the country. (See Chart 3, MONTHLY WEATHER REVIEW, Vol. **45**.) The mean result of these movements of HIGHS and LOWS was the formation of a continental anticyclone from North Dakota southeastward to Illinois and a region of low pressure over the extreme northwest. This distribution was favorable to low temperature over the eastern States and high temperature over the western States.

In January, 1918, five HIGHS of the Alberta type and two of the North Pacific type moved much farther south than usual. (See Chart 2, MONTHLY WEATHER REVIEW, Vol. **46**; also, for average movement, see Chart 16, MONTHLY WEATHER REVIEW, Supplement No. 4). The LOWS, also mostly of these two types, followed very nearly the same routes as did the HIGHS, except that the former were somewhat farther west than the latter. The result was a mean pressure distribution similar to that prevailing in December, 1917, and therefore, similar temperature abnormalities. In January, however, the mean pressure of the month was high over Oregon and northern California, neutralizing to some extent the influence of the HIGH on the eastern slope of the Rocky Mountains, the net result being that temperatures over the Northwest were not greatly above the normal.

The researches of Arctowski, Huntington and others have shown that, during periods of sunspot maxima, there are two belts of increased storminess across the United States, one along the northern and another along the southern border; in a belt across the central portion of the country there is less storminess than during periods of sunspot minima. They have also shown that there is increased cyclonic activity over nearly the whole earth during periods of sunspot maxima and a decrease in mean temperature, in spite of the fact that the total solar radiation received by the earth is greatest at such times. The observed facts during the past winter seem to confirm these conclusions. The increase in solar radiation tends to produce steeper barometric gradients and consequently increased cyclonic activity. This, in turn, results in the ascent of a greater amount of warm air from the earth's surface with the consequent cooling of the latter. In this country during the past winter the southward movement of the LOWS drew from the north a greater amount of cold air than normal and produced the large negative departures which were observed.

THE ELLENDALE AEROLOGICAL STATION.

By VINCENT E. JAKL, Meteorologist.

The site for the Ellendale station was chosen with a view to a somewhat different arrangement from that at Drexel.[8] It was decided to obviate the expense and difficulties attending the maintenance and operation of a station so isolated as Drexel, and to select the site near a small town that would offer the advantages of easy accessibility to electric power and living quarters for the men to be assigned there. The selection was also made from considerations of topography and reasonable remoteness of the proposed site from possible obstacles to kite flying, such as railroad tracks, timber, habitations, etc. Only the east side of towns could be considered, the preponderance of kite flights in westerly winds, together with the possibility of kites falling through accident, making any other direction prohibitive.

The town of Ellendale, N. Dak., and the chosen site on its outskirts meet with all these requirements. The kite field, consisting of an approximately square 40 acre plot, is half a kilometer east of the town, another 40-acre field intervening between it and the State Normal and Industrial School, which here marks the limits of the town. Access to town is had by a right of way over this neighboring field.

Ellendale has a population of about 1,550, and covers nearly a square mile. It is in the southeastern portion of the State, being 6 kilometers north of the South Dakota line, and about 150 kilometers west of the Minnesota line. The latitude of the station is 45° 59′ north, longitude 98° 34′ west, and elevation above sea level, 444 meters.

The surrounding country, including the kite field, is practically level prairie land. Nearly all the open land in the vicinity is either under cultivation—principally to small grain—or given to pasture and hayfields. Drainage is to the east, but the general declivity is so slight that small ponds or sloughs abound. The country is timberless, except for occasional planted groves.

Work on establishing the station was begun early in August, 1917, and all ordinary meteorological equipment was installed and surface observations begun on October 8, 1917. The completion of the reel house was not accomplished until March 8, 1918, owing to the delay incident to the manufacture of the metal turntable, which is of special design. Some delay also attached to the manufacture of the special type of motor adapted for alternating current, which was not delivered until late in June, 1918.

Flights, however, were begun as soon as all other necessary equipment was in readiness, the kite reel being mounted in the rear of the station building, and a specially constructed pulley erected a short distance away in the field serving to guide the wire in various directions. Kites were reeled in by hand, the first free-air observation under these conditions being made on December 17, 1917. After May 21, 1918, kites were reeled in by a gasoline engine until July 1, 1918, when the motor was installed and its use begun. Telegraphing of free-air data began on March 18, 1918.

[8] For description of the Drexel Aerological Station see MONTHLY WEATHER REVIEW SUPPLEMENT No. 3 (Aerology No. 1), pp. 30-32.

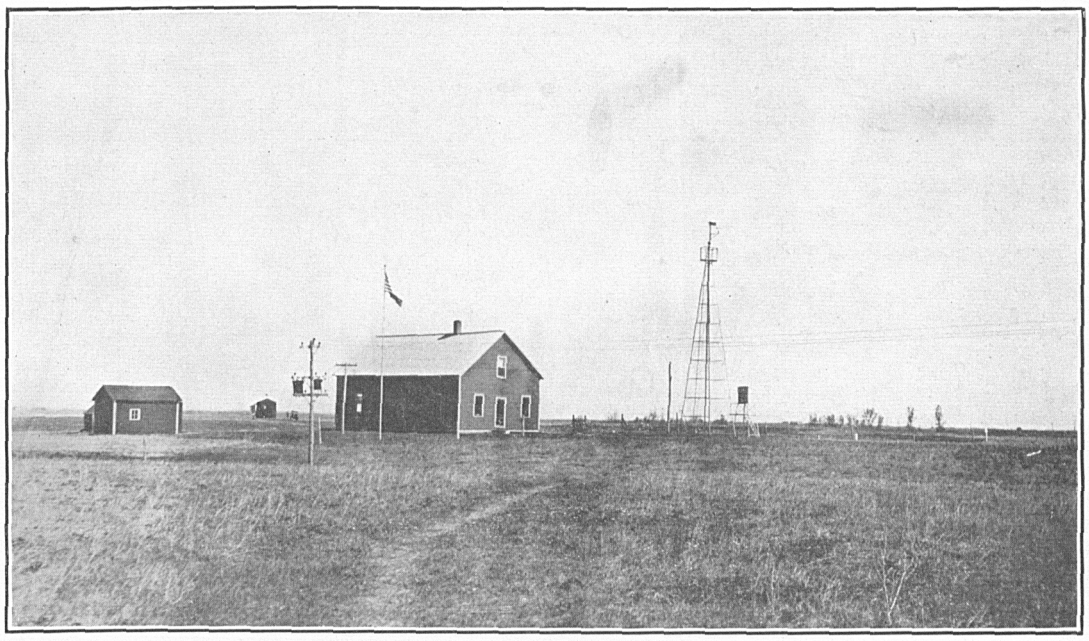

FIG. 7.—Front view of station, showing location of buildings, wind tower, instrument shelter, and rain and snow gages.

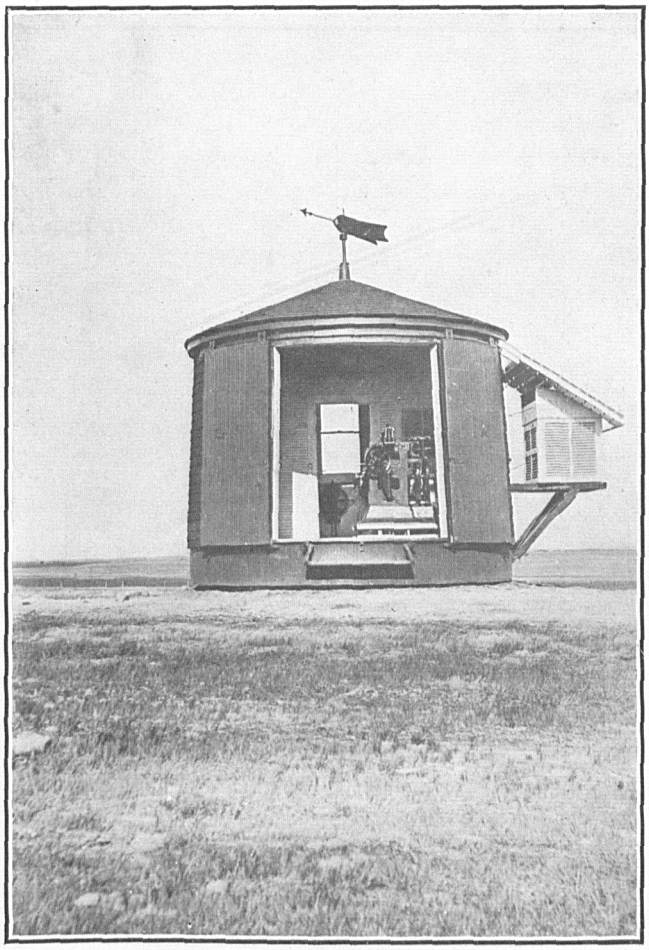

FIG. 8.—Close view of reel shelter.

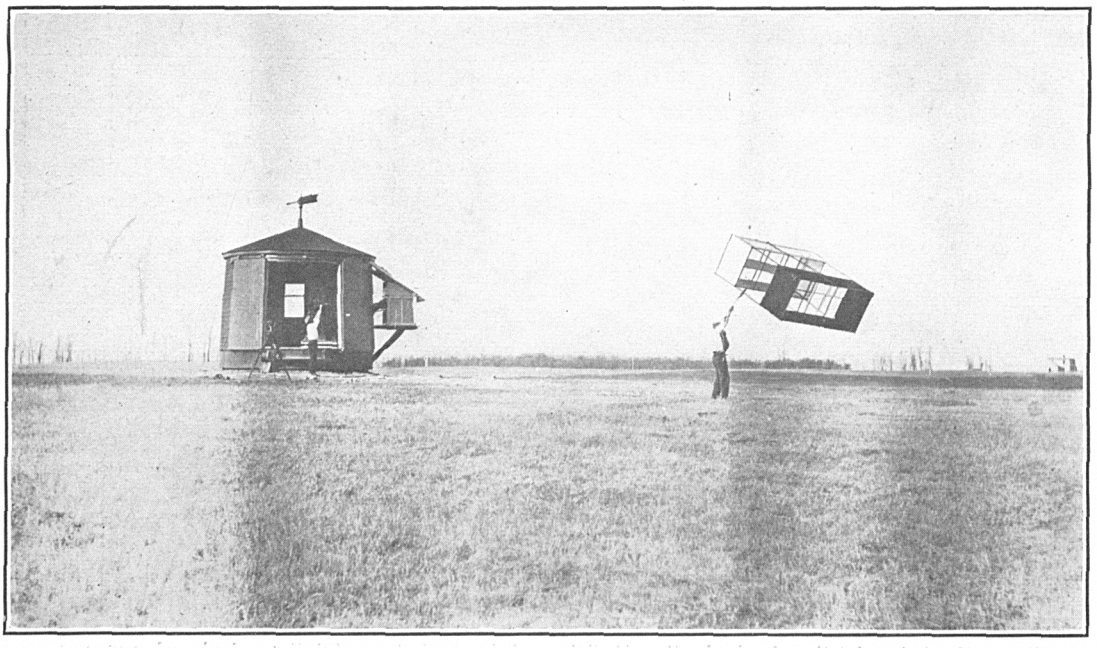

FIG. 9.—Launching a secondary kite.

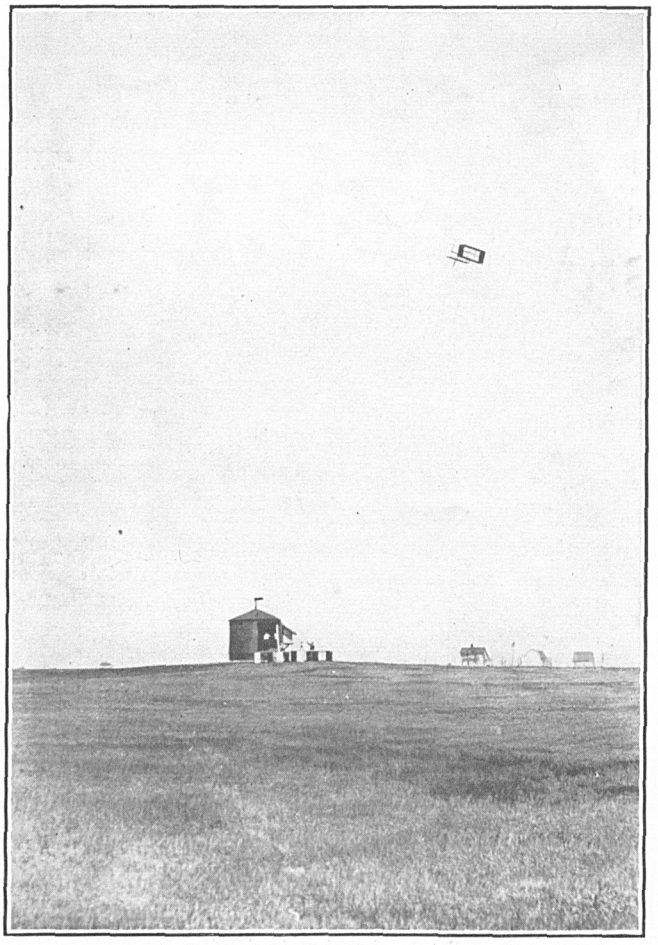

FIG. 10.—The beginning of a kite flight.

Electric current, for power and lights, is obtained from the city electric light plant, being transmitted to the premises by overhead wires at 2,200 volts, and after being stepped-down to 220 volts and 110 volts conveyed thence to the reel house through underground conduit. The arrangement of the building and equipment, and the relation of the station to town, are shown in figure 6.

The station building consists of a plain story-and-a-half frame structure, the ground floor being divided into three rooms, used as an office, shop, and kite-storage room, respectively. The attic is used for storing additional kites and miscellaneous equipment. The shop room is used partly for building and repairing kites, for which purpose it is equipped with a small set of carpenter and machine tools, and partly as a laboratory for testing and calibrating kite meteorographs.

The reel house is modeled after the one at Drexel, except that it is 3 feet less in diameter, and that the interior was necessarily made with a view to greater protection from cold weather. A telephone connects the reel house with the shop.

The kite reel is a replica of the one at Drexel, and is connected to a 5-horsepower, 3-phase, variable speed motor for hauling in the kites. The reel is insulated, to enable the measurement of atmospheric electricity. This is accomplished by cutting off the ground, to which the reel is ordinarily connected, and diverting the charge to an electrostatic voltmeter. The reel is mounted in the doorway of the shelter in such a way that the observer operating it has ready access to the clutch lever, brakes, and motor control, and can easily direct his attention either to the kites aloft or to the tension indicator and wire counter on the reel.

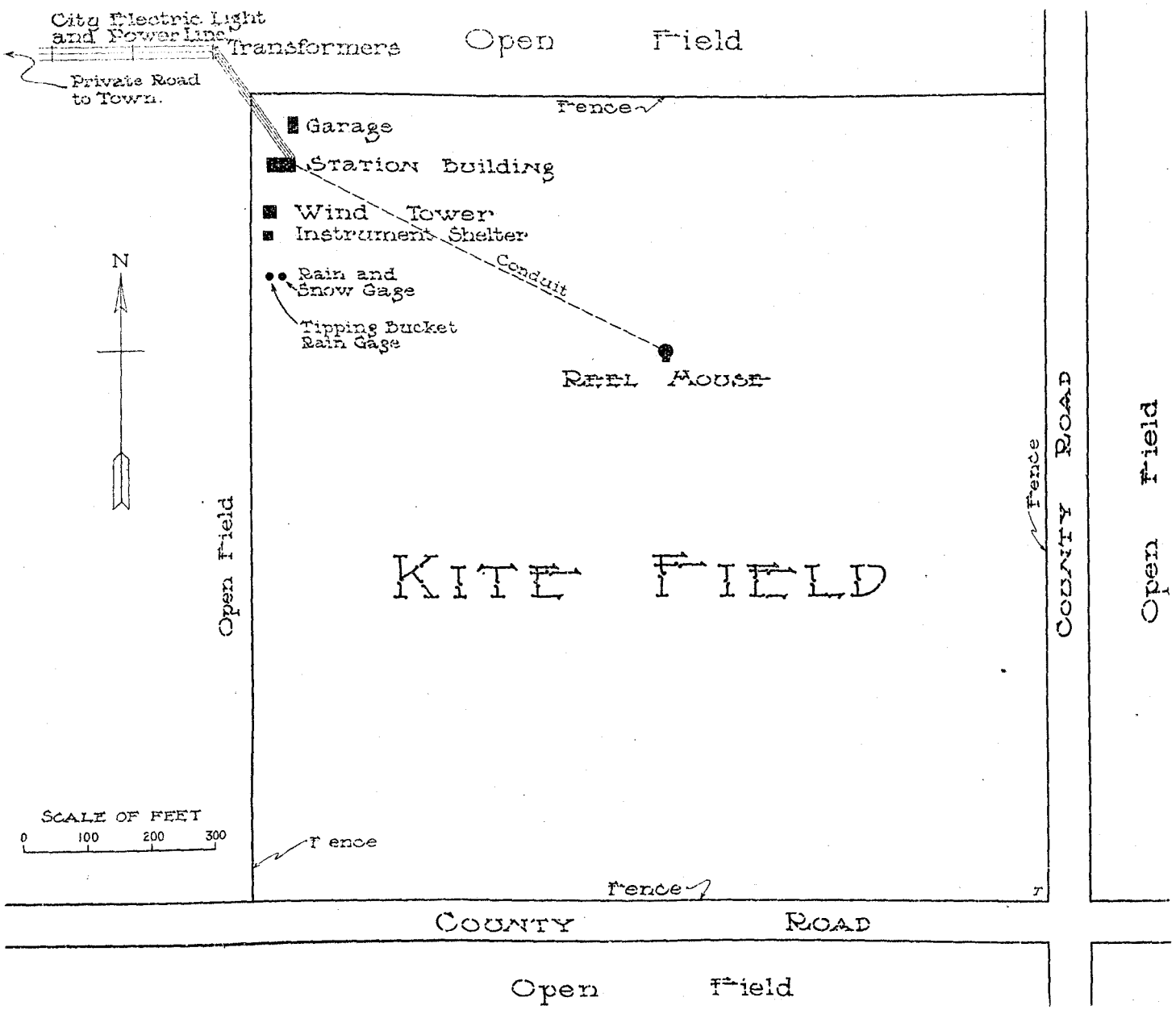

Fig. 6. Plot showing the position of buildings and kite field at Ellendale Aerological Station.

Figure 7 is a front view of the station, showing the location of the buildings, wind tower, instrument shelter, and rain and snow gages. Figure 8 is a close view of the kite reel shelter; figure 9 shows the launching of a secondary kite, and figure 10, the beginning of a flight.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918.*

January 1, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
8:05	963.4	−2.2	100	sw.	4.5	396	963.4	−2.2	.....	100	5.09	sw.	4.5	.....	10/10 St., wsw.
.....	.....	.....	.....	.....	.....	500	951.0	0.9	.....	85	5.54	wsw.	.....	.....	Altitude of St. base about 750 m.
.....	.....	.....	.....	.....	.....	750	922.3	8.3	.....	49	5.37	w.	.....	.....	
8:23	963.1	−2.1	99	sw.	5.8	936	901.6	13.8	−2.96	22	3.47	wnw.	.....	.....	
.....	.....	.....	.....	.....	.....	1,000	894.2	13.4	.....	23	3.54	wnw.	.....	810	
.....	.....	.....	.....	.....	.....	1,250	867.3	11.7	.....	28	3.85	wnw.	.....	.....	
.....	.....	.....	.....	.....	.....	1,500	841.0	10.1	.....	33	4.08	wnw.	.....	1,500	
.....	.....	.....	.....	.....	.....	1,750	816.0	8.5	.....	39	4.33	nw.	.....	.....	
.....	.....	.....	.....	.....	.....	2,000	792.0	6.8	.....	44	4.35	nw.	.....	3,000	8/10 A.Cu., wnw; 2/10 A.St., wnw.
.....	.....	.....	.....	.....	.....	2,250	768.3	5.2	.....	49	4.34	nw.	.....	.....	
.....	.....	.....	.....	.....	.....	2,500	745.5	3.5	.....	54	4.24	nw.	.....	.....	
9:10	962.4	−1.5	100	sw.	4.5	2,550	741.2	3.2	0.77	55	4.23	nw.	24.0	.....	
.....	.....	.....	.....	.....	.....	2,500	745.5	3.6	.....	54	4.27	nw.	23.9	5,000	6/10 Ci.St., wnw.; 3/10 A.Cu., wnw.
.....	.....	.....	.....	.....	.....	2,250	768.3	5.9	.....	50	4.64	nw.	23.6	.....	
.....	.....	.....	.....	.....	.....	2,000	792.0	8.1	.....	45	4.86	nw.	23.3	.....	
.....	.....	.....	.....	.....	.....	1,750	816.6	10.3	.....	41	5.14	nw.	22.9	.....	
9:50	962.2	−0.6	100	sw.	3.6	1,638	828.2	11.3	0	39	5.22	nw.	22.8	.....	
.....	.....	.....	.....	.....	.....	1,500	841.5	11.3	.....	41	5.49	nw.	22.7	2,000	
.....	.....	.....	.....	.....	.....	1,250	867.3	11.3	.....	43	5.76	wnw.	21.5	.....	3/10 Ci.St., nw.; 6/10 A.St., nw.
10:40	961.9	2.8	80	wnw.	6.7	995	894.2	11.3	−0.40	46	6.16	wnw.	20.6	0	
.....	.....	.....	.....	.....	.....	750	921.2	7.9	.....	63	6.71	wnw.	19.7	.....	5/10 Ci.St., nw.; 2/10 A.Cu., nw.
11:17	961.6	5.4	76	wnw.	5.8	623	935.2	6.1	0.13	72	6.78	wnw.	19.3	.....	
.....	.....	.....	.....	.....	.....	500	949.3	6.3	.....	73	6.97	wnw.	12.0	.....	
11:23	961.5	6.4	74	wnw.	5.8	396	961.5	6.4	.....	74	7.11	wnw.	5.8	.....	4/10 Ci.St., nw.; 2/10 A.Cu., nnw.

January 2, 1918.

A. M.															
8:37	971.6	−7.6	88	n.	8.5	396	971.6	− 7.6	.....	88	2.82	n.	8.5	.....	Light snow began 7:56 a.m. and continued during flight. 8/10 St.Cu., n.
.....	.....	.....	.....	.....	.....	500	958.5	− 9.1	.....	91	2.56	n.	11.0	.....	
8:45	971.7	−7.7	85	n.	7 2	697	934.5	−12.0	1.46	96	2.08	n.	15.8	2,000	Altitude of St.Cu. base about 900 m.
.....	.....	.....	.....	.....	.....	750	928.0	−12.3	.....	96	2.03	n.	15.6	.....	
.....	.....	.....	.....	.....	.....	1,000	898.0	−13.9	.....	97	1.78	n.	14.9	.....	
8:56	971.9	−7.7	85	n.	7.6	1,153	880.3	−14.9	0.64	97	1.62	n.	14.4	5,400	
.....	.....	.....	.....	.....	.....	1,250	869.2	−13.4	.....	98	1.87	n.	12.9	.....	
9:08	972.2	−7.7	87	n.	6.3	1,410	851.6	−10.9	−1.56	99	2.37	nne.	10.4	8,500	
.....	.....	.....	.....	.....	.....	1,500	841.6	−11.3	.....	99	2.29	nne.	10.9	.....	
9:16	972.4	−7.6	86	n.	7.6	1,678	822.4	−12.2	0.49	99	2.11	n.	12.0	.....	
.....	.....	.....	.....	.....	.....	1,750	815.0	−10.4	.....	93	2.33	n.	13.8	.....	
.....	.....	.....	.....	.....	.....	2,000	789.6	− 4.0	.....	83	3.63	nnw.	18.8	.....	
9:23	972.6	−7.4	83	n.	6.7	2,055	783.8	− 2.6	−2.55	68	3.35	nnw.	20.0	15,500	10/10 St.Cu., n.
.....	.....	.....	.....	.....	.....	2,250	765.3	− 1.2	.....	46	2.54	nw.	24.1	18,000	
9:52	973.4	−7.5	86	n.	7.6	2,371	753.9	− 0.3	−0.72	32	1.91	nw.	26.6	.....	
.....	.....	.....	.....	.....	.....	2,500	742.0	− 0.7	.....	32	1.84	nw.	25.8	.....	
.....	.....	.....	.....	.....	.....	2,750	719.3	− 1.5	.....	33	1.78	nw.	24.2	.....	
10:06	973.7	−7.5	86	n.	7.2	2,758	718.2	− 1.5	0.34	33	1.78	nw.	24.2	24,500	
.....	.....	.....	.....	.....	.....	2,750	719.3	− 1.5	.....	33	1.78	nw.	24.3	.....	
10:33	974.2	−7.5	86	nne.	6.7	2,510	740.8	− 0.6	−1.39	33	1.92	nw.	27.4	20,000	
.....	.....	.....	.....	.....	.....	2,500	742.0	− 0.7	.....	34	1.96	nw.	27.2	19,000	
.....	.....	.....	.....	.....	.....	2,250	765.3	− 4.2	.....	49	2.11	nw.	22.3	15,500	
.....	.....	.....	.....	.....	.....	2,000	790.0	− 7.8	.....	65	2.05	nw.	17.3	.....	
11:01	974.7	−7.2	84	nne.	6.7	1,752	816.7	−11.1	−0.73	81	1.90	nnw.	12.4	.....	
.....	.....	.....	.....	.....	.....	1,500	843.7	−12.9	.....	87	1.74	n.	10.3	.....	Altitude of St.Cu. base about 950 m.
11:15	974.7	−7.2	86	nne.	6.7	1,273	869.5	−14.6	0.66	93	1.59	nne.	8.4	8,000	
.....	.....	.....	.....	.....	.....	1,250	872.0	−14.4	.....	93	1.62	nne.	8.4	.....	
.....	.....	.....	.....	.....	.....	1,000	900.8	−12.8	.....	96	1.94	nne.	8.3	3,800	
.....	.....	.....	.....	.....	.....	750	930.8	−11.2	.....	98	2.28	nne.	8.1	.....	
11:34	974.7	−7.0	84	nne.	5.4	681	939.5	−10.7	1.30	99	2.42	nne.	8.1	860	
.....	.....	.....	.....	.....	.....	500	961.5	− 8.4	.....	89	2.66	nne.	6.1	.....	
11:40	974.7	−7.0	84	nne.	4.9	396	974.7	− 7.0	.....	84	2.84	nne.	4.9	.....	10/10 St.Cu., nne.

January 3, 1918, series (No. 1).

A. M.															
8:30	969.3	−8.2	88	s.	10.3	396	969.3	− 8.2	.....	88	2.68	s.	10.3	.....	Cloudless.
.....	.....	.....	.....	.....	.....	500	956.5	− 8.9	.....	89	2.55	s.	15.6	.....	
8:32	969.2	−8.1	86	s.	10.3	674	935.1	−10.0	0.65	91	2.37	s.	24.5	.....	
.....	.....	.....	.....	.....	.....	750	926.0	− 8.5	.....	87	2.58	s.	24.0	6,500	
.....	.....	.....	.....	.....	.....	1,000	896.5	− 3.7	.....	74	3.32	ssw.	22.5	.....	
.....	.....	.....	.....	.....	.....	1,250	868.6	1.1	.....	61	4.04	sw.	21.0	11,500	
.....	.....	.....	.....	.....	.....	1,500	842.3	5.9	.....	49	4.55	wsw.	19.5	.....	
9:29	968.4	−7.0	81	s.	12.5	1,686	823.3	9.5	−1.93	39	4.63	w.	18.4	13,000	
.....	.....	.....	.....	.....	.....	1,750	817.0	9.2	.....	38	4.42	w.	18.3	.....	
.....	.....	.....	.....	.....	.....	2,000	791.9	7.9	.....	35	3.73	wnw.	17.8	.....	
.....	.....	.....	.....	.....	.....	2,250	767.7	6.6	.....	31	3.02	wnw.	17.4	.....	
.....	.....	.....	.....	.....	.....	2,500	744.5	5.3	.....	28	2.49	nw.	17.0	17,300	
.....	.....	.....	.....	.....	.....	2,750	722.3	4.1	.....	24	1.97	nw.	16.5	.....	
.....	.....	.....	.....	.....	.....	3,000	701.0	2.8	.....	21	1.57	nnw.	16.1	.....	
10:00	968.2	−6.2	75	s.	13.4	3,037	697.8	2.6	0.51	20	1.47	nnw.	16.0	.....	
.....	.....	.....	.....	.....	.....	3,250	679.3	1.0	.....	21	1.38	nnw.	18.3	21,000	
.....	.....	.....	.....	.....	.....	3,500	657.9	− 1.0	.....	23	1.29	nnw.	21.0	.....	Few Ci.St., wnw.
.....	.....	.....	.....	.....	.....	3,750	637.0	− 2.9	.....	24	1.15	nw.	23.7	21,000	
.....	.....	.....	.....	.....	.....	4,000	616.0	− 4.8	.....	26	1.06	nw.	26.4	.....	
10:42	967.8	−4.4	63	ssw.	13.4	4,038	613.2	− 6.1	0.77	26	0.95	nw.	26.8	23,500	
.....	.....	.....	.....	.....	.....	4,000	616.0	− 5.8	.....	26	0.98	nw.	26.7	.....	
.....	.....	.....	.....	.....	.....	3,750	637.0	− 3.9	.....	25	1.10	nw.	25.8	21,000	
.....	.....	.....	.....	.....	.....	3,500	657.9	− 2.0	.....	23	1.19	nw.	25.0	.....	
.....	.....	.....	.....	.....	.....	3,250	679.3	0.0	.....	22	1.34	nw.	24.2	17,800	

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 3, 1918, series (No. 1)—Continued.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						3,000	701.0	1.9		21	1.47	nw.	23.3		
11:28	966.9	−3.0	62	ssw.	13.4	2,778	720.4	3.6	0.59	20	1.58	nw.	22.6		
						2,750	722.3	3.8		20	1.60	nw.	22.5		
						2,500	744.0	5.3		21	1.87	nw.	21.9	14,000	1/10 Ci.St., wnw.
						2,250	766.7	6.7		22	2.16	wnw.	21.2		
						2,000	790.5	8.2		24	2.61	wnw.	20.5		
						1,750	815.2	9.7		25	3.01	w.	19.9	10,000	
P. M.															
12:03	966.1	−2.4	62	ssw.	11.6	1,499	840.9	11.2	−3.54	26	3.46	w.	19.2		
						1,250	866.5	2.4		43	3.12	wsw.	18.1	6,000	
						1,000	894.0	− 6.4		60	2.14	sw.	17.0		
12:20	965.5	−2.2	60	sw.	11.6	956	899.0	− 8.0	1.20	63	1.95	sw.	16.8		
						750	922.8	− 5.5		62	2.38	sw.	14.9	2,700	
						500	952.3	− 2.5		61	3.03	ssw.	12.6		
12:38	964.9	−1.3	61	ssw.	11.6	396	964.9	− 1.3		61	3.34	ssw.	11.6		Few Ci.St., wnw.

January 3, 1918, series (No. 2).

P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
1:15	964.1	−0.8	62	ssw.	12.1	396	964.1	− 0.8		62	3.54	ssw.	12.1		Cloudless.
						500	951.7	− 1.8		65	3.42	ssw.	12.1		
						750	921.9	− 4.3		71	3.02	sw.	12.2	3,100	
						1,000	892.8	− 6.8		78	2.68	sw.	12.2		Few Ci.St., wnw.
1:27	964.0	−0.1	62	ssw.	10.7	1,046	887.8	− 7.2	0.98	79	2.62	sw.	12.2		
						1,250	865.5	6.6		48	4.68	w.	16.3	8,000	
1:34	964.0	0.1	50	ssw.	10.7	1,315	858.8	11.0	−6.77	38	4.99	wnw.	17.6		
						1,500	839.5	9.9		35	4.27	wnw.	16.9		
						1,750	814.5	8.4		32	3.53	nw.	16.0	9,700	
						2,000	790.3	6.9		29	2.89	nw.	15.2		
2:00	963.8	0.3	54	ssw.	11.6	2,182	773.2	5.8	0.60	26	2.40	nw.	14.5	13,000	
						2,250	767.0	5.3		26	2.32	nw.	14.9		
						2,500	744.0	3.4		27	2.11	nw.	16.6		
						2,750	721.7	1.5		27	1.84	nw.	18.3	16,000	
						3,000	699.8	− 0.4		28	1.65	nw.	19.9	18,300	
						3,250	678.3	− 2.3		29	1.46	nw.	21.6		
2:37	963.4	1.2	50	ssw.	11.2	3,388	666.4	− 3.3	0.76	29	1.35	nw.	22.5	18,800	
						3,250	678.3	− 2.2		28	1.43	nw.	22.1	16,300	
						3,000	699.8	− 0.3		27	1.61	nw.	21.5		
						2,750	721.7	1.6		26	1.78	nw.	20.9	13,500	
						2,500	744.5	3.5		25	1.96	wnw.	20.2		
						2,250	768.1	5.4		24	2.15	wnw.	19.6	9,500	
3:27	963.0	1.5	53	ssw.	9.8	2,055	786.7	6.9	0.66	23	2.29	wnw.	19.1		
						2,000	791.9	7.3		23	2.35	wnw.	18.9		
						1,750	816.3	8.9		22	2.51	w.	18.2		
						1,500	841.0	11.2		20	2.66	w.	17.3	7,000	
						1,250	866.2	12.2		20	2.84	wsw.	16.8	5,300	
3:53	962.8	1.6	51	ssw.	11.2	1,116	880.5	13.1	−5.46	19	2.87	wsw.	16.4		
						1,000	892.8	6.8		25	2.47	sw.	14.8		
3:57	962.8	1.6	51	ssw.	8.9	825	912.4	− 2.8	1.03	33	1.60	ssw.	12.4	1,800	
						750	921.0	− 2.0		36	1.86	ssw.	11.6		
						500	950.3	0.5		45	2.85	ssw.	9.1		
4:10	962.8	1.6	49	ssw.	8.0	396	962.8	1.6		49	3.36	ssw.	8.0		Few Ci.St., wnw.

January 3, 1918, series (No. 3).

P. M.															
4:56	962.5	0.1	64	ssw.	6.3	396	962.5	0.1		64	3.94	ssw.	6.3		1/10 Ci.St., wnw.
						500	950.0	− 0.2		64	3.85	ssw.	7.4		
						750	920.7	− 1.1		64	3.56	sw.	9.9	2,300	1/10 Ci.St., wnw.; Few St.Cu., wsw.
5:10	962.5	0.0	57	ssw.	5.4	872	906.8	− 1.5	0.34	64	3.45	sw.	11.2		
						1,000	892.4	3.1		55	4.20	wsw.	15.7		
5:19	962.5	0.0	57	ssw.	4.9	1,231	867.8	11.5	−3.62	40	5.43	wnw.	23.8	4,700	2/10 Ci.St., wnw.; Few St.Cu., wsw.
						1,250	865.5	11.4		40	5.39	wnw.	23.7		
						1,500	839.8	9.9		39	4.76	wnw.	22.9		
						1,750	814.3	8.4		37	4.08	wnw.	22.1	6,200	
						2,000	789.8	6.9		36	3.58	wnw.	21.2		
						2,250	765.9	4.3		35	2.91	nw.	23.5		
						2,500	743.0	3.8		34	2.73	nw.	23.4	8,200	
						2,750	720.8	1.3		32	2.15	nw.	18.7		
6:06	962.5	− 2.0	71	sse.	3.6	2,850	711.8	0.0	0.61	32	1.96	nw.	18.4	9,000	
						3,000	699.2	− 1.0		34	1.91	nw.	18.0	9,500	
						3,250	678.0	− 2.7		38	1.85	nw.	17.3	10,000	Few St.Cu., wsw.
6:49	962.2	− 2.1	70	sse.	4.5	3,409	664.2	− 3.8	0.76	40	1.78	nw.	16.9		
						3,250	678.0	− 2.4		39	1.95	nw.	16.7		
						3,000	700.0	− 0.3		38	2.26	nw.	16.5	9,000	
						2,750	721.9	2.0		37	2.61	wnw.	16.2		
						2,500	744.3	4.0		35	2.85	wnw.	15.9		
7:22	961.9	− 2.4	67	sse.	5.4	2,461	747.5	4.3	0.56	35	2.91	wnw.	15.9	6,500	
						2,250	766.7	5.5		33	2.98	wnw.	16.1		
						2,000	789.8	6.9		31	3.08	w.	16.4		
						1,750	814.0	8.3		28	3.07	w.	16.7	3,800	
						1,500	839.2	9.7		26	3.13	wsw.	17.0		
7:42	961.7	− 2.4	67	se.	5.4	1,287	861.8	10.9	−1.64	24	3.13	wsw.	17.2		
						1,250	865.2	10.3		25	3.13	wsw.	16.9	2,500	
						1,000	892.4	4.5		37	3.12	ssw.	14.2		
7:54	961.6	− 2.3	69	se.	4.9	800	914.2	2.9	−1.36	40	3.01	ssw.	13.4		
						750	920.0	2.2		44	3.15	ssw.	12.4	920	
						500	948.8	− 1.2		62	3.43	s.	7.5		
8:05	961.4	− 2.6	70	sse.	5.4	396	961.4	− 2.6		70	3.44	sse.	5.4		Few St.Cu., wsw.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 3-4, 1918, series (No. 4).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
8:46	961.0	− 2.2	67	s.	5.4	396	961.0	− 2.2	.....	67	3.41	s.	5.4	.....	Few Ci.St., wsw.
						500	948.8	0.0	.....	63	3.85	ssw.	8.2	.....	
						750	919.6	5.1	.....	54	4.70	sw.	13.9	810	
9:00	960.8	− 2.4	70	s.	5.4	758	918.5	5.3	−2.07	54	4.81	sw.	15.1	.....	
						1,000	891.7	8.2	.....	50	5.44	wsw.	11.2	1,700	
9:45	960.3	− 2.7	72	s.	5.8	1,170	873.1	10.2	−1.19	47	5.85	wsw.	8.4	.....	1/10 Ci.St., wsw.
						1,250	864.8	9.8	.....	46	5.58	wsw.	8.7	.....	
						1,500	839.1	8.5	.....	43	4.77	wsw.	9.5	.....	
						1,750	813.4	7.1	.....	41	4.14	w.	10.3	.....	
						2,000	788.5	5.8	.....	38	3.50	w.	11.1	5,700	
						2,250	765.0	4.4	.....	35	2.93	w.	11.9	.....	
						2,500	742.0	3.1	.....	33	2.52	wnw.	12.7	.....	
						2,750	720.0	1.7	.....	30	2.07	wnw.	13.5	.....	
10:17	960.0	− 3.0	74	s.	5.4	2,813	714.1	1.4	0.54	29	1.96	wnw.	13.7	7,600	
						3,000	698.4	− 0.3	.....	30	1.79	wnw.	12.0	8,500	
						3,250	676.8	− 2.6	.....	32	1.57	wnw.	9.7	9,500	
10:50	959.9	− 3.8	82	s.	3.6	3,453	659.2	− 4.4	0.81	34	1.43	wnw.	7.9	.....	
						3,250	676.8	− 3.0	.....	33	1.57	wnw.	9.0	.....	
						3,000	698.4	− 1.2	.....	32	1.77	w.	10.4	7,700	
						2,750	721.0	0.6	.....	31	1.98	w.	11.8	.....	
						2,500	743.0	2.4	.....	30	2.18	wsw.	13.1	.....	
						2,250	766.0	4.1	.....	29	2.38	wsw.	14.5	.....	3/10 Ci.St., wsw.
11:30	959.6	− 3.9	82	s.	3.6	2,213	769.8	4.4	0.94	29	2.43	wsw.	14.7	4,600	
						2,000	789.6	6.4	.....	27	2.59	wsw.	15.3	.....	
						1,750	814.0	8.7	.....	25	2.81	wsw.	16.0	.....	
11:41	959.5	− 3.8	82	s.	4.0	1,626	826.8	9.9	0.13	24	2.93	wsw.	16.4	2,700	
						1,500	839.1	10.1	.....	26	3.21	wsw.	16.1	.....	
						1,250	864.8	10.4	.....	31	3.91	wsw.	15.5	.....	
						1,000	890.8	10.7	.....	35	4.50	sw.	14.9	0	
						750	918.0	11.1	.....	40	5.28	sw.	14.4	.....	
A. M.															
12:02	959.4	− 3.4	78	sse.	4.9	727	921.0	11.1	−4.26	40	5.28	sw.	14.3	.....	
						500	946.9	1.4	.....	63	4.26	s.	8.8	.....	
12:10	959.2	− 3.0	74	sse.	6.3	396	959.2	− 3.0	.....	74	3.52	sse.	6.3	.....	5/10 Ci.St., wsw.

January 4, 1918, series (No. 5).

A. M.															
12:44	958.7	−2.5	70	ssw.	5.8	396	958.7	−2.5	.....	70	2.07	ssw.	5.8	.....	5/10 Ci.St., wsw.
						500	946.5	2.7	.....	59	4.38	sw.	6.8	.....	
1:00	958.4	−2.3	73	ssw.	5.4	694	924.0	12.4	−0.50	39	5.62	wsw.	8.7	.....	
						750	917.5	12.2	.....	39	5.54	wsw.	9.0	.....	
						1,000	889.8	11.0	.....	37	4.86	w.	10.2	0	
						1,250	863.3	9.9	.....	36	4.39	w.	11.4	2,300	
						1,500	838.0	8.8	.....	35	3.77	w.	12.6	.....	
						1,750	813.8	7.7	.....	34	3.57	wnw.	13.8	.....	3/10 Ci.St., wsw.
1:41	957.9	−2.4	75	ssw.	4.9	1,891	799.5	7.1	0.44	33	3.33	wnw.	14.5	.....	
						2,000	789.3	6.1	.....	34	3.20	wnw.	14.6	.....	
						2,250	765.4	3.9	.....	36	2.91	wnw.	14.9	4,500	
						2,500	742.0	1.5	.....	38	2.59	wnw.	15.2	.....	
						2,750	719.0	−0.8	.....	41	2.34	wnw.	15.4	.....	
2:16	957.6	−2.5	76	ssw.	5.4	2,895	705.8	−2.1	0.84	42	2.15	wnw.	15.6	7,000	4/10 Ci.St., wsw.
						2,750	719.0	−1.0	.....	41	2.30	wnw.	14.9	.....	
						2,500	742.0	0.9	.....	40	2.61	wnw.	13.3	.....	
						2,250	765.4	2.9	.....	38	2.86	wnw.	12.6	.....	
						2,000	789.3	4.8	.....	37	3.18	wnw.	11.4	.....	
						1,750	813.8	6.7	.....	35	3.43	wnw.	10.2	.....	
						1,500	838.0	8.6	.....	34	3.80	wnw.	9.0	.....	
2:45	957.5	−2.4	75	sw.	4.9	1,412	847.2	9.3	0.47	33	3.87	wnw.	8.6	.....	
						1,250	863.8	10.1	.....	33	4.08	wnw.	8.5	.....	
						1,000	890.2	11.1	.....	34	4.49	wnw.	8.4	.....	
						750	917.5	12.4	.....	34	4.90	wnw.	8.3	.....	
2:57	957.4	−2.4	75	wsw.	4.5	631	930.3	13.0	−6.55	34	5.09	wnw.	8.2	.....	
						500	945.3	4.4	.....	53	4.44	w.	6.9	.....	
3:10	957.3	−2.4	75	wsw.	5.8	396	957.3	−2.4	.....	75	3.75	wsw.	5.8	.....	4/10 A.St., wsw.

January 5, 1918.

A. M.															
8:28	957.9	0.2	96	nnw,	4.0	396	957.9	0.2	.....	96	5.95	nnw.	4.0	.....	Misting. 10/10Nb., nnw.; altitude of Nb. base about 550 m.
						500	945.7	−0.6	.....	95	5.52	nnw.	7.0	.....	
						750	916.5	−2.7	.....	92	4.49	nnw.	14.2	.....	
8:42	958.0	0.0	98	nnw.	4.5	805	910.0	−3.1	0.81	91	4.29	nnw.	15.8	680	
						1,000	888.0	−3.4	.....	91	4.19	nnw.	.....	.....	
						1,250	860.7	−3.7	.....	91	4.08	nnw.	.....	1,000	
9:07	958.2	−0.2	100	nnw.	4.0	1,322	852.8	−3.8	0.14	91	4.04	nnw.	.....	1,700	Rain ended 9:08 a. m. Snow (moist) from 9:08 to 9:44 a. m.
						1,500	833.8	−3.5	.....	91	4.15	nnw.	.....	.....	
9:26	958.4	−0.2	100	nnw.	3.1	1,578	825.7	−3.4	−0.16	91	4.19	nnw.	.....	4,000	
						1,750	807.8	−4.5	.....	91	3.81	nnw.	.....	2,800	10/10 St., nnw. Snow (moist) from 10:09 to 10:11 a. m.
10:36	958.9	−0.5	91	nnw.	7.2	1,948	787.7	−5.8	0.52	91	3.41	nnw.	.....	.....	
						1,750	807.8	−5.0	.....	91	3.65	nnw.	.....	6,300	Altitude of St. base about 1,800 m.
10:57	959.1	−1.2	92	n.	6.3	1,541	829.1	−4.2	−1.03	91	3.91	nnw.	.....	.....	
						1,500	833.8	−4.6	.....	91	3.78	nnw.	.....	6,200	
						1,250	860.7	−7.2	.....	89	2.95	nnw.	.....	.....	
11:11	959.1	−1.4	89	n	6.3	1,222	863.6	−7.5	0.46	89	2.87	nnw.	.....	.....	
						1,000	888.8	−6.5	.....	89	3.14	nnw.	.....	3,800	
						750	917.5	−5.3	.....	89	3.48	nnw.	.....	.....	
11:39	959.1	−1.8	87	n.	7.6	608	933.8	−4.7	1.37	89	3.67	nnw.	.....	0	
						500	947.0	−3.2	.....	87	4.07	n.	.....	.....	
11:46	959.1	−1.8	85	n.	7.2	396	959.1	−1.8	.....	85	4.47	n.	7.2	.....	10/10 St., nnw.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 6, 1918.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
7:43	967.0	−9.7	96	n.	8.9	396	967.0	−9.7	.....	96	2.56	n.	8.9	.....	10/10 St., n. Light snow.
.....	.....	.....	.....	.....	.....	500	954.1	−10.2	.....	94	2.40	n.	11.5	.....	Altitude of St. base about 800 m.
.....	.....	.....	.....	.....	.....	750	923.8	−11.5	.....	90	2.04	n.	17.6	.....	
7:50	967.1	−9.8	93	n.	8.5	913	904.0	−12.4	0.52	87	1.82	n.	21.6	.....	
.....	.....	.....	.....	.....	.....	1,000	894.0	−11.5	.....	88	2.00	n.	21.0	4,700	
7:53	967.1	−9.8	93	n.	8.5	1,198	871.2	−9.6	−0.98	90	2.42	n.	19.5	.....	
.....	.....	.....	.....	.....	.....	1,250	860.3	−9.9	.....	90	2.36	n.	19.3	.....	
.....	.....	.....	.....	.....	.....	1,500	838.3	−11.2	.....	91	2.12	n.	18.5	10,500	
.....	.....	.....	.....	.....	.....	1,750	811.8	−12.6	.....	91	1.87	nne.	17.7	.....	
.....	.....	.....	.....	.....	.....	2,000	785.6	−14.0	.....	92	1.67	nne.	16.9	15,000	
8:18	967.4	−9.9	93	n.	8.5	2,206	763.9	−15.1	0.62	92	1.50	nne.	16.2	17,600	
.....	.....	.....	.....	.....	.....	2,000	785.6	−13.7	.....	91	1.69	n.	.....	15,000	
9:11	968.0	−10.3	90	n.	7.2	1,821	804.4	−12.4	0.36	90	1.88	n.	.....	10,400	
.....	.....	.....	.....	.....	.....	1,750	811.8	−12.1	.....	90	1.94	n.	.....	.....	
.....	.....	.....	.....	.....	.....	1,500	838.3	−11.3	.....	91	2.10	n.	.....	8,800	
.....	.....	.....	.....	.....	.....	1,250	860.3	−10.4	.....	91	2.28	n.	.....	8,500	
9:49	968.1	−10.4	93	n.	7.6	1,008	894.2	−9.5	.....	92	2.49	n.	.....	.....	8/10 St., n. Kites broke away at 9:49 a. m.

January 7, 1918.

A. M.															
8:38	968.7	−17.2	78	nw.	3.6	396	968.7	−17.2	.....	78	1.05	nw.	3.6	.....	1/10 Ci.St., n.
.....	.....	.....	.....	.....	.....	500	955.7	−16.5	.....	77	1.10	nw.	4.4	.....	
.....	.....	.....	.....	.....	.....	750	924.5	−14.7	.....	75	1.28	nnw.	6.4	0	
8:55	968.6	−17.0	89	nw.	4.0	920	903.8	−13.5	−7.1	73	1.38	nnw.	7.8	.....	
.....	.....	.....	.....	.....	.....	1,000	894.2	−13.7	.....	77	1.43	nnw.	9.1	4,600	
10:41	968.7	−13.5	81	nw.	2.2	1,130	879.3	−13.8	−0.8	83	1.54	n.	4.3	6,600	
.....	.....	.....	.....	.....	.....	1,000	894.2	−14.2	.....	83	1.49	n.	4.9	2,000	
.....	.....	.....	.....	.....	.....	750	924.5	−15.0	.....	84	1.39	nnw.	6.1	1,930	
.....	.....	.....	.....	.....	.....	500	955.7	−15.7	.....	84	1.30	nnw.	7.3	.....	
11:07	968.5	−12.8	76	nnw.	1.8	442	962.8	−15.9	7.17	84	1.28	nnw.	7.6	.....	
11:10	968.5	−12.6	76	nnw.	1.8	396	968.5	−12.6	.....	76	1.56	nnw.	1.8	.....	Cloudless.

January 8, 1918.

P. M.															
1:29	965.9	−8.5	91	ne.	5.8	396	965.9	−8.5	.....	91	2.69	ne.	5.8	.....	10/10 St., ne. Light snow.
.....	.....	.....	.....	.....	.....	500	953.1	−9.3	.....	94	2.59	ne.	5.8	0	
3:17	966.5	−9.2	94	ne.	3.6	740	924.3	−11.1	0.76	100	2.35	ne.	5.8	615	Altitude of St. base about 700 m.
.....	.....	.....	.....	.....	.....	750	923.5	−11.1	.....	100	2.35	ne.	5.8	.....	
.....	.....	.....	.....	.....	.....	1,000	894.1	−11.3	.....	100	2.31	ne.	5.4	1,470	
.....	.....	.....	.....	.....	.....	1,250	865.7	−11.6	.....	99	2.23	ne.	4.7	.....	
3:22	966.6	−9.3	96	ne.	5.4	1,416	846.6	−11.7	0.18	99	2.21	ne.	4.3	.....	
.....	.....	.....	.....	.....	.....	1,250	865.7	−11.3	.....	99	2.29	ne.	5.0	.....	
.....	.....	.....	.....	.....	.....	1,000	894.1	−10.6	.....	100	2.46	ne.	6.1	3,300	
3:44	966.9	−9.2	94	ne.	4.5	877	908.2	−10.3	−1.03	100	2.53	ne.	6.7	4,500	
.....	.....	.....	.....	.....	.....	750	923.5	−11.6	.....	99	2.23	ne.	6.0	.....	
3:46	967.0	−9.2	94	ne.	3.6	722	926.8	−11.9	0.89	99	2.17	ne.	5.9	.....	
.....	.....	.....	.....	.....	.....	500	954.5	−9.9	.....	96	2.80	ne.	4.6	330	Light snow.
3:57	967.2	−9.0	94	ne.	4.0	396	967.2	−9.0	.....	94	2.67	ne.	4.0	.....	10/10 St., ne.

January 10, 1918 (No. 1)

A. M.															
8:30	977.7	−13.5	100	n.	1.3	396	977.7	−13.5	.....	100	1.98	n.	1.3	.....	10/10 St., n.
.....	.....	.....	.....	.....	.....	500	964.8	−14.5	.....	100	1.73	n.	3.3	.....	Light snow.
.....	.....	.....	.....	.....	.....	750	933.1	−16.9	.....	100	1.38	n.	7.9	(*)	
.....	.....	.....	.....	.....	.....	1,000	902.2	−19.3	.....	100	1.10	n.	12.6	.....	Altitude of St. base about 850 m.
8:42	977.7	−13.7	100	n.	1.3	1,021	899.6	−19.5	0.96	100	1.08	n.	13.1	.....	
8:56	977.7	−14.9	100	n.	1.8	1,223	875.4	−17.0	−1.24	100	1.37	nne.	9.4	.....	
.....	.....	.....	.....	.....	.....	1,250	872.2	−17.0	.....	100	1.37	nne.	8.9	11,000	
.....	.....	.....	.....	.....	.....	1,500	843.8	−17.0	.....	100	1.37	nne.	3.9	.....	
10:09	978.0	−16.0	100	n.	0.4	1,513	842.2	−17.0	0.00	100	1.37	nne.	3.6	.....	
.....	.....	.....	.....	.....	.....	1,500	843.8	−17.0	.....	100	1.37	nne.	3.7	.....	
.....	.....	.....	.....	.....	.....	1,250	872.2	−17.0	.....	100	1.37	ne.	5.7	.....	
10:53	978.0	−16.8	100	n.	0.4	1,188	879.0	−17.0	−3.86	100	1.37	ne.	6.2	(*)	
11:07	978.0	−17.1	100	n.	2.2	1,035	897.2	−22.9	0.86	100	0.77	n.	14.8	.....	
.....	.....	.....	.....	.....	.....	1,000	901.4	−22.6	.....	100	0.80	n.	14.1	.....	
.....	.....	.....	.....	.....	.....	750	932.0	−20.5	.....	100	0.98	n.	8.8	9,500	
.....	.....	.....	.....	.....	.....	500	964.8	−18.3	.....	100	1.21	n.	3.5	.....	
11:23	977.9	−17.4	100	n.	1.3	396	977.9	−17.4	.....	100	1.32	n.	1.3	.....	10/10 St., n. Light snow.

January 10, 1918 (No. 2)

P. M.															
1:05	977.0	−18.8	100	n.	8.0	396	977.0	−18.8	.....	100	1.15	n.	8.0	.....	10/10 St., n. Light snow.
.....	.....	.....	.....	.....	.....	500	963.5	−19.8	.....	100	1.05	n.	9.8	.....	
.....	.....	.....	.....	.....	.....	750	931.1	−22.2	.....	100	0.83	n.	14.1	.....	
1:28	976.7	−18.9	100	n.	8.5	792	925.8	−22.6	0.96	100	0.80	n.	14.8	(*)	
.....	.....	.....	.....	.....	.....	1,000	900.0	−20.9	.....	100	0.94	n.	11.8	(*)	
.....	.....	.....	.....	.....	.....	1,250	869.9	−18.8	.....	100	1.15	n.	8.1	(*)	Solar halo, 22° radius with parhelia to right and left of sun, from 2:22 to 3:11 p. m.
1:48	976.5	−19.0	100	n.	7.6	1,271	867.5	−18.6	−0.84	100	1.18	n.	7.8	(*)	3/10 A.St., w.; 7/10 St., n.

* More than 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 10, 1918 (No. 2)—Continued.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
2:55	975.8	−19.1	100	n.	8.0	1,501	840.3	−18.1	−0.11	100	1.23	nnw.	4.0	.....	3/10 A.St., w.; 2/10 St., n.
3:24	975.8	−19.2	93	n.	8.0	1,374	854.4	−18.1	−2.82	100	1.23	nnw.	6.9	4,500	8/10 A.St., w.
						1,250	869.1	−21.6	.....	100	0.88	nnw.	9.3	.....	
3:27	975.8	−19.2	93	n.	7.6	1,211	873.4	−22.7	−0.05	100	0.79	nnw.	10.0	3,800	
						1,000	899.0	−22.8	.....	100	0.78	nnw.	12.3	.....	4/10 A.Cu., wsw.; 6/10 St., n.
3:42	975.9	−19.2	93	n.	7.6	775	927.0	−22.9	0.98	100	0.77	nnw.	14.8	0	
						750	930.2	−22.7	.....	100	0.79	nnw.	14.3	0	
						500	962.0	−20.2	.....	95	0.96	n.	9.3	0	
3:52	976.0	−19.2	93	n.	7.2	396	976.0	−19.2	.....	93	1.03	n.	7.2	.....	1/10 St.Cu., wnw.; 9/10 St., n. Light snow.

January 11, 1918.

A. M.															
8:37	970.2	−30.6	100	nnw.	8.0	396	970.2	−30.6	.....	100	0.35	nnw.	8.0	.....	3/10 Ci. Solar halo, 22° radius, from 8:32 a.m. to 1:00 p.m.
						500	956.0	−31.6	.....	100	0.32	nnw.	10.9	.....	Solar halo, 46° radius, at 8:40 a.m.
8:45	970.1	−30.6	100	nnw.	4.5	690	930.6	−33.4	0.95	100	0.26	nnw.	16.2	460	Parhelia to right and left of sun. Circumzenithal arc of 6° on 22° halo.
						750	923.0	−33.0	.....	100	0.27	nnw.	16.9	.....	
						1,000	890.6	−31.4	.....	98	0.32	nnw.	19.8	9,600	
9:09	969.9	−30.2	100	nnw.	4.0	1,210	864.4	−30.0	−0.57	96	0.36	nnw.	22.2	(*)	
						1,250	859.4	−30.0	.....	96	0.36	nnw.	22.2	.....	
						1,500	829.4	−29.8	.....	94	0.36	nnw.	22.2	.....	
						1,750	800.4	−29.7	.....	92	0.35	nnw.	22.3	.....	
						2,000	772.8	−29.6	.....	90	0.35	nw.	22.3	.....	
						2,250	746.3	−29.4	.....	88	0.35	nw.	22.3	.....	
9:50	969.7	−29.6	100	nnw.	8.5	2,294	742.3	−29.4	−0.06	88	0.35	nw.	22.4	(*)	
						2,500	717.0	−29.5	.....	87	0.34	nw.	23.2	.....	
10:56	968.9	−28.8	100	nnw.	7.6	2,738	697.0	−29.6	0.05	85	0.33	wnw.	24.1	(*)	
						2,750	696.0	−29.6	.....	85	0.33	wnw.	24.1	.....	
						3,000	671.6	−30.6	.....	85	0.30	wnw.	23.8	.....	
						3,250	648.3	−31.5	.....	85	0.27	wnw.	23.5	.....	
						3,500	625.5	−32.4	.....	85	0.25	wnw.	23.2	.....	
						3,750	604.0	−33.3	.....	85	0.22	wnw.	22.9	.....	
						4,000	582.7	−34.2	.....	85	0.20	wnw.	22.7	.....	3/10 Ci.
P. M.															
12:05	967.8	−28.3	100	nnw.	8.0	4,231	562.3	−35.1	0.20	85	0.18	wnw.	20.7	(*)	3/10 Ci.St., wnw.
						4,000	580.3	−35.1	.....	90	0.19	wnw.	.....	.....	
						3,750	600.5	−35.0	.....	96	0.21	wnw.	.....	.....	4/10 A.St., nw.
12:50	966.7	−28.2	100	nw.	7.2	3,679	606.0	−35.0	0.27	97	0.21	wnw.	.....	(*)	
						3,500	621.7	−34.5	.....	97	0.21	wnw.	.....	.....	
						3,250	644.0	−33.8	.....	98	0.24	wnw.	.....	.....	
						3,000	667.0	−33.2	.....	98	0.26	nw.	.....	.....	3/10 A.St., nw.
						2,750	692.0	−32.5	.....	98	0.26	nw.	.....	.....	
						2,500	720.8	−31.8	.....	99	0.30	nw.	.....	.....	5/10 St.Cu., nw.
1:33	966.3	−27.8	100	nw.	8.5	2,430	723.9	−31.6	−0.37	99	0.32	nw.	.....	(*)	
						2,250	742.7	−32.3	.....	99	0.29	nw.	.....	.....	8/10 St.Cu., nw.
						2,000	769.7	−33.2	.....	100	0.26	nw.	.....	.....	
1:57	966.2	−28.0	100	nw.	10.3	1,856	785.4	−33.7	0.71	100	0.25	nw.	.....	(*)	
						1,750	797.4	−33.7	.....	100	0.25	.....	.....	.....	
						1,500	825.9	−32.9	.....	100	0.27	nw.	.....	.....	9/10 St.Cu., nw.
2:23	965.9	−27.8	100	nw.	7.6	1,346	844.2	−32.6	−3.41	100	0.28	nw.	.....	(*)	Altitude of St.Cu. base about 1,300 m.
2:26	965.9	−27.8	100	nw.	7.6	1,258	854.9	−35.6	0.75	100	0.20	nw.	.....	(*)	
						1,250	855.8	−35.5	.....	.....	0.20	nw.	.....	.....	
						1,000	886.6	−33.7	.....	100	0.25	nw.	.....	.....	
						750	918.9	−31.8	.....	100	0.31	nw.	.....	.....	
2:48	965.6	−27.7	100	nw.	7.6	649	931.9	−31.0	1.34	100	0.34	nw.	12.8	(*)	
						500	951.5	−28.8	.....	100	0.42	nw.	10.3	.....	
2:51	965.6	−27.6	100	nw.	8.5	396	965.6	−27.6	.....	100	0.48	nw.	8.5	.....	8/10 St.Cu., nw.

January 12, 1918.

A. M.															
8:34	960.6	−25.6	100	nw.	10.7	396	960.6	−25.6	.....	100	0.59	nw.	10.7	.....	5/10 A.St., nw.; 5/10 St., nw.; Solar halo, 22° radius, 8:08 to 10:03 a.m. with upper tangent arc from 8:18 to 10:01 a.m. Angle of sun 19°.
						500	947.0	−26.3	.....	98	0.54	nw.	13.6	.....	Solar halo, 46° radius, and circumzenithal arc of about 8° length from 8:25 to 9:47 a.m.
						750	914.6	−28.1	.....	92	0.42	nw.	20.5	.....	
8:37	960.6	−25.6	100	nw.	8.9	757	913.6	−28.2	0.72	92	0.41	nw.	20.7	.....	Altitude of St. base about 850 m.
8:44	960.7	−25.4	100	nw.	8.9	905	895.1	−27.4	−0.54	92	0.45	nw.	25.6	7,000	
						1,000	883.1	−26.6	.....	92	0.49	nw.	25.5	.....	
						1,250	853.2	−24.5	.....	92	0.61	nw.	25.2	.....	
8:54	960.8	−24.2	100	nw.	10.3	1,495	825.6	−22.4	−0.85	92	0.75	nw.	24.9	.....	
						1,750	798.5	−22.7	.....	89	0.70	nw.	23.6	(*)	
						2,000	772.1	−23.0	.....	87	0.67	nw.	22.3	.....	
						2,250	746.6	−23.3	.....	84	0.62	uw.	21.0	.....	6/10 St., nw.
						2,500	721.6	−23.6	.....	82	0.59	nw.	19.8	.....	
						2,750	697.0	−23.9	.....	79	0.55	nw.	18.5	.....	
10:00	961.1	−23.0	82	nnw.	9.4	2,846	687.4	−24.0	0.21	78	0.54	nw.	18.0	(*)	
						2,750	697.0	−23.7	.....	79	0.56	nw.	18.3	.....	Cloudless.
						2,500	721.6	−23.0	.....	81	0.62	nw.	19.2	.....	2/10 A.St., nw.
						2,250	746.6	−22.2	.....	83	0.69	nw.	20.1	.....	
						2,000	772.1	−21.5	.....	85	0.76	nw.	20.9	.....	
11:00	961.5	−21.6	78	nnw.	13.4	1,899	783.2	−21.2	−0.04	86	0.78	nw.	21.3	(*)	
						1,750	799.0	−21.3	.....	87	0.79	nw.	22.0	(*)	

* Over 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 12, 1918—Continued.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,500	827.0	−21.4		88	0.79	nw.	23.1		
						1,250	855.8	−21.5		89	0.79	nw.	24.2		
						1,000	884.9	−21.6		90	0.79	nw.	25.3		
11:25	961.3	−21.2	68	nw.	12.5	905	896.3	−21.6		90	0.79	nw.	25.7	5,800	
11:27	961.3	−21.2	68	nw.	11.6	905	896.3	−25.8	−0.04	90	0.52	nw.	25.6	5,800	
						750	915.0	−25.9		91	0.52	nw.	23.2		
11:33	961.3	−21.1	68	nw.	13.9	679	924.8	−25.9	1.73	92	0.52	nw.	22.1		
						500	947.0	−22.8		77	0.60	nw.	15.5		
11:41	961.2	−21.0	69	nw.	11.6	396	961.2	−21.0		69	0.64	nw.	11.6		2/10 A.St., nw. Solar halo, 22° radius, at 11:45 a.m.

January 14, 1918.

A.M.															
8:34	965.7	−18.6	87	nw.	1.6	396	965.7	−18.6		87	1.03	nw.	1.6		Few Ci., wnw.
						500	952.7	−17.8		79	1.00	nw.	4.1	0	
						750	921.5	−16.0		60	0.90	nnw.	10.2	1,000	
8:54	965.5	−17.9	88	nnw.	3.1	922	900.3	−14.7	−0.74	47	0.80	nnw.	13.8	2,200	Cloudless.
						1,000	891.1	−14.4		55	0.96	nnw.	13.2	2,900	
						1,250	862.1	−13.6		80	1.50	nnw.	11.3	4,960	
9:15	965.4	−17.5	88	nnw.	3.6	1,310	855.4	−13.4	−0.34	86	1.64	nnw.	10.9	5,700	
						1,500	834.1	−12.4		75	1.57	nnw.	12.1	(*)	
						1,750	807.2	−11.1		61	1.43	nw.	13.7	(*)	
						2,000	781.6	− 9.8		46	1.21	nw.	15.3	(*)	
9:29	965.4	−17.2	83	nnw.	4.0	2,095	772.2	− 9.3	−0.52	41	1.13	nw.	15.9	(*)	
						2,250	756.4	−10.3		42	1.06	nw.	16.4	(*)	
						2,500	731.5	−11.8		45	0.99	nw.	17.1	(*)	
						2,750	707.9	−13.4		47	0.90	nw.	17.8	(*)	
						3,000	685.0	−15.0		49	0.81	wnw.	18.6	(*)	
						3,250	662.9	−16.5		52	0.74	wnw.	19.3	(*)	
10:05	965.2	−16.4	67	n.	3.6	3,481	64[illegible].5	−18.0	0.63	54	0.67	wnw.	20.0	(*)	
						3,500	641.6	−18.1		53	0.65	wnw.	19.9	(*)	
						3,750	620.9	−19.5		47	0.51	wnw.	18.4	(*)	
						4,000	600.0	−21.0		40	0.37	wnw.	16.9	(*)	
10:43	964.9	−14.7	54	n.	3.6	4,077	593.8	−21.4	0.57	38	0.34	wnw.	16.4	(*)	
						4,250	580.4	−22.5		37	0.30	wnw.	17.6	(*)	
						4,500	561.0	−24.0		36	0.25	wnw.	19.2	(*)	
P.M.															
12:01	965.9	−13.3	54	e.	5.4	4,612	552.3	−24.7	−0.39	35	0.22	wnw.	20.0	(*)	
12:29	965.6	−12.7	44	ne.	1.3	4,548	556.2	−25.6	0.73	37	0.22	wnw.	20.8	(*)	
						4,500	560.5	−25.2		37	0.23	wnw.	20.8	(*)	
						4,250	579.8	−23.4		34	0.25	wnw.	20.7	(*)	Cloudless.
						4,000	599.4	−21.6		32	0.28	wnw.	20.7	(*)	
						3,750	620.0	−19.8		30	0.32	wnw.	20.6	(*)	
1:42	964.0	−12.2	45	nnw.	1.3	3,669	626.1	−19.2	0.62	29	0.32	wnw.	20.6	(*)	
						3,500	640.5	−18.1		32	0.39	wnw.	20.7	(*)	
						3,250	661.5	−16.6		36	0.51	wnw.	20.7	(*)	
						3,000	683.5	−15.0		41	0.68	nw.	20.8	(*)	
						2,750	706.3	−13.0		45	0.89	nw.	20.9	(*)	Few Ci. St., near horizon.
2:20	963.4	−12.1	36	nnw.	1.8	2,659	715.2	−12.9	−0.08	47	0.94	nw.	20.9	(*)	
						2,500	730.0	−13.0		52	1.03	nw.	18.8		
						2,250	755.2	−13.2		60	1.17	nw.	15.0		
						2,000	780.5	−13.4		68	1.30	nnw.	11.4		
2:34	963.3	−11.8	48	n.	2.2	1,747	806.3	−13.6	−0.15	76	1.43	nnw.	7.8		
						1,500	833.0	−14.0		65	1.18	nnw.	6.8		
						1,250	860.4	−14.3		55	0.97	n.	5.7		
						1,000	889.5	−14.7		44	0.75	n.	4.7		
2:50	963.2	−10.6	40	n.	2.2	879	904.0	−14.9	1.06	39	0.65	n.	4.2		
						750	919.5	−13.5		38	0.72	n.	3.7		
						500	950.0	−10.9		36	0.86	n.	2.6		
2:56	963.1	− 9.8	35	n.	2.2	396	963.1	− 9.8		35	0.92	n.	2.2		Few Ci. St., near horizon.

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P.M.															
1:35	960.4	−8.1	74	wsw.	5.4	396	960.4	− 8.1		74	2.27	wsw.	5.4		7/10 Ci., w.
						500	947.5	− 9.0		78	2.22	wsw.	6.9		
2:00	960.1	−6.5	70	wsw.	4.9	696	923.6	−10.8	0.90	87	2.11	wsw.	9.6	1,100	
2:07	960.1	−6.5	71	wsw.	2.7	697	923.6	− 9.2		87	2.43	w.	8.9		
						750	917.0	− 9.3		85	2.35	w.	9.1		
						1,000	888.0	− 9.8		78	2.06	nw.	10.3		
2:22	960.0	−6.6	74	w.	3.1	1,023	885.2	− 9.9	0.21	77	2.02	nw.	10.4		
2:25	960.0	−6.7	75	w.	3.1	1,173	868.2	− 7.2	−1.80	71	2.36	nw.	12.8	5,000	5/10 Ci. St., w.; 3/10 Ci. Cu., w.
						1,250	860.0	− 7.6		71	2.28	nw.	12.9		
						1,500	832.9	− 9.0		70	1.99	wnw.	13.3		
2:43	959.9	−5.6	75	sw.	5.4	1,654	816.1	− 9.9	0.56	70	1.83	wnw.	13.5	8,000	
						1,750	805.8	−10.7		72	1.76	wnw.	13.6		
						2,000	779.6	−12.8		78	1.58	wnw.	13.8		
						2,250	754.2	−14.9		83	1.39	wnw.	14.0		
						2,500	729.8	−17.0		88	1.21	wnw.	14.2	(*)	
						2,750	706.2	−19.1		94	1.05	wnw.	14.4		
3:21	959.8	−5.4	70	wsw.	5.4	2,807	700.8	−19.6	0.84	95	1.02	wnw.	14.4		
3:23	959.8	−5.4	70	wsw.	5.4	2,924	690.0	−19.2	−0.34	87	0.97	wnw.	14.4		
						3,000	683.0	−19.6		85	0.91	wnw.	14.4		
						3,250	660.4	−20.9		76	0.71	wnw.	14.4		
						3,500	638.7	−22.3		68	0.56	wnw.	14.5		
						3,750	617.7	−23.6		60	0.43	wnw.	14.5		
						4,000	596.4	−24.9		52	0.33	wnw.	14.5		

* Over 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 15, 1918—Continued.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
3:55	959.8	−5.3	71	w.	5.4	4,017	595.0	−25.0	0.58	51	0.32	wnw.	14.5	.....	
.....	.....	.....	.....	.....	.....	4,000	596.4	−24.9	.....	51	0.32	wnw.	14.5	.....	7/10 Ci. St., w.; few A. Cu., nw.
.....	.....	.....	.....	.....	.....	3,750	617.7	−23.3	.....	58	0.43	wnw.	14.7	.....	
.....	.....	.....	.....	.....	.....	3,500	638.7	−21.8	.....	65	0.56	wnw.	14.8	.....	
.....	.....	.....	.....	.....	.....	3,250	660.4	−20.2	.....	72	0.73	wnw,	15.0	(*)	
.....	.....	.....	.....	.....	.....	3,000	683.0	−18.6	.....	78	0.92	wnw.	15.2	.....	
4:20	959.8	−5.7	78	wnw.	4.9	2,935	689.0	−18.2	−0.63	80	0.98	wnw.	15.2	.....	
.....	.....	.....	.....	.....	.....	2,750	706.2	−19.4	.....	88	0.96	wnw.	16.7	.....	
4:24	959.8	−5.8	80	wnw.	5.4	2,732	708.2	−19.5	0.81	89	0.96	wnw.	16.8	.....	
.....	.....	.....	.....	.....	.....	2,500	729.8	−17.6	.....	85	1.10	wnw.	16.1	11,000	
.....	.....	.....	.....	.....	.....	2,250	754.2	−15.6	.....	82	1.28	wnw.	15.4	.....	
.....	.....	.....	.....	.....	.....	2,000	779.6	−13.6	.....	78	1.47	wnw.	14.7	.....	
.....	.....	.....	.....	.....	.....	1,750	805.8	−11.6	.....	74	1.66	wnw.	14.0	.....	
4:50	959.8	−6.6	79	wnw.	4.9	1,678	813.8	−11.0	0.80	73	1.73	wnw.	13.8	6,500	3/10 Ci. St., w.; 4/10 A. Cu., nnw.
.....	.....	.....	.....	.....	.....	1,500	833.0	− 9.6	.....	66	1.78	wnw.	14.6	.....	
.....	.....	.....	.....	.....	.....	1,250	861.0	− 9.6	.....	57	1.83	wnw.	15.8	4,700	
5:09	959.8	−7 1	84	wnw.	5.8	1,003	887.7	− 5.6	−1.23	48	1.83	wnw.	17.0	.....	
.....	.....	.....	.....	.....	.....	750	917.0	− 8.7	.....	88	2.56	wnw.	12.6	.....	
5:17	959.8	−7.5	86	wnw.	4.9	726	919.8	− 9.0	0.39	92	2.61	wnw.	12.2	2,700	
.....	.....	.....	.....	.....	.....	500	947.5	− 8.1	.....	86	2.64	wnw.	7.2	.....	
5:23	959.8	−7.7	83	wnw.	4.9	396	959.8	− 7.7	.....	83	2.64	wnw.	4.9	.....	7/10 Ci.St., nw.; few A.Cu., nnw.

January 16, 1918, series (No. 1)

A. M.															
7:34	960.6	−14.6	100	w.	5.4	396	960.6	−14.6	.....	100	1.71	w.	5.4	.....	1/10 St. Cu., nw.
.....	.....	.....	.....	.....	.....	500	947.8	−14.3	.....	99	1.74	wnw.	8.8	.....	
.....	.....	.....	.....	.....	.....	750	917.4	−13.6	.....	96	1.80	nw.	17.2	.....	
7:52	960.7	−14.9	100	wnw.	4.9	833	907.0	−13.4	− 0.27	95	1.81	nnw.	19.9	3,300	
.....	.....	.....	.....	.....	.....	1,000	887.5	−14.6	.....	96	1.64	nnw.	19.0	.....	
.....	.....	.....	.....	.....	.....	1,250	858.2	−16.5	.....	97	1.39	nw.	17.7	6,000	
.....	.....	.....	.....	.....	.....	1,500	830.2	−18.4	.....	98	1.19	nw.	16.4	.....	
8:12	960.8	−13.2	84	wnw.	4.0	1,623	816.6	−19.3	0.75	99	1.09	nw.	15.8	.....	Few St. Cu., nw.
.....	.....	.....	.....	.....	.....	1,750	802.9	−17.7	.....	99	1.28	nw.	16.4	.....	
8:15	960.8	−13.1	84	wnw.	4.0	1,826	794.8	−16.8	−1.23	100	1.39	nw.	16.8	11,000	
.....	.....	.....	.....	.....	.....	2,000	776.5	−16.8	.....	100	1.39	nw.	14.3	.....	
8:24	960.8	−12.6	76	w.	4.0	2,131	763.0	−16.8	0.00	100	1.39	nw.	30.0	.....	
.....	.....	.....	.....	.....	.....	2,250	751.4	−17.2	.....	100	1.34	nw.	29.4	.....	
.....	.....	.....	.....	.....	.....	2,500	726.9	−17.9	.....	100	1.26	nw.	28.0	(†)	
.....	.....	.....	.....	.....	.....	2,750	703.3	−18.6	.....	99	1.17	nw.	26.6	(†)	
.....	.....	.....	.....	.....	.....	3,000	680.0	−19.4	.....	99	1.08	nw.	24.3	(†)	
.....	.....	.....	.....	.....	.....	3,250	657.3	−20.1	.....	99	1.01	nw.	23.9	(†)	
8:55	960.8	−13.0	84	wnw.	4.9	3,268	655.4	−20.2	0.30	99	1.00	nw.	23.8	(†)	
.....	.....	.....	.....	.....	.....	3,500	635.3	−22.0	.....	98	0.82	nw.	22.2	(†)	
.....	.....	.....	.....	.....	.....	3,750	614.0	−24.0	.....	97	0.67	nw.	20.4	(†)	
.....	.....	.....	.....	.....	.....	4,000	593.5	−26.2	.....	96	0.54	nw.	18.6	(†)	6/10 A.St., nw.; 1/10 St.Cu., nw.
9:49	961.0	−10.0	85	w.	5.8	4,255	573.0	−28.0	0.70	95	0.44	nw.	16.8	(†)	Upper tangent arc of 46° halo, from 9:50 to after 10:10 a. m.
.....	.....	.....	.....	.....	.....	4,000	593.5	−26.4	.....	95	0.51	nw.	17.4	(†)	
.....	.....	.....	.....	.....	.....	3,750	614.0	−24.9	.....	95	0.60	nw.	18.0	(†)	
.....	.....	.....	.....	.....	.....	3,500	635.3	−23.3	.....	96	0.71	nw.	18.6	(†)	8/10 A.St., nw.; 1/10 A. St. Cu., nw.; 8/10 A. St., nw.; 1/10 St. Cu., nw.; 7/10 St., nw.
.....	.....	.....	.....	.....	.....	3,250	657.3	−21.8	.....	96	0.83	nw.	19.2	(†)	
11:02	961.1	−10.1	83	nw.	6.7	3,146	666.9	−21.1	0.54	96	0.88	nw.	19.4	(†)	
.....	.....	.....	.....	.....	.....	3,000	680.0	−20.3	.....	96	0.96	nw.	19.0	(†)	Light snow began 10:05 a. m. and continued at and of flight.
.....	.....	.....	.....	.....	.....	2,750	703.3	−19.0	.....	97	1.10	nw.	18.3	(†)	
.....	.....	.....	.....	.....	.....	2,500	727.0	−17.6	.....	98	1.26	nnw.	17.7	(†)	
.....	.....	.....	.....	.....	.....	2,250	751.6	−16.3	.....	98	1.43	nnw.	17.0	.....	8/10 A.Cu., nnw.; 2/10 St.Cu., nw.
.....	.....	.....	.....	.....	.....	2,000	777.0	−14.9	.....	99	1.65	nnw.	16.3	.....	
11:42	960.9	− 9.5	74	nnw.	7.6	1,887	789.1	−14.3	−0.47	99	1.74	nnw.	16.0	10,000	Altitude of St.Cu. base about 1,100 m.
.....	.....	.....	.....	.....	.....	1,750	803.7	−14.9	.....	99	1.65	nnw.	16.9	.....	
.....	.....	.....	.....	.....	.....	1,500	831.0	−16.1	.....	100	1.49	nw.	18.5	.....	5/10 St.Cu., nw.
P. M.															
12:02	960.8	− 9.4	69	nw.	7.6	1,276	855.7	−17.2	0.77	100	1.34	nw.	20.0	5,500	Altitude of St.Cu. base about 1,250 m.
.....	.....	.....	.....	.....	.....	1,250	858.9	−17.0	.....	100	1.37	nw.	19.6	.....	
.....	.....	.....	.....	.....	.....	1,000	887.7	−15.1	.....	100	1.63	nw.	15.6	.....	
12:18	960.8	− 9.3	75	nw.	7.6	837	907.0	−13.8	1.02	100	1.84	nw.	13.0	4,500	
.....	.....	.....	.....	.....	.....	750	917 4	−12.9	.....	94	1.88	nw.	11.8	.....	
.....	.....	.....	.....	.....	.....	500	947.8	−10.4	.....	81	2.03	nw.	8.2	.....	
12:25	960.8	− 9.3	75	nw.	6.7	396	960.8	− 9.3	.....	75	2.07	nw.	6.7	.....	5/10 St.Cu., nw.

January 16, 1918, series (No. 2).

P. M.															
1:26	960.6	− 9.2	70	nw.	7.6	396	960.6	− 9.2	.....	70	1.95	nw.	7.6	.....	5/10 St.Cu., nw.
.....	.....	.....	.....	.....	.....	500	948.0	−11.4	.....	74	1.69	nw.	9.6	.....	
.....	.....	.....	.....	.....	.....	750	917.5	−13.3	.....	83	1.60	nw.	14.4	.....	
1:37	960.6	− 9.1	70	nw.	9.8	773	914.5	−13.6	1.15	84	1.58	nw.	14.9	1,600	Altitude of St.Cu. base abou 1,150 m.
.....	.....	.....	.....	.....	.....	1,000	887.7	−15.4	.....	90	1.43	nw.	15.6	.....	
.....	.....	.....	.....	.....	.....	1,250	858.7	−17.5	.....	97	1.26	nw.	16.3	5,800	
1:49	960.5	− 9.1	72	nw.	10.3	1,272	855.9	−17.7	0.83	98	1.25	nw.	16.4	.....	
1:51	960.5	− 9.0	71	nw.	8.9	1,464	834.5	−15.8	−0.99	97	1.48	nw.	15.2	.....	1/10 Ci.Cu., nw.; 6/10 St.Cu., nw.
.....	.....	.....	.....	.....	.....	1,500	830.5	−15.8	.....	96	1.47	nw.	15.2	7,500	

*More than 10,000 volts.

† More than 11,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 16, 1918, series (No. 2)—Continued.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,750	803.4	−15.5		88	1.38	nw.	15.2		
						2,000	777.0	−15.2		80	1.30	nw.	15.3		
2:10	960.5	− 9.0	75	nw.	6.7	2,056	771.4	−15.1	−0.12	78	1.27	nw.	15.3	(*)	6/10 Ci.Cu., nw.; 1/10 St.Cu., nw.
						2,250	752.0	−16.0		80	1.20	nw.	16.3		
						2,500	727.8	−17.2		83	1.11	nw.	17.7		
						2,750	704.3	−18.5		86	1.02	nw.	19.0		Light snow began 2:49 p. m., and continued at end of flight.
						3,000	680.9	−19.7		88	0.93	nnw.	20.3		
						3,250	658.3	−20.9		91	0.86	nnw.	21.7		
						3,500	635.8	−22.1		94	0.79	nnw.	23.0		8/10 St.Cu., nw.
2:53	960.8	− 8.7	76	nw.	7.2	3,628	625.0	−22.7	0.50	95	0.75	nnw.	23.7	(*)	
						3,500	635.8	−22.0		95	0.80	nnw.	22.7		6/10 Ci.Cu., nw.; 2/10 St.Cu., nw.
						3,250	658.3	−20.7		95	0.91	nnw.	20.8		
						3,000	680.9	−19.4		95	1.04	nw.	18.9		
3:25	961.1	− 8.8	77	nw.	7.2	2,781	701.6	−18.2	0.42	95	1.16	nw.	17.3	(*)	
						2,750	704.3	−18.1		95	1.17	nw.	17.2		
						2,500	728.6	−17.0		95	1.30	nw.	16.8	(*)	
						2,250	754.0	−16.0		95	1.42	nw.	16.3		
						2,000	779.5	−14.9		94	1.57	nw.	15.8		
						1,750	805.3	−13.8		94	1.73	nw.	15.3		
3:50	961.4	− 8.7	79	nw.	7.6	1,691	811.1	−13.6	0.00	94	1.77	nw.	15.2	6,000	
						1,500	831.8	−13.6		95	1.79	nw.	16.8		8/10 A.Cu., nnw.; 1/10 St.Cu., nw.
4:01	961.5	− 8.7	79	nw.	6.7	1,411	841.6	−13.6	−4.00	95	1.79	nw.	17.6		
4:03	961.5	− 8.7	79	nw.	6.7	1,346	848.8	−16.2	0.64	97	1.44	nw.	19.4		
						1,250	959.7	−15.6		97	1.51	nw.	18.2	3,000	
						1,000	888.7	−14.0		97	1.76	wnw.	15.3		
4:20	961.7	− 8.7	79	nw.	6.7	803	912.1	−12.7	0.98	97	1.98	wnw.	12.9	425	
						750	918.8	−12.2		95	2.02	wnw.	12.1		
						500	949.0	− 9.7		85	2.27	nw.	8.3		
4:26	961.8	− 8.7	81	nw.	6.7	396	961.8	− 8.7		81	2.36	nw.	6.7		8/10 A.Cu., nnw.; 1/10 St.Cu., nw.

January 16, 1918, series (No. 3).

P. M.															
5:13	962.3	−9.0	75	nw.	5.8	396	962.3	− 9.0		75	2.13	nw.	5.8		8/10 A. Cu., nnw.; 1/10 St. Cu., nw.
						500	949.5	− 9.9		77	2.02	nw.	8.7		
						750	919.1	−12.2		83	1.77	nw.	15.7		Light snow throughout flight.
5:24	962.4	−9.2	75	nw.	5.8	842	908.0	−13.0	0.90	85	1.68	nw.	18.3	1,470	
						1,000	889.5	−14.2		88	1.57	nw.	19.2		
						1,250	860.9	−16.2		93	1.38	nw.	20.6		
5:32	962.5	−9.2	75	nw.	5.8	1,271	858.0	−16.4	0.79	93	1.35	nw.	20.7		
5:38	962.5	−9.3	78	nw.	4.9	1,484	834.2	−13.4	−1.41	94	1.80	nw.	19.1	5,000	
						1,500	832.7	−13.4		94	1.80	nw.	19.1		
						1,750	805.8	−13.6		94	1.77	nw.	19.0		
5:49	962.7	−9.4	80	nw.	5.8	1,810	799.4	−13.6	0.06	94	1.77	nw.	19.0		
						2,000	779.5	−14.3		94	1.65	nw.	18.8		10/10 A. St., nw.
						2,250	754.3	−15.2		94	1.52	nw.	18.4	8,500	
						2,500	729.8	−16.0		94	1.41	nw.	18.1		
6:32	963.0	−9.1	81	nw.	7.2	2,520	728.1	−16.1	0.35	94	1.40	nw.	18.1	9,000	
						2,750	706.5	−18.5		94	1.12	nw.	14.4		
6:57	963.1	−9.0	81	nw.	6.3	2,804	701.3	−19.0	0.89	94	1.06	nw.	13.6	10,500	
						2,750	706.5	−18.3		94	1.14	nw.	14.9		
						2,500	731.0	−16.4		94	1.36	nw.	18.5	9,600	9/10 A. St., nw.
						2,250	755.9	−14.5		94	1.63	nw.	22.1		
7:45	963.4	−8.8	78	nw.	7.6	2,172	763.2	−14.2	1.22	94	1.67	nw.	22.6	8,000	
						2,000	780.8	−12.2		80	1.70	nw.	22.3		
7:55	963.5	−8.8	79	nw.	7.2	1,894	791.5	−10.8	−0.85	72	1.74	nw.	22.1		
						1,750	806.5	−12.0		77	1.67	nw.	21.9		
						1,500	833.2	−14.1		86	1.54	nw.	21.5		4/10 A. St., nw.; 5/10 St., nw.
8:17	963.6	−8.8	81	nw.	5.8	1,281	858.0	−16.0	0.73	94	1.41	nw.	21.1	2,700	
						1,250	861.6	−15.8		94	1.44	nw.	20.8		
						1,000	890.8	−14.0		96	1.74	nw.	18.1		
8:30	963.7	−8.8	85	nw.	4.9	801	914.2	−12.5	0.86	97	2.01	nw.	15.9	515	
						750	920.4	−12.1		96	2.06	nw.	14.5		
						500	950.7	−9.9		90	2.36	nw.	7.7		
8:38	963.7	−9.0	88	nw.	4.9	396	963.7	−9.0		88	2.50	nw.	4.9		4/10 A. St., nw.; 5/10 St., nw.

January 16 and 17, 1918, series (No. 4).

P. M.															
9:33	964.0	−8.8	81	nw.	7.6	396	964.0	− 8.8		81	2.34	nw.	7.6		10/10 St., nw.
						500	951.5	− 9.7		83	2.22	nw.	10.4	0	Light snow continued to 11:00 p. m.
						750	921.0	−11.9		88	1.93	nw.	17.3	0	
						1,000	891.2	−14.0		94	1.70	nw.	14.1		
9:54	964.2	−9.0	81	nw.	8.9	1,144	874.3	−15.3	0.87	95	1.52	nw.	28.0	2,700	
						1,250	862.3	−12.5		96	1.99	nw.	21.0		
10:00	964.2	−9.0	81	nw.	8.0	1,260	861.0	−12.2	−2.67	96	2.04	nw.	20.4		
						1,500	834.3	−13.2		97	1.89	nw.	19.9	3,400	6/10 St., nw.
						1,750	807.5	−14.2		99	1.76	nnw.	19.3	6,900	2/10 St., nw.
10:48	964.4	−9.4	88	nnw.	7.6	1,972	784.1	−15.1	0.41	100	1.63	nnw.	18.8	8,400	Few St., nnw.
						2,000	781.4	−15.3		100	1.60	nnw.	18.6	7,000	
						2,250	756.0	−17.1		99	1.34	nnw.	17.0		
						2,500	731.2	−18.8		98	1.13	nnw.	15.5	10,500	
11:10	964.5	−9.6	88	nnw.	7.2	2,623	719.2	−19.7	0.68	98	1.04	nnw.	14.7	10,000	Cloudless.

* More than 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 16 and 17, 1918, series (No. 4)—Continued.

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100 \text{ m.}}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						2,500	731.2	−18.9		98	1.12	nnw.	15.3		
						2,250	756.0	−17.3		99	1.32	nnw.	16.4		
						2,000	781.4	−15.7		100	1.55	nnw.	17.5	8,000	
11:45	964.7	−9.4	88	nnw.	8.9	1,801	802.4	−14.4	0.33	100	1.74	nnw.	18.4	6,000	
						1,750	807.5	−14.2		99	1.76	nnw.	18.8		
						1,500	834.3	−13.4		95	1.81	nnw.	20.5	3,300	
						1,250	862.3	−12.6		91	1.87	nnw.	22.2		
A. M.															
12:25	965.1	−9.9	87	nnw.	7.6	1,097	880.4	−12.1	−1.39	89	1.91	nnw.	23.3	810	3/10 Ci., wnw.; Few A. St., wnw.
						1,000	891.4	−13.5		91	1.72	nnw.	25.2		
12:32	965.2	−10.0	87	nnw.	6.3	931	900.0	−14.4	0.82	93	1.62	nnw.	26.5		
						750	921.4	−12.9		91	1.82	nnw.	19.7	0	
						500	952.0	−10.9		88	2.10	nnw.	10.2	0	
12:44	965.3	−10.0	87	nnw.	6.3	396	965.3	−10.0		87	2.26	nnw.	6.3		6/10 Ci., nw.; 2/10 A. St., nw.

January 17, 1918, series (No. 5).

A. M.															
1:38	965.8	−10.0	80	nw.	7.2	396	965.8	−10.0		80	2.08	nw.	7.2		10/10 A. St., nw.
						500	953.0	−10.8		82	1.98	nw.	9.5	0	
						750	922.5	−12.8		87	1.76	nw.	15.1	0	
1:51	965.8	−10.0	80	nw.	6.3	929	900.7	−14.2	0.79	91	1.62	nw.	19.1		
						1,000	892.4	−13.9		90	1.65	nw.	18.7		7/10 Ci. St., nw.; 3/10 A. St., nw
1:55	965.9	−10.0	80	nw.	6.3	1,213	867.9	−12.9	−0.46	87	1.74	nnw.	17.6		
						1,250	863.6	−13.1		87	1.71	nnw.	17.7		
						1,500	835.6	−14.1		90	1.61	nnw.	18.4	3,800	
						1,750	809.0	−15.2		92	1.49	nnw.	19.2		
2:15	966.1	−10.0	80	nw.	4.9	2,003	782.1	−16.3	0.43	94	1.37	nnw.	19.9		
						2,250	757.1	−18.1		95	1.17	nnw.	20.7	10,000	
						2,500	732.3	−20.0		96	0.99	nnw.	21.5	(*)	
						2,750	708.0	−21.9		97	0.82	nnw.	22.3	(*)	
2:38	966.5	−10.2	80	nw.	5.4	2,804	702.5	−22.3	0.75	97	0.80	nnw.	22.5	(*)	
2:43	966.6	−10.3	79	nw.	4.9	2,840	699.3	−20.2	0.56	57	0.58	nnw.	21.6		
						2,750	708.0	−19.7		62	0.66	nnw.	21.6		
						2,500	732.3	−18.3		77	0.93	nnw.	21.7		3/10 Ci. St., nw.
						2,250	757.1	−16.9		92	1.27	nnw.	21.8		
3:41	966.9	−11.0	86	nw.	4.0	2,181	764.2	−16.5	0.31	96	1.37	nnw.	21.8	9,200	7/10 Ci. St., nw.; 3/10 A. St., nw.
						2,000	782.8	−15.9		94	1.44	nnw.	20.6		
						1,750	809.0	−15.2		92	1.49	nnw.	19.0		
						1,500	836.1	−14.4		90	1.57	nw.	17.3	4,000	
						1,250	864.2	−13.6		87	1.64	nw.	15.7		
4:13	967.0	−11.0	86	nw.	4.5	1,209	869.1	−13.5	−0.31	87	1.64	nw.	15.4		
						1,000	893.0	−14.1		88	1.58	nw.	14.8		
4:18	967.0	−11.0	86	nw.	4.5	886	906.8	−14.5	0.73	88	1.52	nw.	14.5		
						750	923.3	−13.5		87	1.64	nw.	11.7	0	
						500	954.5	−11.7		86	1 92	nw.	6.6	0	Light snow (dry) began 4:35 a. m. and continued at end of flight.
4:37	967.1	−10.9	86	nw.	4.5	396	967.1	−10.9		86	2.06	nw.	4.5		10/10 St., nw.

January 17, 1918, series (No. 6).

A. M.															
5:24	967.4	−10.7	86	nw.	4.5	396	967.4	−10.7		86	2.10	nw.	4.5		10/10 St., nw.
						500	954.3	−11.6		89	2.00	nw.	7.4	0	Light snow (dry) continued from previous flight, ended 7:30 a. m.
						750	923.5	−13.8		95	1.75	nw.	14.4	0	
5:36	967.4	−10.5	83	nw.	6.3	757	922.8	−13.9	0.89	96	1.76	nw.	14.6	0	
						1,000	893.5	−15.8		99	1.51	nnw.	16.8		
5:47	967.5	−10.6	80	nw.	5.4	1,106	881.1	−16.7	0.80	100	1.41	nnw.	17.7	2,000	
						1,250	858.8	−16.3		100	1.46	nnw.	18.9		
						1,500	836.8	−15.7		99	1.53	nnw.	20 9	7,000	10/10 St., nw.
6:08	967.6	−10.6	79	nw.	3.6	1,704	814.1	−15.2	−0.25	99	1.60	nnw.	22.6		
						1,750	809.5	−15.5		99	1.55	nnw.	22.5		
						2,000	782.9	−17.0		97	1.33	nnw.	22.2	11,000	
						2,250	757.1	−18.6		96	1.13	nnw.	21.9		
						2,500	732.0	−20.1		95	0.97	nnw.	21.6	(†)	
6:49	967.8	−10.9	86	nw.	5.4	2,589	723.2	−20.7	0.64	94	0.90	nnw.	21.5	(†)	
						2,500	732.0	−20.1		94	0.96	nnw.	21.5	(†)	
						2,250	757.1	−18.4		95	1.14	nw.	21.3	(†)	10/10 St. Cu., nw.
						2,000	782.9	−16.8		96	1,33	nw.	21.2		Altitude of St. Cu., base about 1,950 m.
7:45	968.4	−11.3	86	nw.	7.2	1,976	785.7	−16.6	0.04	96	1.36	nw.	21.2		
						1,750	809.5	−16.5		97	1,39	nw.	19.8	7,000	
						1,500	836.8	−16.4		98	1.42	nw.	18.0	4,300	
						1,250	859.5	−16.3		99	1.45	nnw.	16.6		
						1,000	894.7	−16.2		100	1.48	nnw.	15.0		
8:28	968.7	−11.6	85	nnw.	5.8	981	896.9	−16.2	0.79	100	1.48	nnw.	14.9	1,430	5/10 A. St., nnw.; 3/10 St. Cu., nw.
						750	925.0	−14.4		91	1.58	nnw.	10.9	0	
						500	955.9	−12.4		81	1,69	nnw.	6.7	0	
8:46	968.8	−11.6	77	nnw.	4.9	396	968.8	−11.6		77	1.74	nnw.	4.9		

* More than 10,000 volts.

† More than 11,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 17, 1918, series (No. 7).

Surface.						At different heights above sea.									
Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
	mb.	*°C.*	%		*m. p. s.*	*m.*	*mb.*	*°C.*		%	*mb.*		*m. p. s.*	*volts.*	
A. M. 9:25	969.0	−11.7	81	nw.	4.9	396	969.0	−11.7		81	1.81	nw.	4.9		5/10 A.St., nnw. 1/10 St.Cu., nw.
						500	956.2	−12.5		81	1.68	nw.	6.5		Few St. nnw.
						750	925.3	−14.2		83	1.48	nw.	10.5	1,685	Solar halo, 22° radius, and parhelia, 9:34 to 10:08 a. m.
						1,000	895.5	−16.0		84	1.26	nnw.	14.4		
						1,250	865.6	−17.8		85	1.08	nnw.	18.3		Altitude of St. base about 1,100 m.
9:57	969.2	−11.3	86	nw.	6.7	1,471	840.6	−19.4	0.72	86	0.94	nnw.	21.8	7,600	
						1,500	837.4	−19.3		84	0.92	nnw.	21.9		3/10 A.St., nnw.; 2/10 St. nnw.
						1,750	809.5	−18.6		65	0.77	nnw.	22.5		
10:21	969.2	−11.0	78	nw.	7.6	2,000	783.0	−17.9	−0.28	47	0.59	nnw.	23.2	(*)	Light snow from 10:31 to 11.05 a. m.
						2,250	756.7	−18.8		48	0.55	nnw.	21.9	(*)	
						2,500	731.2	−19.6		49	0.52	nnw.	20.6	(*)	1/10 A.St., nnw.; 4/10 St., nnw.
						2,750	707.5	−20.5		50	0.49	nnw.	19.4	(*)	
						3,000	684.5	−21.4		51	0.46	nnw.	18.1	(*)	7/10 St., nnw.
11:00	969.2	−10.5	77	nw.	6.7	3,234	663.2	−22.2	0.32	52	0.43	nnw.	16.9	(*)	Altitude of St. base about 850 m.
						3,000	684.5	−21.5		49	0.44	nnw.	17.7	(*)	
						2,750	707.5	−20.8		45	0.43	nnw.	18.5	(*)	
						2,500	731.2	−20.1		42	0.43	nnw.	19.4		4/10 St., nnw.
11:38	968.8	−10.1	77	nnw.	7.6	2,376	744.3	−19.8	0.28	40	0.42	nnw.	19.8		
						2,250	756.7	−19.4		40	0.44	nnw.	22.0		
						2,000	783.0	−18.7		41	0.48	nnw	26.3	10,000	8/10 St., nnw...
11:55	968.6	−10.2	76	nnw.	7.6	1,770	807.0	−18.1	−1.45	41	0.50	nnw.	30.3	7,500	
						1,750	809.5	−18.4		42	0.50	nnw.	30.0		
11:57	968.6	−10.2	76	nnw.	8.5	1,604	825.4	−20.5	0.83	52	0.51	nnw.	27.8		
						1,500	837.4	−19.6		54	0.58	nnw.	26.1		Altitude of St. base about 1,150 m.
						1,250	865.6	−17.6		58	0.75	nnw.	22.0	2,500	
						1,000	895.0	−15.0		62	1.02	nnw.	17.9		
						750	925.0	−13.4		66	1.26	nnw.	13.8		
						500	955.4	−11.4		70	1.60	nnw.	9.7		
P. M. 12:15	968.5	−10.5	72	nnw.	8.0	396	968.5	−10.5		72	1.79	nnw.	8.0		9/10 St. nnw.

January 17, 1918, series (No. 8).

P. M. 1:29	968.1	−10.5	72	nnw.	4.9	396	968.1	−10.5		72	1.79	nnw.	4.9		9/10 St., nnw.
						500	955.2	−11.7		75	1.67	nnw.	7.3		
						750	924.3	−14.5		84	1.45	nw.	12.9		
1:39	968.0	−10.4	72	nnw.	5.8	788	919.6	−14.9	1.12	85	1.42	nw.	13.8	1,500	
						1,000	894.0	−16.5		87	1.24	nw.	15.3		Light snow (dry) from 1:40 to 4:40 p. m.
						1,250	864.7	−18.4		90	1.08	nw.	17.1	6,000	Altitude of St. base about 1,000 m.
						1,500	836.1	−20.3		93	0.93	nw.	18.9	9,800	
						1,750	808.5	−22.3		96	0.79	nw.	20.7		
2:09	968.0	− 9.9	74	nnw.	5.8	1,770	806.2	−22.4	0.76	96	0.78	nw.	20.8	11,000	
						2,000	781.6	−21.5		93	0.83	nw.	21.7		
2:22	968.2	−10.0	74	nnw.	5.8	2,185	762.3	−20.7	−0.41	90	0.86	nw.	22.4		
						2,250	755.8	−20.8		87	0.83	nw.		(*)	
						2,500	730.8	−21.3		73	0.66	nw.			7/10 St., nw.
						2,750	706.8	−21.8		60	0.52	nnw.			
2:52	968.5	−10.3	79	nnw.	4.9	2,923	690.1	−22.2	0.26	51	0.42	nnw.		(*)	
						2,750	706.8	−21.7		52	0.45	nnw.			
						2,500	730.8	−20.9		52	0.49	nw.			
3:23	968.8	−10.4	87	nnw.	5.4	2,285	752.5	−20.2	0.09	53	0.54	nw.	19.5	(*)	Altitude of St. base about 900 m.
						2,250	756.2	−20.2		56	0.57	nw.	19.3		
						2,000	782.2	−19.9		76	0.79	nw.	18.2		
3:40	969.0	−10.8	86	nnw.	5.4	1,967	785.7	−19.9	−0.76	79	0.82	nw.	18.0	(*)	5/10 St., nw.
3:50	969.1	−11.0	86	nnw.	4.9	1,862	797.1	−20.7	−0.48	88	0.84	nw.	17.5		
						1,750	809.4	−21.2		92	0.84	nw.	20.5		
3:53	969.1	−11.2	86	nnw.	4.9	1,654	819.9	−21.7	0.81	96	0.84	nw.	23.1		
						1,500	836.1	−20.5		96	0.94	nw.	21.6	11,500	
						1,250	865.6	−18.5		96	1.14	nw.	19.3	3,500	8/10 St., nw.
						1,000	895.0	−16.4		97	1.41	nw.	16.9		
4:21	969.3	−11.4	86	nnw.	5.4	797	919.6	−14.8	0.82	97	1.63	nw.	15.0	0	
						750	925.5	−14.4		96	1.67	nw.	14.0		
						500	956.6	−12.4		89	1.86	nnw.	8.6		
4:28	969.4	−11.5	86	nnw.	6.3	396	969.4	−11.5		86	1.95	nnw.	6.3		5/10 St., nw.

January 18, 1918.

A. M. 8:15	967.6	−14.5	95	nw.	4.9	396	967.6	−14.5		95	1.64	nw.	4.9		Light snow from beginning of flight to about 9:45 a. m. 10/10 St., nnw.
						500	954.5	−15.3		95	1.52	nw.	6.2		Parhelion at left of sun 22°, 8:30 to 8:34 a. m.
						750	923.1	−17.2		97	1.30	nw.	9.2	1,500	
						1,000	892.6	−19.2		98	1.09	nw.	12.3		10/10 St.Cu., nnw.
8:52	967.6	−13.9	95	nw.	4.1	1,055	886.2	−19.6	0.77	98	1.05	nw.	13.0	4,200	Altitude of St.Cu. base about 1,300 m.

* More than 11,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 18, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,250	863.4	−19.0		97	1.10	nw.	14.6		
						1,500	834.8	−18.3		95	1.15	nw.	16.7		
9:12	967.6	−13.5	91	nw.	4.5	1,588	825.3	−18.0	−0.30	95	1.18	nw.	17.4	(*)	
						1,750	807.5	−18.2		95	1.16	nw.	19.2		Two parhelia at 9:13 a. m.
						2,000	780.9	−18.7		95	1.10	nnw.	21.9		3/10 A.Cu., nnw.; 3/10 St.Cu., nnw.
9:38	967.6	−13.1	84	nw.	5.7	2,208	759.5	−18.8	0.13	95	1.09	nnw.	24.1		Solar halo, 22° radius, two parhelia to right and left of sun and circumzenithal arc at 9:30 a. m. Sun's altitude 17°. 2/10 St.Cu., nnw. Total halo formation disappeared 9:49 a. m. Length of circumzenithal arc at greatest brilliancy, 9:37 a. m., 50°.
						2,250	755.4	−19.0		95	1.07	nnw.	24.0		
						2,500	730.2	−20.0		94	0.97	nnw.	23.1		
						2,750	706.0	−21.1		93	0.86	nnw.	22.3		
						3,000	620.5	−22.1		92	0.77	nnw.	21.4	22,500	
						3,250	660.0	−23.2		91	0.68	nnw.	20.5		
10:25	967.4	−12.4	76	nw.	5.3	3,346	651.3	−23.6	0.42	91	0.66	nnw.	20.2		
						3,500	638.0	−21.7		83	0.64	nw.	24.7		
10:30	967.4	−12.5	76	nw.	6.2	3,570	631.7	−20.8	−1.25	80	0.76	wnw.	27.8	25,000	6/10 St.Cu., nnw.
10:48	967.3	−12.2	76	nw.	5.3	3,703	620.5	−21.3	0.27	74	0.67	wnw.	24.0		
						3,500	638.0	−20.9		70	0.66	wnw.	23.5	23,000	3/10 St.Cu., nnw.
11:25	966.9	−11.8	80	nw.	5.7	3,280	656.6	−20.6	−9.26	66	0.64	wnw.	22.9		
						3,250	660.0	−23.4		82	0.61	nw.	22.7		6/10 St., nnw.; light snow began 11:35 a. m. and continued at end of flight.
11:44	966.7	−11.5	78	nw.	5.7	3,226	661.8	−25.6	1.16	94	0.55	nw.	22.6	21,500	
						3,000	682.5	−23.7		94	0.67	nw.	22.5		9/10 St., nnw.
						2,750	706.0	−21.5		94	0.84	nw.	22.4	19,000	
						2,500	730.2	−19.4		94	1.02	nw.	22.1	16,000	
P. M.															
12:26	966.4	−10.9	76	nw.	4.1	2,306	749.7	−17.7	−0.03	94	1.20	nw.	22.2		
						2,250	755.4	−17.7		94	1.20	nw.	21.6		
						2,000	780.9	−17.8		96	1.22	nw.	18.7	4,000	
12:41	966.3	−10.7	79	nnw.	3.7	1,960	785.2	−17.8	0.10	96	1.22	nw.	18.2		
						1,750	807.5	−17.6		96	1.24	nw.	16.7	2,600	10/10 St., nnw.
						1,500	834.8	−17.3		96	1.28	nw.	14.8		
1:00	966.2	−10.7	78	nw.	5.3	1,251	863.2	−17.1	0.58	96	1.30	nw.	13.0		
						1,000	892.6	−15.7		97	1.50	nw.	11.1	2,800	
						750	922.0	−12.8		98	1.98	nw.	9.2		
1:18	965.7	−10.5	79	nnw.	4.9	698	928.3	−13.9	1.13	98	1.79	nw.	8.8	1,105	
						500	952.4	−11.7		86	1.92	nw.	6.2		
1:28	965.4	−10.5	79	nw.	4.9	396	965.4	−10.5		79	1.96	nw.	4.9		10/10 St., nnw.

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A. M.															
8:24	970.2	−12.1	92	nnw.	4.0	396	970.2	−12.1		92	1.98	nnw.	4.0		10/10 St.Cu., nnw.
						500	957.4	−12.9		92	1.84	nnw.	7.5		Light snow during flight.
						750	926.4	−14.9		93	1.55	nnw.	15.9		
8:35	970.3	−12.0	92	nnw.	4.0	774	923.2	−15.1	0.79	93	1.52	nnw.	16.7	1,100	
						1,000	896.0	−16.7		93	1.31	nnw.	17.3		
						1,250	867.0	−18.4		94	1.13	nnw.	18.1		
8:47	970.4	−12.0	92	nnw.	4.9	1,330	857.5	−19.0	0.70	94	1.06	nnw.	18.3		
8:49	970.5	−12.0	92	nnw.	4.5	1,393	850.3	−17.0	−3.17	93	1.27	nnw.	18.8	5,200	
						1,500	838.5	−18.0		95	1.18	nnw.	18.4		
9:05	970.6	−11.9	92	n.	4.5	1,728	813.0	−20.2	0.96	100	1.01	nnw.	17.4		
						1,750	811.0	−19.7		98	1.04	nnw.	17.2		
9:09	970.6	−11.9	92	n.	5.4	1,909	793.6	−16.0	−2.32	87	1.30	nnw.	16.0	17,000	
						2,000	784.3	−16.2		84	1.24	nnw.	16.0		7/10 A.St., nnw.; 1/10 St.Cu., nnw.
						2,250	758.9	−16.9		77	1.06	nnw.	15.9		
9:35	970.8	−11.5	85	n.	2.2	2,431	740.5	−17.4	0.27	72	0.95	nnw.	15.9	21,000	
						2,500	733.8	−17.7		72	0.92	nnw.	16.3		
						2,750	709.5	−18.7		71	0.82	nnw.	17.7		
						3,000	686.0	−19.6		69	0.74	nnw.	19.1	24,200	
						3,250	663.7	−20.6		68	0.66	nnw.	20.5		
10:06	971.0	−11.3	82	n.	4.9	3,294	659.5	−20.8	0.39	68	0.65	nnw.	20.8	27,000	
						3,500	642.0	−21.2		65	0.59	nnw.	19.5	29,500	
						3,750	621.0	−21.7		62	0.54	nnw.	17.8		2/10 A.St., nnw.; 8/10 St.Cu., nnw.
						4,000	601.0	−22.2		59	0.49	nnw.	16.2	29,500	
10:54	972.2	−10.7	85	n.	5.8	4,135	589.5	−22.5	0.25	57	0.46	nnw.	15.3		
						4,000	601.0	−22.1		59	0.50	nnw.	15.9		
						3,750	622.0	−21.4		63	0.57	nnw.	16.9	26,000	
						3,500	643.5	−20.7		68	0.65	nnw.	17.9		
						3,250	665.2	−19.9		72	0.75	nnw.	19.0	24,000	1/10 A.St., nnw.; 7/10 St.Cu. nnw.
11:35	972.1	−10.3	80	n.	6.7	2,996	687.9	−19.1	0.41	76	0.85	nnw.	20.0		
						2,750	711.0	−18.1		78	0.96	nnw.	18.5	15,600	
						2,500	735.3	−17.1		79	1.07	nnw.	17.0		
						2,250	760.2	−16.1		81	1.21	nnw.	15.4		
P. M.															
12:03	972.0	−10.0	80	n.	6.3	2,085	776.6	−15.4	−1.22	82	1.30	nnw.	14.4	12,000	
						2,000	785.8	−16.4		83	1.20	nnw.	13.7		
						1,750	812.4	−19.5		87	0.94	nnw.	11.7		
12:13	971.8	− 9.8	74	n.	4.0	1,690	818.7	−20.2	0.65	88	0.89	nnw.	11.2		9/10 St.Cu., nnw.
						1,500	939.5	−19.0		89	1.01	nnw.	11.7	4,500	Altitude of St.Cu. base about 1,150 m.

* Over 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 19, 1918—Continued.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%	°	*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,250	868.0	−17.4		91	1.20	nnw.	12.4		
						1,000	897.4	−15.7		93	1.44	nnw.	13.0		
12:37	971.6	−10.2	74	n.	6.7	776	924.5	−14.3	1.11	94	1.65	nnw.	13.6	1,100	
						750	928.0	−14.0		92	1.67	nnw.	13.0		
						500	958.8	−11.2		77	1.79	n.	7.6		
12:46	971.8	−10.1	70	n.	5.4	396	971.8	−10.1		70	1.80	n.	5.4		9/10 St. Cu., nnw.

January 20, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
9:06	977.4	−16.1	100	w.	3.6	396	977.4	−16.1		100	1.49	w.	3.6		1/10 Ci.St., nw.; 2/10 St., wmw. Parhelion to right of sun from 8:00 to 8:10 a. m.
						500	964.4	−15.2		100	1.62	w.	4.6	0	4/10 St.Cu., wnw.; 6/10 St.Cu., wnw.
9:37	977.6	−14.8	95	w.	3.6	674	942.4	−13.8	−0.83	100	1.84	w.	6.4		Light snow from 9:37 a. m. to 12 noon; 10/10 St.Cu., wnw.
						750	933.0	−14.2		100	1.78	w.	6.5		
						1,000	902.8	−15.7		100	1.55	w.	6.8	2,800	5/10 St.Cu., wnw.; 5/10 St. wnw.
						1,250	873.7	−17.2		100	1.34	w.	7.2		Altitude of St. base about 1,350 m.
10:02	977.7	−13.6	100	wsw.	3.1	1,288	869.1	−17.4	0.59	100	1.32	w.	7.2		
						1,500	845.5	−16.0		91	1.36	w.	12.0	8,000	
						1,750	818.1	−14.2		80	1.42	wnw.	17.7		
10:32	977.9	−12.7	96	w.	2.7	1,815	810.9	−13.8	−0.68	77	1.42	wnw.	19.2		
						2,000	791.5	−14.1		80	1.43	wnw.	18.6		10/10 St., w.
						2,250	766.2	−14.4		83	1.44	wnw.	17.9		
						2,500	741.4	−14.8		87	1.46	wnw.	17.2	10,000	
						2,750	717.4	−15.2		91	1.47	wnw.	16.4		10/10 St., sw.
						3,000	694.0	−15.6		95	1.48	wnw.	15.7	14,000	
11:13	977.9	−10.5	90	sw.	3.6	3,022	691.9	−15.6	0.15	95	1.48	wnw.	15.6	31,200	
						3,250	671.3	−17.1		92	1.24	wnw.	16.0		5/10 A.St., wnw.; 5/10 St., sw.
						3,500	648.9	−18.7		89	1.03	wnw.	16.5		9/10 A.St., wnw.; 1/10 St., sw.
						3,750	627.3	−20.3		86	0.86	wnw.	17.0		
						4,000	606.1	−22.0		83	0.70	wnw.	17.4	36,000	
11:52	977.7	−10.2	91	sw.	3.1	4,105	597.9	−23.3	0.80	80	0.59	wnw.	17.8		
						4,000	606.1	−23.3		80	0.59	wnw.	17.8		10/10 A.Cu., wnw.
						3,750	627.3	−19.9		78	0.81	wnw.	16.3	29,000	
						3,500	648.9	−17.5		76	0.99	w.	15.2		
P. M.															
12:18	977.5	−10.2	87	sw.	3.1	3,301	666.7	−15.6	0.17	75	1.17	w.	14.4		
						3,250	671.3	−15.5		75	1.18	w.	14.3	20,500	
						3,000	694.0	−15.1		76	1.24	w.	13.9		10/10 A.Cu., wnw.
						2,750	717.4	−14.7		77	1.31	w.	13.4		
						2,500	741.0	−14.3		78	1.37	w.	12.9	13,000	
						2,250	765.8	−13.9		79	1.45	w.	12.5		
12:48	977.1	− 9.4	88	wsw.	3.1	2,093	781.5	−13.6	−0.43	80	1.50	w.	12.2		
						2,000	791.0	−14.0		84	1.52	w.	11.4		
						1,750	817.5	−15.1		95	1.55	wnw.	9.4		
1:00	977.0	− 9.0	84	w.	2.7	1,623	831.4	−15.6	0.23	100	1.56	wnw.	8.3	4,000	
						1,500	844.8	−15.3		100	1.60	wnw.	8.2		9/10 A.Cu., wnw.; 1/10 St.Cu., w.
						1,250	873.3	−14.8		100	1.68	w.	8.0		
						1,000	902.8	−14.2		100	1.78	w.	7.8	2,700	
1:18	976.7	− 8.7	81	w.	1.8	917	912.6	−14.0	1.11	100	1.81	w.	7.7		
						750	933.0	−12.1		93	2.00	w.	6.2		
						500	963.5	− 9.4		82	2.25	w.	4.0		
1:27	976.6	− 8.2	77	w.	3.1	396	976.6	− 8.2		77	2.34	w.	3.1		9/10 A.Cu., wnw.; 1/10 St.Cu., w.

January 21, 1918 (No. 1).

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:29	973.2	−13.8	100	sw.	4.0	396	973.2	−13.8		100	1.84	sw.	4.0		Few St.Cu. near horizon.
						500	960.2	−11.3		90	2.08	sw.	5.2		
8:39	973.1	−13.8	100	sw.	4.5	613	946.0	− 8.5	−2.44	80	2.37	sw.	6.4	0	
						750	929.6	− 9.1		82	2.30	sw.	6.3		
						1,000	899.4	−10.2		84	2.14	sw.	6.0	3,000	Cloudless.
11:12	972.2	− 9.1	81	wsw.	6.3	1,047	893.8	−10.4	0.44	85	2.13	sw.	6.0	4,200	
						1,250	870.6	−10.6		79	1.94	wsw.	3.9		
11:20	972.1	− 8.6	80	wsw.	5.8	1,384	855.3	−10.8	0.12	75	1.82	wsw.	2.5		
						1,250	870.6	−10.6		80	1.97	wsw.	4.2		
11:37	971.9	− 8.0	77	wsw.	6.3	1,002	898.7	−10.3	0.42	88	2.23	sw.	7.3	2,500	
						750	928.5	− 9.2		86	2.40	sw.	9.2		
11:49	971.7	− 7.4	75	wsw.	6.3	717	932.2	− 9.1	0.65	86	2.42	sw.	9.4	1,500	
						500	958.4	− 7.7		77	2.45	wsw.	7.0		
11:55	971.7	− 7.0	72	wsw.	5.8	396	971.7	− 7.0		72	2.43	wsw.	5.8		Cloudless.

January 21, 1918 (No. 2).

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.															
1:02	970.6	− 4.8	64	wsw.	6.3	396	970.6	− 4.8		64	2.61	wsw.	6.3		Cloudless.
						500	958.0	− 6.0		69	2.54	wsw.	6.4	1,200	
						750	927.6	− 9.0		81	2.30	wsw.	6.7		
1:19	970.3	− 4.3	65	wsw.	6.3	863	913.8	−10.4	1.20	86	2.16	wsw.	6.8	3,600	

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 21, 1918 (No. 2)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	Δt 100 m.	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,000	897.8	− 9.5	.....	79	2.14	wsw.	9.1	6,000	
1:32	970.1	− 4.6	67	wsw.	7.2	1,082	888.1	− 8.9	−0.68	75	2.14	wsw.	10.4	.....	
						1,250	869.0	− 9.0	.....	73	2.07	w.	10.6	.....	
1:39	970.0	− 4.5	67	wsw.	6.7	1,359	856.9	− 9.0	0.04	72	2.04	w.	10.8	.....	
						1,500	841.4	− 9.9	.....	74	1.94	w.	11.2	.....	
						1,750	814.4	−11.4	.....	77	1.76	w.	11.9	.....	
						2,000	788.2	−12.9	.....	80	1.60	w.	12.5	9,000	
						2,250	763.3	−14.4	.....	84	1.46	wnw.	13.2	.....	
						2,500	738.8	−16.0	.....	87	1.30	wnw.	13.9	.....	
2:06	969.6	− 4.3	66	wsw	5.8	2,652	723.0	−16.9	0.61	89	1.23	wnw.	14.3	16,000	
						2,750	714.3	−16.3	.....	66	0.96	wnw	14.0	.....	
2:13	969.5	− 4.2	64	wsw.	7.2	2,864	702.8	−15.6	−0.61	39	0.61	w.	13.6	.....	
						3,000	690.4	−16.4	.....	40	0.58	w.	14.6	16,500	
						3,250	667.5	−17.8	.....	41	0.52	w.	16.5	19,500	
						3,500	645.0	−19.2	.....	41	0.46	w.	18.3	.....	
						3,750	624.0	−20.6	.....	42	0.41	w.	20.2	20,600	
2:48	969.3	− 3.5	65	wsw.	6.7	3,883	612.8	−21.4	0.57	43	0.39	w.	21.2	22,000	
						4,000	603.4	−20.3	.....	37	0.37	w.	18.4	.....	
2:55	969.2	− 3.5	64	wsw.	7.2	4,069	597.8	−19.6	−0.97	33	0.35	w.	16.8	.....	
						4,250	583.5	−20.9	.....	36	0.34	w.	17.3	.....	
						4,500	564.2	−22.8	.....	40	0.31	w.	18.0	.....	
						4,750	546.0	−24.6	.....	44	0.29	w.	18.7	24,500	
3:17	969.1	− 3.2	63	wsw.	5.8	4,825	540.1	−25.2	0.66	45	0.27	w.	18.9	.....	
						4,750	546.0	−24.8	.....	46	0.29	w.	18.8	.....	
						4,500	564.2	−23.3	.....	47	0.35	w.	18.6	.....	
						4,250	583.5	−21.9	.....	49	0.42	w.	18.4	19,200	
						4,000	603.4	−20.4	.....	51	0.50	w.	18.2	.....	
						3,750	624.0	−19.0	.....	53	0.60	w.	17.9	17,500	
						3,500	646.0	−17.5	.....	54	0.70	w.	17.7	.....	
4:12	968.8	− 2.7	62	sw.	6.7	3,268	667.0	−16.2	0.17	56	0.83	w.	17.5	.....	
						3,250	668.8	−16.2	.....	55	0.81	w.	17.5	11,500	
						3,000	691.7	−15.7	.....	47	0.73	w.	17.5	.....	
						2,750	714.8	−15.3	.....	38	0.61	wnw.	17.5	.....	
4:34	968.7	− 2.9	66	sw.	7.6	2,580	730.7	−15.0	0.60	32	0.53	wnw.	17.5	7,500	
						2,500	738.8	−14.5	.....	33	0.57	wnw.	17.5	.....	
						2,250	763.3	−13.0	.....	36	0.71	w.	17.4	.....	
						2,000	787.8	−11.5	.....	40	0.91	w.	17.2	5,000	
						1,750	814.0	−10.0	.....	43	1.12	wsw.	17.1	5,000	
						1,500	840.6	− 8.5	.....	46	1.36	wsw.	17.0	.....	
						1,250	868.3	− 7.0	.....	49	1.66	wsw.	16.9	2,500	
						1,000	896.9	− 5.5	.....	52	2.00	sw.	16.8	.....	
5:08	968.6	− 3.9	72	sw.	4.9	959	901.5	− 5.3	−0.59	53	2.07	sw.	16.8	1,300	
						750	926.1	− 6.5	.....	68	2.40	sw.	12.9	.....	
5:14	968.6	− 4.1	70	sw.	4.5	653	937.4	− 7.1	0.89	75	2.51	sw.	11.1	.....	
						500	955.8	− 5.7	.....	74	2.80	sw.	7.2	.....	
5:22	968.6	− 4.8	74	sw.	4.5	396	968.6	− 4.8	.....	74	3.02	sw.	4.5	.....	Cloudless.

January 22, 1918.

A. M.															
8:40	973.5	−13.6	100	nw.	5.3	396	973.5	−13.6	.....	100	1.88	nw.	5.3	.....	Snow began 7:25, ended 10:55 a. m.; 10/10 St., nw.
						500	960.0	−14.1	.....	100	1.79	nw.	7.2	.....	
						750	929.5	−15.2	.....	100	1.62	nw.	11.8	1,900	
						1,000	899.1	−16.3	.....	100	1.46	nw.	16.4	.....	
9:04	973.6	−13.3	100	nw.	4.1	1,012	897.4	−16.4	0.62	100	1.45	nw.	16.6	.....	Altitude of St. base about 11:00 m.
						1,250	870.2	−14.4	.....	97	1.60	nw.	19.0	6,000	
						1,500	842.2	−12.4	.....	93	1.88	nw.	21.4	.....	
9:23	973.8	−12.9	96	nw.	4.9	1,646	825.9	−11.2	−0.82	91	2.12	nw.	22.9	10,000	9/10 St., nw.
						1,750	815.0	−11.5	.....	91	2.87	nw.	23.0	.....	
						2,000	788.5	−12.5	.....	92	1.94	nw.	23.2	.....	
						2,250	763.2	−13.0	.....	93	1.84	wnw.	23.5	17,400	
						2,500	738.8	−13.8	.....	93	1.71	wnw.	23.6	.....	
9:51	973.9	−12.4	92	nw.	4.9	2,715	718.0	−14.4	0.30	94	1.64	wnw.	23.8	21,000	4/10 A.Cu., nw.; 5/10 St., nw.
						2,750	714.5	−14.6	.....	94	1.61	wnw.	24.2	.....	
						3,000	689.8	−16.1	.....	95	1.42	wnw.	27.0	24,400	
						3,250	665.3	−17.7	.....	95	1.22	wnw.	29.9	27,600	3/10 A.Cu., nw.; 3/10 A.St., nw.
						3,500	641.1	−19.2	.....	96	1.07	wnw.	32.7	27,400	
10:44	973.7	−11.6	88	nw.	4.5	3,735	618.8	−20.6	0.58	96	0.93	wnw.	35.4	27,400	3/10 A.Cu., nw.; 1/10 A.St., nw.
						3,500	641.1	−18.7	.....	97	1.13	wnw.	32.9	30,200	
						3,250	665.3	−17.0	.....	97	1.33	wnw.	30.2	23,000	
						3,000	689.8	−16.7	.....	99	1.40	wnw.	27.5	.....	Few A.Cu., nw.
11:51	973.3	−10.1	80	nw.	5.7	2,781	711.7	−15.0	0.31	99	1.63	wnw.	24.1	20,200	
						2,750	714.5	−14.9	.....	99	1.65	wnw.	24.0	.....	
						2,500	738.8	−14.1	.....	99	1.77	wnw.	23.1	.....	
						2,250	763.2	−13.4	.....	99	1.89	wnw.	22.1	14,700	
						2,000	788.5	−12.8	.....	100	2.02	wnw.	21.1	.....	
						1,750	815.0	−11.8	.....	100	2.21	wnw.	20.3	9,200	1/10 A.Cu., nw.; 1/10 St.Cu., nw.
P. M.															
12:25	973.2	− 9.8	80	nw.	4.9	1,574	834.0	−11.3	−0.67	100	2.31	wnw.	19.6	.....	
						1,500	842.2	−11.8	.....	98	2.16	wnw.	17.6	.....	
						1,250	870.2	−13.5	.....	92	1.74	nw.	10.8	3,800	
12:38	973.1	− 9.6	80	nw.	6.6	1,078	890.1	−14.6	0.76	87	1.49	nw.	6.1	.....	
						1,000	899.1	−14.0	.....	86	1.56	nw.	6.1	.....	
						750	929.5	−12.1	.....	84	1.81	nw.	6.2	.....	
						500	960.0	−10.2	.....	82	2.09	nw.	6.2	.....	
12:51	973.0	− 9.4	81	nw.	6.2	396	973.0	− 9.4	.....	81	2.22	nw.	6.2	.....	Few A.Cu., nw.; 2/10 St.Cu., nw.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 23, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100 \text{ m.}}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	*° C.*	%		*m. p. s.*	*m.*	*mb.*	*° C.*		%	*mb.*		*m. p. s.*	*volts.*	
8:23	956.6	−3.5	75	sw.	8.0	396	956.6	−3.5	.....	75	3.42	sw.	8.0	.....	6/10 St.Cu., w.; 3/10 St., wsw.
.....	.....	.....	.....	.....	.....	500	943.6	−2.6	.....	74	3.64	sw.	12.1	.....	
.....	.....	.....	.....	.....	.....	750	915.1	−0.5	.....	71	4.16	wsw.	21.9	.....	
8:33	956.5	−3.4	73	sw.	7.2	792	910.0	−0.1	−0.86	71	4.30	wsw.	23.5	1,470	
.....	.....	.....	.....	.....	.....	1,000	887.2	−0.9	.....	73	4.14	wsw.	23.8	.....	8/10 St.Cu., w.; Few St., wsw.
.....	.....	.....	.....	.....	.....	1,250	860.0	−1.8	.....	76	4.00	wsw.	24.1	.....	
.....	.....	.....	.....	.....	.....	1,500	833.1	−2.7	.....	79	3.86	w.	24.4	.....	
.....	.....	.....	.....	.....	.....	1,750	807.5	−3.6	.....	82	3.71	w.	24.7	.....	
8:47	956.5	−3.0	74	sw.	6.7	1,956	786.2	−4.3	0.36	84	3.58	w.	25.0	5,800	
.....	.....	.....	.....	.....	.....	2,000	782.0	−4.5	.....	84	3.52	w.	24.7	.....	6/10 St.Cu., w.; Few St., wsw.
.....	.....	.....	.....	.....	.....	2,250	757.5	−5.9	.....	81	3.01	w.	23.0	.....	
9:06	956.4	−2.6	75	sw.	6.3	2,277	754.8	−6.0	0.53	81	2.98	w.	22.8	8,000	
.....	.....	.....	.....	.....	.....	2,500	733.7	−7.0	.....	68	2.30	wnw.	26.4	11,800	3/10 St.Su., w.; 3/10 St. wnw.
10:00	956.0	1.4	76	sw.	9.4	2,698	715.6	−7.8	0.47	56	1.76	wnw.	29.6	.....	1/10 St.Cu., w.; 1/10 St., wnw.
.....	.....	.....	.....	.....	.....	2,500	733.7	−6.8	.....	60	2.06	wnw.	28.9	.....	
.....	.....	.....	.....	.....	.....	2,250	757.5	−5.5	.....	65	2.41	wnw.	28.0	.....	1/10 St.Cu., w.
.....	.....	.....	.....	.....	.....	2,000	782.0	−4.2	.....	69	2.97	wnw.	27.0	.....	
.....	.....	.....	.....	.....	.....	1,750	807.5	−2.9	.....	74	3.55	wnw.	26.1	.....	
.....	.....	.....	.....	.....	.....	1,500	833.1	−1.7	.....	79	4.19	wnw.	25.2	.....	
11:07	955.7	5.4	60	w.	8.9	1,275	857.4	−0.5	0.80	83	4.86	wnw.	24.4	4,200	
.....	.....	.....	.....	.....	.....	1,250	860.0	−0.3	.....	82	4.89	wnw.	23.9	.....	1/10 Ci.St., w.; 1/10 St. Cu. wnw.
.....	.....	.....	.....	.....	.....	1,000	887.2	1.7	.....	75	5.18	wnw.	18.5	2,400	
.....	.....	.....	.....	.....	.....	750	915.1	3.7	.....	68	5.41	w.	13.1	.....	
11:41	955.5	5.8	63	w.	11.2	649	926.2	4.5	−0.51	65	5.47	w.	10.9	590	
.....	.....	.....	.....	.....	.....	500	943.6	5.3	.....	64	5.70	w.	7.6	.....	
11:47	955.5	5.8	63	w.	5.4	396	955.5	5.8	.....	63	5.81	w.	5.4	.....	2/10 Ci.St., w.

January 24, 1918, series (No. 1).

A. M.															
8:16	958.6	−2.4	87	wsw.	4.5	396	958.6	−2.4	.....	87	4.35	wsw.	4.5	.....	5/10 Ci.St., wsw.
.....	.....	.....	.....	.....	.....	500	946.5	−1.7	.....	82	4.35	w.	7.0	.....	Portion of solar halo, 22° radius, 8:04 to 8:46 a. m., and 9:41 to 9:44 a. m. Bright parhelia to left of sun, and very brilliant circumzenithal arc. Portion of solar halo, 46° radius, 8:18 to 8:35 a. m., color decidedly marked. Also parhelion on right side of 22° halo 8:25 to 8:35 a. m. Circumzenithal arc 9:44 to 9:48 a. m.
.....	.....	.....	.....	.....	.....	750	917.3	0.1	.....	69	4.24	wnw.	9.7	.....	
8:26	958.6	−2.2	87	wsw.	6.6	772	914.4	0.3	−0.72	68	4.24	wnw.	10.0	0	
.....	.....	.....	.....	.....	.....	1,000	889.0	0.7	.....	55	3.54	wnw.	12.8	.....	
8:37	958.5	−1.8	83	wsw.	6.6	1,214	865.4	1.1	−0.18	43	2.85	wnw.	15.5	1,400	4/10 A.Cu., wnw.; 2/10 Ci.St., wnw.
.....	.....	.....	.....	.....	.....	1,250	861.7	0.8	.....	44	2.85	wnw.	15.7	.....	
.....	.....	.....	.....	.....	.....	1,500	835.0	−0.9	.....	50	2.84	wnw.	17.0	.....	
.....	.....	.....	.....	.....	.....	1,750	809.0	−2.7	.....	57	2.78	nw.	18.4	2,400	
.....	.....	.....	.....	.....	.....	2,000	783.9	−4.4	.....	63	2.66	nw.	19.7	.....	
9:10	958.3	−1.0	80	wsw.	4.5	2,206	763.5	−5.9	0.71	68	2.52	nw.	21.0	4,400	8/10 A.Cu., wnw.
.....	.....	.....	.....	.....	.....	2,250	759.1	−6.4	.....	69	2.46	nw.	20.8	.....	
.....	.....	.....	.....	.....	.....	2,500	735.0	−9.0	.....	74	2.10	nw.	19.4	.....	
.....	.....	.....	.....	.....	.....	2,750	712.0	−11.6	.....	79	1.78	nw.	18.0	.....	
9:30	958.0	−0.3	79	sw.	4.5	2,756	711.1	−11.7	1.05	79	1.76	nw.	18.0	6,500	
9:34	958.0	0.0	78	sw.	4.5	2,991	689.8	−9.9	−0.77	57	1.49	nw.	14.4	.....	
.....	.....	.....	.....	.....	.....	3,000	689.2	−9.9	.....	57	1.49	nw.	14.6	.....	
.....	.....	.....	.....	.....	.....	3,250	667.2	−10.5	.....	43	1.07	nw.	21.5	.....	
9:39	957.9	−0.2	78	sw.	4.9	3,350	658.2	−10.7	0.23	38	0.93	nw.	24.2	10,000	
.....	.....	.....	.....	.....	.....	3,250	667.2	−10.5	.....	39	0.94	nw.	24.1	.....	
.....	.....	.....	.....	.....	.....	3,000	689.2	− 9.9	.....	37	0.97	nw.	23.7	.....	
9:44	957.9	−0.1	78	sw.	11.5	2,962	691.9	− 9.8	−0.27	37	0.98	nw.	23.7	.....	
.....	.....	.....	.....	.....	.....	2,750	712.0	−10.4	.....	45	1.13	nw.	23.7	.....	
9:45	957.9	−0.1	78	sw.	6.6	2,742	712.1	−10.4	0.88	45	1.13	nw.	23.7	.....	
.....	.....	.....	.....	.....	.....	2,500	735.0	− 8.3	.....	47	1.42	wnw.	21.9	.....	
.....	.....	.....	.....	.....	.....	2,250	759.1	− 6.1	.....	49	1.79	w.	20.0	6,500	7/10 Ci.St., wnw.
.....	.....	.....	.....	.....	.....	2,000	783.9	− 3.9	.....	51	2.25	w.	18.2	.....	
10:48	957.5	1.5	75	sw.	6.2	1,774	806.5	− 1.9	0.74	53	2.77	wsw.	16.5	3,700	1/10 Ci.St., wnw.; 9/10 A.St., wnw.
.....	.....	.....	.....	.....	.....	1,750	809.0	− 1.7	.....	53	2.81	wsw.	16.4	.....	
.....	.....	.....	.....	.....	.....	1,500	833.9	0.3	.....	48	3.00	wsw.	15.4	.....	
.....	.....	.....	.....	.....	.....	1,250	860.5	2.0	.....	43	3.04	wsw.	14.4	1,600	
.....	.....	.....	.....	.....	.....	1,000	888.0	3.8	.....	38	3.05	wsw.	13.4	.....	
11:11	957.3	2.4	65	wsw.	5.7	788	911.9	5.4	−5.66	34	3.05	wsw.	12.5	490	
.....	.....	.....	.....	.....	.....	750	916.2	3.3	.....	43	3.33	wsw.	11.9	.....	
11:18	957.2	2.5	63	wsw.	6.2	688	923.1	− 0.2	0.89	58	3.49	wsw.	10.8	.....	
.....	.....	.....	.....	.....	.....	500	944.9	1.5	.....	63	4.29	wsw.	8.1	.....	
11:23	957.1	2.4	65	wsw.	6.6	396	957.1	2.4	.....	65	4.72	wsw.	6.6	.....	10/10 A.St., w.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 24, 1918, series (No. 2).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
12:18	956.2	4.0	57	wsw.	5.4	396	956.2	4.0		57	4.63	wsw.	5.4		6/10 St.Cu., wnw.
						500	944.0	3.1		58	4.43	wsw.	7.3		
12:24	956.0	4.3	57	wsw.	5.8	687	922.3	1.5	0.86	60	4.09	w.	10.8		
						750	915.0	3.8		60	4.81	w.	15.2		
12:28	955.9	4.6	58	wsw.	5.8	764	913.5	4.3	−3.64	60	4.99	w.	16.2	1,315	
						1,000	887.0	3.0		59	4.47	wnw.	17.9		
12:38	955.6	5.0	58	w.	8.5	1,210	864.3	1.8	0.56	59	4.11	wnw.	19.4	3,300	3/10 St.Cu., wnw.
						1,250	860.0	1.4		60	4.06	wnw.	19.5		
						1,500	833.5	−0.2		68	4.09	wnw.	19.9	4,000	
						1,750	808.0	−2.0		76	3.93	wnw.	20.4		
						2,000	782.5	−3.8		84	3.73	wnw.	20.9		1/10 St.Cu., wnw.
1:01	955.0	6.2	53	w.	8.0	2,061	776.4	−4.2	0.71	86	3.70	wnw.	21.0	7,900	
						2,250	758.0	−5.3		83	3.25	wnw.	20.8		
						2,500	734.1	−6.7		80	2.78	wnw.	20.6	9,000	
						2,750	711.3	−8.2		77	2.34	wnw.	20.4		
1:19	954.8	7.0	50	wsw.	8.9	2,947	693.1	−9.3	0.57	74	2.04	wnw.	20.2	10,500	3/10 St.Cu., wnw.
						2,750	711.3	−8.2		77	2.34	wnw.	20.7		
						2,500	734.1	−6.8		81	2.79	wnw.	21.2		Altitude of St.Cu. base about 2,450 m.
						2,250	758.0	−5.4		85	3.30	wnw.	21.8	8,300	1/10 St.Cu., wnw.
						2,000	782.5	−4.0		89	3.89	wnw.	22.4		7/10 A.Cu., wnw.
2:03	954.3	8.0	49	wsw.	8.5	1,955	786.6	−3.8	0.76	90	4.00	wnw.	22.5	6,200	
						1,750	807.5	−2.3		84	4.23	wnw.	21.4		9/10 St.Cu., wnw.
						1,500	833.0	−0.4		76	4.49	wnw.	20.0	1,600	
						1,250	859.5	1.5		68	4.63	wnw.	18.7		
						1,000	886.5	3.4		60	4.68	wnw.	17.3	1,200	
2:48	954.1	8.4	50	w.	6.3	775	911.0	5.1	1.03	53	4.66	wnw.	16.1	0	
						750	914.2	5.4		53	4.75	wnw.	15.6		
						500	942.0	7.9		50	5.32	w.	10.2		
2:54	954.0	9.0	49	w.	8.0	396	954.0	9.0		49	5.63	w.	8.0		3/10 St.Cu., wnw.

January 24, 1918, series (No. 3).

P. M.															
3:43	953.8	10.0	46	w.	8.9	396	953.8	10.0		46	5.65	w.	8.9		7/10 St.Cu., wnw.
						500	942.0	9.2		47	5.47	w.	11.1		
						750	914.0	7.4		49	5.05	w.	16.5		
3:51	953.7	10.4	47	w.	10.7	812	907.0	7.0	0.72	49	4.91	w.	17.8	0	
						1,000	886.4	4.9		57	4.94	wnw.	23.8		
4:00	953.7	10.4	49	wnw.	11.6	1,127	872.7	3.5	1.11	63	4.95	wnw.	27.8	1,200	
						1,250	860.0	2.4		65	4.72	wnw.	28.0		
						1,500	834.0	0.2		70	4.34	wnw.	28.4		
						1,750	808.0	− 2.0		74	3.83	wnw.	28.8	3,200	
						2,000	782.5	− 4.1		79	3.42	wnw.	29.2		5/10 St.Cu., wnw.
4:23	953.8	9.5	52	wnw.	9.8	2,110	771.2	− 5.1	0.87	81	3.22	wnw.	29.4	5,000	
						2,250	757.6	− 6.0		78	2.87	wnw.	28.2		
						2,500	733.5	− 7.7		71	2.26	wnw.	26.1	6,000	Few A.Cu., wnw; 6/10 St.Cu., wnw.
						2,750	710.7	− 9.3		65	1.79	wnw.	24.0	6,500	Altitude of St.Cu. base about 2,500 m.
4:55	954.0	8.6	59	nw.	8.5	2,997	683.4	−10.9	0.66	59	1.41	wnw.	21.9	6,500	1/10 A.Cu., wnw.; 2/10 St.Cu., wnw.
						2,750	711.3	− 9.3		61	1.68	wnw.	22.6		
						2,500	734.8	− 7.6		64	2.05	wnw.	23.4	4,500	
						2,250	759.0	− 6.0		66	2.43	nw.	24.1	2,700	
						2,000	783.8	− 4.3		68	2.90	nw.	24.8		Few A.Cu., wnw.; 1/10 St.Cu., wnw.
						1,750	808.6	− 2.6		71	3.49	nw.	25.5		Few St.Cu., wnw.; 1/10 A.Cu., wnw.
6:05	955.4	5.8	70	nw.	7.6	1,698	813.4	− 2.3	0.61	71	3.58	nw.	25.7	1,900	
						1,500	834.0	− 1.1		72	4.01	nw.	24.4		
						1,250	860.0	0.4		72	4.53	nw.	22.7		
						1,000	887.2	2.0		73	5.15	wnw.	21.0		
						750	915.5	3.5		74	5.81	wnw.	19.4	170	
6:36	955.8	4.7	74	wnw.	8.9	590	933.3	5.6	−0.52	74	6.73	wnw.	18.3	0	
						500	944.0	5.1		74	6.50	wnw.	14.8		
6:39	955.8	4.6	74	wnw.	8.5	396	955.8	4.6		74	6.28	wnw.	8.5		Few A.Cu., wnw.

January 24, 1918, series (No. 4).

P. M.															
7:28	956.3	2.8	81	wnw.	8.0	396	956.3	2.8		81	6.05	wnw.	8.0		Cloudless.
						500	944.4	3.8		77	6.18	wnw.	13.2		
7:33	956.4	2.8	81	wnw.	7.6	614	931.0	4.9	−0.96	73	6.32	nw.	19.0		
						750	916.0	3.8		73	5.85	nw.	19.5		
						1,000	888.0	1.9		74	5.19	nw.	20.3		
						1,250	861.0	0.0		75	4.58	nw.	21.2	0	
8:06	956.7	3.2	80	wnw.	5.4	1,478	836.7	− 1.8	0.78	76	4.00	nw	22.0	680	
						1,500	834.7	− 3.2		75	3.51	nw.	21.9		
						1,750	808.8	− 3.5		69	3.15	nw.	21.4		
						2,000	783.7	− 5.0		62	2.49	nw.	20.8	1,600	
						2,250	759.0	− 6.6		58	2.03	nw.	20.2		
						2,500	734.7	− 8.1		48	1.47	nw.	19.7	2,800	
8:42	957.0	3.0	81	wnw.	4.9	2,610	724.5	− 8.8	0.62	45	1.30	nw	19.4		
						2,750	711.5	−10.0		42	1.09	nw.	19.4		
						3,000	689.0	−12.1		36	0.77	nw.	19.4	3,700	
						3,250	667.0	−14.2		30	0.53	nw.	19.4		
9:06	957.1	2.6	84	wnw.	4.9	3,494	653.1	−15.5	0.86	26	0.41	nw.	19.4	4,500	
						3,250	667.0	−14.1		26	0.47	nw.	19.3		
						3,000	689.0	−11.9		27	0.59	nw.	19.2		
						2,750	711.5	− 9.7		28	0.75	nw.	19.1		
9:29	957.2	2.5	84	wnw.	4.9	2,634	722.3	− 8.7	0.62	28	0.81	nw.	19.1	2,600	

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 24, 1918, series (No. 4)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						2,500	734.7	− 7.9		32	1.00	nw.	19.7		
						2,250	759.0	− 6.3		39	1.40	nw.	20.8		
						2,000	783.7	− 4.8		46	1.88	nw.	21.9	1,200	
						1,750	808.8	− 3.2		43	2.01	nw.	23.1		
9:57	957.4	2.4	83	w.	5.4	1,538	830.8	− 1.9	0.57	59	3.08	nw.	24.0	615	
						1,500	834.7	− 1.7		60	3.18	nw.	23.7		
						1,250	861.5	− 0.3		66	3.93	nw.	21.4	0	
						1,000	889.0	1.2		71	4.73	nw.	19.2		
						750	917.0	2.6		77	4.94	nw.	17.0		
10:21	957.9	2.6	84	wnw.	4.9	659	927.2	3.1	−0.19	79	6.03	nw.	16.2		
						500	945.8	2.8		82	6.12	wnw.	9.4		
10:24	957.9	2.6	84	wnw.	4.9	396	957.9	2.6		84	6.19	wnw.	4.9		Cloudless.

January 24-25, 1918, series (No. 5).

P. M.															
11:08	958.8	2.2	86	w.	4.5	396	958.8	2.2		86	6.16	w.	4.5		Cloudless.
						500	946.5	1.7		85	5.87	w.	6.7		
						750	918.0	0.5		83	5.25	wnw.	12.1	0	
						1,000	890.0	− 0.6		80	4.65	nw.	17.5		
11:24	958.9	2.2	85	w.	4.9	1,116	876.6	− 1.2	0.47	79	4.37	nw.	20.0	170	
						1,250	862.8	− 1.7		73	3.87	nw.	19.6		
						1,500	836.0	− 2.7		63	3.07	nw.	19.0	705	
						1,750	810.0	− 3.6		53	2.40	nw.	18.3		
11:49	959.0	1.8	86	w.	4.9	1,930	791.0	− 4.3	0.38	45	1.92	nw.	17.8		
						2,000	784.0	− 4.9		44	1.78	nw.	17.7	1,800	
						2,250	759.2	− 6.8		40	1.38	nw.	17.3		
A. M.															
12:13	959.2	1.8	86	w.	5.4	2,487	736.8	− 8.7	0.79	36	1.05	nw.	16.0	3,000	Few St., w.
						2,500	735.6	− 8.8		36	1.04	nw.	17.0		
						2,750	712.4	−11.1		35	0.82	nw.	18.1	3,600	
12:43	959.3	1.6	86	w.	5.8	2,949	693.7	−12.9	0.91	35	0.70	nw.	19.0	3,800	Brilliant lunar corona at 1:02 a. m.
						2,750	712.4	−11.1		35	0.82	nw.	19.9		
						2,500	735.6	− 8.8		34	0.98	nw.	21.1	2,800	
						2,250	759.2	− 6.6		34	1.19	nw.	22.3		1/10 Ci.St., wnw.
						2,000	784.0	− 4.3		33	1.41	nw.	23.5		
1:20	959.5	1.7	86	wnw.	5.4	1,902	794.5	− 3.4	0.59	33	1.52	nw.	24.0	1,600	5/10 Ci. St., wnw.
						1,750	810.0	− 2.5		36	1.79	nw.	24.1		Brilliant double lunar corona
1:36	959.6	1.4	82	w.	6.3	1,498	836.0	− 1.0	−0.58	40	2.25	nw.	24.2	950	from 1:15 to 2:09 a. m. Altitude of moon about 60°.
						1,250	862.8	− 2.4		66	3.30	nw.	22.8		
1:45	959.7	1.3	82	w.	5.8	1,189	869.3	− 2.8	0.68	73	3.53	nw.	22.4	0	3/10 Ci. St., wnw.
						1,000	890.0	− 1.5		77	4.15	nw.	20.6		
						750	918.2	0.2		82	5.08	wnw.	18.2		
2:06	959.8	0.9	84	wnw.	4.9	556	940.9	1.5	−0.38	86	5.86	wnw.	16.4		
						500	947.7	1.3		85	5.70	wnw.	12.4		
2:09	959.8	0.9	84	wnw.	4.9	396	959.8	0.9		84	5.48	wnw.	4.9		1/10 Ci. St., wnw.

January 25, 1918, series (No. 6).

A. M.															
3:05	960.2	0.0	89	wnw.	8.5	396	960.2	0.0		89	5.44	wnw.	8.5		Few Ci.St., wnw.
						500	947.9	− 0.1		87	5.27	wnw.	10.2		
						750	918.8	− 0.4		82	4.85	nw.	14.3		
3:10	960.2	− 0.2	89	wnw.	7.2	802	912.7	− 0.5	0.12	81	4.75	nw.	15.2		
						1,000	890.4	− 1.3		63	3.45	nw.	17.4		
3:22	960.4	− 0.2	90	nw.	10.7	1,142	874.7	− 1.9	0.41	50	2.61	nw.	19.0	0	
3:30	960.5	− 0.4	91	nw.	9.4	1,153	873.5	0.3		30	1.87	nw.	16.4		
						1,250	863.7	− 0.2		28	1.68	nw.	16.3		
						1,500	837.0	− 1.3		22	1.21	nw.	16.2		1/10 Ci.St., wnw.
						1,750	811.0	− 2.5		17	0.84	nw.	16.1	1,200	Lunar corona from 3:50 to 4:24 a. m.
						2,000	785.8	− 3.7		11	0.49	nw.	16.0		
						2,250	761.0	− 4.9		6	0.24	nw.	15.8	2,400	2/10 Ci.St., wnw.; 1/10 A.Cu., wnw.
4:12	960.9	− 0.9	90	nw.	7.6	2,286	757.7	− 5.0	0.47	5	0.20	nw.	15.8		
						2,500	737.0	− 6.5		20	0.71	nw.	18.4		7/10 A.Cu., nw.
						2,750	713.5	− 8.2		38	1.16	nw.	21.5	4,300	
						3,000	690.8	− 9.9		55	1.44	nw.	24.6		
						3,250	669.3	−11.6		73	1.64	nw.	27.6	5,400	
4:55	961.1	− 1.0	94	nw.	7.2	3,491	648.4	−13.2	0.60	90	1.76	nw.	30.6	6,900	9/10 A.Cu., nw.
						3,250	669.3	−11.9		87	1.91	nw.	28.4		
						3,000	690.8	−10.6		84	2.07	nw.	26.1	4,200	
5:27	961.3	− 0.8	92	nw.	8.0	2,779	710.8	− 9.4	0.70	81	2.22	nw.	24.1		
						2,750	713.5	− 9.2		79	2.20	nw.	24.0	3,600	5/10 A.Cu., nw.; 4/10 St.Cu., nw.
						2,500	737.0	− 7.4		62	2.02	nw.	23.4		
						2,250	761.0	− 5.7		46	1.74	nw.	22.8	2,000	
						2,000	785.8	− 4.0		29	1.27	nw.	22.1		9/10 St.Cu., nw.
6:02	961.5	− 0.7	86	nw.	8.9	1,782	807.3	− 2.5	0.21	15	0.74	nw.	21.6		
						1,750	811.0	− 2.4		16	0.80	nw.	21.4	1,010	
						1,500	837.0	− 1.9		21	1.10	nnw.	20.0		
						1,250	863.7	− 1.4		26	1.41	nnw.	18.6		
6:19	961.8	− 0.8	88	nw.	5.4	1,072	883.2	− 1.0	−1.43	30	1.69	nnw.	17.6	0	
						1,000	891.5	− 2.0		44	2.27	nnw.	16.3		
6:30	962.0	− 1.0	90	nnw.	9.8	834	910.2	− 4.4	0.78	77	3.25	nnw.	13.2		
						750	920.4	− 3.7		79	3.54	nnw.	12.5		
						500	950.0	− 1.8		87	4.58	n.	10.3		
6:38	962.1	− 1.0	90	n.	9.4	396	962.1	− 1.0		90	5.01	n.	9.4		10/10 St. Cu., nw.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 25, 1918, series (No. 7).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
7:26	962.8	−2.6	87	nne.	4.0	396	962.8	−2.6	.....	87	4.28	nne.	4.0	.....	10/10 St.Cu., nw.
						500	950.3	−3.4	.....	90	4.14	nne.	6.5	.....	
7:29	962.8	−2.7	87	nne.	4.0	720	924.0	−5.2	0.80	95	3.74	nne.	11.8	.....	
						750	920.5	−4.9	.....	91	3.69	nne.	11.7	.....	Altitude of St.Cu. base about 1,100 m.
						1,000	892.0	−2.3	.....	59	2.97	n.	10.5	.....	
8:00	963.1	−3.4	91	ne.	5.8	1,122	878.5	−1.1	−1.02	43	2.40	nnw.	10.0	0	9/10 A. St., nw.; 1/10 St. Cu., ne.
						1,250	864.7	−1.8	.....	42	2.21	nnw.	10.0	.....	
8:24	963.5	−3.7	89	ne.	4.9	1,411	847.3	−2.6	0.43	41	2.02	nnw.	9.9	.....	
						1,250	864.7	−2.0	.....	46	2.38	nnw.	10.8	.....	
8:44	963.9	−3.4	89	ne.	4.9	1,178	872.4	−1.8	−1.86	48	2.52	nnw.	11.2	.....	
						1,000	892.0	−5.1	.....	70	2.79	n.	10.1	.....	
8:52	964.1	−3.5	89	ne.	5.4	834	911.6	−8.2	1.05	90	2.74	nne.	9.0	.....	
						750	921.6	−7.3	.....	89	2.93	nne.	8.2	.....	
						500	951.5	−4.7	.....	87	3.58	ne.	5.9	.....	
9:01	964.2	−3.6	86	ne.	4.9	396	964.2	−3.6	.....	86	3.89	ne.	4.9	.....	7/10 A. St., nw.; 3/10 St. Cu., ne.

January 25, 1918, series (No. 8).

P. M.															
12:03	966.9	−4.2	77	ne.	4.5	396	966.9	−4.2	.....	77	3.31	ne.	4.5	.....	10/10 St.Cu., ne.
						500	954.5	−5.4	.....	82	3.18	ne.	5.0	.....	
						750	924.0	−8.2	.....	95	2.89	ene.	6.3	.....	
12:36	966.5	−3.9	73	ene.	5.8	851	911.7	−9.3	1.12	100	2.76	ene.	6.8	0	Altitude of St.Cu., base about 1,000 m.
						1,000	894.2	−7.1	.....	79	2.65	ene.	5.5	1,600	10/10 St.Cu., ene.
2:34	964.9	−4.9	86	ene.	8.0	1,226	867.6	−3.7	−1.49	48	2.15	e.	3.6	4,000	
						1,250	865.0	−3.7	.....	48	2.15	e.	3.8	.....	
						1,500	837.0	−3.7	.....	52	2.33	ese.	6.0	.....	
						1,750	811.0	−3.7	.....	56	2.51	sse.	8.1	.....	
						2,000	785.8	−3.8	.....	60	2.66	s.	10.3	.....	
						2,250	761.5	−3.8	.....	64	2.84	ssw.	12.4	.....	8/10 A. St., w.; 2/10 St. Cu., ene.
2:57	964.5	−5.2	86	ne.	7.2	2,476	740.3	−3.8	0.01	67	2.97	sw.	14.4	8,000	5/10 A. St., w.; 5/10 St. Cu., ene.
						2,500	738.3	−3.9	.....	67	2.95	sw.	14.7	8,400	
						2,750	715.4	−5.5	.....	67	2.57	wsw.	17.7	9,600	
3:28	964.5	−5.6	85	ne.	8.5	2,982	693.9	−6.9	0.74	67	2.28	wsw.	20.5	.....	9/10 A. St., w.; 1/10 St. Cu., ene.
						2,750	715.4	−4.9	.....	64	2.59	wsw.	22.5	.....	
						2,500	738.3	−2.7	.....	61	2.98	sw.	24.6	.....	
3:59	964.5	−6.0	85	ne.	9.4	2,486	739.2	−2.6	−0.15	61	3.00	sw.	24.7	8,800	
						2,250	761.5	−3.0	.....	57	2.71	ssw.	20.4	8,200	
						2,000	785.8	−3.3	.....	54	2.51	ssw.	16.2	6,000	9/10 A.St., w.; Few St.Cu., ene.
						1,750	811.0	−3.7	.....	51	2.28	s.	11.8	.....	
4:38	964.7	−6.6	83	ene.	8.5	1,574	829.5	−4.0	0.14	48	2.10	s.	8.7	3,200	
						1,500	837.0	−3.9	.....	56	2.47	sse.	8.8	.....	
						1,250	864.0	−3.6	.....	85	3.84	se.	9.2	.....	
4:48	964.7	−6.8	84	e.	8.9	1,140	876.1	−3.4	−5.22	97	4.46	ese.	9.4	2,300	
						1,000	892.3	−10.7	.....	99	2.42	ene.	9.9	.....	
4:52	964.8	−6.8	84	ene.	9.4	960	896.8	−12.8	1.03	100	2.02	ene.	10.1	.....	
						750	922.0	−10.6	.....	94	2.31	ene.	9.5	.....	
						500	952.2	−8.1	.....	87	2.67	ene.	8.8	.....	
5:03	964.8	−7.0	84	ene.	8.5	396	964.8	−7.0	.....	84	2.84	ene.	8.5	.....	9/10 A.Cu., w.; Few St.Cu., ene.

January 26, 1918.

A. M.															
8:36	967.3	−17.2	100	nne.	8.0	396	967.3	−17.2	.....	100	1.34	nne.	8.0	.....	10/10 St. nne.
						500	954.5	−18.2	.....	99	1.21	nne.	12.1	.....	Light snow during flight.
						750	923.0	−20.5	.....	97	0.95	ne.	22.0	.....	
8:47	967.7	−17.5	100	nne.	7.6	817	914.3	−21.1	0.93	97	0.89	ne.	24.7	35,500	
						1,000	892.5	−17.4	.....	98	1.29	ene.	26.5	.....	
						1,250	864.0	−12.4	.....	99	2.07	ene.	29.1	42,500	Altitude of St. base about 1,550 m.
9:03	968.2	−17.6	100	ne.	8.5	1,414	845.6	− 9.1	−0.20	100	2.81	e.	30.7	.....	
						1,500	837.0	− 9.3	.....	100	2.76	e.	28.4	.....	
						1,750	810.5	− 9.9	.....	100	2.62	e.	21.9	40,000	
						2,000	785.0	−10.4	.....	100	2.51	e.	15.3	28,000	10/10 St., ne.
						2,250	759.9	−11.0	.....	100	2.37	e.	8.7	.....	
10:13	969.6	−17.8	100	ne.	8.0	2,308	753.8	−11.1	0.22	100	2.35	e.	7.2	.....	
						2,250	759.9	−11.0	.....	100	2.37	e.	8.0	.....	
						2,000	785.4	−10.4	.....	100	2.51	e.	11.2	(*)	
						1,750	811.8	− 9.8	.....	100	2.64	ene.	14.5	(*)	
						1,500	838.6	− 9.3	.....	100	2.76	ene.	17.8	(*)	
10:58	970.8	−17.5	100	ne.	9.8	1,422	846.8	− 9.1	−0.21	100	2.81	ene.	18.8	(*)	
						1,250	866.5	−12.7	.....	100	2.04	ene.	19.9	(*)	
						1,000	895.5	−17.8	.....	100	1.27	ne.	21.4	.....	
11:13	971.0	−17.7	94	ne.	9.4	812	918.0	−21.7	0.84	100	0.87	ne.	22.6	37,000	
						750	926.0	−21.2	.....	100	0.91	ne.	20.4	.....	
						500	957.7	−19.1	.....	100	1.12	nne.	11.7	.....	
11:31	971.1	−18.2	100	nne.	8.0	396	971.1	−18.2	.....	100	1.22	nne.	8.0	.....	10/10 St., nne.

* More than 50,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 27, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100 \text{ m.}}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	*° C.*	%		*m. p. s.*	*m.*	*mb.*	*° C.*		%	*mb.*		*m. p. s.*	*volts.*	
8:23	976.3	−19.4	100	ne.	6.7	396	976.3	−19.4	.....	100	1.09	ne.	6.7	.....	10/10 St., se. Light snow during flight.
						500	962.7	−20.3	.....	99	0.99	ene.	7.7	.....	
8:34	976.1	−19.1	100	ne.	4.0	595	950.2	−21.1	0.85	98	0.90	e.	8.7	.....	
						750	931.0	−16.5	.....	99	1.42	e.	10.3	.....	
8:37	976.1	−19.1	100	ne.	4.5	763	929.0	−16.1	−2.98	99	1.48	e.	10.4	2,300	
						1,000	900.2	−16.3	.....	99	1.45	e.	9.8	5,000	10/10 St., se.
						1,250	870.8	−16.5	.....	100	1.43	ene.	9.1	.....	
9:35	975.7	−18.6	100	ne.	4.0	1,311	863.5	−16.5	0.73	100	1.43	ene.	8.9	(*)	
						1,500	842.2	−15.5	.....	100	1.57	e.	9.3	.....	
						1,750	814.8	−14.1	.....	100	1.79	e.	9.7	.....	Altitude of St. base about 1,900 m.
						2,000	788.5	−12.8	.....	100	2.02	ese.	10.2	.....	
9:41	975.7	−18.6	100	ne.	6.7	2,050	783.1	−12.5	−0.54	100	2.07	ese.	10.3	.....	
						2,250	763.3	−13.1	.....	100	1.96	ese.	9.2	10,000	
10:41	975.7	−17.6	100	nne.	8.5	2,499	738.5	−13.9	0.31	100	1.83	se.	7.8	.....	
10:50	975.7	−17.6	100	nne.	4.0	2,660	723.5	−12.3	−0.74	100	2.11	se.	7.2	.....	
10:53	975.7	−17.6	100	nne.	4.0	2,497	739.6	−13.1	0.20	100	1.96	se.	7.0	.....	
						2,250	763.3	−12.6	.....	100	2.05	se.	9.6	.....	
						2,000	788.5	−12.1	.....	100	2.15	ese.	12.3	.....	Altitude of St. base about 2,150 m.
11:18	975.0	−17.2	100	ne.	9.4	1,838	805.6	−11.8	−0.40	100	2.21	ese.	14.0	.....	
						1,750	814.8	−12.1	.....	100	2.15	ese.	13.9	(*)	
						1,500	841.8	−13.1	.....	100	1.96	ese.	13.5	.....	
						1,250	869.6	−14.1	.....	100	1.79	e.	13.1	7,500	
11:39	974.1	−16.7	95	ne.	6.3	1,105	886.2	−14.7	−0.98	100	1.70	e.	12.9	.....	
						1,000	898.6	−15.7	.....	100	1.55	e.	12.0	.....	
						750	928.7	−18.2	.....	100	1.22	ene.	9.8	4,400	
11:55	973.5	−17.2	98	ne.	6.3	616	945.2	−19.5	1.05	100	1.08	ene.	8.6	.....	
						500	959.9	−18.3	.....	100	1.21	ne.	7.4	.....	
11:58	973.4	−17.2	100	ne.	6.3	396	973.4	−17.2	.....	100	1.34	ne.	6.3	.....	10/10 St., se.

January 28, 1918.

A. M.															
9:31	970.8	−21.6	100	wnw.	3.1	396	970.8	−21.6	.....	100	0.88	wnw.	3.1	.....	Cloudless.
						500	957.0	−19.2	.....	98	1.09	wnw.	5.5	.....	
9:39	970.8	−21.2	100	wnw.	2.7	628	941.0	−16.2	−2.33	96	1.42	nw.	8.5	.....	
						750	925.5	−15.4	.....	95	1.51	nw.	9.7	3,000	
						1,000	896.0	−13.8	.....	94	1.73	nw.	12.3	.....	
						1,250	867.3	−12.1	.....	92	1.98	nw.	14.8	8,800	
10:11	970.9	−20.3	100	wnw.	2.2	1,271	864.8	−12.0	−0.65	92	2.00	nw.	15.0	.....	
10:19	970.9	−20.1	100	wnw.	2.2	1,452	844.6	−12.7	0.39	96	1.96	nw.	13.0	.....	
						1,500	839.4	−12.3	.....	90	1.90	nw.	13.5	.....	
10:26	970.0	−19.9	100	wnw.	2.7	1,634	824.7	−11.1	−0.88	71	1.67	nw.	15.0	.....	
						1,750	812.3	−11.8	.....	72	1.59	nw.	15.1	.....	
						2,000	785.5	−13.2	.....	74	1.44	nw.	15.2	.....	
						2,250	760.0	−14.6	.....	77	1.32	nw.	15.4	(*)	
						2,500	735.0	−16.0	.....	79	1.18	nw.	15.5	.....	
						2,750	711.5	−17.4	.....	82	1.08	nw.	15.7	.....	
11:05	970.9	−18.4	94	wnw.	4.0	2,937	694.4	−18.5	0.57	83	0.99	nw.	15.8	.....	
						3,000	688.5	−18.8	.....	82	0.94	nw.	15.8	.....	
						3,250	666.0	−19.8	.....	77	0.81	nw.	16.0	.....	
						3,500	644.1	−20.9	.....	73	0.69	nw.	16.1	.....	
11:57	971.3	−18.0	94	nw.	5.4	3,750	622.6	−22.0	0.50	68	0.57	nw.	16.2	.....	
						3,500	644.1	−20.6	.....	67	0.65	nw.	17.9	.....	
						3,250	666.0	−19.2	.....	65	0.72	nw.	19.6	.....	
P. M.															
12:34	971.3	−17.2	94	nw.	6.7	3,045	684.9	−18.0	0.62	64	0.79	nw.	21.0	.....	
						3,000	689.0	−17.7	.....	64	0.82	nw.	20.8	.....	
						2,750	712.2	−16.2	.....	66	0.98	nw.	19.5	.....	
						2,500	736.0	−14.6	.....	67	1.15	nw.	18.0	.....	
						2,250	761.0	−13.1	.....	68	1.33	nw.	16.9	(*)	
						2,000	786.0	−11.6	.....	70	1.58	nw.	15.6	.....	
1:12	971.3	−16.7	92	nw.	5.4	1,795	807.5	−10.3	−0.27	71	1.80	nw.	14.6	.....	
						1,750	812.3	−10.4	.....	74	1.86	nw.	14.5	.....	
						1,500	839.4	−11.1	.....	89	2.09	nw.	14.1	.....	
1:30	971.3	−16.4	90	nw.	4.5	1,312	860.0	−11.6	−1.56	100	2.25	nw.	13.8	8,000	
						1,250	867.3	−12.6	.....	100	2.05	nw.	13.3	.....	
						1,000	896.0	−16.5	.....	100	1.43	nw.	11.4	.....	
1:45	971.3	−15.4	81	wnw.	2.2	805	919.7	−19.5	1.00	100	1.08	nw.	9.9	3,000	
						750	926.0	−18.9	.....	97	1.11	nw.	9.3	.....	
						500	957.7	−16.4	.....	86	1.25	wnw.	6.5	.....	
1:53	971.3	−15.4	81	wnw.	5.4	396	971.3	−15.4	.....	81	1.29	wnw.	5.4	.....	Cloudless.

January 29, 1918.

A. M.															
8:30	972.6	−21.8	100	se.	4.9	396	972.6	−21.8	.....	100	0.86	se.	4.9	.....	Few Ci. St., wnw.; 3/10 Ci. Cu., wnw.
						500	959.2	−19.5	.....	100	1.08	sse.	7.7	.....	
						750	928.0	−13.9	.....	100	1.83	ssw.	14.4	.....	
8:41	972.6	−20.9	100	se.	6.3	804	921.2	−12.7	−2.23	100	2.04	ssw.	15.9	5,504	7/10 Ci. Cu., wnw.
						1,000	898.2	− 8.5	.....	76	2.25	sw.	15.9	.....	
8:48	972.6	−20.7	100	se.	6.7	1,185	877.0	− 4.6	−2.13	54	2.24	sw.	15.9	.....	
						1,250	870.1	− 4.7	.....	52	2.14	sw.	16.7	(*)	7/10 Ci. St., wnw; 2/10 A. St., wnw.
						1,500	842.8	− 5.1	.....	43	1.71	ssw.	19.6	(*)	
9:12	972.6	−20.3	100	se.	4.9	1,613	830.7	− 5.3	0.16	39	1.52	ssw.	20.9	(*)	

* More than 10,000 volts.

TABLE 10.—*Free-air data from kite flights at Drexel Aerological Station, January, 1918*—Continued.

January 29, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100 \text{ m.}}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,750	816.2	− 6.3		42	1.51	ssw.	20.3	(*)	9/10 A. St., wnw.
						2,000	790.5	− 8.1		48	1.47	ssw.	19.2	(*)	
						2,250	765.7	− 9.9		54	1.41	sw.	18.1	(*)	
						2,500	740.9	−11.7		60	1.34	sw.	17.0	(*)	10/10 A. St., wnw.
9:55	972.6	−18.9	100	se.	7.2	2,539	737.3	−12.0	0.64	61	1.32	sw.	16.8	(*)	
						2,500	740.9	−11.8		61	1.35	sw.	16.9	(*)	
						2,250	765.7	−10.4		58	1.46	sw.	17.9	(*)	
						2,000	790.5	− 9.0		54	1.53	sw.	18.8		
						1,750	816.2	− 7.5		51	1.65	ssw.	19.8		
						1,500	842.8	− 6.1		48	1.75	ssw.	20.7		
						1,250	870.4	− 4.7		45	1.85	ssw.	21.7		
10:18	972.5	−18.5	100	se.	7.6	1,213	874.6	− 4.5	−0.52	45	1.89	ssw.	21.8		
						1,000	898.2	− 5.6		68	2.59	ssw.	21.9		
10:25	972.5	−18.3	100	se.	8.5	888	911.3	− 6.2	9.41	80	2.90	ssw.	21.9		8/10 Ci.St., wnw; 1/10 A.St., w.
P. M.															
12:03	970.8	−13.6	74	se.	11.2	922	906.4	− 3.0	−3.40	61	2.90	ssw.	16.1	8,500	
						750	926.9	− 8.8		74	2.14	s.	15.9	4,200	5/10 Ci.St., wnw; 4/10 A.St., w.
12:22	970.3	−13.6	83	sse.	9.8	554	950.2	−15.5	1.33	89	1.40	sse.	15.6		
						500	957.0	−14.8		87	1.46	sse.	13.9		
12:25	970.2	−13.4	83	sse.	10.7	396	970.2	−13.4		83	1.59	sse.	10.7		2/10 Ci. St., wnw.; 7/10 A.St., w.

January 30, 1918.

A. M.															
8:27	983.4	−26.8	100	n.	6.3	396	983.4	−26.8		100	0.52	n.	6.3		Few A. St., wnw.
						500	969.2	−27.5		100	0.48	n.	8.9		Solar halo, 22° radius, with parhelia; began 7:50 a. m., visible at end of flight.
8:30	983.5	−26.8	100	n.	5.4	750	936.0	−29.1	0.65	100	0.41	n.	15.3	2,200	
						1,000	904.3	−25.6		100	0.59	n.	14.1		
						1,250	874.3	−22.1		100	0.84	nne.	13.0	10,500	
8:56	983.8	−27.0	100	n.	5.4	1,454	850.1	−19.3	−1.39	100	1.10	nne.	12.0	(*)	
						1,500	845.3	−18.9		100	1.14	nne.	11.7		
						1,750	817.6	−16.5		100	1.43	nw.	10.1		Solar halo, 46° radius, from 8:45 to 9:20 a. m.
9:49	984.0	−26.4	100	nnw.	7.6	1,768	815.5	−16.3	−0.96	100	1.46	nw.	10.0	(*)	
						2,000	791.2	−14.2		96	1.71	wnw.	12.2		1/10 A. St., wnw.
10:57	984.8	−25.9	100	n.	6.3	2,184	772.7	−12.6	−0.89	93	1.91	wnw.	14.0	(*)	
						2,000	791.2	−14.2		94	1.67	nw.	14.4		
						1,750	817.6	−16.5		96	1.37	nw.	14.9		
						1,500	846.0	−18.7		98	1.14	nnw.	15.4		
						1,250	875.8	−20.9		100	0.94	n.	15.9		
11:19	984.8	−25.6	100	n.	8.0	1,204	881.0	−21.3	−1.13	100	0.91	n.	16.0	(*)	2/10 A. St., wnw.
						1,000	906.0	−23.6		100	0.72	n.	16.0		Solar halo, 46° radius, began 11:10 a. m., visible at end of flight.
11:28	984.8	−25.5	100	n.	7.6	771	934.8	−26.2	−3.29	100	0.56	n.	16.0	(*)	
						750	937.8	−26.9		100	0.52	n.	15.1	10,500	
11:31	984.8	−25.4	100	n.	8.0	695	944.8	−28.7	1.17	100	0.43	n.	12.7		
						500	970.9	−26.4		100	0.54	n.	9.1		
11:35	984.8	−25.2	100	n.	7.2	396	984.8	−25.2		100	0.61	n.	7.2		2/10 A. St., wnw.

January 31, 1918.

A. M.															
8:30	989.8	−27.6	100	n.	4.5	396	989.8	−27.6		100	0.48	n.	4.5		10/10 St. Cu., wsw.
						500	974.8	−28.1		100	0.46	n.	5.9		
						750	942.0	−29.5		100	0.39	n.	9.1		
8:36	989.8	−27.6	100	n.	4.9	777	938.3	−29.6	0.52	100	0.39	n.	9.5	4,500	
						1,000	911.0	−24.9		86	0.54	n.	7.3	9,300	10/10 A. Cu., wsw.
9:32	990.1	−26.7	100	n.	2.7	1,162	890.4	−21.4	−2.13	67	0.60	n.	5.7	(*)	
						1,250	880.0	−21.1		65	0.60	n.	5.5		5/10 A. Cu., wsw.
						1,500	850.6	−20.3		60	0.60	nnw.	5.0		
9:51	990.2	−26.0	100	n.	3.6	1,628	836.0	−19.9	−0.32	57	0.59	nnw.	4.8	(*)	6/10 Ci., Few A. Cu., wsw.
11:40	990.0	−24.6	100	n.	2.7	1,739	823.4	−20.7	0.16	45	0.43	nnw.	3.1	(*)	Solar halo, 22° radius, from 9:50 to 10:12 a. m., with parhelia to right of sun.
						1,500	850.6	−21.6		50	0.44	nnw.	4.7		
						1,250	880.0	−22.6		55	0.44	n.	6.4	(*)	
P. M.															
12:05	989.8	−24.0	100	n.	2.7	1,092	898.9	−23.2	−1.04	58	0.44	n.	7.5	9,200	2/10 Ci., sw.
						1,000	911.0	−24.2		61	0.41	n.	7.0		
						750	942.0	−26.7		68	0.36	n.	5.5		
12:14	989.7	−23.4	95	n.	3.1	629	958.4	−28.0	2.57	71	0.33	n.	4.8		
						500	974.8	−23.4		80	0.59	n.	3.6		
12:22	989.6	−22.0	83	n.	2.7	396	989.6	−22.0		83	0.70	n.	2.7		5/10 Ci. St., wsw.

* More than 10,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918.*

February 1, 1918, series (No. 1).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
	mb.	*°C.*	%		*m. p. s.*	*m.*	*mb.*	*°C.*		%	*mb.*		*m. p. s.*	*volts.*	
A. M.															
8:35	980.6	−25.0	100	sw.	7.2	396	980.6	−25.0	.....	100	0.62	sw.	7.2	.....	Cloudless.
						500	966.4	−23.9	.....	96	0.67	sw.	8.8	.....	
						750	934.2	−21.3	.....	86	0.78	sw.	12.7	.....	
8:44	980.5	−24.6	100	sw.	7.2	811	926.4	−20.7	−1.04	83	0.80	sw.	13.6	6,700	
						1,000	903.4	−18.1	.....	75	0.92	sw.	13.3	.....	
						1,250	874.0	−14.8	.....	65	1.09	sw.	12.8	.....	
						1,500	845.3	−11.4	.....	55	1.26	wsw.	12.4	.....	
9:08	980.3	−24.2	100	sw.	7.2	1,743	819.4	−8.1	−1.35	45	1.38	wsw.	12.0	(*)	
						1,750	818.7	−8.2	.....	45	1.37	wsw.	12.0	.....	
						2,000	792.8	−9.9	.....	39	1.02	w.	13.6	.....	
9:21	980.2	−24.0	100	sw.	7.2	2,204	771.8	−11.4	0.72	35	0.80	w.	14.9	(*)	
						2,250	767.3	−11.3	.....	34	0.79	w.	14.8	.....	
						2,500	742.8	−10.7	.....	26	0.63	w.	14.4	.....	
						2,750	719.2	−10.1	.....	18	0.46	wnw.	13.9	.....	
						3,000	696.5	−9.5	.....	10	0.27	wnw.	13.4	.....	
10:04	979.7	−22.4	100	sw.	9.4	3,075	689.6	−9.3	−0.24	8	0.22	wnw.	13.3	(*)	
						3,250	674.0	−10.3	.....	8	0.20	wnw.	13.9	.....	
						3,500	652.0	−11.7	.....	9	0.20	wnw.	14.9	.....	
						3,750	631.0	−13.0	.....	9	0.18	wnw.	15.8	.....	
						4,000	611.0	−14.4	.....	9	0.16	wnw.	16.7	.....	
						4,250	591.8	−15.8	.....	10	0.15	wnw.	17.6	.....	
10:57	979.4	−20.0	74	sw.	8.0	4,466	575.5	−17.0	0.55	10	0.14	wnw.	18.4	(*)	
						4,500	573.0	−17.2	.....	10	0.13	wnw.	18.5	.....	
						4,750	554.8	−18.9	.....	12	0.14	wnw.	18.9	.....	
						5,000	537.0	−20.5	.....	14	0.14	wnw.	19.3	.....	
						5,250	518.8	−22.2	.....	16	0.13	wnw.	19.7	.....	
11:45	978.4	−18.2	79	sw.	10.3	5,400	507.9	−23.2	0.74	17	0.13	wnw.	20.0	(*)	
						5,250	518.8	−22.0	.....	18	0.15	wnw.	19.6	.....	
						5,000	537.0	−19.9	.....	19	0.20	wnw.	18.9	.....	
						4,750	555.2	−17.9	.....	20	0.25	wnw.	18.3	.....	
						4,500	574.0	−15.9	.....	21	0.32	wnw.	17.6	.....	
P. M.															
12:45	976.5	−15.9	67	sw.	11.2	4,271	591.1	−14.0	0.25	22	0.40	wnw.	17.0	(*)	
						4,250	593.0	−13.9	.....	22	0.40	wnw.	17.0	.....	
						4,000	613.0	−13.3	.....	22	0.42	w.	17.3	.....	
						3,750	633.0	−12.7	.....	22	0.45	w.	17.6	.....	
12:58	976.1	−15.9	65	sw.	12.1	3,741	633.4	−12.7	0.60	22	0.45	w.	17.6	(*)	
						3,500	654.0	−11.2	.....	20	0.47	w.	16.5	.....	
						3,250	675.2	−9.7	.....	18	0.48	w.	15.4	.....	
						3,000	697.0	−8.2	.....	16	0.49	w.	14.2	.....	
						2,750	719.8	−6.7	.....	14	0.49	w.	13.1	.....	
1:29	975.5	−15.2	68	sw.	12.1	2,582	735.7	−5.7	0.19	13	0.49	w.	12.3	(*)	
						2,500	743.6	−5.5	.....	12	0.46	w.	12.6	.....	
						2,250	768.3	−5.1	.....	10	0.40	w.	13.5	.....	
						2,000	793.0	−4.6	.....	8	0.33	w.	14.4	.....	
1:48	975.2	−14.7	67	ssw.	11.6	1,759	817.1	−4.1	−0.41	6	0.26	w.	15.2	(*)	
						1,750	818.2	−4.1	.....	6	0.26	w.	15.2	.....	
						1,500	844.0	−5.2	.....	11	0.43	w.	16.1	.....	
						1,250	871.8	−6.2	.....	15	0.54	wsw.	16.9	.....	
2:02	974.9	−14.6	72	ssw.	11.2	1,059	893.1	−7.0	−3.59	19	0.64	wsw.	17.6	(*)	
						1,000	900.0	−9.1	.....	21	0.59	wsw.	17.0	.....	
2:07	974.8	−14.3	73	ssw.	13.0	758	928.9	−17.8	1.10	27	0.34	sw.	14.3	(*)	
						750	930.0	−17.7	.....	28	0.36	sw.	14.3	.....	
						500	961.0	−14.9	.....	54	0.90	ssw.	13.0	.....	
2:21	974.3	−13.8	65	ssw.	12.5	396	974.3	−13.8	.....	65	1.20	ssw.	12.5	.....	Cloudless.

February 1, 1918, series (No. 2).

P. M.															
3:09	973.9	−12.8	67	ssw.	10.3	396	973.9	−12.8	.....	67	1.35	ssw.	10.3	.....	Cloudless.
						500	960.5	−13.8	.....	71	1.31	ssw.	11.8	.....	
						750	930.0	−16.1	.....	82	1.22	sw.	15.4	.....	
3:17	973.9	−12.6	68	ssw.	10.3	791	924.4	−16.5	0.94	84	1.20	sw.	16.0	(*)	
						1,000	899.5	−12.8	.....	67	1.35	sw.	16.8	.....	
						1,250	870.6	−8.3	.....	46	1.39	wsw.	17.7	.....	
						1,500	843.0	−3.9	.....	26	1.15	wsw.	18.7	.....	
3:40	973.7	−11.8	70	ssw.	12.1	1,531	839.7	−3.3	−1.78	23	1.07	wsw.	18.8	(*)	
						1,750	816.8	−3.7	.....	20	0.90	wsw.	18.3	.....	
						2,000	790.6	−4.2	.....	17	0.73	w.	17.7	.....	
						2,250	766.3	−4.7	.....	13	0.54	w.	17.1	.....	
						2,500	742.5	−5.2	.....	10	0.39	wnw.	16.5	.....	
4:06	973.5	−11.3	66	ssw.	11.6	2,507	741.8	−5.2	0.19	10	0.39	wnw.	16.5	(*)	
						2,750	720.2	−6.0	.....	10	0.37	wnw.	15.5	.....	
						3,000	697.2	−6.9	.....	11	0.38	wnw.	14.5	.....	
4:32	972.9	−10.9	68	ssw.	10.7	3,085	689.4	−7.2	0.36	11	0.37	wnw.	14.2	(*)	
						3,000	697.2	−6.9	.....	11	0.38	wnw.	15.5	.....	
						2,750	720.2	−5.9	.....	12	0.45	wnw.	19.4	.....	
4:59	972.3	−10.9	71	ssw.	10.7	2,715	723.3	−5.8	0.26	12	0.45	wnw.	20.0	(*)	
						2,500	742.5	−5.2	.....	12	0.47	wnw.	19.8	.....	
						2,250	766.3	−4.6	.....	11	0.46	wnw.	19.5	.....	
						2,000	790.6	−3.9	.....	11	0.49	wnw.	19.2	.....	
						1,750	816.8	−3.3	.....	10	0.46	w.	18.9	.....	
						1,500	843.0	−2.6	.....	10	0.49	w.	18.6	.....	
5:33	972.1	−11.6	78	ssw.	9.4	1,250	870.6	−2.0	−0.56	9	0.47	w.	18.3	.....	
5:40	972.1	−11.6	77	ssw.	8.9	1,001	898.5	−3.4	−3.98	11	0.51	w.	27.0	10,700	
5:46	972.1	−11.8	77	ssw.	8.0	750	928.1	−13.4	0.40	28	0.53	ssw.	18.4	5,700	
						500	958.5	−12.4	.....	63	1.32	ssw.	9.9	.....	
5:57	972.0	−12.0	77	ssw.	6.3	396	972.0	−12.0	.....	77	1.67	ssw.	6.3	.....	Cloudless.

* More than 10,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 1, 1918, series (No. 3).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
6:43	972.0	−13.1	88	sw.	4.5	396	972.0	−13.1	.....	88	1.72	sw.	4.5	.....	Cloudless.
.....	.....	.....	.....	.....	.....	500	958.8	−12.8	.....	91	1.84	sw.	8.2	.....	
.....	.....	.....	.....	.....	.....	750	928.0	−12.2	.....	99	2.11	sw.	17.0	.....	
6:54	972.0	−13.3	88	sw.	5.8	787	923.4	−12.1	−0.26	100	2.15	sw.	18.3	5,200	
.....	.....	.....	.....	.....	.....	1,000	899.0	− 7.6	.....	72	2.31	wsw.	15.1	.....	
.....	.....	.....	.....	.....	.....	1,250	870.4	− 2.3	.....	40	2.02	w.	11.4	10,000	
7:10	971.9	−13.0	84	ssw.	4.9	1,265	868.6	− 2.0	−2.11	38	1.96	w.	11.2	.....	
.....	.....	.....	.....	.....	.....	1,500	842.8	− 2.1	.....	35	1.80	w.	11.0	(*)	
.....	.....	.....	.....	.....	.....	1,750	816.5	− 2.1	.....	31	1.59	wnw.	10.7	.....	
.....	.....	.....	.....	.....	.....	2,000	791.3	− 2.2	.....	28	1.43	wnw.	10.5	.....	
8:22	971.3	−13.1	86	sw.	7.2	2,105	780.8	− 2.2	0.02	26	1.32	wnw.	10.4	(*)	
.....	.....	.....	.....	.....	.....	2,250	767.0	− 3.0	.....	28	1.33	wnw.	9.9	.....	
.....	.....	.....	.....	.....	.....	2,500	742.2	− 4.3	.....	30	1.28	wnw.	9.1	.....	
.....	.....	.....	.....	.....	.....	2,750	719.5	− 5.6	.....	33	1.26	wnw.	8.2	.....	
.....	.....	.....	.....	.....	.....	3,000	697.2	− 6.9	.....	35	1.19	wnw.	7.4	.....	
8:36	971.2	−12.9	84	sw.	7.2	3,056	692.2	− 7.2	0.53	36	1.20	wnw.	7.2	(*)	
.....	.....	.....	.....	.....	.....	3,000	697.2	− 6.9	.....	36	1.23	wnw.	7.3	.....	
.....	.....	.....	.....	.....	.....	2,750	719.5	− 5.6	.....	36	1.37	wnw.	7.8	(*)	
.....	.....	.....	.....	.....	.....	2,500	742.2	− 4.2	.....	36	1.55	wnw.	8.2	.....	
.....	.....	.....	.....	.....	.....	2,250	767.0	− 2.9	.....	36	1.73	wnw.	8.7	.....	
8:58	970.9	−13.2	86	sw.	7.6	2,040	787.6	− 1.8	−0.01	36	1.89	wnw.	9.1	10,000	
.....	.....	.....	.....	.....	.....	2,000	791.3	− 1.8	.....	36	1.89	wnw.	9.1	.....	
.....	.....	.....	.....	.....	.....	1,750	816.5	− 1.8	.....	36	1.89	w.	9.4	.....	
.....	.....	.....	.....	.....	.....	1,500	842.8	− 1.9	.....	35	1.83	w.	9.7	.....	
.....	.....	.....	.....	.....	.....	1,250	870.0	− 1.9	.....	35	1.83	wsw.	10.0	.....	
9:12	970.8	−13.1	88	sw.	7.2	1,208	874.6	− 1.9	−1.45	35	1.83	wsw.	10.1	.....	
.....	.....	.....	.....	.....	.....	1,000	897.8	− 4.9	.....	45	1.82	wsw.	11.1	.....	
9:25	970.6	−13.1	88	sw.	7.6	779	923.4	− 8.1	−1.36	55	1.69	sw.	12.2	2,100	
.....	.....	.....	.....	.....	.....	750	926.8	− 8.5	.....	57	1.69	sw.	12.0	.....	
.....	.....	.....	.....	.....	.....	500	957.5	−11.9	.....	79	1.73	sw.	9.8	.....	
9:32	970.6	−13.3	88	sw.	8.9	396	970.6	−13.3	.....	88	1.70	sw.	8.9	.....	Cloudless.

February 1-2, 1918, series (No. 4).

P. M.															
10:13	970.2	−13.6	88	ssw.	8.0	396	970.2	−13.6	.....	88	1.65	ssw.	8.0	.....	Cloudless.
.....	.....	.....	.....	.....	.....	500	957.2	−11.5	.....	85	1.93	sw.	10.6	.....	
.....	.....	.....	.....	.....	.....	750	926.7	− 6.3	.....	79	2.84	wsw.	17.0	.....	
10:22	970.2	−13.3	88	ssw.	8.0	770	924.4	− 5.9	−2.06	78	2.89	wsw.	17.5	2,800	
.....	.....	.....	.....	.....	.....	1,000	897.3	− 2.5	.....	44	2.18	wsw.	9.6	7,700	
MIDNIGHT.															
.....	969.2	−12.9	75	ssw.	7.2	1,104	885.1	− 0.9	−1.50	28	1.59	wsw.	6.0	6,000	
.....	.....	.....	.....	.....	.....	1,250	869.0	− 1.5	.....	29	1.56	wsw.	6.2	.....	
.....	.....	.....	.....	.....	.....	1,500	841.7	− 2.4	.....	31	1.55	wsw.	6.5	.....	
.....	.....	.....	.....	.....	.....	1,750	815.7	− 3.4	.....	34	1.56	wsw.	6.8	.....	
.....	.....	.....	.....	.....	.....	2,000	790.5	− 4.3	.....	36	1.53	wsw.	7.1	.....	
.....	.....	.....	.....	.....	.....	2,250	766.3	− 5.3	.....	38	1.49	wsw.	7.4	.....	
.....	.....	.....	.....	.....	.....	2,500	742.0	− 6.2	.....	40	1.45	wsw.	7.7	.....	
.....	.....	.....	.....	.....	.....	2,750	719.0	− 7.2	.....	43	1.43	wsw.	8.0	.....	
.....	.....	.....	.....	.....	.....	3,000	695.8	− 8.2	.....	45	1.37	wsw.	8.3	.....	
.....	.....	.....	.....	.....	.....	3,250	674.1	− 9.1	.....	47	1.32	wsw.	8.6	(*)	
A. M.															
12:16	969.0	−13.0	78	ssw.	8.0	3,481	654.6	−10.0	0.45	49	1.27	wsw	8.9	(*)	
.....	.....	.....	.....	.....	.....	3,250	674.1	− 8.8	.....	47	1.36	wsw.	9.0	.....	
.....	.....	.....	.....	.....	.....	3,000	695.8	− 7.5	.....	46	1.49	wsw.	9.1	.....	
.....	.....	.....	.....	.....	.....	2,750	719.0	− 6.2	.....	44	1.59	wsw.	9.2	.....	
.....	.....	.....	.....	.....	.....	2,500	742.0	− 4.9	.....	43	1.74	wsw.	9.3	(*)	
12:40	968.8	−13.1	80	ssw.	8.0	2,269	764.6	− 3.7	0.31	41	1.84	wsw.	9.4	.....	
.....	.....	.....	.....	.....	.....	2,250	766.3	− 3.6	.....	41	1.85	wsw.	9.4	.....	
.....	.....	.....	.....	.....	.....	2,000	790.5	− 2.9	.....	38	1.82	wsw.	9.4	.....	
.....	.....	.....	.....	.....	.....	1,750	815.7	− 2.1	.....	35	1.80	wsw.	9.4	.....	
.....	.....	.....	.....	.....	.....	1,500	841.7	− 1.3	.....	33	1.81	wsw.	9.3	.....	
.....	.....	.....	.....	.....	.....	1,250	869.0	− 0.5	.....	30	1,76	wsw.	9.3	4,500	
1:05	968.5	−12.7	76	ssw.	9.4	1,181	876.6	− 0.3	−0.71	29	1.73	wsw.	9.3	3,600	
.....	.....	.....	.....	.....	.....	1,000	896.5	− 1.6	.....	37	1.98	wsw.	12.1	.....	
1:11	968.5	−12.9	83	ssw.	9.4	940	903.4	− 2.0	0.52	39	2.02	wsw.	13.0	.....	
1:19	968.4	−12.9	81	ssw.	8.5	768	923.2	− 1.1	−3.28	47	2.62	sw.	16.4	1,100	
.....	.....	.....	.....	.....	.....	750	925.4	− 1.7	.....	49	2.60	sw.	16.0	.....	
.....	.....	.....	.....	.....	.....	500	955.2	− 9.9	.....	74	1.94	ssw.	11.0	.....	
1:24	968.3	−13.3	84	ssw.	8.9	396	968.3	−13.3	.....	84	1.62	ssw.	8.9	.....	Cloudless.

February 2, 1918, series (No. 5).

A. M.															
2:14	967.7	−12.2	81	ssw.	8.5	396	967.7	−12.2	.....	81	1.73	ssw.	8.5	.....	Cloudless.
.....	.....	.....	.....	.....	.....	500	955.2	− 7.3	.....	79	2.60	sw.	11.9	.....	
2:21	967.6	−12.1	77	ssw.	9.4	676	933.7	1.0	−4.71	75	4.93	wsw.	17.6	560	
.....	.....	.....	.....	.....	.....	750	925.1	0.5	.....	75	4.75	wsw.	16.6	.....	
2:26	967.5	−12.8	77	ssw.	8.9	902	907.5	− 0.5	0.66	74	4.34	wsw.	14.4	.....	
.....	.....	.....	.....	.....	.....	1,000	896.5	− 0.5	.....	70	4.10	wsw.	14.3	3,200	
.....	.....	.....	.....	.....	.....	1,250	868.8	− 0.5	.....	61	3.57	wsw.	14.0	.....	
.....	.....	.....	.....	.....	.....	1,500	842.0	− 0.5	.....	52	3.05	sw.	13.8	6,500	
.....	.....	.....	.....	.....	.....	1,750	816.0	− 0.5	.....	43	2.52	sw.	13.5	.....	
2:50	967.1	−13.0	84	ssw.	8.5	1,836	807.0	− 0.5	0.0	40	2.34	sw.	13.4	9,400	
.....	.....	.....	.....	.....	.....	2,000	790.0	− 1.3	.....	41	2.25	sw.	13.2	.....	
.....	.....	.....	.....	.....	.....	2,250	765.5	− 2.4	.....	43	2.15	sw.	12.8	.....	
.....	.....	.....	.....	.....	.....	2,500	741.8	− 3.6	.....	45	2.03	wsw.	12.5	(*)	
.....	.....	.....	.....	.....	.....	2,750	718.8	− 4.8	.....	46	1.88	wsw.	12.2	.....	

*More than 10,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 2, 1918, series (No. 5)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100 \text{ m.}}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						3,000	696.5	− 6.0		48	1.77	wsw.	11.8		
3:26	966.7	−12.8	84	ssw.	8.0	3,009	695.7	− 6.0	0.47	48	1.77	wsw.	11.8	(*)	
						3,250	673.3	− 7.5		57	1.84	wsw.	13.6		
						3,500	651.6	− 9.0		65	1.85	wsw.	15.5		
						3,750	626.5	−10.6		74	1.82	wsw.	17.3		
4:08	966.4	−12.5	84	ssw.	8.0	3,855	623.5	−11.2	0.63	78	1.82	wsw.	18.1	(*)	
						3,750	626.5	−10.5		76	1.88	wsw.	18.0		
						3,500	651.6	− 8.9		73	2.09	wsw.	17.8		
						3,250	673.3	− 7.3		69	2.27	wsw.	17.5		Few Ci., wnw.
						3,000	696.5	− 5.7		65	2.46	wsw.	17.3		
						2,750	718.8	− 4.1		61	2.64	wsw.	17.1		
						2,500	741.8	− 2.5		58	2.88	wsw.	16.8	(*)	
4:42	966.1	−12.8	92	ssw.	4.9	2,255	765.1	− 0.9	−0.95	54	3.06	wsw.	16.6		
4:43	966.1	−12.8	92	ssw.	8.9	2,107	779.7	− 2.3	0.33	52	2.62	wsw.	15.0		
						2,000	790.0	− 1.9		52	2.71	wsw.	15.4	9,800	
						1,750	815.0	− 1.1		51	2.84	wsw.	16.3		
						1,500	840.8	− 0.3		51	3.04	wsw.	17.2	6,300	4/10 Ci., wnw.
						1,250	867.5	0.6		50	3.19	sw.	18.2		Lunar halo, 32° radius, at 5:02 a. m.
						1,000	895.0	1.4		50	3.38	sw.	19.1	3,800	
						750	923.7	2.2		49	3.51	sw.	20.0		
5:20	965.8	−13.2	92	ssw.	8.0	703	928.7	2.4	−5.18	49	3.56	sw.	20.2	380	
						500	953.0	− 8.1		77	2.36	ssw.	11.6		
5:26	965.7	−13.5	92	ssw.	7.2	396	965.7	−13.5		92	1.74	ssw.	7.2		7/10 Ci., wnw.

February 2, 1918, series (No. 6).

A. M.															
6:19	965.1	−13.1	92	ssw.	9.4	396	965.1	−13.1		92	1.80	ssw.	9.4		8/10 Ci. St., wnw.
						500	952.0	− 8.0		83	2.57	ssw.	11.9	0	
6:28	964.9	−13.1	92	ssw.	9.4	697	928.6	1.8	−4.95	66	4.59	ssw.	16.7	0	
						750	922.4	1.8		63	4.38	ssw.	16.8		
						1,000	893.7	1.6		46	3.16	ssw.	17.2	1,600	
6:48	964.5	−13.0	92	ssw.	10.7	1,099	882.8	1.5	0.07	40	2.72	ssw.	17.3	8,300	
						1,250	866.0	0.8		42	2.72	ssw.	16.6		
						1,500	839.5	− 0.3		46	2.74	ssw.	15.5		
6:55	964.3	−13.0	92	ssw.	10.3	1,671	821.9	− 1.1	0.45	49	2.73	ssw.	14.7		
						1,750	814.0	− 1.2		48	2.65	ssw.	14.8		6/10 Ci. St., wnw.
						2,000	789.2	− 1.5		43	2.32	sw.	15.3	(*)	
						2,250	765.0	− 1.8		39	2.05	sw.	15.7		
						2,500	740.8	− 2.1		35	1.80	wsw.	16.2		
7:36	964.2	−12.4	92	ssw.	9.8	2,614	729.9	− 2.2	0.12	33	1.68	wsw.	16.4		
						2,750	717.5	− 3.4		35	1.61	wsw.	17.0		
						3,000	695.0	− 5.6		39	1.49	wsw.	18.1		
						3,250	673.5	− 7.8		42	1.32	wsw.	19.2		
8:00	964.2	−12.7	92	ssw.	10.3	3,437	657.5	− 9.4	0.83	45	1.23	wsw.	20.0	(*)	2/10 Ci. St., wnw.; 4/10 St. Cu., wnw.
						3,250	673.5	− 7.9		44	1.37	wsw.	18.9		
						3,000	695.0	− 5.9		42	1.56	w.	17.3		
						2,750	717.5	− 3.9		40	1.76	w.	15.8		
8:29	964.3	−13.2	84	sw.	10.3	2,607	731.0	− 2.8	0.36	39	1.89	w.	14.9	(*)	
						2,500	740.8	− 2.4		39	1.95	w.	15.3		
						2,250	764.0	− 1.5		38	2.05	w.	16.4		
						2,000	788.2	− 0.6		37	2.15	wsw.	17.4		
						1,750	813.2	0.3		37	2.31	wsw.	18.4		
						1,500	838.5	1.2		36	2.40	wsw.	19.4		
						1,250	865.0	2.0		35	2.47	wsw.	20.4	5,000	
						1,000	892.8	2.9		35	2.64	sw.	11.4		
8:55	964.5	−12.8	75	sw.	9.8	787	917.3	3.7	−6.19	34	2.71	sw.	22.3		
						750	921.8	1.4		37	2.50	sw.	21.0	950	7/10 Ci. St., wnw.
9:25	964.2	−12.0	77	sw.	10.3	530	947.5	−12.2	0.30	54	1.15	sw.	13.5	0	
						500	951.4	−12.1		59	1.27	sw.	13.0	0	
9:29	964.2	−11.8	77	sw.	11.2	396	964.2	−11.8		77	1.70	sw.	11.2		7/10 Ci. St., wnw.

February 2, 1918, series (No. 7).

A. M.															
10:28	963.5	−10.4	75	sw.	12.1	396	963.5	−10.4		75	1.88	sw.	12.1		7/10 Ci. St., wnw.
						500	950.8	− 5.4		67	2.60	sw.	18.2		
10:32	963.4	−10.4	75	sw.	11.6	617	936.6	0.3	−4.84	57	3.56	sw.	25.1	5,000	
						750	921.3	0.2		49	3.04	sw.	26.4		
10:38	963.4	−10.4	75	sw.	9.8	823	912.9	0.2	0.05	45	2.79	sw.	27.1	6,500	
						1,000	893.3	0.8		45	2.91	sw.	26.6		
						1,250	866.0	1.5		46	3.13	sw.	25.8		
10:41	963.3	−10.4	75	sw.	11.2	1,332	856.8	1.8	−0.31	46	3.20	sw.	25.6	(*)	
						1,500	839.4	1.0		42	2.76	sw.	25.2		
						1,750	813.5	− 0.3		37	2.21	sw.	24.7		
10:48	963.2	− 9.9	74	sw.	9.8	1,999	788.2	− 1.5	0.49	32	1.72	sw.	24.1		
11:13	962.9	− 8.2	71	sw.	11.2	2,216	766.8	0.2	−0.27	24	1.49	sw.	29.0		5/10 Ci. St., wnw.; 3/10 A. St., wsw.
						2,000	788.2	0.7		26	1.67	sw.	27.3		
						1,750	812.6	1.4		28	1.89	wsw	25.2		8/10 A. St., wsw.; solar halo, 22° radius 11:40 a. m. to 12:30 p. m.
11:56	962,2	− 7.6	71	wsw.	11.6	1,695	818.0	1.5	0.21	29	1.97	wsw	24.8	(*)	
						1,500	837.5	1.9		30	2.10	wsw	21.6		
						1,250	864.0	2.4		30	2.18	w.	17.5	9,800	
P. M.															
12:20	961.9	− 6.8	70	wsw.	9.8	1,082	882.2	2.8	−0.62	31	2.32	w.	14.7		
						1,000	891.3	2.3		32	2.31	w.	15.9		
12:28	961.8	− 6.5	68	wsw.	9.8	774	916.6	0.9	−4.21	36	2.35	w.	19.2		
						750	919.8	− 0.1		37	2.24	w.	18.3	5,500	
12:33	961.8	− 6.4	68	wsw.	10.7	572	940.4	− 7.6	0.68	44	1.41	w.	11.6		
						500	949.0	− 7.1		54	1.81	w.	10.3		
12:37	961.7	− 6.4	68	wsw.	8.5	396	961.7	− 6.4		68	2.42	wsw.	8.5		9/10 A. St., wsw.

* More than 10,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 3, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m.p.s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m.p.s.*	*volts.*	
7:35	978.6	−17.6	88	nnw.	4.9	396	978.6	−17.6	.....	88	1.14	nnw.	4.9	.....	Cloudless.
						500	965.0	−18.0	.....	89	1.00	nnw.	7.2	.....	
7:40	978.6	−17.6	88	nnw.	4.9	703	939.1	−18.7	0.36	90	1.04	nw.	11.8	.....	
						750	933.6	−18.2	.....	89	1.09	nw.	12.9	1,800	
						1,000	903.1	−15.5	.....	86	1.35	nw.	18.8	.....	
						1,250	874.0	−12.8	.....	83	1.68	nw.	24.7	9,000	
8:27	979.0	−17.7	88	nw.	4.6	1,298	868.5	−12.3	−1.08	82	1.73	nw.	25.8	.....	
						1,500	845.5	−12.9	.....	82	1.64	nw.	26.8	.....	
						1,750	818.8	−13.6	.....	82	1.54	nw.	28.0	(*)	
						2,000	792.3	−14.3	.....	81	1.43	nw.	29.2	.....	
9:00	979.4	−17.6	88	nw.	5.8	2,232	768.1	−15.0	0.28	81	1.34	nw.	30.4	.....	
						2,000	792.9	−14.4	.....	82	1.43	nw.	27.1	(*)	
						1,750	819.8	−13.8	.....	83	1.53	nnw.	23.6	.....	
						1,500	847.0	−13.1	.....	84	1.65	nnw.	20.2	8,400	Few Ci St., near horizon.
10:54	980.4	−15.4	73	n.	5.4	1,362	862.5	−12.7	−0.87	85	1.73	nnw.	17.2	.....	
						1,250	875.5	−13.7	.....	86	1.60	nnw.	16.0	.....	
						1,000	905.0	−15.8	.....	87	1.33	nnw.	13.2	5,800	
						750	935.8	−18.0	.....	88	1.09	nnw.	10.4	.....	
11:26	980.6	−15.1	76	n.	4.5	720	939.1	−18.3	1.02	88	1.06	nnw.	10.1	1,100	
						500	967.3	−16.1	.....	80	1.19	n.	6.9	.....	
11:32	980.6	−15.0	76	n.	5.4	396	980.6	−15.0	.....	76	1.25	n.	5.4	.....	Few Ci. St., near horizon.

February 5, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:41	959.7	−10.0	93	s.	6.3	396	959.7	−10.0	.....	93	2.42	s.	6.3	.....	10/10 St.Cu., nw.
						500	947.0	− 6.5	.....	84	2.97	ssw.	10.0	.....	
						750	917.5	1.8	.....	62	4.32	wsw.	18.7	.....	
8:50	959.6	−10.0	93	s.	6.3	809	910.8	3.8	− 3.34	57	4.57	wsw.	20.8	8,000	
8:57	959.4	− 9.9	93	s.	5.4	875	903.4	12.8	−13.64	43	6.36	w.	16.0	.....	
						1,000	889.6	12.4	.....	41	5.90	w.	16.3	9,700	10/10 St.Cu., w.
						1,250	863.4	11.6	.....	36	4.92	wsw.	16.8	.....	
						1,500	838.4	10.7	.....	32	4.12	wsw.	17.4	.....	
9:17	959.2	− 8.6	88	s.	7.2	1,600	828.5	10.4	0.33	30	3.78	wsw.	17.6	(†)	
						1,750	814.0	9.8	.....	30	3.64	wsw.	18.7	.....	
						2,000	789.6	8.9	.....	31	3.53	sw.	20.4	.....	
						2,250	765.8	7.9	.....	31	3.30	sw.	22.2	.....	
9:32	959.0	− 8.2	88	s.	4.9	2,275	763.2	7.8	0.39	31	3.28	sw.	22.4	(†)	
						2,500	742.5	6.3	.....	32	3.06	sw.	21.2	.....	
						2,750	720.0	4.6	.....	33	2.80	wsw.	19.8	.....	
10:07	958.6	− 7.0	84	s.	4.5	2,882	708.5	3.7	0.68	34	2.71	wsw.	19.1	(†)	
						3,000	698.0	2.9	.....	35	2.64	wsw.	18.3	.....	
						3,250	676.0	1.3	.....	37	2.48	wsw.	16.7	(†)	
10:28	958.4	− 5.3	81	s.	4.9	3,469	658.8	− 0.2	0.66	38	2.28	wsw.	15.2	.....	
						3,500	653.8	− 1.8	.....	44	2.31	w.	19.3	.....	
P. M.															
3:38	955.8	− 2.4	60	wnw.	1.3	3,591	645.1	− 6.5	2.95	62	2.19	nw.	23.6	.....	
						3,500	653.2	− 7.1	.....	75	2.51	wnw.	17.3	.....	
4:57	956.7	2.6	78	sw.	3.1	3,472	653.5	− 7.4	0.83	81	2.64	wnw.	14.4	.....	
						3,250	674.2	− 5.5	.....	77	2.96	wnw.	12.8	.....	
						3,000	695.5	− 3.5	.....	73	3.33	wnw.	11.0	.....	
5:25	957.0	2.4	77	sw.	3.6	2,939	702.2	− 2.7	0.57	71	3.46	wnw.	10.4	.....	
						2,750	717.6	− 1.8	.....	68	3.58	wnw.	10.6	.....	
						2,500	740.3	− 0.4	.....	64	3.78	wnw.	10.8	.....	
						2,250	763.5	1.1	.....	61	4.04	nw.	11.1	.....	
						2,000	787.4	2.5	.....	56	4.09	nw.	11.3	.....	
6:04	957.4	2.2	75	sw.	4.5	1,839	802.9	3.4	0.57	53	4.13	nw.	11.5	.....	
						1,750	812.0	3.9	.....	52	4.20	nw.	11.3	0	10/10 St.Cu., wsw.
						1,500	837.0	5.3	.....	49	4.37	nw.	10.8	0	
						1,250	863.4	6.8	.....	45	4.45	wnw.	10.3	0	
						1,000	889.6	8.2	.....	42	4.57	wnw.	9.8	0	3/10 A. St., wnw.; 4/10 A. Cu., wnw.
6:28	957.5	1.7	81	wsw.	6.8	838	907.1	9.1	− 1.72	40	4.62	wnw.	9.5	0	
						750	917.5	7.6	.....	48	5.01	wnw.	8.7	0	
						500	945.8	3.3	.....	71	5.50	wsw.	6.4	0	
6:35	957.6	1.5	81	wsw.	5.4	396	957.6	1.5	.....	81	5.52	wsw.	5.4	.....	9/10 A. St., wnw.

February 6, 1918 (No. 1).

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:30	966.2	0.9	83	wnw.	7.2	396	966.2	0.0	.....	83	5.07	wnw.	7.2	.....	Few A. St., wnw.
						500	953.8	1.4	.....	79	5.34	wnw.	10.1	.....	
						750	925.0	4.9	.....	69	5.98	nw.	17.1	.....	
8:42	966.3	0.5	80	wnw.	7.6	759	923.9	5.0	− 1.38	69	6.02	nw.	17.4	0	
						1,000	896.7	4.3	.....	61	5.07	nw.	18.0	.....	
						1,250	869.5	3.5	.....	52	4.08	nw.	18.5	1,100	
						1,500	843.3	2.8	.....	43	3.21	nw.	19.1	.....	
						1,750	818.0	2.1	.....	34	2.42	nw.	19.7	.....	
9:10	966.6	1.7	75	wnw.	6.7	1,808	812.1	1.9	0.30	32	2.24	nw.	19.8	2,500	
						2,000	793.2	0.3	.....	29	1.81	nw.	19.9	.....	
						2,250	769.0	− 1.8	.....	24	1.26	nw.	20.0	4,000	
						2,500	745.0	− 3.9	.....	19	0.84	wnw.	20.1	4,500	
						2,750	722.0	− 6.1	.....	15	0.55	wnw.	20.1	.....	
9:53	966.9	2.5	74	nw.	5.8	2,909	707.0	− 7.4	0.84	12	0.39	wnw.	20.2	.....	
						3,000	699.0	− 8.3	.....	15	0.45	wnw.	20.1	6,000	
						3,250	676.9	−10.9	.....	24	0.57	w.	19.8	5,800	
						3,500	655.5	−13.5	.....	33	0.62	w.	19.5	.....	
						3,750	634.5	−16.1	.....	43	0.64	wsw.	19.2	6,500	

* More than 10,000 volts.

† More than 11,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 6, 1918 (No. 1)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	*° C.*	%		*m. p. s.*	*m.*	*mb.*	*° C.*		%	*mb.*		*m. p. s.*	*volts.*	
12:05	968.6	5.0	69	nw.	4.5	3,846	626.3	−17.1	0.93	46	0.62	wsw.	19.1	.....	
.....	.....	.....	.....	.....	.....	3,750	634.5	−16.3	.....	45	0.66	wsw.	19.2	6,200	
.....	.....	.....	.....	.....	.....	3,500	655.5	−14.2	.....	43	0.77	wsw.	19.4	4,500	
.....	.....	.....	.....	.....	.....	3,250	676.9	−12.1	.....	41	0.88	w.	19.5	.....	
.....	.....	.....	.....	.....	.....	3,000	699.3	−10.1	.....	39	1.00	w.	19.7	.....	
.....	.....	.....	.....	.....	.....	2,750	722.6	− 8.0	.....	36	1.12	wnw.	19.9	.....	
.....	.....	.....	.....	.....	.....	2,500	746.0	− 5.9	.....	34	1.26	wnw.	20.1	.....	
12:51	968.6	5.3	69	wnw.	4.9	2,477	748.1	− 5.7	0.92	34	1.29	wnw.	20.1	2,400	
.....	.....	.....	.....	.....	.....	2,250	770.4	− 3.6	.....	34	1.54	wnw.	18.1	.....	
.....	.....	.....	.....	.....	.....	2,000	795.0	− 1.3	.....	34	1.32	nw.	15.8	1,700	
.....	.....	.....	.....	.....	.....	1,750	820.1	1.0	.....	34	2.22	nw.	13.6	.....	
1:18	968.4	5.5	66	wnw.	5.4	1,633	831.8	2.1	0.61	34	2.42	nw.	12.5	1,350	
.....	.....	.....	.....	.....	.....	1,500	845.6	2.9	.....	36	2.71	nw.	12.3	.....	
.....	.....	.....	.....	.....	.....	1,250	872.0	4.4	.....	42	3.52	wnw.	12.1	730	
.....	.....	.....	.....	.....	.....	1,000	899.1	6.0	.....	47	4.39	wnw.	11.8	.....	
1:36	968.2	5.9	67	w.	4.5	943	905.3	6.3	− 1.12	48	4.58	wnw.	11.7	.....	
.....	.....	.....	.....	.....	.....	750	927.1	4.1	.....	60	4.91	wnw.	8.2	.....	
1:43	968.1	6.0	68	w.	4.9	657	937.7	3.1	11.1	66	5.04	wnw.	6.5	0	
.....	.....	.....	.....	.....	.....	500	955.9	4.8	.....	67	5.76	w.	5.5	.....	
1:49	968.0	6.0	68	w.	4.9	396	968.0	6.0	.....	68	6.36	w.	4.9	.....	Few A. St., wnw.

February 6, 1918 (No. 2).

P. M.															
2:52	967.9	6.6	66	w.	6.3	396	967.9	6.6	.....	66	6.44	w.	6.3	.....	Few A. St., near horizon.
.....	.....	.....	.....	.....	.....	500	955.3	6.0	.....	65	6.08	w.	7.1	.....	
3:02	967.9	6.8	64	w nw.	5.8	733	928.9	4.6	0.59	64	5.43	wnw.	9.0	520	
.....	.....	.....	.....	.....	.....	750	927.0	4.7	.....	63	5.38	wnw.	9.2	.....	
.....	.....	.....	.....	.....	.....	1,000	899.0	5.7	.....	50	4.58	wnw.	12.6	.....	
3:10	967.9	7.0	62	wnw.	4.5	1,120	885.9	6.2	− 0.41	43	4.08	wnw.	14.2	.....	
.....	.....	.....	.....	.....	.....	1,250	871.6	5.0	.....	44	3.84	wnw.	14.4	1,400	
.....	.....	.....	.....	.....	.....	1,500	844.6	2.7	.....	47	3.49	wnw.	14.8	1,900	
.....	.....	.....	.....	.....	.....	1,750	818.8	0.4	.....	49	3.08	wnw.	15.2	.....	
.....	.....	.....	.....	.....	.....	2,000	793.7	− 1.9	.....	52	2.71	wnw.	15.5	.....	
.....	.....	.....	.....	.....	.....	2,250	769.8	− 4.2	.....	54	2.32	wnw.	15.9	.....	
3:55	967.9	7.7	63	wnw.	2.0	2,442	751.2	− 6.0	0.92	56	2.06	wnw.	16.2	2,800	
.....	.....	.....	.....	.....	.....	2,500	745.6	− 6.4	.....	56	1.99	wnw.	16.5	.....	Few A. St., near horizon.
.....	.....	.....	.....	.....	.....	2,750	722.0	− 8.3	.....	57	1.72	wnw.	18.0	3,800	
.....	.....	.....	.....	.....	.....	3,000	698.5	−10.1	.....	58	1.49	wnw.	19.4	.....	
.....	.....	.....	.....	.....	.....	3,250	676.8	−12.0	.....	59	1.28	wnw.	20.9	4,300	
.....	.....	.....	.....	.....	.....	3,500	655.0	−13.9	.....	60	1.10	wnw.	22.3	.....	
.....	.....	.....	.....	.....	.....	3,750	634.0	−15.7	.....	61	0.94	wnw.	23.7	.....	
4:40	967.9	7.6	65	w.	2.7	3,761	632.8	−15.8	0.74	61	0.93	wnw.	23.8	.....	
4:45	967.9	7.6	65	w.	2.4	3,886	622.6	−15.0	−0.83	48	0.79	wnw.	25.0	5,300	
.....	.....	.....	.....	.....	.....	3,750	634.0	−16.4	.....	53	0.77	wnw.	26.8	.....	
5:00	967.9	7.9	67	w.	2.2	3,739	634.9	−16.5	0.84	53	0.76	wnw.	26.9	.....	
.....	.....	.....	.....	.....	.....	3,500	655.0	−14.9	.....	53	0.89	wnw.	25.0	.....	
.....	.....	.....	.....	.....	.....	3,250	676.8	−12.4	.....	53	1.11	wnw.	22.0	3,400	
.....	.....	.....	.....	.....	.....	3,000	698.5	−10.3	.....	52	1.32	w.	19.5	.....	
.....	.....	.....	.....	.....	.....	2,750	722.0	− 8.2	.....	52	1.58	w.	17.0	.....	
.....	.....	.....	.....	.....	.....	2,500	745.6	− 6.1	.....	52	1.90	w.	14.5	1,600	
5:41	967.9	6.4	74	wsw.	.....	2,474	748.0	− 5.9	0.83	52	1.93	w.	14.2	.....	
.....	.....	.....	.....	.....	.....	2,250	769.8	− 4.0	.....	51	2.23	w.	13.4	.....	
.....	.....	.....	.....	.....	.....	2,000	793.7	− 2.0	.....	50	2.58	w.	12.5	.....	
.....	.....	.....	.....	.....	.....	1,750	818.8	0.1	.....	49	3.01	wnw.	11.6	950	
.....	.....	.....	.....	.....	.....	1,500	844.6	2.2	.....	48	3.44	wnw.	10.7	.....	
.....	.....	.....	.....	.....	.....	1,250	871.6	4.3	.....	47	3.91	wnw.	9.9	.....	
6:12	968.0	5.8	76	wsw.	3.6	1,177	879.8	4.9	−0.03	47	4.07	wnw.	9.6	0	
.....	.....	.....	.....	.....	.....	1,000	899.0	4.9	.....	54	4.68	wnw.	8.1	.....	
.....	.....	.....	.....	.....	.....	750	927.0	4.8	.....	65	5.59	w.	6.0	.....	
.....	.....	.....	.....	.....	.....	500	956.0	4.7	.....	75	6.40	wsw.	4.0	.....	
6:25	968.2	4.7	79	wsw.	3.1	396	968.2	4.7	.....	79	6.75	wsw.	3.1	.....	Few Ci. near horizon.

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A. M.															
8:26	961.7	2.2	76	sse.	4.5	396	961.7	2.2	.....	76	5.44	sse.	4.5	.....	Few Ci., wnw.
.....	.....	.....	.....	.....	.....	500	949.4	3.6	.....	70	5.54	sse.	11.5	.....	
8:36	961.6	2.8	72	s.	5.4	724	923.6	6.6	−1.35	56	5.46	s.	26.4	0	
.....	.....	.....	.....	.....	.....	750	920.7	6.8	.....	55	5.43	s.	26.1	.....	
.....	.....	.....	.....	.....	.....	1,000	893.0	8.3	.....	44	4.82	ssw.	23.8	.....	
.....	.....	.....	.....	.....	.....	1,250	866.7	9.8	.....	33	4.00	ssw.	21.4	1,320	
9:03	961.5	3.3	75	s.	5.8	1,441	846.9	11.0	−0.61	24	3.15	sw.	19.6	2,400	
.....	.....	.....	.....	.....	.....	1,500	840.8	10.7	.....	25	3.22	sw.	19.6	.....	
.....	.....	.....	.....	.....	.....	1,750	815.8	9.2	.....	27	3.14	sw.	19.4	.....	
.....	.....	.....	.....	.....	.....	2,000	791.4	7.7	.....	29	3.05	sw.	19.3	.....	
9:25	961.3	4.1	73	s.	5.8	2,229	769.8	6.4	0.58	31	2.98	sw.	19.2	4,500	
.....	.....	.....	.....	.....	.....	2,250	767.7	6.3	.....	31	2.96	sw.	19.3	.....	
.....	.....	.....	.....	.....	.....	2,500	744.4	4.5	.....	31	2.61	wsw.	20.4	6,000	
.....	.....	.....	.....	.....	.....	2,750	721.7	2.8	.....	31	2.32	wsw.	21.4	.....	
.....	.....	.....	.....	.....	.....	3,000	700.0	1.1	.....	31	2.05	w.	22.5	.....	
9:59	961.1	5.9	65	s.	8.5	3,195	683.3	− 0.3	0.69	31	1.85	w.	23.3	.....	
.....	.....	.....	.....	.....	.....	3,250	678.9	− 0.9	.....	31	1.76	w.	23.2	7,500	
.....	.....	.....	.....	.....	.....	3,500	657.9	− 3.4	.....	29	1.33	wnw.	22.9	.....	
.....	.....	.....	.....	.....	.....	3,750	637.6	− 5.9	.....	28	1.04	wnw.	22.6	8,600	
10:22	961.0	6.5	63	ssw.	8.5	3,801	633.1	− 6.4	1.02	28	1.00	wnw.	22.5	.....	
.....	.....	.....	.....	.....	.....	3,750	637.6	− 5.9	.....	27	1.00	wnw.	22.3	.....	
.....	.....	.....	.....	.....	.....	3,500	657.9	− 3.3	.....	21	0.97	wnw.	21.2	6,400	
.....	.....	.....	.....	.....	.....	3,250	678.9	− 0.7	.....	14	0.81	w.	20.1	.....	
10:57	960.8	7.2	62	sw.	7.2	3,069	693.8	1.2	0.67	10	0.67	w.	19.3	5,200	
.....	.....	.....	.....	.....	.....	3,000	700.0	1.7	.....	11	0.73	w.	19.1	.....	

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 7, 1918 (No. 1)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						2,750	721.7	3.3	.....	13	0.94	w.	18.2	.....	
						2,500	744.4	5.0	.....	16	1.40	w.	17.4	.....	
						2,250	767.7	6.7	.....	19	1.86	w.	16.5	.....	
11:18	960.7	7.6	61	sw.	6.7	2,214	770.9	6.9	0.67	19	1.89	w.	16.4	3,200	
						2,000	791.4	8.3	.....	19	2.08	w.	17.0	1,900	
						1,750	815.8	10.0	.....	20	2.46	w.	17.6	.....	
11:36	960.6	7.9	61	wsw.	6.3	1,599	830.4	11.0	−0.42	20	2.66	w.	18.0	.....	
						1,500	840.8	10.6	.....	22	2.81	w.	17.7	.....	1/10 Ci. ,wnw.
						1,250	866.7	9.6	.....	28	3.35	w.	17.1	950	
						1,000	893.0	8.5	.....	34	3.77	w.	16.2	.....	
						750	920.7	7.5	.....	39	4.04	w.	15.8	0	
NOON.															
	960.4	8.6	57	wsw.	4.9	684	927.4	7.2	0.52	41	4.17	w.	15.6	.....	
						500	948.5	8.2	.....	51	5.54	wsw.	8.8	.....	
P. M.															
12:02	960.4	8.7	57	wsw.	4.9	396	960.4	8.7	.....	57	6.41	wsw.	4.9	.....	2/10 Ci. St., w.

February 7, 1918 (No. 2).

P. M.															
12:59	960.4	10.7	54	wsw.	4.9	396	960.4	10.7	.....	54	6.95	wsw.	4.9	.....	3/10 Ci.St., w.
						500	948.7	9.6	.....	55	6.57	w.	6.1	.....	
1:26	960.3	11.2	53	w.	5.4	702	925.4	7.6	1.01	57	5.95	nw.	8.5	.....	
						750	920.5	8.1	.....	55	5.94	nw.	8.7	.....	
						1,000	893.0	11.0	.....	45	5.91	nw.	9.8	0	
1:28	960.3	11.3	53	w.	4.9	1,043	888.2	11.5	−1.14	43	5.84	nw.	10.0	.....	
						1,250	867.3	10.9	.....	34	4.43	wnw.	10.6	890	
						1,500	841.5	10.1	.....	24	2.97	wnw.	11.2	.....	
1:52	960.1	11.5	51	w.	4.0	1,718	818.9	9.4	0.31	15	1.77	w.	11.8	1,300	
						1,750	815.7	9.2	.....	14	1.63	w.	11.9	.....	
						2,000	790.6	7.8	.....	10	1.06	w.	12.5	.....	
						2,250	767.0	6.4	.....	5	0.48	wsw.	13.1	2,500	
2:02	960.1	11.6	51	w.	4.0	2,381	755.4	5.6	0.57	3	0.27	wsw.	13.4	.....	
						2,500	744.0	4.5	.....	3	0.24	wsw.	13.5	.....	
						2,750	721.4	2.2	.....	2	0.14	wsw.	13.6	.....	
						3,000	699.8	− 0.1	.....	1	0.06	w.	13.7	3,500	
2:30	960.1	12.2	49	w.	4.0	3,157	686.2	− 1.6	0.93	1	0.05	w.	13.8	.....	
						3,250	678.4	− 2.5	.....	2	0.10	w.	14.0	.....	4/10 Ci.St., w.
						3,500	657.0	− 4.9	.....	3	0.12	w.	14.4	4,200	
						3,750	636.4	− 7.4	.....	4	0.13	w.	14.8	.....	
						4,000	616.4	− 9.8	.....	5	0.13	w.	15.2	5,000	5/10 Ci., wsw.; 2/10 Ci.St., w.
3:00	960.1	12.1	50	w.	4.0	4,064	611.3	−10.4	0.97	6	0.15	w.	15.3	.....	
						4,250	597.0	−11.6	.....	14	0.32	w.	17.0	.....	
						4,500	577.5	−14.1	.....	24	0.33	w.	19.3	6,300	
						4,750	558.6	−16.2	.....	35	0.52	w.	21.6	6,800	
						5,000	540.5	−18.4	.....	45	0.54	w.	23.9	7,800	
3:35	960.3	12.0	54	w.	3.6	5,122	531.3	−19.4	0.80	50	0.54	w.	25.0	7,800	
						5,000	540.5	−18.5	.....	56	0.67	w.	23.5	.....	7/10 Ci.St., wsw.
						4,750	558.6	−16.6	.....	68	0.97	w.	20.5	5,500	Faint solar halo, 22° radius, with bright parhelion at 4:25 p. m.
4:27	960.6	12.4	53	wnw.	2.2	4,543	573.5	−15.1	0.91	78	1.27	w.	18.0	.....	
						4,500	576.8	−14.7	.....	76	1.29	w.	17.9	.....	
						4,250	595.8	−12.4	.....	67	1.40	w.	17.0	4,300	
						4,000	615.1	−10.2	.....	58	1.48	w.	16.2	.....	8/10 Ci.St., wsw.
						3,750	635.3	− 7.9	.....	48	1.50	w.	15.3	.....	
						3,500	656.0	− 5.7	.....	39	1.47	w.	14.5	3,000	
						3,250	677.2	− 3.3	.....	30	1.39	w.	13.6	.....	
5:06	960.8	11.2	63	wnw.	1.3	3,096	690.4	− 2.0	0.77	24	1.24	w.	13.1	2,100	8/10 Ci.St., wsw.; few A.Cu., w.; few A.St., w.
						3,000	698.8	− 1.3	.....	22	1.21	w.	12.8	.....	
						2,750	721.4	0.7	.....	19	1.22	w.	11.9	.....	
						2,500	744.0	2.6	.....	15	1.11	w.	11.1	780	
						2,250	767.0	4.5	.....	11	0.93	w.	10.2	.....	
5:25	960.9	10.8	64	wnw.	1.3	2,138	777.7	5.4	0.29	9	0.81	w.	9.8	.....	
						2,000	790.6	5.8	.....	12	1.11	w.	9.3	.....	
						1,750	815.7	6.5	.....	19	1.84	w.	8.4	0	
						1,500	841.5	7.3	.....	25	2.56	w.	7.4	.....	
						1,250	867.3	8.0	.....	31	3.33	wnw.	6.5	.....	
						1,000	893.2	8.7	.....	37	4.16	wnw.	5.6	.....	
						750	920.8	9.4	.....	44	5.19	wnw.	4.7	.....	
5:45	961.0	9.9	68	nw.	1.8	731	922.9	9.5	−0.02	44	5.22	wnw.	4.6	.....	
						500	949.4	8.9	.....	59	6.73	nnw.	2.7	.....	
6:23	961.3	8.7	66	n.	1.8	396	961.3	8.7	.....	66	7.43	n.	1.8	.....	6/10 Ci.St., wsw.

February 9, 1918.

A. M.															
10:10	981.4	−7.6	100	sw.	4.0	396	981.4	− 7.6	.....	100	3.21	sw.	4.0	.....	Few A.St. near horizon.
						500	968.8	− 4.5	.....	77	3.23	wsw.	5.3	0	Few Ci., wnw.
10:32	981.2	−6.6	100	wsw.	6.3	751	938.3	3.0	−2.99	23	1.74	w.	8.3	.....	
						1,000	909.6	3.4	.....	19	1.48	w.	10.1	.....	
						1,250	882.0	3.8	.....	15	1.20	w.	11.8	700	
						1,500	855.8	4.1	.....	10	0.82	w.	13.6	.....	
						1,750	830.1	4.5	.....	6	0.51	w.	15.4	3,000	
11:02	981.1	−4.8	97	sw.	7.6	1,924	812.3	4.8	−0.15	3	0.26	w.	16.6	.....	
						2,000	804.6	4.3	.....	3	0.25	w.	16.3	.....	
						2,250	779.8	2.8	.....	3	0.22	w.	15.5	.....	
						2,500	755.7	1.2	.....	2	0.13	wnw.	14.6	4,500	
						2,750	733.0	− 0.4	.....	2	0.12	wnw.	13.8	.....	
						3,000	710.6	− 1.9	.....	2	0.10	wnw.	12.9	.....	
11:42	980.9	−2.8	87	ssw.	4.9	3,009	709.9	− 2.0	0.63	2	0.10	wnw.	12.9	.....	
						3,250	688.8	− 2.8	.....	2	0.10	wnw.	12.8	10,000	
						3,500	667.4	− 3.6	.....	3	0.14	wnw.	12.6	7,000	

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 9, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C*		%	*mb.*		*m. p. s.*	*volts.*	
12:25	980.2	−0.4	75	sw.	6.7	3,509	666.6	− 3.6	0.32	3	0.14	wnw.	12.6	.....	
.....	.....	.....	.....	.....	.....	3,750	646.3	− 5.6	.....	3	0.11	wnw.	13.4	.....	Few Ci., nw.
.....	.....	.....	.....	.....	.....	4,000	625.5	− 7.7	.....	2	0.06	wnw.	14.2	.....	
.....	.....	.....	.....	.....	.....	4,250	605.5	− 9.7	.....	2	0.05	wnw.	15.0	14,000	
.....	.....	.....	.....	.....	.....	4,500	586.5	−11.8	.....	2	0.04	wnw.	15.8	.....	
.....	.....	.....	.....	.....	.....	4,750	568.2	−13.8	.....	1	0.02	wnw.	16.6	16,800	
12:59	979.4	0.3	70	ssw.	7.2	4,950	553.3	−15.5	0.89	1	0.02	wnw.	17.3	.....	
.....	.....	.....	.....	.....	.....	4,750	568.2	−13.6	.....	1	0.02	wnw.	17.1	.....	
.....	.....	.....	.....	.....	.....	4,500	586.5	−11.2	.....	1	0.02	wnw.	16.9	15,200	
.....	.....	.....	.....	.....	.....	4,250	605.5	− 8.9	.....	1	0.03	w.	16.7	.....	
.....	.....	.....	.....	.....	.....	4,000	625.0	− 6.5	.....	1	0.04	w.	16.4	.....	
.....	.....	.....	.....	.....	.....	3,750	645.5	− 4.2	.....	1	0.04	w.	16.2	.....	
1:42	978.4	1.1	66	ssw.	6.7	3,525	664.5	− 2.0	0.03	1	0.05	w.	16.0	9,400	
.....	.....	.....	.....	.....	.....	3,500	666.6	− 2.0	.....	1	0.05	w.	16.2	.....	
.....	.....	.....	.....	.....	.....	3,250	688.0	− 1.9	.....	2	0.10	w.	18.4	.....	
1:53	978.2	1.4	64	ssw.	12.1	3,217	690.8	− 1.9	0.69	2	0.10	w.	18.7	.....	
.....	.....	.....	.....	.....	.....	3,000	709.5	− 1.4	.....	4	0.22	w.	18.3	.....	
.....	.....	.....	.....	.....	.....	2,750	731.5	1.3	.....	7	0.47	w.	17.9	6,500	
.....	.....	.....	.....	.....	.....	2,500	754.3	3.1	.....	10	0.76	w.	17.4	.....	
2:15	977.9	2.0	61	ssw.	6.7	2,266	777.2	4.7	−0.25	12	1.02	w.	17.0	.....	
.....	.....	.....	.....	.....	.....	2,250	778.4	4.7	.....	12	1.02	w.	17.0	.....	
.....	.....	.....	.....	.....	.....	2,000	803.4	4.0	.....	9	0.73	w.	16.0	4,400	
2:27	977.9	2.2	61	ssw.	9.4	1,861	816.9	3.7	0.36	8	0.64	w.	15.4	.....	
.....	.....	.....	.....	.....	.....	1,750	829.0	4.1	.....	8	0.66	w.	15.7	.....	
.....	.....	.....	.....	.....	.....	1,500	854.5	4.9	.....	9	0.78	wsw.	16.5	.....	
.....	.....	.....	.....	.....	.....	1,250	880.8	5.9	.....	10	0.93	wsw.	17.2	2,600	
.....	.....	.....	.....	.....	.....	1,000	908.0	6.8	.....	11	1.09	sw.	17.9	.....	
2:47	977.8	2.2	61	sw.	8.5	796	930.7	7.5	−2.98	12	1.24	sw.	18.5	.....	
.....	.....	.....	.....	.....	.....	750	936.5	6.1	.....	16	1.51	sw.	17.3	.....	
2:56	977.7	2.2	60	sw.	8.5	588	954.6	1.3	0.47	30	2.01	sw.	12.2	810	
.....	.....	.....	.....	.....	.....	500	965.8	1.7	.....	43	2.97	sw.	11.3	.....	
2:59	977.7	2.2	58	sw.	10.3	396	977.7	2.2	.....	58	4.15	sw.	10.3	.....	2/10 Ci., nw.

February 10, 1918.

A. M.															
7:05	972.0	−0.8	84	sw.	4.9	396	972.0	→ 0.8	.....	84	4.80	sw.	4.9	.....	7/10 Ci.St., ssw.
.....	.....	.....	.....	.....	.....	500	959.7	4.4	.....	64	5.36	wsw.	6.7	.....	
7:15	971.9	−0.8	84	sw.	3.6	729	933.3	16.0	−5.05	20	3.64	w.	10.8	.....	
.....	.....	.....	.....	.....	.....	750	930.9	15.9	.....	20	3.61	w.	10.8	.....	
.....	.....	.....	.....	.....	.....	1,000	902.4	14.2	.....	20	3.24	w.	11.3	.....	
.....	.....	.....	.....	.....	.....	1,250	876.0	12.5	.....	19	2.75	w.	11.7	0	
.....	.....	.....	.....	.....	.....	1,500	850.8	10.9	.....	18	2.35	wnw.	12.1	.....	
.....	.....	.....	.....	.....	.....	1,750	826.3	9.2	.....	18	2.09	wnw.	12.5	950	8/10 Ci.St., wnw.
.....	.....	.....	.....	.....	.....	2,000	801.8	7.5	.....	17	1.76	wnw.	13.0	.....	
8:19	971.5	1.4	76	sw.	3.6	2,247	777.6	5.9	0.66	17	1.58	wnw.	13.4	1,600	
.....	.....	.....	.....	.....	.....	2,500	753.3	4.5	.....	22	1.85	wnw.	13.9	.....	
.....	.....	.....	.....	.....	.....	2,750	730.0	3.1	.....	26	1.98	wnw.	14.4	2,000	
.....	.....	.....	.....	.....	.....	3,000	707.7	1.8	.....	31	2.16	w.	15.0	.....	
.....	.....	.....	.....	.....	.....	3,250	687.0	0.4	.....	36	2.26	w.	15.5	.....	
9:14	971.2	2.3	77	ssw.	5.8	3,412	673.5	− 0.5	0.55	39	2.29	w.	15.8	3,200	5/10 Ci.St., wnw.
.....	.....	.....	.....	.....	.....	3,500	666.0	− 1.1	.....	39	2.17	w.	15.9	.....	
.....	.....	.....	.....	.....	.....	3,750	646.9	− 2.7	.....	38	1.85	w.	16.2	4,300	
.....	.....	.....	.....	.....	.....	4,000	628.4	− 4.4	.....	37	1.56	w.	16.4	.....	
.....	.....	.....	.....	.....	.....	4,250	610.7	− 6.1	.....	36	1.31	wsw.	16.7	4,700	
.....	.....	.....	.....	.....	.....	4,500	593.4	− 7.7	.....	35	1.11	wsw.	16.9	.....	
10:02	970.9	3.4	78	sw.	3.6	4,631	584.5	− 8.6	0.67	34	1.00	wsw.	17.1	.....	
.....	.....	.....	.....	.....	.....	4,500	593.4	− 7.7	.....	35	1.11	wsw.	17.2	.....	
.....	.....	.....	.....	.....	.....	4,250	610.2	− 6.0	.....	36	1.32	wsw.	17.3	.....	
.....	.....	.....	.....	.....	.....	4,000	627.4	− 4.3	.....	37	1.58	wsw.	17.5	.....	
10:25	970.8	4.2	85	sw.	3.6	3,767	644.5	− 2.7	0.71	38	1.85	wsw.	17.6	3,700	
.....	.....	.....	.....	.....	.....	3,750	646.0	− 2.6	.....	38	1.87	wsw.	16.8	.....	
.....	.....	.....	.....	.....	.....	3,500	666.0	− 0.8	.....	38	2.17	w.	16.4	.....	
.....	.....	.....	.....	.....	.....	3,250	687.0	0.9	.....	39	2.54	w.	15.2	.....	
.....	.....	.....	.....	.....	.....	3,000	708.0	2.7	.....	39	2.89	wnw.	14.1	.....	
10:45	970.7	5.1	72	sw.	3.1	2,832	724.3	3.9	0.66	39	3.15	wnw.	13.3	1,500	
.....	.....	.....	.....	.....	.....	2,750	731.6	4.4	.....	38	3.13	wnw.	13.2	.....	
.....	.....	.....	.....	.....	.....	2,500	754.0	6.1	.....	35	3.30	wnw.	12.8	.....	
.....	.....	.....	.....	.....	.....	2,250	777.6	7.7	.....	32	3.36	wnw.	12.4	890	
.....	.....	.....	.....	.....	.....	2,000	801.8	9.4	.....	29	3.42	wnw.	12.0	.....	
.....	.....	.....	.....	.....	.....	1,750	826.3	11.0	.....	25	3.28	wnw.	11.6	.....	
11:07	970.6	6.4	71	sw.	3.6	1,631	837.9	11.8	0.63	24	3.32	wnw.	11.4	.....	
.....	.....	.....	.....	.....	.....	1,500	850.8	12.6	.....	21	3.06	wnw.	11.2	0	
.....	.....	.....	.....	.....	.....	1,250	876.0	14.2	.....	17	2.75	wnw.	10.9	.....	
.....	.....	.....	.....	.....	.....	1,000	902.0	15.8	.....	12	2.15	w.	10.6	.....	4/10 Ci.St., wsw.
11:30	970.4	7.0	65	wsw.	4.9	808	923.4	17.0	−3.72	8	1.55	w.	10.4	.....	
.....	.....	.....	.....	.....	.....	750	929.8	14.8	.....	12	2.02	w.	9.7	.....	
11:36	970.4	7.2	66	wsw.	5.4	531	954.6	6.7	0.37	29	2.84	w.	7.1	.....	
.....	.....	.....	.....	.....	.....	500	958.0	6.8	.....	37	3.66	w.	6.7	.....	
11:38	970.4	7.2	64	wsw.	5.4	396	970.4	7.2	.....	64	6.50	wsw.	5.4	.....	5/10 Ci.St., sw.

February 11, 1918 (No. 1).

A. M.															
7:59	957.1	3.4	58	sw.	8.9	396	957.1	3.4	.....	58	4.52	sw.	8.9	.....	5/10 Ci.St., wnw.; 1/10 A.Cu., w.
.....	.....	.....	.....	.....	.....	500	945.0	5.3	.....	56	4.99	sw.	10.9	.....	Faint solar halo with parhelia
.....	.....	.....	.....	.....	.....	750	917.5	10.0	.....	52	6.39	sw.	15.9	.....	from 7:55 to 9:30 a. m.
.....	.....	.....	.....	.....	.....	1,000	890.3	14.6	.....	47	7.81	wsw.	20.8	.....	
8:45	956.6	4.4	54	sw.	9.8	1,164	872.4	17.6	−1.59	44	8.86	wsw.	24.0	.....	
.....	.....	.....	.....	.....	.....	1,250	863.8	16.9	.....	44	8.47	wsw.	23.9	0	
.....	.....	.....	.....	.....	.....	1,500	838.2	14.9	.....	43	7.28	wsw.	23.8	.....	

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 11, 1918 (No. 1)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,750	813.7	12.9		42	6.25	wsw.	23.6		7/10 Ci.St., wnw.; 1/10 A.Cu., w.
8:58	956.4	4.4	58	sw.	8.0	1,918	797.7	11.6	0.80	41	5.60	wsw.	23.5	1,600	
						2,000	789.6	10.2		46	5.73	wsw.	23.3		6/10 Ci.St., wnw.; 3/10 A.Cu., w.
10:00	956.0	6.4	56	sw.	10.7	2,037	786.2	9.6	1.14	48	5.74	wsw.	23.2		3/10 A.Cu., w.; 6/10 A.St., wsw.
						2,000	789.6	9.8		48	5.82	wsw.	23.2	2,300	
						1,750	813.7	11.4		48	6.47	wsw.	23.2		
						1,500	837.6	12.9		48	7.14	wsw.	23.3		
						1,250	862.5	14.4		48	7.87	w.	23.3		5/10 A.Cu., w.; 4/10 A.St., wsw.
						1,000	888.3	16.0		48	8.73	w.	23.4	0	
11:53	954.5	10.6	53	sw.	9.8	801	909.4	17.2	−2.68	48	9.42	w.	23.4		
						750	915.0	15.8		48	8.62	w.	24.3		
11:59	954.3	11.0	54	sw.	9.8	581	933.3	11.3	−0.16	46	6.16	sw.	27.4		
						500	942.4	11.2		50	6.65	sw.	19.7		
NOON	954.3	11.0	54	sw.	9.8	396	954.3	11.0		54	7.09	sw.	9.8		Few A.St., wsw.; 8/10 St.Cu., wsw.

February 11, 1918 (No. 2).

P. M.															
3:03	954.0	12.0	62	sw.	5.4	396	954.0	12.0		62	8.70	sw.	5.4		10/10 St.Cu., wsw.; sprinkling from 2:57 to 4:18 p. m.
						500	942.0	11.7		63	8.66	sw.	7.9		
						750	914.2	11.0		67	8.80	wsw.	13.9		
3:12	954.0	11.7	65	sw.	4.9	769	912.3	11.0	0.27	67	8.80	wsw.	14.4		
						1,000	887.2	11.5		67	9.09	wsw.	16.8		
3:20	954.0	11.6	65	sw.	5.4	1,162	870.5	11.9	−0.23	67	9.33	wsw.	18.4		
						1,250	861.1	11.1		68	8.98	wsw.	19.0		
						1,500	835.9	8.7		72	8.10	wsw.	20.4	0	
						1,750	811.4	6.4		76	7.30	sw.	21.8	1,700	10/10 St.Cu., wsw.
						2,000	787.0	4.0		80	6.50	sw.	23.7		
3:58	954.0	12.2	63	sw.	3.1	2,149	772.3	2.6	0.94	82	6.04	sw.	24.6	1,700	10/10 St.Cu., sw.
						2,250	762.8	3.3		84	6.50	sw.	25.9		
4:05	954.0	12.1	65	wsw.	3.1	2,267	761.1	3.4	−0.68	93	7.25	sw.	26.1		
						2,500	739.0	1.4		95	6.42	sw.	24.3	1,200	
						2,750	716.4	−0.6		97	5.64	sw.	22.4		
						3,000	694.1	−2.7		99	4.83	sw.	20.5		Altitude of St.Cu. base about 3,000 m.
4:52	954.3	11.0	65	nw.	2.7	3,103	685.2	−3.6	0.63	100	4.52	sw.	19.7	2,100	
						3,000	694.1	−3.2		100	4.68	sw.	19.7		
						2,750	715.8	−2.1		100	5.13	sw.	19.6	1,100	
						2,500	738.0	−1.0		100	5.62	sw.	19.5		
5:20	954.2	9.9	66	nnw.	1.8	2,489	739.1	−1.0	0.63	100	5.62	sw.	19.5		Altitude of St.Cu. base about 2,400 m.
						2,250	761.6	0.5		95	6.01	wsw.	18.0	0	
						2,000	785.8	2.1		90	6.40	wsw.	16.4		
						1,750	810.5	3.7		84	6.69	w.	14.9		
						1,500	835.4	5.3		79	7.04	w.	13.3		
						1,250	860.8	6.9		74	7.36	wnw.	11.9		
5:52	954.0	8.9	65	n.	1.8	1,164	869.3	7.4	0.18	72	7.42	wnw.	11.2		
						1,000	886.8	7.7		71	7.46	nw.	9.4		
						750	913.8	8.2		68	7.39	nnw.	6.6		
						500	942.0	8.6		66	7.37	n.	3.9		
5:57	954.0	8.8	65	n.	2.7	396	954.0	8.8		65	7.36	n.	2.7		10/10 St.Cu., sw.

February 12, 1918.

A. M.															
8:11	960.2	−1.0	92	nw.	2.2	396	960.2	− 1.0		92	5.17	nw.	2.2		2/10 St.Cu., nw.
						500	948.0	− 1.8		90	4.73	n.	10.3		
8:17	960.3	−0.8	92	nw.	2.2	515	946.0	− 1.9	0.76	90	4.70	n.	11.5		
						750	918.8	− 0.4		56	2.92	n.	12.3		
8:25	960.4	−0.7	91	nw.	2.7	850	907.2	0.2	−0.63	41	2.54	n.	12.7		Few Ci., wnw.
						1,000	890.2	− 0.8		41	2.34	n.	13.4		
						1,250	862.8	− 2.4		42	2.10	n.	14.5	0	
						1,500	836.2	− 4.0		43	1.88	nnw.	16.4		
8:50	960.7	0.2	89	nw.	2.7	1,742	811.3	− 5.6	0.65	44	1.68	nnw.	16.8	1,400	
						1,750	810.5	− 5.6		44	1.68	nnw.	16.8		
						2,000	785.0	− 6.5		34	1.20	nw.	17.7		
9:03	960.8	0.4	87	nw.	2.7	2,225	762.5	− 7.3	0.35	26	0.86	nw.	18.4	2,600	
						2,250	760.3	− 7.2		25	0.83	nw.	18.3		
						2,500	736.7	− 6.3		12	0.43	wnw.	17.5		
9:22	960.9	1.2	82	nw.	2.2	2,571	729.7	− 6.1	−0.35	9	0.33	wnw.	17.4	3,700	
						2,750	713.5	− 7.8		21	0.66	wnw.	17.8		
						3,000	691.0	− 9.3		32	0.88	wnw.	18.2		Few Ci., wnw. Few A.St., near horizon.
						3,250	669.4	−12.7		56	1.14	wnw.	19.0	4,400	
P. M.															
12:20	962.5	4.3	66	w.	3.6	3,391	657.3	−14.1	0.74	66	1.18	wnw.	19.3		
						3,250	669.4	−13.4		61	1.16	wnw.	18.6	3,500	
						3,000	691.4	−12.2		52	1.11	wnw.	17.3	2,700	
						2,750	714.4	−11.0		43	1.02	wnw.	16.0		
						2,500	738.0	− 9.8		34	0.90	wnw.	14.8		
1:13	962.5	5.4	60	wnw.	5.4	2,349	752.5	− 9.3	0.63	28	0.77	wnw.	14.0		1/10 Ci., wnw; 1/10 Ci.Cu., wnw.
						2,250	762.3	− 8.7		29	0.84	wnw.	13.2		
						2,000	786.2	− 7.1		31	1.04	w.	11.3		
						1,750	811.3	− 5.5		32	1.23	w.	9.4		
						1,500	837.2	− 3.9		34	1.50	wsw.	7.5		
						1,250	864.8	− 2.3		36	1.81	wsw.	5.6		
						1,000	893.2	− 0.7		38	2.19	wsw.	3.6		
1:23	962.5	5.6	55	w.	6.3	962	897.3	− 0.5	1.22	38	2.23	wsw.	3.3		
						750	921.8	2.1		44	3.13	w.	3.6		
						500	950.7	5.1		51	4.45	wnw.	3.9		
1:45	962.5	6.4	54	wnw.	4.0	396	962.5	6.4		54	5.19	wnw.	4.0		3/10 Ci., wnw. Few Cu. near horizon.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 13, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	Δt / 100 m.	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
	mb.	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	*volts.*	
A. M.															
8:11	960.1	1.6	67	s.	2.2	396	960.1	1.6	.....	67	4.60	s.	2.2	.....	6/10 St.Cu., w.; 3/10 A.Cu., wnw.
						500	948.0	2.6	.....	65	4.79	s.	5.2	.....	
						750	919.6	5.0	.....	61	5.32	ssw.	12.3	0	
8:25	960.1	2.1	68	s.	4.5	996	891.9	7.3	−0.95	56	5.73	ssw.	19.3	1,100	
						1,250	864.6	5.7	.....	57	5.22	ssw.	17.1	.....	
						1,500	838.8	4.1	.....	58	4.75	sw.	14.9	.....	Few Ci., w.; 1/10 A.Cu., wnw.
8:46	960.1	2.8	63	s.	5.4	1,560	832.6	3.7	0.64	58	4.62	sw.	14.4	2,200	
						1,750	813.3	1.9	.....	62	4.35	sw.	15.0	.....	
						2,000	788.2	− 0.4	.....	68	4.02	ssw.	15.7	.....	
						2,250	764.0	− 2.8	.....	74	3.58	ssw.	16.4	.....	
9:04	960.1	3.1	65	s.	4.5	2,338	755.6	− 3.6	0.94	76	3.44	ssw.	16.7	4,000	
						2,500	740.3	− 4.7	.....	74	3.05	ssw.	16.7	.....	
						2,750	717.0	− 6.3	.....	71	2.55	sw.	16.7	.....	Few Ci., w.; 2/10 A.Cu., w.
						3,000	694.3	− 8.0	.....	69	2.14	sw.	16.7	6,200	
9:35	959.9	4.5	62	s.	4.9	3,152	680.7	− 9.0	0.66	67	1.90	sw.	16.7	.....	
						3,250	672.1	− 9.9	.....	70	1.83	sw.	17.0	.....	
						3,500	650.8	−12.2	.....	79	1.68	wsw.	17.8	.....	
						3,750	630.0	−14.5	.....	88	1.52	wsw.	18.5	.....	1/10 Ci., w.; 5/10 A.Cu., w.
9:51	959.8	5.0	64	s.	6.3	3,818	624.3	−15.1	0.92	90	1.47	wsw.	18.7	9,300	Altitude of A.Cu. base about 4,300 m.
						4,000	610.0	−16.1	.....	86	1.28	wsw.	19.3	.....	
						4,250	590.0	−17.4	.....	81	1.07	w.	20.0	.....	2/10 Ci.Cu., w.; 5/10 A.Cu., w.
10:20	959.8	5.4	63	s.	5.8	4,403	577.7	−18.2	0.64	78	0.95	w.	20.5	10,500	6/10 St.Cu., w.; 1/10 St., w.; Few A.Cu. w.
						4,250	590.0	−17.0	.....	80	1.10	w.	20.3	.....	
						4,000	610.0	−15.1	.....	84	1.37	wsw.	20.1	.....	
						3,750	630.0	−13.2	.....	88	1.72	wsw.	19.8	.....	
						3,500	650.8	−11.3	.....	92	2.13	sw.	19.5	.....	
10:56	959.8	6.4	63	s.	4.5	3,296	668.1	− 9.8	0.78	95	2.51	sw.	19.3	.....	
						3,250	672.1	− 9.4	.....	93	2.55	sw.	19.1	5,700	
						3,000	694.3	− 7.5	.....	85	2.75	sw.	18.2	.....	
						2,750	717.0	− 5.6	.....	77	2.93	ssw.	17.2	.....	
						2,500	740.3	− 3.6	.....	68	3.07	ssw.	16.3	.....	
11:21	959.4	7.2	62	s.	3.6	2,406	749.0	− 2.9	0.73	65	3.12	ssw.	15.9	3,600	
						2,250	764.0	− 1.8	.....	65	3.42	ssw.	15.8	.....	
						2,000	787.8	0.1	.....	64	3.94	ssw.	15.7	.....	
						1,750	812.5	1.9	.....	63	4.42	ssw.	15.5	2,000	9/10 A.Cu., w.
						1,500	837.8	3.7	.....	62	4.94	ssw.	15.4	.....	
						1,250	864.0	5.6	.....	62	5.64	ssw.	15.2	1,200	
11:52	958.8	8.5	62	s.	5.8	1,012	889.5	7.3	−0.93	61	6.24	ssw.	15.1	.....	
						1,000	891.0	7.2	.....	62	6.30	ssw.	14.8	.....	
11:56	958.8	8.6	62	s.	3.6	786	914.3	5.2	0.87	76	6.73	s.	9.2	.....	
						750	918.8	5.5	.....	75	6.77	s.	9.0	.....	
						500	946.8	7.7	.....	66	6.94	s.	7.4	.....	
P. M.															
12:04	958.6	8.6	63	s.	6.7	396	958.6	8.6	.....	63	7.04	s.	6.7	.....	9/10 A.Cu., w.

February 14, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt / 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:21	943.2	1.4	96	nnw.	6.3	396	943.2	1.4	.....	96	6.49	nnw.	6.3	.....	6/10 St.Cu., w.; 4/10 St., nnw.
						500	931.3	2.2	.....	97	6.95	nnw.	9.6	.....	
						750	903.0	4.0	.....	99	8.05	nnw.	17.4	.....	
8:24	943.2	1.5	98	nnw.	6.3	825	894.6	4.6	−0.75	100	8.48	nnw.	19.8	1,300	
						1,000	875.5	3.6	.....	100	7.91	nnw.	18.7	.....	
						1,250	849.3	2.2	.....	100	7.16	nnw.	17.1	2,400	
						1,500	824.0	0.9	.....	100	6.52	nw.	15.5	.....	
8:52	943.8	1.8	96	nnw.	7.6	1,681	805.3	0.4	0.56	100	6.29	nw.	15.0	.....	
						1,750	799.0	0.0	.....	100	6.11	nw.	15.1	3,900	2/10 St.Cu., w.; 8/10 St., nnw.
						2,000	774.0	− 1.5	.....	98	5.28	nw.	15.4	.....	
						2,250	749.8	− 3.1	.....	97	4.56	nw.	15.7	5,400	Light rain from 9:15 to 9:52 a. m.
9:34	944.9	1.7	98	wnw.	5.4	2,356	739.4	− 3.7	0.43	96	4.30	nw.	15.8	6,700	Snow and rain from 9:52 to 10:29 a. m.
						2,250	749.8	− 3.4	.....	96	4.42	nw.	16.7	.....	
						2,000	774.0	− 2.8	.....	96	4.65	nw.	19.5	16,000	
						1,750	799.0	− 2.2	.....	96	4.89	nw.	21.0	.....	
						1,500	824.0	− 1.6	.....	96	5.14	nw.	23.2	.....	
10:06	945.8	1.3	100	nw.	6.7	1,440	830.1	− 1.4	0.12	96	5.22	nw.	23.7	5,200	
						1,250	850.3	− 1.2	.....	96	5.31	nw.	.....	.....	
						1,000	877.2	− 0.9	.....	97	5.50	nw.	.....	.....	Snow (moist) began 10:29 a. m.
						750	905.5	− 0.5	.....	98	5.74	nw.	.....	.....	
10:32	946.5	1.1	98	nw.	7.6	715	909.6	− 0.5	0.47	98	5.74	nw.	.....	4,000	
						500	934.7	0.5	.....	99	5.80	nw.	.....	.....	
10:41	946.7	1.0	100	nw.	8.5	396	946.7	1.0	.....	100	6.57	nw.	8.5	.....	10/10 St., nw.

February 15, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	Δt / 100 m.	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
9:01	979.4	−13.6	100	n.	3.1	396	979.4	−13.6	.....	100	1.88	n.	6.3	.....	10/10 A.St., w.
						500	966.0	−14.1	.....	100	1.79	nne.	6.5	.....	
						750	935.0	−15.4	.....	100	1.59	ene.	6.9	3,000	10/10 A.St., w.
11:17	979.8	−12.2	82	ne.	3.7	889	918.0	−16.1	0.51	100	1.49	e.	7.1	7,500	
						1,000	905.0	−12.1	.....	75	1.61	e.	7.3	.....	
11:38	980.0	−11.7	81	ne.	3.7	1,174	885.0	− 5.9	−3.58	36	1.34	ese.	7.6	10,500	
						1,250	876.5	− 5.9	.....	29	1.08	ese.	6.8	(*)	
P. M.															
12:55	979.7	−10.8	78	e.	2.0	1,474	851.6	− 5.9	0.00	8	0.29	se.	4.4	10,000	10/10 A.St., w.
						1,500	849.0	− 6.0	.....	9	0.33	se.	4.4	7,800	
						1,750	822.2	− 7.3	.....	17	0.56	sse.	4.4	.....	
12:58	979.7	−10.7	79	e.	2.0	1,951	800.8	− 8.4	0.76	23	0.69	sse.	4.4	.....	
2:03	978.7	−10.2	83	ne.	2.0	1,822	813.3	− 7.1	−0.19	100	3.35	sse.	5.1	5,000	10/10 St., ne.
						1,750	821.4	− 7.2	.....	100	3.32	sse.	5.5	.....	

* More than 10,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexal Aerological Station, February, 1918*—Continued.

February 15, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,500	848.4	− 7.7		99	3.18	se.	6.8		Light snow began at 2:10 p. m. and continued at end of flight.
2:20	978.5	−10.4	86	ne.	2.0	1,250	875.4	− 8.2	−2.35	98	2.98	ese.	8.1		
2:37	978.3	−10.6	90	nne.	2.5	995	904.5	−14.2	0.58	94	1.67	ene.	5.2	4,800	
						750	933.8	−12.8		92	1.86	ene.	4.2		
						500	964.9	−11.3		91	2.10	ne.	3.1		
2:46	978.2	−10.7	90	ne.	2.7	396	978.2	−10.7		90	2.20	ne.	2.7		10/10 St., ne.

February 16, 1918 (No. 1).

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Electric potential.	Remarks.
A. M.															
8:22	981.8	−17.9	100	nw.	6.7	396	981.8	−17.9		100	1.26	nw.	6.7		Cloudless.
						500	968.4	−16.7		100	1.41	nw.	9.4		
8:28	981.9	−17.9	100	nw.	5.4	684	945.0	−14.5	−1.18	100	1.73	nnw.	14.3		
						750	937.0	−14.8		100	1.68	nnw.	14.1	2,800	
						1,000	906.7	−15.9		100	1.52	nnw.	13.6		
8:42	982.2	−17.8	100	nw.	5.8	1,081	896.9	−16.2	0.43	100	1.48	nnw.	13.4	8,400	
						1,250	877.7	−15.3		91	1.46	nnw.	15.1		
						1,500	849 5	−14.0		77	1.39	nw.	17.7		
						1,750	821.8	−12.7		63	1.29	nw.	20.2		
9:02	982.5	−17.5	100	nw.	6.3	1,804	815.7	−12.4	−0.53	60	1.25	nw.	20.8	(*)	
						2,000	795.2	−13.4		55	1.05	nw.	22.1		
						2,250	769.4	−14.6		49	0.84	wnw.	23.7		
						2,500	744.5	−15.8		42	0.64	wnw.	25.3		
9:30	982.8	−17.5	100	nw.	5.8	2,562	738.3	−16.1	0.60	33	0.49	wnw.	25.9	(*)	
						2,500	744.5	−15.7		34	0.53	wnw.	25.7		
						2,250	769.4	−13.6		37	0.70	wnw.	24.6		
9:42	982.9	−17.5	100	nw.	5.4	2,008	794.2	−12.2	−0.39	39	0.83	wnw.	23.8	(*)	
						2,000	794.7	−12.2		39	0.83	wnw.	22.7	10,000	
						1,750	822.0	−13.2		53	1.56	nw.	20.3		
10:07	983.3	−17.0	100	nw.	6.3	1,651	832.8	−13.6	−0.37	58	1.09	nw.	18.9	6,200	
						1,500	849.5	−14.2		66	1.17	nw.	17.6		
						1,250	878.2	−15.1		80	1.30	nnw.	15.5	3,500	
						1,000	907.8	−16.0		92	1.38	n.	13.4		
10:28	983.8	−16.8	95	nnw.	4.9	979	910.3	−16.1	0.50	95	1.42	n.	13.2		
						750	939.1	−14.9		99	1.65	nnw.	12.0	730	
10:40	984.0	−16.9	98	nnw.	5.4	661	950.0	−14.5	−0.50	100	1.73	nnw.	11.6		
10:43	984.1	−16.8	96	nnw.	5.4	581	960.1	−18.5	0.97	100	1.20	nnw.	11.6		
						500	970.8	−17.7		98	1.25	nnw.	9.1		
10:46	984.2	−16.7	95	nw.	5.8	396	984.2	−16.7		95	2.29	nw.	5.8		Cloudless.

February 16, 1918 (No. 2).

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Electric potential.	Remarks.
P. M.															
12:51	985.1	−14.0	82	nw.	6.7	396	985.1	−14.0		82	1.48	nw.	6.7		Cloudless.
						500	971.2	−15.2		85	1.38	nw.	7.6	260	
1:13	984.9	−13.7	83	nw.	5.8	628	955.2	−16.7	1.16	88	1.24	nnw.	8.8		
						750	939.5	−16.5		87	1.24	nnw.	9.8	2,200	
						1,000	908.3	−16.0		85	1.28	nnw.	11.7		
						1,250	878.5	−15.6		84	1.31	nw.	13.7		
1:40	984.3	−12.9	80	nw.	6.3	1,443	856.4	−15.2	−0.18	82	1.33	nw.	15.2	6,000	
						1,500	850.0	−14.6		76	1.30	nw.	16.1		
						1,750	822.3	−12.0		52	1.13	wnw.	20.1		
1:48	984.1	−12.9	80	nw.	6.7	1,843	812.5	−11.1	−1.02	43	1.00	wnw.	21.6		
						2,000	795.5	−11.8		39	0.86	wnw.	22.5	7,200	
						2,250	769.8	−12.9		33	0.66	wnw.	24.0		
						2,500	745.0	−14.0		26	0.47	wnw.	25.5	10,500	
						2,750	721.3	−15.1		20	0.33	wnw.	27.0		
2:20	982.9	−12.9	80	wnw.	6.3	2,941	703.2	−15.9	0.44	15	0.23	wnw.	28.0		
						3,000	698.2	−16.2		15	0.22	wnw.		(†)	
						3,250	675.7	−17.5		15	0.20	wnw.			
						3,500	654.0	−18.8		15	0.17	wnw.			
						3,750	632.8	−20.1		15	0.15	wnw.			
2:50	984.0	−12.4	80	nw.	6.7	3,875	621.6	−20.8	0.64	15	0.14	wnw.		(†)	
						3,700	632.8	−19.8		15	0.16	wnw.			
						3,500	655.0	−17.2		14	0.19	wnw.			
						3,250	677.2	−16.0		13	0.20	wnw.			
3:41	984.1	−12.5	80	nw.	6.3	3,042	695.8	−14.4	0.31	13	0.23	wnw.		(†)	
						3,000	699.7	−14.3		13	0.23	wnw.			
						2,750	722.9	−13.5		14	0.26	wnw.			
						2,500	746.5	−12.7		15	0.31	wnw.			
						2,250	771.0	−11.9		15	0.33	wnw.		(†)	
						2,000	796.8	−11.1		16	0.38	wnw.			
						1,750	823.7	−10.3		17	0.43	wnw.		8,200	
4:16	984.0	−12.5	80	nw.	7.6	1,612	838.9	− 9.9	−0.60	17	0.45	wnw.			
						1,500	851.5	−10.5		21	0.52	wnw.		4,000	
						1,250	880.0	−12.1		29	0.62	nw.			
						1,000	909.0	−13.5		37	0.69	nnw.			
4:36	983.9	−12.3	78	nnw.	8.0	773	936.4	−14.9	0.72	45	0.75	nnw.	7.3		
						750	939.5	−14.7		47	0.80	nnw.	7.4		
						500	970.5	−12.9		70	1.40	nnw.	8.5		
4:49	983.9	−12.2	80	nnw.	8.9	396	983.9	−12.2		80	1.70	nnw.	8.9		Few Ci. St., near horizon.

* More than 10,000 volts.

† More than 11,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 17, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m.p.s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m.p.s.*	*volts.*	
8:37	981.9	−17.3	100	se.	4.5	396	981.9	−17.3	.....	100	1.33	se.	4.5	.....	5/10 A. Cu., w.
						500	968.4	−15.0	.....	90	1.48	sse.	8.6	.....	
8:48	981.9	−17.2	100	se.	4.0	746	937.7	− 9.6	−2.2	66	1.78	s.	18.2	9,200	
						1,000	907.9	− 7.8	.....	53	1.67	s.	19.0	(*)	3/10 Ci. St., w.; 2/10 A. Cu., w.
						1,250	879.7	− 6.0	.....	39	1.44	ssw.	19.8	.....	
						1,500	851.5	− 4.2	.....	26	1.12	ssw.	20.6	.....	
9:17	981.6	−16.9	100	sse.	4.0	1,574	843.5	− 3.7	−0.71	22	0.99	ssw.	20.8	.....	
						1,750	824.4	− 4.1	.....	23	1.00	ssw.	19.9	.....	6/10 Ci. St., w.
						2,000	798.0	− 4.8	.....	24	0.98	sw.	18.7	.....	
						2,250	773.3	− 5.4	.....	25	0.97	sw.	17.5	.....	3/10 Ci. St., w.; 2/10 Ci. Cu., w.
						2,500	749.6	− 6.0	.....	27	0.99	wsw.	16.2	.....	
9:54	981.2	−15.2	100	se.	4.9	2,565	743.9	− 6.2	0.25	27	0.98	wsw.	15.9	.....	
						2,750	726.7	− 7.2	.....	31	1.03	wsw.	17.8	.....	2/10 Ci., w.
						3,000	704.2	− 8.6	.....	37	1.09	w.	20.3	.....	
						3,250	681.7	−10.1	.....	43	1.11	w.	22.8	.....	
10:58	980.1	−10.9	90	s.	3.1	3,258	681.1	−10.1	0.63	43	1.11	w.	22.9	.....	Solar halo, 22° radius, from 10/40 a. m. Continuing at end of flight. Parhelion to right of sun from 10:40 to 11:22 a. m. Parhelion to left of sun from 10:48 to 11:22 a. m.
						3,250	681.7	−10.0	.....	43	1.12	w.	22.8	.....	
						3,000	704.2	− 8.3	.....	37	1.12	wsw.	20.6	.....	
						2,750	726.7	− 6.5	.....	32	1.13	wsw.	18.5	.....	
11:31	979.6	−10.0	87	s.	7.2	2,573	742.9	− 5.3	0.36	28	1.09	sw.	16.9	.....	
						2,500	749.6	− 5.0	.....	27	1.08	sw.	17.3	.....	
						2,250	773.3	− 4.1	.....	24	1.04	sw.	18.5	.....	
						2,000	798.0	− 3.2	.....	20	0.94	sw.	19.7	.....	4/10 Ci. St., w.; 3/10 A. St., w.
						1,750	824.4	− 2.3	.....	17	0.86	ssw.	20.9	.....	
						1,500	850.7	− 1.4	.....	13	0.71	ssw.	22.1	.....	
P. M.															
12 03	979.0	− 9.8	80	s.	8.0	1,391	862.3	− 1.0	−0.21	12	0.67	ssw.	22.6	(*)	
						1,250	877.7	− 1.3	.....	12	0.66	ssw.	23.7	.....	
						1,000	905.5	− 1.8	.....	12	0.63	s.	25.5	.....	
12:25	978.5	− 9.0	78	s.	7.6	956	910.5	− 1.9	−2.74	12	0.63	s.	25.8	9,300	9/10 A. St., w.
						750	934.9	− 7.5	.....	28	0.91	s.	17.8	3,800	
12:40	978.2	− 8.2	81	s.	7.6	631	949.0	−10.8	1.02	38	0.92	s.	13.2	.....	
						500	965.2	− 9.5	.....	63	1.71	sse.	10.1	.....	
12:44	978.1	− 8.4	82	sse.	7.6	396	978.1	− 8.4	.....	82	2.45	sse.	7.6	.....	10/10 A. St., w.

February 18, 1918 (No. 1).

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:32	961.3	−1.6	71	s.	7.2	396	961.3	−1.6	.....	71	3.80	s.	7.2	.....	2/10 Ci. St., w.; 2/10 Ci. Cu., w.
						500	949.0	−1.3	.....	70	3.84	s.	9.0	.....	
						750	919.8	−0.6	.....	67	3.89	sw.	13.4	.....	
8:40	961.4	−1.6	68	s.	7.6	816	912.1	−0.4	−0.29	66	3.90	sw.	13.6	6,000	
						1,000	891.8	2.1	.....	58	4.12	sw.	17.8	.....	
8:46	961.4	−1.4	68	s.	7.2	1,234	866.1	3.5	−0.93	48	3.77	sw.	21.9	.....	
						1,250	864.7	3.0	.....	46	3.49	sw.	20.4	.....	
8:57	961.5	−0.8	66	s.	8.5	1,281	861.2	2.1	2.98	41	2.92	sw.	17.4	9,500	
						1,500	838.5	4.1	.....	31	2.54	sw.	.....	10,000	8/10 A. St. wsw.
9:46	961.2	0.4	64	s.	9.8	1,734	814.2	6.2	−0.85	21	1.99	sw.	.....	.....	
						1,500	838.5	4.3	.....	32	2.66	sw.	.....	.....	
						1,250	864.7	2.3	.....	44	3.17	wsw.	.....	7,500	
						1,000	891.4	0.3	.....	56	3.49	wsw.	.....	.....	1/10 Ci., w.; 2/10 A. St., wsw.
10:19	960.9	1.4	63	s.	5.8	946	897.1	−0.1	0.27	59	3.58	wsw.	24.6	.....	
						750	919.0	0.4	.....	60	3.77	sw.	18.1	4,500	
						500	948.0	1.1	.....	62	4.10	ssw.	9.8	.....	
10:34	960.7	1.4	63	s.	6.3	396	960.7	1.4	.....	63	4.26	s.	6.3	.....	1/10 Ci., w.; few A. St., wsw.

February 18, 1918 (No. 2).

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
11:30	959.9	2.8	60	s.	5.8	396	959.9	2.8	.....	60	4.48	s.	5.8	.....	8/10 Ci.St., w.
						500	947.7	2.1	.....	60	4.27	s.	8.6	.....	
						750	918.5	0.6	.....	61	3.89	sw.	15.2	2,000	
11:45	959.6	3.0	58	s.	3.6	854	906.5	−0.1	0.63	61	3.70	sw.	18.0	.....	
						1,000	890.0	1.5	.....	54	2.68	sw.	17.6	.....	
						1,250	863.0	4.0	.....	41	3.33	sw.	16.9	4,800	
						1,500	836.8	6.5	.....	29	2.81	sw.	16.2	.....	
P. M.															
12:09	959.2	3.9	54	s.	4.9	1,740	812.8	8.7	−0.99	17	1.91	sw.	15.5	.....	
						1,750	811.7	8.6	.....	17	1.90	sw.	15.6	.....	6/10 Ci.St., w.; 2/10 A.St., wsw.
						2,000	786.6	7.1	.....	16	1.61	sw.	17.9	6,500	
						2,250	762.7	5.5	.....	15	1.35	sw.	20.2	.....	
						2,500	739.6	3.9	.....	14	1.13	sw.	22.4	7,800	
						2,750	717.4	2.4	.....	13	0.94	sw.	24.7	.....	
						3,000	695.9	0.8	.....	12	0.78	sw.	27.0	8,400	
12:30	958.9	4.5	61	s.	4.5	3,031	693.1	0.6	0.55	12	0.77	sw.	27.3	.....	
						3,000	695.9	0.7	.....	12	0.77	sw.	27.1	8,400	
						2,750	717.4	1.9	.....	13	0.91	sw.	25.4	8,500	
						2,500	738.8	3.1	.....	14	1.07	sw.	23.8	.....	
						2,250	761.7	4.3	.....	15	1.25	sw.	22.1	.....	
						2,000	785.5	5.5	.....	16	1.44	sw.	20.4	5,500	10/10 A.St., wsw.
1:22	957.9	5.0	62	s.	3.6	1,843	801.0	6.2	−1.22	17	1.61	sw.	19.4	.....	
						1,750	810.0	5.1	.....	21	1.85	sw.	18.8	4,000	
						1,500	835.0	2.0	.....	32	2.26	wsw.	17.1	.....	
2:06	957.0	5.2	64	s.	1.3	1,334	852.2	0.0	0.52	40	2.44	wsw.	16.0	2,500	
						1,250	861.0	0.4	.....	42	2.64	wsw.	14.9	.....	
						1,000	888.2	1.7	.....	49	3.39	sw.	11.8	1,200	
						750	916.0	3.0	.....	56	4.24	sw.	8.6	.....	
2:31	956.4	5.7	64	s.	2.2	675	924.1	3.4	0.72	58	4.52	sw.	7.7	0	
						500	944.5	4.7	.....	61	5.29	ssw.	4.0	.....	
2:39	956.2	5.4	62	s.	1.8	396	956.2	5.4	.....	62	5.56	s.	1.8	.....	10/10 St.Cu., wsw.

* More than 11,000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918.*—Continued.

February 19, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	° *C.*	%		*m.p.s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m.p.s.*	*volts.*	
8:34	960.1	−16.3	100	nnw.	8.0	396	960.1	−16.3	.....	100	1.46	nnw.	8.0	.....	10/10 St., nw.
						500	946.7	−16.9	.....	100	1.38	nnw.	10.6	.....	
						750	915.7	−18.3	.....	100	1.21	nw.	16.9	.....	Light snow falling during the flight.
8:42	960.2	−16.3	100	nnw.	8.5	793	910.6	−18.9	0.58	100	1.14	nw.	18.0	3,700	
						1,000	886.0	−17.3	.....	100	1.33	nnw.	15.1	5,400	
						1,250	857.9	−15.6	.....	100	1.56	nnw.	11.6	11,000	
						1,500	830.7	−13.8	.....	100	1.84	n.	8.1	21,500	
9:42	962.1	−17.0	100	nnw.	10.3	1,512	829.3	−13.7	−0.72	100	1.86	n.	7.9	23,000	
						1,750	804.3	−12.9	.....	100	2.00	n.	8.3	1,590	10/10 St., nnw.
						2,000	778.1	−11.8	.....	100	2,21	n.	8.9	.....	
10:15	963.0	−17.4	100	nnw.	9.8	2,159	762.4	−11.6	−0.34	100	2.25	n.	9.0	.....	
						2,000	778.1	−12.2	.....	100	2.13	n.	9.0	.....	
						1,750	804.3	−13.1	.....	100	1.96	n.	9.1	.....	
						1,500	831.2	−14.0	.....	100	1.81	n.	9.2	.....	
10:32	963.3	−17.4	100	nnw.	8.9	1,398	842.6	−14.4	−1.09	100	1.74	n.	9.2	24,500	
						1,250	859.4	−16.0	.....	100	1.50	n.	11.3	25,000	
						1,000	889.0	−18.7	.....	100	1.16	nnw.	14.9	.....	
11:05	964.0	−17.0	100	nnw.	11.2	882	903 1	−20.0	0.72	100	1.03	nnw.	16.6	23,000	
						750	919.5	−19.0	.....	100	1.13	nnw.	15.2	21,000	
						500	951.0	−17.2	.....	100	1.34	nnw.	12.7	.....	
11:29	964.8	−16.5	100	nnw.	11.6	396	964.8	−16.5	.....	100	1.43	nnw.	11.6	.....	10/10 St., wnw.

February 20, 1918.

A. M.															
8:36	994.8	−24.0	100	nnw.	7.2	396	994.8	−24.0	.....	100	0.69	nnw.	7.2	.....	3/10 St., nw.
						500	981.0	−24.6	.....	100	0.65	nnw.	8.8	.....	Solar halo, 22° radius, and parhelia to right and left of sun at 7:50 a. m. Circumzenithal arc at 8:07 a. m. Halo of 46° radius at 8:19 a. m.
						750	948.0	−26.1	.....	100	0.56	nnw.	12.5	.....	
8:47	995.0	−23.8	100	nnw.	7.6	765	945.7	−26.2	0.60	100	0.56	nnw.	12.7	860	
						1,000	915.1	−26.1	.....	96	0.54	nnw.	14.3	.....	
						1,250	884.3	−26.0	.....	92	0.52	nnw.	16.1	7,000	
9:07	995.4	−23.7.	100	nnw.	6.3	1,387	868.1	−26.0	−0.03	90	0.50	nnw.	17.0	.....	
						1,500	855.1	−24.0	.....	80	0.55	nw.	18.2	(*)	Halos ended 9:30 a. m.
						1,750	826.8	−19.6	.....	56	0.60	wnw.	20.8	.....	
9:24	995.6	−23.7	100	nnw.	6.7	1,831	817.4	−18.2	1.76	49	0.60	wnw.	21.7	.....	
						2,000	799.0	−18.5	.....	51	0.61	wnw.	22.3	.....	
						2,250	772.7	−19.0	.....	54	0.61	wnw.	23.3	.....	
9:38	995.7	−23.4	92	nnw.	6.7	2,469	750.6	−19.4	0.19	56	0.61	wnw.	24.1	(*)	
						2,500	747.2	−19.4	.....	57	0.62	wnw.	23.9	.....	
						2,750	722.8	−19.0	.....	65	0.77	w.	22.5	.....	
						3,000	699.2	−18.7	.....	72	0.84	w.	21.0	.....	Cloudless.
10:00	996.0	−23.1	82	nnw.	5.8	3,086	691.2	−18.6	0.04	75	0.88	w.	20.5	.....	
						3,000	699.2	−18.4	.....	76	0.91	w.	21.3	.....	
						2,750	723.5	−17.9	.....	79	1.00	w.	23.8	.....	Few St., nw.
10:52	996.9	−22.6	82	nnw.	5.4	2,665	732.0	−17.7	−0.51	82	1.05	w.	24.6	.....	
						2,500	748.6	−18.5	.....	81	0.96	w.	23.1	.....	Halo of 22° radius, 11:00 to 11:20 a. m.
11:14	997.2	−22.6	82	nnw.	6.7	2,329	766.1	−19.4	1.26	79	0.86	w.	21.5	.....	
						2,250	774.0	−19.3	.....	76	0.84	w.	20.9	.....	
						2,000	800.5	−19.0	.....	65	0.73	wnw.	19.0	.....	
						1,750	828.2	−18.7	.....	54	0.63	nw.	17.0	.....	
11:33	997.4	−22.2	83	n.	11.6	1,692	834.9	−18.6	−2.78	51	0.60	nw.	16.6	.....	
						1,500	857.0	−23.9	.....	46	0.32	nw.	13.8	10,500	
11:41	997.5	−22.2	83	n.	15.2	1,487	858.5	−24.3	−0.27	46	0.31	nw.	13.6	.....	
						1,250	887.0	−24.9	.....	50	0.32	nw.	12.0	7,000	
						1,000	918.3	−25.6	.....	54	0.32	nnw.	10.2	.....	
11:58	997.7	−22.0	83	n.	13.9	892	932.0	−25.9	0.83	56	0.32	nnw.	9.5	.....	
						750	951.0	−24.7	.....	64	0.41	nnw.	8.2	3,500	
						500	984.0	−22.7	.....	77	0.61	n.	5.9	.....	
P. M.															
12:12	997.6	−21.8	83	n.	4.9	396	997.6	−21.8	.....	83	0.71	n.	4.9	.....	Few St., nw.

February 21, 1918.

A. M.															
8:37	992.9	−22.4	100	sse.	4.5	396	992.9	−22.4	.....	100	0.81	sse.	4.5	.....	6/10 Ci., w.
						500	978.7	−22.3	.....	96	0.79	sse.	6.1	.....	
8:48	992.7	−22.0	100	sse.	4.9	682	954.9	−22.1	−0.10	89	0.75	sse.	9.0	8,500	
						750	946.0	−21.3	.....	87	0.79	sse.	9.4	.....	
						1,000	914.6	−18.3	.....	78	0.94	s.	11.2	.....	
9:08	992.5	−21.7	100	sse.	4.1	1,172	893.8	−16.2	−1.20	72	1.07	s.	11.8	(*)	
						1,250	884.8	−16.1	.....	72	1.07	s.	12.0	.....	
						1,500	855.9	−15.6	.....	74	1.15	ssw.	12.7	.....	
						1,750	827.8	−15.1	.....	75	1.22	sw.	13.5	.....	
9:30	992.1	−21.0	88	sse.	3.7	1,799	822.2	−15.0	−0.19	75	1.24	sw.	13.6	.....	
						2,000	800.2	−13.3	.....	75	1.45	sw.	15.5	.....	
						2,250	774.7	−11.2	.....	74	1.72	sw.	17.8	.....	
						2,500	750.0	− 9.1	.....	74	2.08	sw.	20.1	.....	
9:44	991.9	−20.1	86	sse.	3.3	2,517	748.5	− 9.0	−0.84	74	2.10	sw.	20.3	.....	
						2,750	726.0	− 9.5	.....	67	1.82	wsw.	23.7	.....	
						3,000	702.7	−10.1	.....	60	1.54	wsw.	27.4	.....	6/10 Ci., w.
						3,250	680.8	−10.7	.....	53	1.29	w.	31.1	.....	
10:14	991.4	−19.0	87	sse.	4.1	3,410	666.8	−11.1	0.22	49	1.15	w.	33.5	.....	
						3,250	680.8	−10.8	.....	51	1.23	w.	.....	.....	4/10 Ci.,w.
						3,000	702.7	−10.2	.....	54	1.38	wsw.	.....	.....	
						2,750	725.0	− 9.7	.....	57	1.52	wsw.	.....	.....	2/10 Ci., w.
						2,500	748.7	− 9.2	.....	59	1.65	sw.	.....	.....	
11:42	989.4	−16.3	74	sse.	6.2	2,268	771.8	− 8.7	−2.14	62	1.80	sw.	.....	.....	
						2,250	773.6	− 9.1	.....	62	1.74	sw.	.....	.....	
11:48	989.2	−16.4	74	s.	5.3	2,002	799.0	−14.4	−0.17	65	1.13	sw.	19.7	.....	
						1,750	825.8	−14.8	.....	64	1.08	sw.	.....	.....	
						1,500	852.5	−15.3	.....	63	1.01	ssw.	.....	.....	
						1,250	881.0	−15.7	.....	61	0.95	ssw.	.....	.....	

* More than 10.000 volts.

TABLE 11.—*Free-air data from kite flights at Drexel Aerological Station, February, 1918*—Continued.

February 21, 1918—Continued.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
12:14	988.4	−15.6	71	s.	6.6	1,189	888.9	−15.8	−1.91	61	0.93	ssw.	.....	(*)	
						1,000	911.6	−19.4	.....	60	0.65	s.	.....	.....	
12:20	988.2	−15.4	71	s.	5.7	953	917.2	−20.3	0.99	60	0.60	s.	.....	.....	
						750	943.0	−18.3	.....	61	0.74	s.	.....	6,000	
						500	974.2	−15.8	.....	62	0.95	s.	.....	.....	
12:36	987.7	−14.8	62	s.	4.9	396	987.7	−14.8	.....	62	1.04	s.	4.9	.....	1/10 Ci., w.

February 22, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.															
1:27	972.8	0.1	62	ssw.	3.7	396	972.8	0.1	.....	62	3.81	ssw.	3.7	.....	Cloudless.
						500	960.3	−1.5	.....	65	3.50	ssw.	14.9	.....	
1:30	972.8	0.1	61	ssw.	4.5	516	958.3	−1.7	1.50	66	3.50	ssw.	16.6	.....	
						750	932.0	0.0	.....	59	3.60	sw.	15.5	.....	
						1,000	903.0	1.8	.....	51	3.55	sw.	14.2	.....	
1:45	972.5	0.8	62	sw.	4.1	1,174	882.8	3.1	−0.73	45	3.43	wsw.	13.4	4,000	
						1,250	874.7	2.7	.....	44	3.26	wsw.	13.4	2,600	
						1,500	847.5	1.4	.....	39	2.64	wsw.	13.6	.....	
						1,750	821.7	0.0	.....	35	2.14	w.	13.7	5,500	
2:08	972.1	1.3	51	sw.	6.2	1,867	809.7	−0.6	0.36	33	1.92	w.	13.8	.....	Few clouds on sw. horizon.
						2,000	796.4	−0.4	.....	30	1.78	w.	17.5	.....	
						2,250	771.8	0.0	.....	23	1.41	wnw.	24.3	.....	
2:22	971.8	1.8	61	sw.	6.2	2,347	762.5	0.2	−0.08	21	1.30	wnw.	27.0	7,300	
						2,500	748.0	−0.3	.....	21	1.25	wnw.	27.7	.....	
						2,750	725.7	−1.1	.....	21	1.17	wnw.	28.8	.....	
						3,000	703.9	−1.9	.....	20	1.04	wnw.	29.9	9,000	
						3,250	682.3	−2.7	.....	20	0.98	wnw.	31.0	10,000	
						3,500	660.8	−3.6	.....	20	0.90	wnw.	32.0	.....	
3:04	970.9	3.7	50	sw.	4.9	3,603	651.7	−3.9	0.44	20	0.88	wnw.	32.5	10,000	
						3,500	660.8	−3.4	.....	20	0.92	wnw.	31.6	.....	Few Ci. on sw. horizon.
						3,250	682.3	−2.3	.....	19	0.96	wnw.	29.4	8,500	
						3,000	703.9	−1.1	.....	18	1.00	wnw.	27.2	.....	
4:50	969.4	6.2	51	ssw.	4.5	2,861	716.0	−0.5	0.32	17	1.00	wnw.	26.0	.....	
						2,750	725.7	−0.1	.....	16	0.97	wnw.	25.0	.....	
						2,500	747.7	0.3	.....	15	0.94	wnw.	22.8	3,500	
						2,250	771.0	1.4	.....	14	0.95	w.	20.6	.....	
						2,000	795.2	2.2	.....	13	0.93	w.	18.4	.....	
5:42	969.0	4.3	64	ssw.	3.7	1,849	810.9	2.7	0.51	12	0.89	w.	17.1	2,000	
						1,750	820.7	3.2	.....	14	1.08	w.	17.2	.....	
						1,500	846.4	4.5	.....	20	1.68	w.	17.4	.....	
						1,250	872.8	5.7	.....	26	2.38	wsw.	17.7	.....	
6:03	968.9	3.5	64	ssw.	4.5	1,099	888.9	6.5	−0.43	30	2.90	wsw.	17.8	620	Cloudless.
						1,000	899.8	6.1	.....	32	3.01	wsw.	17.5	.....	
6:14	968.8	3.2	64	sw.	5.3	770	925.2	5.1	−0.53	37	3.25	sw.	16.8	0	
						750	927.5	5.0	.....	38	3.31	sw.	16.2	.....	
						500	956.2	3.7	.....	56	4.46	ssw.	8.8	.....	
6:23	968.7	3.1	64	s.	5.7	396	968.7	3.1	.....	64	4.88	s.	5.7	.....	Cloudless.

February 23, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
8:21	960.3	1.7	70	sw.	9.8	396	960.3	1.7	.....	70	4.84	sw.	9.8	.....	Few Ci.St., near horizon.
						500	948.0	6.5	.....	60	5.81	wsw.	12.6	.....	
8:28	960.3	2.0	63	sw.	8.0	703	925.1	16.0	−4.66	40	7.27	w.	18.0	0	
						750	920.2	15.9	.....	40	7.23	w.	17.9	.....	
						1,000	893.4	15.6	.....	39	6.91	wsw.	17.6	.....	
						1,250	867.4	15.3	.....	39	6.78	wsw.	17.3	1,100	
8:50	960.2	2.9	57	wsw.	9.4	1,295	862.6	15.2	0.14	39	6.74	wsw.	17.2	.....	
						1,500	841.9	13.8	.....	39	6.31	wsw.	18.0	.....	
						1,750	817.0	12.2	.....	39	5.54	sw.	18.9	.....	
9:03	960.1	3.4	55	wsw.	8.5	1,764	815.6	12.1	0.66	39	5.51	sw.	19.0	2,500	
						2,000	792.8	10.5	.....	37	4.70	sw.	20.4	.....	
						2,250	769.1	8.9	.....	35	3.99	sw.	22.0	.....	
						2,500	746.3	7.2	.....	33	3.35	wsw.	23.5	4,500	Few Ci.St., w.
						2,750	724.0	5.6	.....	31	2.82	wsw.	25.0	.....	
						3,000	702.0	3.9	.....	30	2.42	wsw.	26.6	.....	
9:51	960.1	5.2	59	wsw.	8.5	3,202	684.5	2.6	0.66	28	2.06	wsw.	27.8	5,600	
						3,250	680.3	2.4	.....	29	2.11	wsw.	27.7	.....	
						3,500	659.3	1.1	.....	33	2.18	w.	27.3	.....	
10:42	960.1	7.4	55	wsw.	6.7	3,558	654.6	0.8	0.55	34	2.20	w.	27.2	6,000	
						3,500	659.3	1.1	.....	34	2.25	w.	.....	.....	
						3,250	680.0	2.6	.....	32	2.36	w.	.....	.....	
						3,000	701.3	4.1	.....	31	2.54	w.	.....	3,500	Few Ci., w.
						2,750	723.0	5.6	.....	30	2.73	w.	.....	.....	
11:52	959.8	9.5	54	wsw.	5.4	2,579	738.2	6.6	0.63	29	2.83	w.	.....	.....	
						2,500	745.0	7.1	.....	29	2.93	w.	.....	.....	
						2,250	768.0	8.7	.....	28	3.15	w.	.....	.....	
						2,000	791.5	10.3	.....	27	3.38	w.	.....	2,200	
						1,750	815.7	11.8	.....	27	3.74	w.	.....	.....	
						1,500	840.7	13.4	.....	26	4.00	w.	.....	1,500	
P. M.															
12:42	959.0	11.0	54	wsw.	6.3	1,426	848.0	13.9	0.04	26	4.13	w.	.....	.....	
						1,250	866.3	14.0	.....	30	4.79	w.	.....	.....	3/10 Ci., w.
						1,000	892.2	14.1	.....	36	5.79	wnw.	.....	660	
						750	918.9	14.2	.....	41	6.64	wnw.	.....	.....	
1:16	958.4	12.7	53	wsw.	4.5	726	921.2	14.2	−0.72	42	6.80	wnw.	.....	0	
						500	946.3	12.6	.....	46	6.71	wnw.	.....	.....	
1:24	958.3	13.4	50	wnw.	4.5	463	950.7	12.3	1.79	47	6.74	wnw.	.....	.....	
1:27	958.3	13.5	50	wnw.	5.4	396	958.3	13.5	.....	50	7.74	wnw.	5.4	.....	3/10 Ci., w.

* More than 10,000 volts.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918.*

March 1, 1918, series (No. 1).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	*°C.*	*%*		*m. p. s.*	*m.*	*mb.*	*°C.*		*%*	*mb.*		*m. p. s.*	*volts.*	
8:25	981.9	−4.8	81	sw.	7.2	396	981.9	−4.8	.....	81	3.30	sw.	7.2	.....	Cloudless.
						500	968.8	−2.4	.....	67	3.35	sw.	9.3	.....	
8:34	981.9	−3.5	75	sw.	8.9	723	942.5	2.9	−2.35	38	2.86	wsw.	14.1	810	
						750	939.5	2.8	.....	38	2.84	wsw.	14.1	.....	
						1,000	910.6	2.2	.....	34	2.43	wsw.	13.9	.....	
						1,250	883.1	1.6	.....	30	2.06	w.	13.8	3,000	
						1,500	856.1	1.0	.....	26	1.71	w.	13.6	.....	
8:58	981.8	−4.3	79	sw.	8.0	1,554	850.1	0.9	0.24	25	1.63	w.	13.6	4,600	
						1,750	830.0	1.8	.....	15	1.04	w.	10.7	.....	
9:21	981.9	−3.7	78	sw.	8.9	1,781	826.5	2.0	−0.48	13	0.92	w.	10.2	.....	
						2,000	804.6	1.3	.....	16	1.07	w.	10.2	.....	
						2,250	780.0	0.5	.....	20	1.27	w.	10.2	6,300	
10:00	982.1	−2.2	75	sw.	8.0	2,484	757.6	−0.3	0.33	24	1.43	w.	10.2	7,600	
10:54	982.5	−0.4	67	sw.	8.9	2,499	756.5	−0.6	2.00	28	1.63	wnw.	7.4	8,400	
11:18	982.3	0.4	68	sw.	8.5	2,713	736.6	0.2	−0.20	26	1.61	nw.	6.1	.....	
						2,500	757.0	0.1	.....	26	1.60	w.	6.6	.....	
11:31	982.1	0.6	65	sw.	8.9	2,479	758.7	0.1	0.55	26	1.60	w.	6.6	6,000	
						2,250	780.5	1.4	.....	27	1.83	w.	9.3	.....	
11:42	982.0	0.7	66	sw.	9.8	2,136	791.6	2.0	0.14	28	1.98	w.	14.6	4,500	
						2,000	804.6	2.2	.....	28	2.00	w.	14.5	.....	
						1,750	830.0	2.5	.....	27	1.97	w.	14.2	.....	
						1,500	856.1	2.9	.....	26	1.96	wsw.	13.9	2,700	
						1,250	883.1	3.2	.....	25	1.79	wsw.	13.7	.....	
P. M.															
12:05	981.7	1.2	66	sw.	7.6	1,199	888.9	3.3	0.28	25	1.94	wsw.	13.7	2,200	
						1,000	910.6	3.8	.....	25	2.00	wsw.	14.4	.....	
12:17	981.6	1.6	67	wsw.	8.5	745	939.9	4.5	−2.95	26	2.19	wsw.	15.7	1,200	
12:20	981.5	1.8	65	wsw.	8.9	572	960.3	−0.6	1.42	32	1.86	wsw.	15.0	.....	
						500	968.8	0.4	.....	44	2.77	wsw.	12.1	.....	
12:23	981.6	1.9	62	wsw.	8.0	396	981.6	1.9	.....	62	4.35	wsw.	8.0	.....	Cloudless.

March 1, 1918, series (No. 2).

P. M.															
1:01	981.4	3.3	55	sw.	7.2	396	981.4	3.3	.....	55	4.26	sw.	7.2	.....	Cloudless.
						500	968.5	4.1	.....	50	4.10	sw.	9.7	.....	
1:09	981.4	3.1	56	sw.	8.9	752	939.3	6.0	−0.76	37	3.46	sw.	15.8	1,600	
						1,000	910.8	5.4	.....	30	2.69	sw.	13.1	.....	
						1,250	883.5	4.7	.....	24	2.05	wsw.	10.7	3,000	
1:41	981.2	4.3	62	sw.	7.6	1,452	862.1	4.2	0.26	19	1.57	wsw.	8.7	3,500	
						1,500	857.0	4.2	.....	19	1.57	wsw.	8.7	4,000	
						1,750	830.6	4.2	.....	20	1.65	w.	8.6	4,200	
						2,000	805.4	4.2	.....	21	1.73	wnw.	8.6	.....	
2:55	980.8	6.0	47	sw.	8.5	2,029	802.6	4.2	0.0	21	1.73	wnw.	8.6	4,000	
						2,250	781.0	3.6	.....	21	1.66	wnw.	9.4	.....	
						2,500	757.1	2.9	.....	20	1.51	w.	10.3	3,700	
						2,750	734.4	2.2	.....	20	1.43	w.	11.2	.....	
3:14	980.6	6.0	54	sw.	10.3	2,811	728.9	2.0	0.34	20	1.41	w.	11.4	.....	
						2,750	734.4	2.2	.....	20	1.43	w.	11.0	.....	
						2,500	757.1	3.2	.....	20	1.54	w.	9.2	.....	
						2,250	781.0	4.2	.....	20	1.65	w.	7.4	.....	
3:29	980.5	5.9	55	sw.	10.7	2,158	790.0	4.6	−0.02	20	1.70	w.	6.8	2,500	
						2,000	805.4	4.6	.....	21	1.78	w.	7.7	2,300	
						1,750	830.6	4.5	.....	22	1.85	wsw.	9.2	.....	
3:54	980.2	6.0	56	wsw.	8.0	1,559	850.1	4.5	−0.29	23	1.94	wsw.	10.3	1,200	
						1,500	856.0	4.7	.....	23	1.96	wsw.	11.0	.....	
						1,250	882.7	5.4	.....	22	1.97	wsw.	13.8	1,040	
						1,000	910.0	6.1	.....	22	2.07	wsw.	16.7	.....	
4:13	980.0	6.0	55	wsw.	10.3	798	932.9	6.7	−2.70	21	2.06	wsw.	19.0	.....	
						750	938.2	5.4	.....	25	2.24	wsw.	17.3	0	
4:20	980.0	6.3	57	wsw.	8.0	687	945.7	3.7	0.89	30	2.39	wsw.	15.0	.....	
						500	967.0	5.4	.....	47	4.22	wsw.	10.8	.....	
4:24	979.9	6.3	57	wsw.	8.5	396	979.9	6.3	.....	57	5.44	wsw.	8.5	.....	Cloudless.

March 1, 1918, series (No. 3).

P. M.															
5:01	979.7	5.8	57	sw.	8.2	396	979.7	5.8	.....	57	5.26	sw.	8.2	.....	Cloudless.
						500	966.9	5.2	.....	58	5.13	sw.	11.8	.....	
5:03	979.7	5.8	57	sw.	7.8	697	944.2	4.1	0.56	61	5.00	sw.	18.5	.....	
						750	937.8	4.9	.....	54	4.68	sw.	18.2	.....	
5:10	979.6	5.8	57	sw.	7.0	773	935.3	6.6	−3.29	37	3.61	sw.	17.4	0	
						1,000	909.5	6.5	.....	35	3.39	sw.	16.0	.....	
						1,250	882.1	6.3	.....	33	3.15	sw.	14.5	680	
						1,500	855.8	6.2	.....	31	2.94	sw.	13.0	.....	
						1,750	830.0	6.1	.....	29	2.73	sw.	11.5	1,300	
						2,000	805.0	5.9	.....	28	2.60	sw.	10.0	.....	
5:48	979.2	4.8	67	sw.	5.3	2,072	798.0	5.9	0.05	27	2.51	sw.	9.6	1,500	
						2,250	780.9	5.0	.....	26	2.27	sw.	9.5	2,000	
						2,500	757.0	3.8	.....	26	2.09	sw.	9.3	2,300	
						2,750	734.2	2.6	.....	25	1.84	sw.	9.2	.....	
						3,000	711.5	1.3	.....	24	1.61	sw.	9.0	.....	
7:10	978.7	2.4	78	sw.	9.0	3,025	709.3	1.2	0.56	24	1.60	sw.	9.0	.....	
						3,000	711.5	1.3	.....	24	1.61	sw.	9.0	2,000	
						2,750	734.2	2.7	.....	23	1.71	sw.	9.5	.....	
						2,500	757.0	4.0	.....	22	1.79	sw.	9.9	.....	
						2,250	780.9	5.3	.....	21	1.87	sw.	10.3	1,500	
						2,000	805.0	6.6	.....	20	1.95	sw.	10.7	.....	
						1,750	830.0	7.9	.....	19	2.02	sw.	11.1	1,100	
7:54	978.4	1.8	80	sw.	7.8	1,576	847.5	8.8	−0.20	18	2.04	sw.	11.4	.....	
						1,500	855.0	8.7	.....	18	2.03	sw.	11.9	.....	

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 1, 1918, series (No. 3)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,250	881.0	8.2		19	2.07	sw.	13.5	330	
						1,000	908.0	7.7		19	2.00	wsw.	15.1		
8:18	978.4	1.4	82	sw.	8.2	762	935.3	7.2	−1.91	20	2.03	wsw.	16.7	0	
						750	936.5	7.0		22	2.20	wsw.	16.4		
						500	965.8	2.9		64	4.82	sw.	10.6		
8:26	978.4	1.2	81	sw.	8.2	396	978.4	1.2		87	5.39	sw.	8.2		Cloudless.

March 1-2, 1918, series (No. 4).

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.															
9:12	978.3	1.1	79	sw.	7.6	396	978.3	1.1		79	5.23	sw.	7.6		Cloudless.
						500	965.6	3.6		63	4.98	sw.	10.9		
9:21	978.3	0.9	80	sw.	7.6	696	942.9	8.2	−2.37	33	3.59	wsw.	17.2		
						750	936.2	8.3		32	3.50	wsw.	17.0		
						1,000	908.1	8.5		30	3.33	wsw.	16.2		
						1,250	881.2	8.8		27	3.06	sw.	15.4	0	
						1,500	855.4	9.0		25	2.87	sw.	14.6		
9:45	978.1	1.1	79	sw.	8.5	1,648	840.2	9.2	−0.11	23	2.68	sw.	14.1	1,200	
						1,750	829.9	8.7		22	2.48	sw.	12.8		
						2,000	804.6	7.6		19	1.98	sw.	11.1	1,600	
10:23	977.9	1.0	79	sw.	8.5	2,013	803.6	7.5	0.47	19	1.97	sw.	9.5		
						2,250	780.5	6.0		19	1.78	sw.	10.3	2,700	
						2,500	756.7	4.3		19	1.58	sw.	11.2		
						2,750	733.9	2.7		19	1.41	sw.	12.1	3,200	
10:55	977.7	0.8	89	sw.	8.0	2,907	720.0	1.7	0.65	19	1.31	sw.	12.6		
						3,000	711.3	1.0		19	1.25	sw.	12.7		
						3,250	689.5	−1.0		19	1.07	sw.	13.0	4,000	
						3,500	668.0	−2.9		20	0.96	sw.	13.2		
						3,750	*647.2*	*−4.9*		*20*	*0.81*	*sw.*	*13.4*		
11:30	977.6	0.8	89	sw.	8.0	3,805	642.9	−5.3	0.81	20	0.78	sw.	13.5		
						3,750	647.2	−4.8		20	0.82	sw.	13.4		
						3,500	668.0	−2.7		20	0.98	sw.	13.0		
						3,250	689.5	−0.6		20	1.16	sw.	12.6		
						3,000	711.3	1.5		20	1.36	sw.	12.3		
11:55	977.4	0.8	80	sw.	7.6	2,905	720.0	2.3	0.57	20	1.44	sw.	12.1	2,700	
						2,750	733.9	3.2		20	1.54	sw.	12.0		
						2,500	756.7	4.6		19	1.61	sw.	11.9	1,900	
						2,250	780.5	6.1		19	1.79	sw.	11.8		
						2,000	804.5	7.5		19	1.97	sw.	11.7		
						1,750	829.0	8.9		18	2.05	sw.	11.6		
A. M.															
12:21	977.3	0.6	82	wsw.	8.0	1,697	834.2	9.2	−0.02	18	2.10	sw.	11.6	1,100	
						1,500	854.0	9.2		17	1.98	sw.	13.2		
						1,250	880.0	9.1		16	1.85	wsw.	15.1		
12:39	977.1	0.7	80	wsw.	8.5	1,228	882.7	9.1	−0.45	16	1.85	wsw.	15.3	640	
						1,000	907.0	8.3		16	1.75	wsw.	15.5		
12:51	977.1	0.6	86	wsw.	8.0	774	932.6	7.5	−1.83	16	1.66	wsw.	15.8	0	
						750	935.0	7.1		20	2.02	wsw.	15.3		
						500	964.2	2.5		64	4.68	sw.	9.2		
12:58	977.0	0.6	82	sw.	8.0	396	977.0	0.6		82	5.23	sw.	8.0		Cloudless.

March 2, 1918, series (No. 5).

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.															
1:38	977.0	0.8	82	sw.	8.0	396	977.0	0.8		82	5.31	sw.	8.0		Cloudless.
						500	964.4	2.9		72	5.42	sw.	8.9		
1:44	977.0	0.8	82	sw.	8.0	686	942.7	6.7	−2.03	50	4.90	wsw.	10.4		
						750	935.3	6.8		48	4.74	wsw.	10.9		
						1,000	907.1	7.2		41	4.17	wsw.	13.0	0	
						1,250	880.5	7.7		33	3.47	wsw.	15.1		
						1,500	854.3	8.1		25	2.70	wsw.	17.2	1,200	
2:03	977.0	0.7	82	sw.	8.0	1,548	849.7	8.2	−0.18	24	2.61	wsw.	17.6		
						1,750	828.7	7.4		23	2.40	wsw.	15.6		
						2,000	803.7	6.3		22	2.10	w.	13.1	1,800	
2:30	977.0	0.6	82	sw.	7.6	2,221	782.7	5.4	0.42	21	1.88	w.	10.9		
						2,250	780.0	5.2		21	1.86	w.	11.0	3,200	
						2,500	756.4	3.9		21	1.70	w.	11.6	2,700	
						2,750	733.6	2.6		21	1.55	w.	12.2		
						3,000	711.2	1.2		20	1.33	w.	12.8		
						3,250	689.5	−0.1		20	1.21	w.	13.4		
						3,500	668.2	−1.5		20	1.08	w.	14.1	4,700	
3:01	977.0	0.4	81	ssw.	8.0	3,750	647.1	−2.8	5.22	20	0.97	w.	16.2		
						3,500	668.2	−1.5		20	1.08	w.	15.7		
						3,250	689.5	−0.3		20	1.19	w.	15.3		
						3,000	710.9	1.0		21	1.38	w.	14.8		
						2,750	733.0	2.3		21	1.51	w.	14.4	2,500	
3:22	976.9	0.0	85	sw.	6.7	2,707	736.6	2.5	0.45	21	1.54	w.	14.3		
						2,500	755.5	3.4		21	1.64	w.	14.5		
						2,250	779.1	4.6		19	1.61	w.	14.7		
						2,000	803.3	5.7		19	1.74	w.	15.0	1,600	
						1,750	828.7	6.8		18	1.78	wsw.	15.2		
						1,500	854.3	8.0		17	1.82	wsw.	15.5	950	
3:49	976.8	0.0	85	sw.	8.0	1,273	877.6	9.0	−0.44	16	1.84	wsw.	15.7		
						1,250	880.0	8.9		16	1.82	wsw.	16.0	0	
						1,000	906.9	7.8		18	1.90	wsw.	19.0		
						750	*935.3*	*6.7*		*20*	*1.96*	*wsw.*	*22.0*		
4:06	976.7	−0.1	85	sw.	7.2	705	940.1	6.5	−2.23	20	1.94	wsw.	22.5		
						500	964.0	1.9		68	4.42	sw.	12.3		
4:14	976.7	−0.4	85	sw.	7.2	396	976.7	−0.4		85	5.02	sw.	7.2		Cloudless.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 2, 1918, series (No. 6).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	
A. M.	*mb.*	°*C.*	%		*m.p.s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m.p.s.*	*volts.*	
4:49	976.7	−0.6	86	sw.	6.2	396	976.7	−0.6	.....	86	5.00	sw.	6.2	.....	Cloudless.
						500	963.6	1.7	.....	70	4.84	sw.	10.2	.....	
						750	934.5	7.1	.....	32	3.23	wsw.	20.0	.....	
4:56	976.7	−0.8	86	sw.	6.2	769	932.9	7.5	−2.17	29	3.01	wsw.	20.7	0	
						1,000	906.3	7.1	.....	27	2.72	wsw.	19.6	.....	
						1,250	879.3	6.8	.....	26	2.57	w.	18.4	620	
						1,500	853.0	6.4	.....	24	2.31	w.	17.2	.....	
5:16	976.7	−0.7	86	wsw.	5.3	1,670	835.9	6.1	0.16	23	2.17	w.	16.4	1,100	
						1,750	827.4	5.8	.....	23	2.12	w.	14.9	.....	
						2,000	802.5	4.8	.....	22	1.89	w.	8.4	.....	
5:31	976.7	−1.0	86	wsw.	4.1	2,090	793.8	4.5	0.38	22	1.85	w.	8.7	1,600	
						2,250	778.3	4.3	.....	19	1.58	w.	9.3	.....	
6:14	976.7	−0.4	85	sw.	6.2	2,391	765.0	4.1	0.13	16	1.31	w.	9.8	2,200	
						2,500	754.7	3.4	.....	16	1.25	w.	10.2	3,200	
						2,750	731.9	1.9	.....	16	1.12	w.	11.2	.....	
						3,000	710.0	0.3	.....	16	1.00	w.	12.2	.....	
						3,250	688.5	−1.2	.....	16	0.88	w.	13.2	.....	
						3,500	666.5	−2.8	.....	16	0.77	w.	14.2	.....	
6:26	976.7	−0.8	88	sw.	4.1	3,512	665.7	−2.9	0.18	16	0.77	w.	14.2	.....	
						3,500	666.5	−2.8	.....	16	0.77	w.	14.2	.....	
						3,250	688.5	−1.1	.....	16	0.89	w.	13.5	.....	
						3,000	710.0	0.7	.....	16	1.03	w.	12.8	.....	
						2,750	731.9	2.4	.....	16	1.16	w.	12.1	.....	
6:45	976.7	−1.4	89	sw.	4.1	2,584	747.0	3.6	0.29	16	1.27	w.	11.7	3,100	
						2,500	754.7	3.8	.....	16	1.28	w.	11.7	.....	
						2,250	778.3	4.6	.....	17	1.44	w.	11.6	.....	
						2,000	802.5	5.3	.....	18	1.60	wnw.	11.6	.....	
						1,750	827.4	6.0	.....	19	1.78	wnw.	11.5	1,500	Few Ci.St., near southern horizon.
7:06	976.7	−1.3	90	sw.	6.2	1,692	833.5	6.2	0.22	19	1.80	wnw.	11.5	1,400	
						1,500	853.0	6.6	.....	20	1.95	wnw.	10.4	.....	
						1,250	879.3	7.2	.....	21	2.13	wnw.	8.9	.....	
						1,000	906.3	7.7	.....	22	2.31	wnw.	7.4	.....	
7:17	976.8	−1.3	90	w.	4.5	930	914.3	7.9	−1.22	22	2.34	wnw.	7.0	0	
7:35	976.9	−0.2	81	wsw.	4.1	775	931.9	6.0	−2.59	33	3.09	nnw.	9.4	.....	
						750	934.5	5.4	.....	34	3.05	nnw.	9.0	.....	
7:40	976.9	−0.4	82	wsw.	4.1	524	961.3	−0.5	0.00	46	2.70	nnw.	5.6	.....	
						500	963.6	−0.5	.....	53	3.11	nnw.	5.3	.....	
7:45	976.9	−0.5	82	wsw.	3.7	396	976.9	−0.5	.....	82	4.81	wsw.	3.7	.....	Cloudless.

March 2, 1918, series (No. 7).

A. M.															
8:26	977.3	1.0	72	w.	3.1	396	977.3	1.0	.....	72	4.73	w.	3.1	.....	Cloudless.
						500	965.0	2.6	.....	67	4.94	nw.	5.3	.....	Few Ci.St., w.
8:37	977.4	2.8	60	wnw.	3.1	741	936.9	6.4	−1.57	54	5.19	ne.	10.4	.....	
						750	936.0	6.5	.....	53	5.13	ne.	10.3	0	
9:03	977.7	3.8	56	nw.	2.7	967	911.7	7.9	−0.66	39	4.15	nne.	6.8	680	
						1,000	908.2	7.8	.....	39	4.13	nne.	6.7	920	
						1,250	881.8	7.4	.....	37	3.84	nnw.	5.8	1,700	1/10 Ci.St., w.
10:39	978.3	6.8	62	nne.	5.8	1,421	863.6	7.1	0.18	35	3.53	nw.	5.2	3,500	
						1,500	855.3	6.8	.....	34	3.36	nw.	5.3	2,800	
						1,750	829.3	5.7	.....	33	3.02	nw.	5.7	.....	
						2,000	804.0	4.6	.....	31	2.63	nnw.	6.1	.....	
						2,250	780.0	3.5	.....	29	2.28	nnw.	6.5	.....	
10:49	978.3	7.0	61	n.	5.4	2,369	768.5	3.0	0.35	28	2.12	nnw.	6.7	.....	
						2,250	780.0	3.5	.....	29	2.28	nnw.	6.9	.....	
						2,000	804.0	4.5	.....	30	2.53	n.	7.2	.....	
						1,750	829.3	5.4	.....	31	2.78	nne.	7.6	2,300	
						1,500	855.3	6.4	.....	33	3.17	nne.	7.9	1,700	
11:45	978.9	7.6	59	ne.	6.7	1,307	875.8	7.2	−0.62	34	3.45	ne.	8.2	.....	
						1,250	881.8	7.2	.....	35	3.56	ne.	8.9	.....	
11:52	979.0	7.5	59	ne.	5.8	1,147	893.0	7.1	−0.92	36	3.63	ene.	10.1	1,000	
						1,000	909.0	5.7	.....	41	3.76	ene.	11.7	.....	
NOON	979.1	7.9	57	ne.	6.7	790	933.1	3.8	1.17	47	3.77	ne.	13.9	.....	
P. M.															
						750	938.0	4.3	.....	48	3.99	ne.	13.0	0	
						500	966.8	7.2	.....	52	5.28	nne.	7.3	.....	
12:12	979.0	8.4	54	nne.	4.9	396	979.0	8.4	.....	54	5.95	nne.	4.9	.....	1/10 Ci.St., w.

March 2, 1918, series (No. 8).

P. M.															
12:52	978.8	9.8	51	ne.	5.8	396	978.8	9.8	.....	51	6.18	ne.	5.8	.....	1/10 Ci.St., w.
						500	966.0	8.9	.....	52	5.93	ne.	7.4	.....	
						750	937.5	6.6	.....	54	5.26	ne.	11.4	.....	
1:01	978.7	10.4	49	ne.	6.7	771	935.3	6.4	0.91	54	5.19	ne.	11.7	0	
						1,000	909.2	4.6	.....	58	4.75	ne.	12.2	.....	
1:06	978.7	10.4	49	ne.	5.8	1,038	905.2	4.3	0.79	59	4.90	ne.	12.3	810	
						1,250	882.0	5.7	.....	49	4.49	ene.	10.0	1,200	
1:39	978.5	10.7	44	ne.	7.2	1,448	861.0	7.0	−0.66	39	3.91	ene.	7.5	1,400	1/10 Ci., w.
						1,500	856.0	6.8	.....	39	3.85	ene.	7.4	.....	
						1,750	830.0	5.8	.....	38	3.50	ne.	7.1	.....	
3:13	978.0	11.6	37	ne.	6.7	1,932	811.0	5.0	0.60	38	3.31	ne.	6.8	.....	
3:26	978.0	11.6	39	ne.	8.0	1,756	828.6	6.4	−1.02	36	3.46	ne.	6.2	.....	
						1,750	829.0	6.3	.....	36	3.44	ne.	6.3	730	
						1,500	854.7	3.8	.....	35	2.81	ne.	8.4	620	
3:55	978.0	11.2	38	ne.	5.8	1,432	862.2	3.1	0.75	34	2.59	ne.	9.0	380	
						1,250	881.2	4.5	.....	37	3.12	ne.	9.4	.....	
						1,000	908.5	6.3	.....	40	3.82	ne.	10.0	0	
4:13	978.1	11.2	39	ne.	5.4	778	934.1	8.0	0.79	45	4.83	ne.	10.5	.....	
						750	937.0	8.2	.....	45	4.89	ne.	10.2	.....	
						500	965.8	10.2	.....	41	5.10	ne.	7.4	.....	
4:20	978.1	11.0	40	ne.	6.3	396	978.1	11.0	.....	40	5.25	ne.	6.3	.....	2/10 Ci., w.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 3, 1918.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
7:20	976.2	− 0.2	77	ese.	5.4	396	976.2	−0.2	.....	77	4.63	ese.	5.4	.....	6/10 Ci., wsw.
						500	963.4	1.3	.....	72	4.83	ese.	10.7	.....	
7:26	976.1	0.0	78	ese.	5.4	721	937.6	3.2	−1.05	62	4.77	se.	22.0	.....	
						750	934.2	3.3	.....	61	4.72	se.	21.5	1,300	7/10 Ci., wsw.; few A.Cu., w.
						1,000	905.2	3.7	.....	52	4.14	se.	17.3	.....	
						1,250	878.0	4.2	.....	43	3.55	se.	13.1	2,500	
8:10	975.7	1.3	72	ese.	4.5	1,450	857.0	4.6	−0.19	36	3.05	se.	9.7	.....	
						1,500	852.0	4.7	.....	34	2.90	se.	9.2	3,300	
						1,750	826.4	5.1	.....	22	1.93	sse.	7.0	.....	
9:13	975.5	3.6	69	se.	4.0	1,832	817.6	5.3	−0.18	18	1.60	sse.	6.2	5,500	
9:57	974.7	4.7	62	se.	6.3	2,000	805.0	4.3	.....	27	2.24	sse.	4.5	.....	
						2,100	789.7	3.7	0.36	32	2.55	sse.	3.5	4,500	
						2,000	805.0	3.8	.....	31	2.49	sse.	5.5	2,700	
						1,750	825.0	4.2	.....	27	2.23	sse.	10.2	.....	
10:44	974.2	4.5	67	se.	6.7	1,516	848.5	4.5	−0.40	24	2.02	sse.	14.6	.....	
						1,500	850.4	4.4	.....	25	2.09	sse.	14.5	.....	
						1,250	876.7	3.4	.....	39	3.04	sse.	13.4	2,200	
						1,000	903.5	2.5	.....	53	3.87	sse.	12.2	.....	
11:08	973.8	5.0	66	sse.	7.2	758	931.2	1.5	1.08	66	4.49	sse.	11.1	1,200	
						750	931.5	1.6	.....	66	4.53	sse.	11.0	.....	
						500	960.8	4.3	.....	65	5.40	se.	8.0	.....	
11:13	973.7	5.4	64	se.	6.7	396	973.7	5.4	.....	64	5.74	se.	6.7	.....	8/10 Ci., wsw.; few A.Cu., w.

March 4, 1918.

A. M.															
8:34	960.2	3.5	100	s.	5.8	396	960.2	3.5	.....	100	7.85	s.	5.8	.....	Dense fog, s. to 9:09 a. m.
						500	947.9	3.6	.....	100	7.91	s.	7.9	.....	
8:46	960.0	3.5	100	ssw.	6.3	755	918.5	4.0	−0.14	99	8.05	ssw.	13.2	1,000	
						1,000	891.0	5.5	.....	85	7.68	sw.	13.0	.....	
						1,250	864.1	7.0	.....	71	7.11	wsw.	12.8	1,400	
						1,500	838.9	8.5	.....	57	6.33	w.	12.6	.....	Light fog from 9:09 to 9:31 a.m.
9:17	959.6	5.0	100	ssw.	5.8	1,626	826.1	9.3	−0.61	50	5.86	w.	12.5	2,000	
						1,750	813.8	8.7	.....	45	5.06	w.	12.7	.....	10/10 St., ssw.
						2,000	789.0	7.5	.....	34	3.53	wnw.	13.1	.....	
9:45	959.3	5.7	98	ssw.	8.0	2,218	768.7	6.5	0.47	25	2.42	wnw.	13.4	2,300	7/10 St., ssw.
						2,250	765.4	6.3	.....	25	2.38	wnw.	13.5	.....	
						2,500	742.0	5.1	.....	21	1.85	wnw.	14.5	2,700	
						2,750	719.5	3.8	.....	18	1.44	wnw.	15.4	.....	3/10 St., ssw.
						3,000	698.4	2.5	.....	15	1.10	nw.	16.4	.....	4/10 Ci. St., wnw.; 3/10 Cu., ssw.
						3,250	677.8	1.2	.....	12	0.80	nw.	17.4	.....	
10:28	958.8	8.3	86	ssw.	5.8	3,366	668.2	0.6	0.51	10	0.64	nw.	17.8	3,200	
						3,500	657.0	0.2	.....	10	0.62	nw.	18.9	.....	
						3,750	636.8	−1.7	.....	10	0.53	wnw.	20.8	.....	
						4,000	617.0	−3.2	.....	11	0.51	w.	22.8	.....	
11:07	958.4	9.6	81	ssw.	9.8	4,198	602.0	−4.4	0.61	11	0.46	w.	24.4	4,300	
						4,000	617.0	−3.2	.....	11	0.52	w.	23.4	.....	
						3,750	636.8	−1.7	.....	11	0.58	w.	22.1	.....	
						3,500	657.0	−0.1	.....	11	0.67	w.	20.8	.....	
						3,250	677.8	1.4	.....	11	0.74	w.	19.5	.....	
						3,000	698.4	2.9	.....	11	0.83	wsw.	18.2	.....	
						2,750	719.5	4.5	.....	11	0.93	wsw.	17.0	1,600	
						2,500	742.0	6.0	.....	11	1.03	wsw.	15.7	.....	
P. M.															
12:57	956.8	11.4	76	sw.	11.6	2,252	765.2	7.5	0.62	11	1.14	wsw.	14.4	1,600	
						2,000	789.0	9.1	.....	11	1.27	wsw.	13.6	.....	3/10 Ci., wnw.; 6/10 Ci. St., wnw.; 1/10 Cu., sw.
						1,750	813.3	10.6	.....	11	1.41	wsw.	12.8	1,100	
						1,500	838.0	12.2	.....	11	1.56	wsw.	12.0	.....	
						1,250	863.0	13.7	.....	11	1.72	wsw.	11.2	760	
1:30	956.6	12.3	72	sw.	10.7	1,128	875.9	14.5	−7.50	11	1.82	wsw.	10.8	.....	
1:24	956.5	12.4	71	sw.	6.7	1,032	885.9	7.3	0.37	12	1.23	sw.	16.1	.....	
						1,000	889.4	7.4	.....	22	2.27	sw.	15.8	.....	
1:42	956.5	12.6	70	sw.	9.8	791	912.2	8.2	1.22	88	9.57	sw.	13.6	0	
						750	917.0	8.7	.....	56	6.30	sw.	13.2	.....	
						500	944.9	11.7	.....	75	10.31	sw.	10.5	.....	
1:48	956.5	13.0	71	sw.	9.4	396	956.5	13.0	.....	71	10.64	sw.	9.4	.....	3/10 Ci., wnw.; 2/10 Cu., sw.

March 5, 1918 (No. 1).

A. M															
8:30	958.2	3.2	100	n.	9.8	396	958.2	3.2	.....	100	7.69	n.	9.8	.....	Misting began 7:20 a. m. and continued at end of flight. Dense fog N. prevailed during flight.
						500	945.9	2.7	.....	100	7.42	n.	13.2	.....	
8:33	958.3	3.2	100	n.	8.0	693	923.8	1.8	0.47	100	6.96	nnw.	19.4	.....	
						750	917.5	2.2	.....	100	7.16	n.	20.2	2,800	
8:44	958.6	3.3	100	n.	6.7	931	897.3	3.4	−0.46	100	7.80	nne.	22.9	.....	
						750	917.5	3.0	.....	100	7.58	nne.	17.6	1,200	
8:56	959.0	3.5	100	n.	7.2	565	939.1	2.5	0.65	100	7.31	n.	12.5	.....	
						500	946.2	2.9	.....	100	7.53	n.	10.2	.....	
8:58	959.0	3.6	100	n.	7.2	396	959.0	3.6	.....	100	7.91	n.	7.2	.....	

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 5, 1918 (No. 2).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
1:21	961.9	0.7	87	nnw.	10.3	396	961.9	0.7	.....	87	5.59	nnw.	10.3	.....	10/10 St., n.
.....	.....	.....	.....	.....	.....	500	949.0	−0.4	.....	91	5.38	nnw.	11.7	.....	
.....	.....	.....	.....	.....	.....	750	920.0	−3.1	.....	100	4.71	n.	15.1	.....	
1:24	961.9	0.3	85	nnw.	10.3	764	918.5	−3.2	1.06	100	4.68	n.	15.3	1,400	Altitude of St. base about 750 m.
.....	.....	.....	.....	.....	.....	1,000	891.5	1.6	.....	76	5.21	n.	11.7	.....	
1:45	962.0	0.4	85	n.	8.5	1,249	865.0	6.6	−2.02	50	4.88	n.	8.0	4,500	
2:20	962.4	−0.2	83	n.	8.5	1,459	843.2	6.4	−0.75	49	4.71	n.	4.7	4,200	
.....	.....	.....	.....	.....	.....	1,250	865.0	3.1	.....	64	4.88	n.	9.7	2,500	
.....	.....	.....	.....	.....	.....	1,000	891.5	−0.9	.....	81	4.59	n.	15.6	.....	
2:42	962.8	−1.2	84	n.	8.9	802	914.7	−4.1	0.57	95	4.11	n.	20.3	.....	
.....	.....	.....	.....	.....	.....	750	920.0	−3.8	.....	93	4.13	n.	18.8	0	
.....	.....	.....	.....	.....	.....	500	950.4	−2.4	.....	85	4.25	nnw.	11.8	.....	
2:59	963.1	−1.8	81	nnw.	8.9	396	963.1	−1.8	.....	81	4.26	nnw.	8.9	.....	10/10 St., n.

March 6, 1918.

A. M.															
8:31	972.6	−9.0	75	nnw.	4.9	396	972.6	− 9.0	.....	75	2.13	nnw.	4.9	.....	10/10 St. Cu., w.
.....	.....	.....	.....	.....	.....	500	959.2	− 9.6	.....	77	2.07	nnw.	6.4	.....	
.....	.....	.....	.....	.....	.....	750	928.7	−11.1	.....	83	1.95	nnw.	9.9	0	
8:48	972.6	−9.0	75	nnw.	4.9	944	905.7	−12.3	0.60	88	1.86	nnw.	12.6	.....	
.....	.....	.....	.....	.....	.....	1,000	899.0	−11.1	.....	80	1.88	nnw.	12.5	.....	
.....	.....	.....	.....	.....	.....	1,250	870.9	− 5.7	.....	42	1.59	nnw.	12.0	1,700	
9:04	972.6	−8.8	70	nnw.	4.1	1,324	862.6	− 4.1	−2.16	31	1.34	nnw.	11.9	.....	
.....	.....	.....	.....	.....	.....	1,500	844.0	− 4.6	.....	32	1.33	nnw.	12.5	3,500	10/10 St. Cu., w.
.....	.....	.....	.....	.....	.....	1,750	818.0	− 5.3	.....	33	1.29	nw.	13.4	.....	
.....	.....	.....	.....	.....	.....	2,000	792.6	− 6.0	.....	33	1.21	nw.	14.3	5,000	
.....	.....	.....	.....	.....	.....	2,250	767.5	− 6.7	.....	34	1.18	wnw.	15.2	.....	
10:06	972.6	−8.8	70	nnw.	5.3	2,404	751.6	− 7.1	0.28	35	1.17	wnw.	15.7	7,600	
.....	.....	.....	.....	.....	.....	2,500	742.4	− 7.9	.....	50	1.56	wnw.	18.2	.....	
10:26	972.8	−8.8	70	nnw.	4.9	2,614	731.6	− 8.9	0.86	67	1.92	wnw.	21.1	9,700	
.....	.....	.....	.....	.....	.....	2,750	719.0	− 8.5	.....	76	2.25	wnw.	21.9	.....	10/10 A. St., w.
.....	.....	.....	.....	.....	.....	3,000	696.1	− 7.8	.....	94	2.96	w.	23.3	.....	
10:57	973.0	−7.9	64	nnw.	5.3	3,092	688.1	− 7.5	−0.42	100	3.23	w.	23.8	13,500	
.....	.....	.....	.....	.....	.....	3,000	696.1	− 8.0	.....	96	2.98	w.	22.4	11,000	
.....	.....	.....	.....	.....	.....	2,750	719.0	− 9.4	.....	85	2.33	wnw.	18.7	.....	
11:39	973.0	−7.8	60	nnw.	4.5	2,724	721.7	− 9.5	0.52	84	2.28	wnw.	18.3	8,700	
.....	.....	.....	.....	.....	.....	2,500	742.4	− 8.3	.....	71	2.14	wnw.	17.5	.....	
.....	.....	.....	.....	.....	.....	2,250	767.0	− 7.0	.....	56	1.89	wnw.	16.6	.....	
P. M.															
12:01	973.0	−7.6	60	nnw.	4.1	2,189	773.1	− 6.7	0.24	52	1.80	wnw.	16.4	.....	
.....	.....	.....	.....	.....	.....	2,000	792.0	− 6.2	.....	46	1.67	wnw.	15.9	4,900	
.....	.....	.....	.....	.....	.....	1,750	818.0	− 5.7	.....	37	1.40	nw.	15.1	.....	
.....	.....	.....	.....	.....	.....	1,500	844.0	− 5.1	.....	28	1.11	nw.	14.4	2,700	
.....	.....	.....	.....	.....	.....	1,250	870.9	− 4.5	.....	20	0.84	nnw.	13.7	.....	
12:37	972.1	−6.5	60	nnw.	3.7	1,226	873.6	− 4.4	−3.95	19	0.80	nnw.	13.6	.....	
12:40	972.1	−6.5	60	nnw.	4.9	1,041	894.5	−10.7	0.65	28	0.68	nnw.	11.1	.....	
.....	.....	.....	.....	.....	.....	1,000	899.0	−10.4	.....	30	0.75	nnw.	10.7	.....	
.....	.....	.....	.....	.....	.....	750	928.7	− 8.8	.....	42	1.21	nnw.	7.8	0	
.....	.....	.....	.....	.....	.....	500	958.8	− 7.2	.....	55	1.83	nnw.	4.9	.....	
12:55	971.7	−6.5	60	nnw.	3.7	396	971.7	− 6.5	.....	60	2.12	nnw.	3.7	.....	10/10 A. St., w.

March 7, 1918.

A. M.															
8:03	966.2	−3.5	80	sw.	6.7	396	966.2	−3.5	.....	80	3.65	sw.	6.7	.....	Cloudless.
.....	.....	.....	.....	.....	.....	500	953.5	−2.5	.....	70	3.47	wsw.	8.0	.....	
.....	.....	.....	.....	.....	.....	750	924.0	−0.1	.....	43	2.61	nw.	11.0	380	
8:18	966.3	−1.9	70	sw.	6.3	869	910.7	1.0	−0.95	31	2.04	nnw.	12.5	.....	
.....	.....	.....	.....	.....	.....	1,000	895.0	0.5	.....	31	1.96	nnw.	13.0	.....	
.....	.....	.....	.....	.....	.....	1,250	867.3	−0.5	.....	30	1.76	nnw.	13.9	1,300	
.....	.....	.....	.....	.....	.....	1,500	840.9	−1.5	.....	30	1.62	nw.	14.8	2,100	
.....	.....	.....	.....	.....	.....	1,750	815.0	−2.4	.....	30	1.50	nw.	15.7	.....	
.....	.....	.....	.....	.....	.....	2,000	790.3	−3.4	.....	29	1.33	nw.	16.7	.....	
8:53	966.5	0.0	69	wsw.	4.9	2,119	778.8	−3.9	0.39	29	1.28	nw.	17.1	3,600	
.....	.....	.....	.....	.....	.....	2,250	765.8	−4.2	.....	30	1.29	nw.	17.7	.....	
.....	.....	.....	.....	.....	.....	2,500	742.0	−4.9	.....	33	1.34	nw.	18.9	.....	
.....	.....	.....	.....	.....	.....	2,750	719.0	−5.5	.....	35	1.34	nw.	20.1	5,500	
9:27	966.5	0.3	66	wsw.	3.6	2,972	698.9	−6.1	0.26	37	1.35	nw.	21.2	6,000	
.....	.....	.....	.....	.....	.....	3,000	696.3	−6.2	.....	37	1.34	nw.	21.1	.....	
.....	.....	.....	.....	.....	.....	3,250	674.3	−6.6	.....	35	1.22	wnw.	20.6	.....	
.....	.....	.....	.....	.....	.....	3,500	653.0	−7.1	.....	33	1.11	wnw.	20.1	.....	
9:40	966.5	0.9	61	wsw.	3.6	3,691	637.5	−7.5	0.19	31	1.00	w.	19.7	.....	
.....	.....	.....	.....	.....	.....	3,750	632.6	−7.4	.....	30	0.98	w.	20.8	.....	
9:46	966.5	1.3	59	wsw.	2.7	3,857	624.0	−7.1	−0.24	28	0.94	w.	22.8	7,900	
.....	.....	.....	.....	.....	.....	4,000	612.5	−7.8	.....	23	0.72	w.	23.5	.....	
.....	.....	.....	.....	.....	.....	4,250	593.3	−9.0	.....	13	0.37	wnw.	24.7	.....	
10:22	966.5	3.3	50	w.	3.1	4,406	581.6	−9.8	0.46	7	0.18	wnw.	25.5	9,200	
.....	.....	.....	.....	.....	.....	4,250	593.5	−9.1	.....	10	0.28	wnw.	25.0	.....	
.....	.....	.....	.....	.....	.....	4,000	613.3	−8.0	.....	14	0.43	w.	24.1	.....	
.....	.....	.....	.....	.....	.....	3,750	633.5	−6.9	.....	19	0.65	w.	23.3	6,500	
11:20	966.4	6.2	38	ssw.	4.0	3,700	637.5	−6.7	−0.35	20	0.69	w.	23.1	.....	
.....	.....	.....	.....	.....	.....	3,500	653.8	−6.4	.....	21	0.75	w.	22.5	5,100	
11:27	966.4	6.7	37	ssw.	4.0	3,473	656.2	−7.5	0.40	21	0.68	w.	22.4	.....	
.....	.....	.....	.....	.....	.....	3,250	675.0	−6.6	.....	23	0.80	w.	20.8	.....	
.....	.....	.....	.....	.....	.....	3,000	697.0	−5.6	.....	25	0.95	w.	19.0	.....	
11:42	966.3	6.4	37	wsw.	3.6	2,894	706.6	−5.2	0.42	26	1.02	w.	18.2	4,500	
.....	.....	.....	.....	.....	.....	2,750	719.0	−4.6	.....	27	1.12	w.	17.7	.....	
.....	.....	.....	.....	.....	.....	2,500	742.0	−3.5	.....	29	1.32	w.	16.8	.....	
.....	.....	.....	.....	.....	.....	2,250	766.1	−2.5	.....	30	1.49	w.	15.9	.....	Few Ci. St., w.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 7, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
12:05	966.2	8.3	36	sw.	3.6	1,997	791.7	−1.4	−1.14	32	1.74	w.	15.0	3,000	
12:10	966.2	7.9	34	wsw.	3.6	1,8 8	806.7	−3.1	0.44	35	1.65	wnw.	20.7	.....	
.....	.....	.....	.....	.....	.....	1,750	816.0	−2.7	.....	36	1.76	wnw.	19.0	.....	
.....	.....	.....	.....	.....	.....	1,500	842.1	−1.6	.....	38	2.03	wnw.	14.7	560	
.....	.....	.....	.....	.....	.....	1,250	869.0	−0.5	.....	40	2.34	wnw.	10.5	0	
.....	.....	.....	.....	.....	.....	1,000	896.6	0.7	.....	43	2.76	wnw.	6.2	.....	
12:31	966.0	7.8	32	wnw.	4.9	966	900.7	0.8	1.33	43	2.78	wnw.	5.6	.....	
.....	.....	.....	.....	.....	.....	750	925.0	3.7	.....	39	3.10	wnw.	5.0	.....	
.....	.....	.....	.....	.....	.....	500	953.5	7.0	.....	34	3.41	w.	4.3	.....	
12:38	966.0	8.4	32	w.	4.0	396	966.0	8.4	.....	32	3.53	w.	4.0	.....	Few Ci. St., w.

March 8, 1918.

A. M.															
8:34	965.1	2.6	78	se.	3.7	396	965.1	2.6	.....	78	5.75	se.	3.7	.....	10/10 St.Cu., sw.
.....	.....	.....	.....	.....	.....	500	953.0	3.2	.....	73	5.61	sse.	6.7	.....	
.....	.....	.....	.....	.....	.....	750	923.9	4.6	.....	63	5.34	s.	14.0	.....	
8:43	965.0	3.2	74	se.	3.3	762	922.6	4.7	−0.57	62	5.29	s.	14.3	0	
.....	.....	.....	.....	.....	.....	1,000	895.5	4.5	.....	56	4.72	s.	16.1	.....	
.....	.....	.....	.....	.....	.....	1,250	868.3	4.3	.....	51	4.24	ssw.	17.7	1,900	
.....	.....	.....	.....	.....	.....	1,500	842.2	4.1	.....	44	3.60	sw.	19.8	.....	
9:07	964.8	4.0	71	se.	4.1	1,724	819.4	3.9	0.08	39	3.15	sw.	21.5	2,500	
.....	.....	.....	.....	.....	.....	1,750	816.7	3.8	.....	40	3.21	sw.	21.6	.....	
.....	.....	.....	.....	.....	.....	2,000	791.8	3.1	.....	45	3.43	sw.	22.6	.....	
.....	.....	.....	.....	.....	.....	2,250	767.7	2.4	.....	50	3.63	sw.	23.6	3,000	
.....	.....	.....	.....	.....	.....	2,500	744.0	1.7	.....	55	3.80	sw.	24.5	2,800	
.....	.....	.....	.....	.....	.....	2,750	721.7	0.9	.....	60	3.91	sw.	25.5	.....	
.....	.....	.....	.....	.....	.....	3,000	700.0	0.2	.....	65	4.03	sw.	26.5	.....	2/10 Ci.St., w.; 8/10 St.Cu., sw.
9:38	964.6	5.8	64	se.	4.9	3,023	697.9	0.1	0.29	65	4.00	sw.	26.6	3,100	
.....	.....	.....	.....	.....	.....	3,250	678.5	− 0.6	.....	80	4.65	sw.	26.0	3,100	
10:11	964.4	7.0	60	se.	4.9	3,430	663.5	− 1.2	0.46	91	5.03	sw.	25.6	2,600	3/10 Ci. St., w.;7/10 St. Cu. sw.
.....	.....	.....	.....	.....	.....	3,250	678.5	− 0.1	.....	81	4.91	sw.	24.0	.....	
.....	.....	.....	.....	.....	.....	3,000	700.0	1.4	.....	67	4.53	sw.	21.8	2,600	
11:00	964.2	8.0	53	se.	6.2	2,874	710.9	2.1	0.22	60	4.27	sw.	20.7	2,400	9/10 Ci. St., w;1/10 St. Cu., sw.
.....	.....	.....	.....	.....	.....	2,750	721.7	2.4	.....	61	4.43	sw.	20.8	.....	
.....	.....	.....	.....	.....	.....	2,500	744.0	2.9	.....	63	4.74	ssw.	21.0	2,200	
.....	.....	.....	.....	.....	.....	2,250	767.7	3.5	.....	65	5.10	s.	21.2	.....	
.....	.....	.....	.....	.....	.....	2,000	791.4	4.0	.....	67	5.45	s.	21.3	.....	
11:35	963.8	8.6	59	s.	6.6	1,789	812.3	4.5	−0.24	69	5.81	sse.	21.5	2,000	
.....	.....	.....	.....	.....	.....	1,750	816.0	4.4	.....	69	5.78	sse.	21.2	.....	
.....	.....	.....	.....	.....	.....	1,500	841.3	3.8	.....	68	5.45	sse.	19.4	.....	
.....	.....	.....	.....	.....	.....	1,250	867.4	3.2	.....	67	5.15	sse.	17.5	1,700	
11:55	963.6	8.6	58	sse.	7.0	1,046	889.9	2.7	0.53	66	4.90	sse.	16.0	1,700	
.....	.....	.....	.....	.....	.....	1,000	894.5	2.9	.....	67	5.05	sse.	15.5	.....	
P. M.															
12:05	963.4	8.8	59	sse.	7.0	763	921.3	4.2	1.23	71	5.86	sse.	12.9	810	
.....	.....	.....	.....	.....	.....	750	923.0	4.4	.....	70	5.86	sse.	12.7	.....	
.....	.....	.....	.....	.....	.....	500	951.0	7.4	.....	60	6.18	sse.	9.5	.....	
12:12	963.4	8.7	56	sse.	8.2	396	963.4	8.7	.....	56	6.30	sse.	8.2	.....	9/10 Ci. St., w.; 1/10 St. Cu.,sw.

March 9, 1918.

P. M.															
1:01	961.9	− 3.5	84	nnw.	8.0	396	961.9	− 3.5	.....	84	3.83	nnw.	8.0	.....	9/10 St.Cu., nnw.
.....	.....	.....	.....	.....	.....	500	949.0	− 4.1	.....	84	3.64	nnw.	11.9	.....	
.....	.....	.....	.....	.....	.....	750	919.3	− 5.5	.....	83	3.19	nnw.	21.2	.....	Altitude of St.Cu. base about 1,050 m.
.....	.....	.....	.....	.....	.....	1,000	891.0	− 6.9	.....	82	2.80	nnw.	30.5	.....	
1:08	962.3	− 3.4	82	nnw.	19.7	1,030	887.7	− 7.1	0.51	82	2.75	nnw.	31.6	3,200	
.....	.....	.....	.....	.....	.....	1,000	891.0	− 7.0	.....	82	2.77	nnw.	31.3	.....	
.....	.....	.....	.....	.....	.....	750	920.5	− 5.8	.....	81	3.04	nnw.	28.4	.....	
1:23	963.2	− 3.5	84	nnw.	13.4	657	931.8	− 5.4	0.77	81	3.14	nnw.	27.3	1,100	
.....	.....	.....	.....	.....	.....	500	951.1	− 4.2	.....	85	3.66	nnw.	18.9	.....	Light snow began 1:27 p. m.
1:37	964.1	− 3.4	87	nnw.	13.4	396	964.1	− 3.4	.....	87	4.00	nnw.	13.4	.....	9/10 St. Cu., nnw.

March 10, 1918.

A. M.															
8:43	986.2	− 6.5	92	s.	4.0	396	986.2	− 6.5	.....	92	3.25	s.	4.0	.....	3/10 Ci., w.
.....	.....	.....	.....	.....	.....	500	972.9	− 6.5	.....	92	3.25	s.	9.3	.....	2/10 Ci., w.; 1/10 St.Cu., ssw.
9:57	985.8	− 5.0	87	s.	5.4	636	956.0	− 6.4	−0.42	91	3.24	s.	16.2	.....	
.....	.....	.....	.....	.....	.....	750	942.5	− 5.5	.....	82	3.15	s.	15.8	.....	
.....	.....	.....	.....	.....	.....	1,000	913.2	− 3.4	.....	62	2.85	s.	14.9	.....	
.....	.....	.....	.....	.....	.....	1,250	884.8	− 1.4	.....	42	2.28	ssw.	14.0	3,300	7/10 Ci., w.
10:13	985.7	− 3.9	81	s.	6.3	1,485	859.2	0.5	−0.81	23	1.46	ssw.	13.1	3,800	
.....	.....	.....	.....	.....	.....	1,500	857.7	0.5	.....	23	1.46	ssw.	13.1	.....	
.....	.....	.....	.....	.....	.....	1,750	831.2	− 0.3	.....	25	1.49	ssw.	13.1	5,000	
.....	.....	.....	.....	.....	.....	2,000	805.5	− 1.1	.....	26	1.45	ssw.	13.1	.....	
.....	.....	.....	.....	.....	.....	2,250	781.0	− 1.8	.....	28	1.47	ssw.	13.1	7,500	
.....	.....	.....	.....	.....	.....	2,500	756.9	− 2.6	.....	29	1.43	ssw.	13.1	.....	
10:49	985.6	− 3.0	78	s.	5.4	2,592	748.0	− 2.9	0.31	30	1.44	ssw.	13.1	.....	
.....	.....	.....	.....	.....	.....	2,750	733.4	− 3.7	.....	33	1.48	ssw.	14.0	8,700	
.....	.....	.....	.....	.....	.....	3,000	710.7	− 5.0	.....	38	1.52	sw.	15.5	.....	
.....	.....	.....	.....	.....	.....	3,250	689.0	− 6.3	.....	44	1.58	sw.	17.0	.....	
.....	.....	.....	.....	.....	.....	3,500	667.2	− 7.5	.....	49	1.58	wsw.	18.4	13,800	
11:15	985.2	− 1.8	74	s.	5.4	3,650	654.1	− 8.3	0.51	52	1.57	wsw.	19.3	.....	
.....	.....	.....	.....	.....	.....	3,750	645.5	− 7.8	.....	47	1.48	wsw.	17.1	.....	
11:20	985.2	− 1.4	73	s.	6.3	3,877	634.5	− 7.2	−0.37	41	1.36	w.	24.3	15,700	
.....	.....	.....	.....	.....	.....	3,750	644.6	− 7.5	.....	45	1.45	w.	22.0	.....	5/10 Ci., w.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 10, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
	mb.	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
A. M.															
11:42	984.8	− 0.4	70	s.	7.2	3,556	660.5	− 8.0	0.61	52	1.61	w.	18.5	.....	
.....	.....	.....	.....	.....	.....	3,500	665.4	− 7.7	.....	52	1.65	w.	18.6	.....	
.....	.....	.....	.....	.....	.....	3,250	687.0	− 6.1	.....	52	1.90	w.	19.0	.....	
.....	.....	.....	.....	.....	.....	3,000	709.3	− 4.6	.....	51	2.12	wsw.	19.5	.....	
NOON	984.5	0.3	70	s.	7.2	2,866	721.6	− 3.8	0.34	51	2.26	wsw.	19.7	.....	
.....	.....	.....	.....	.....	.....	2,750	732.0	− 3.4	.....	48	2.21	wsw.	19.9	9,100	
.....	.....	.....	.....	.....	.....	2,500	755.4	− 2.5	.....	42	2.08	sw.	20.3	.....	
.....	.....	.....	.....	.....	.....	2,250	779.5	− 1.7	.....	37	1.96	sw.	20.7	.....	3/10 Ci., w.
.....	.....	.....	.....	.....	.....	2,000	804.4	− 0.8	.....	31	1.77	ssw.	21.2	8,500	
.....	.....	.....	.....	.....	.....	1,750	830.0	0.0	.....	25	1.53	ssw.	21.6	.....	
.....	.....	.....	.....	.....	.....	1,500	856.3	0.9	.....	19	1.17	s.	22.0	.....	
P. M.															
12:37	983.9	1.5	61	s.	8.5	1,444	862.8	1.1	− 0.67	18	1.19	s.	22.1	.....	
.....	.....	.....	.....	.....	.....	1,250	883.7	− 0.2	.....	29	1.74	s.	22.9	5,000	
.....	.....	.....	.....	.....	.....	1,000	912.0	− 1.9	.....	43	2.24	s.	24.0	4,500	
12:59	983.5	2.5	58	s.	5.4	848	929.4	− 2.9	0.13	52	2.50	s.	24.6	.....	
.....	.....	.....	.....	.....	.....	750	940.8	− 1.6	.....	52	2.78	s.	21.4	1,280	
.....	.....	.....	.....	.....	.....	500	970.5	1.6	.....	54	3.70	s.	13.2	.....	
1:10	983.2	3.0	54	s.	9.8	396	983.2	3.0	.....	54	4.09	s.	9.8	.....	2/10 Ci., w.

March 11, 1918.

A. M.															
9:11	964.4	6.7	49	ssw.	13.4	396	964.4	6.7	.....	49	4.81	ssw.	13.4	.....	4/10 Ci., w.
.....	.....	.....	.....	.....	.....	500	952.0	6.0	.....	49	4.58	ssw.	16.7	.....	
.....	.....	.....	.....	.....	.....	750	923.5	4.4	.....	50	4.18	sw.	24.8	1,100	
9:25	964.2	7.3	51	ssw.	12.5	912	905.1	3.3	0.66	51	3.95	sw.	30.0	.....	
.....	.....	.....	.....	.....	.....	1,000	895.6	5.4	.....	48	4.31	sw.	27.4	.....	9/10 Ci.St., w.
.....	.....	.....	.....	.....	.....	1,250	869.0	11.4	.....	41	5.53	sw.	20.0	3,500	
9:37	964.1	7.6	50	ssw.	5.8	1,319	861.6	13.0	−2.38	39	5.84	sw.	18.6	.....	
.....	.....	.....	.....	.....	.....	1,500	843.4	12.3	.....	35	5.01	sw.	17.8	.....	
.....	.....	.....	.....	.....	.....	1,750	818.1	11.2	.....	30	3.99	wsw.	16.6	.....	
.....	.....	.....	.....	.....	.....	2,000	794.0	10.2	.....	24	2.99	wsw.	15.5	5,200	
.....	.....	.....	.....	.....	.....	2,250	770.2	9.2	.....	19	2.21	w.	14.3	.....	
10:06	963.7	8.8	46	ssw.	12.1	2,300	765.6	9.0	0.41	18	2.07	w.	14.1	5,200	
.....	.....	.....	.....	.....	.....	2,500	747.0	7.7	.....	16	1.68	w.	14.6	.....	6/10 Ci.St., w.; 3/10 A.St., w.
.....	.....	.....	.....	.....	.....	2,750	724.5	6.0	.....	13	1.22	w.	15.2	.....	
.....	.....	.....	.....	.....	.....	3,000	703.0	4.3	.....	10	0.83	w.	15.9	6,200	3/10 Ci.St., wnw.; 3/10 A.St., wnw.
11:02	963.1	10.3	44	sw.	14.8	3,212	684.5	2.9	0.67	8	0.60	w.	16.4	.....	
.....	.....	.....	.....	.....	.....	3,250	682.0	2.7	.....	8	0.59	w.	16.8	6,500	
.....	.....	.....	.....	.....	.....	3,500	661.2	1.8	.....	11	0.77	w.	19.6	5,700	Solar halo, 22° radius, from 11:36 to 11:55 a. m.
.....	.....	.....	.....	.....	.....	3,750	641.3	0.8	.....	13	0.84	wnw.	22.3	.....	
.....	.....	.....	.....	.....	.....	4,000	621.4	− 0.2	.....	15	0.90	wnw.	25.1	.....	
P. M.															
12:08	962.4	12.0	40	ssw.	8.9	4,174	607.6	− 0.9	0.44	17	0.96	wnw.	27.0	.....	3/10 Ci.St., wnw.; 6/10 A.St., wnw.
.....	.....	.....	.....	.....	.....	4,000	621.4	0.0	.....	17	1.04	wnw.	25.2	.....	
.....	.....	.....	.....	.....	.....	3,750	641.3	1.2	.....	17	1.13	wnw.	22.6	5,500	
.....	.....	.....	.....	.....	.....	3,500	661.2	2.4	.....	17	1.23	wnw.	19.9	.....	
.....	.....	.....	.....	.....	.....	3,250	682.0	3.7	.....	17	1.35	wnw.	17.3	.....	
.....	.....	.....	.....	.....	.....	3,000	703.0	4.9	.....	17	1.47	wnw.	14.7	3,600	
12:59	961.5	13.8	38	ssw.	13.4	2,922	709.6	5.3	0.73	17	1.51	wnw.	13.9	.....	8/10 Ci.St., wnw.; 2/10 A.St., wnw.
.....	.....	.....	.....	.....	.....	2,750	724.3	6.6	.....	17	1.66	wnw.	14.9	3,300	
.....	.....	.....	.....	.....	.....	2,500	745.8	8.4	.....	17	1.87	w.	16.3	.....	
.....	.....	.....	.....	.....	.....	2,250	768.2	10.2	.....	16	1.99	wsw.	17.7	2,400	
.....	.....	.....	.....	.....	.....	2,000	791.4	12.0	.....	16	2.24	wsw.	19.1	.....	
.....	.....	.....	.....	.....	.....	1,750	815.8	13.9	.....	16	2.54	sw.	20.5	1,500	
1:40	960.8	14.9	37	sw.	13.4	1,581	832.5	15.1	−2.99	16	2.75	sw.	21.5	.....	
.....	.....	.....	.....	.....	.....	1,500	841.2	12.7	.....	20	2.94	sw.	22.5	.....	
1:48	960.6	15.2	38	sw.	13.4	1,327	859.2	7.5	0.71	27	2.80	sw.	24.7	780	
.....	.....	.....	.....	.....	.....	1,250	867.2	8.0	.....	29	3.11	sw.	23.4	.....	
.....	.....	.....	.....	.....	.....	1,000	893.7	9.8	.....	34	4.12	sw.	19.0	.....	
2:00	960.4	15.4	37	sw.	13.4	859	908.8	10.8	1.08	37	4.79	sw.	16.6	0	
.....	.....	.....	.....	.....	.....	750	920.8	12.0	.....	37	5.19	sw.	15.8	.....	
.....	.....	.....	.....	.....	.....	500	948.6	14.7	.....	36	6.02	sw.	14.1	.....	7/10 Ci.St., wnw.; 2/10 A.St., wnw.
2:07	960.2	15.8	36	sw.	13.4	396	960.2	15.8	.....	36	6.46	sw.	13.4	.....	

March 13, 1918 (No. 1).

A. M.															
8:39	949.1	7.3	86	e.	8.0	396	949.1	7.3	.....	86	8.80	e.	8.0	.....	10/10 St., se.
.....	.....	.....	.....	.....	.....	500	937.2	6.9	.....	91	9.05	e.	11.3	.....	
8:48	949.0	7.5	83	e.	8.0	679	916.9	6.3	0.35	100	9.55	e.	17.0	700	
.....	.....	.....	.....	.....	.....	750	909.4	7.8	.....	96	10.16	ese.	14.7	.....	
9:00	948.9	7.8	81	e.	7.6	887	894.0	10.8	−2.16	87	11.27	se.	10.3	1,700	
.....	.....	.....	.....	.....	.....	1,000	882.1	10.2	.....	88	10.96	se.	7.5	2,100	Altitude of St. base about 1,000 m.
10:13	948.4	9.0	82	ene.	6.7	1,237	856.6	8.9	−0.08	90	10.26	sse.	1.6	.....	
.....	.....	.....	.....	.....	.....	1,000	881.6	7.2	.....	94	9.55	ese.	4.8	1,040	
.....	.....	.....	.....	.....	.....	750	908.5	5.5	.....	99	8.94	ene.	8.1	.....	Altitude of St. base about 750 m.
10:36	948.2	8.4	85	ene.	2.7	684	915.6	5.0	1.18	100	8.72	ene.	9.0	0	
.....	.....	.....	.....	.....	.....	500	936.0	7.2	.....	90	9.14	ene.	6.7	.....	
10:44	948.1	8.4	85	ene.	5.4	396	948.1	8.4	.....	85	9.37	ene.	5.4	.....	10/10 St., e.

March 13, 1918 (No. 2).

P. M.															
2:22	947.8	7.0	87	n.	3.6	396	947.8	7.0	.....	87	8.72	n.	3.6	.....	10/10 St., nnw.; light fog, nne.
.....	.....	.....	.....	.....	.....	500	936.0	6.3	.....	89	8.50	n.	4.2	.....	Light fog, n.; altitude of St. base about 650 m.
.....	.....	.....	.....	.....	.....	750	908.5	4.6	.....	94	7.97	nnw.	5.5	0	
.....	.....	.....	.....	.....	.....	1,000	881.0	2.8	.....	99	7.40	nw.	6.9	.....	
3:33	948.8	5.5	94	nnw.	4.0	1,050	875.5	2.5	0.69	100	7.31	nw.	7.2	.....	10/10 St., nw.; light fog, nnw.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 13, 1918 (No. 2)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,250	854.6	3.4		90	7.02	wnw.	9.8		
						1,500	828.8	4.6		77	6.53	wnw.	13.0	6,500	
						1,750	803.9	5.8		65	5.99	w.	16.2		
						2,000	779.8	6.9		52	5.17	wsw.	19.5		
3:55	949.2	5.4	94	nnw.	4.5	2,166	764.1	7.7	−0.34	44	4.62	wsw.	21.6	6,500	
						2,000	779.8	7.3		55	5.63	wsw.	19.5		
						1,750	803.9	6.8		71	7.01	w.	16.2		
						1,500	828.8	6.2		87	8.25	wnw.	13.0	2,700	
4:23	949.5	5.1	94	nnw.	4.9	1,346	844.7	5.9	−1.12	97	9.01	wnw.	11.0		
						1,250	854.6	4.8		97	8.34	wnw.	10.6		
						1,000	881.0	2.0		99	6.99	nnw.	9.6		
4:33	949.6	5.0	94	nnw.	4.5	928	889.3	1.2	0.75	99	6.59	nnw.	9.3	950	
						750	909.0	2.5		96	7.02	nnw.	7.4	0	Altitude of St. base about 600 m.
						500	938.0	4.4		91	7.62	nnw.	5.0		
4:50	949.8	5.2	89	nnw.	4.0	396	949.8	5.2		89	7.88	nnw.	4.0		10/10 St., nnw.; light fog.

March 14, 1918.

A. M.															
8:42	971.0	−0.2	74	nnw.	7.8	396	971.0	−0.2		74	4.45	nnw.	7.8		9/10 A.St., nw.
						500	958.8	−0.8		72	4.11	nnw.	8.2		
						750	930.0	−2.2		66	3.36	n.	21.5	1,600	
9:04	971.7	−0.4	73	n.	9.4	771	926.9	−2.3	0.56	66	3.33	n.	22.3	1,800	
						1,000	901.0	−2.2		46	2.34	n.	23.5		
9:17	972.1	−0.2	76	n.	9.0	1,182	880.7	−2.2	−0.03	30	1.53	n.	24.4	5,000	Faint solar halo, 22° radius, began 9:24 a. m. and continued at end of flight.
						1,250	873.5	−2.3		31	1.56	n.	24.0		
						1,500	846.0	−2.6		34	1.67	n.	22.3		
						1,750	820.0	−2.8		37	1.79	n.	20.7	6,300	
9:22	972.2	−0.3	76	n.	9.4	1,871	807.6	−3.0	0.12	38	1.80	n.	20.9		
						1,750	820.0	−2.9		38	1.82	n.	21.1		
						1,500	846.8	−2.5		37	1.84	n.	21.5		
						1,250	874.4	−2.2		37	1.88	n.	21.8	4,500	
9:45	972.9	0.1	74	n.	7.4	1,212	878.3	−2.2	0.37	37	1.88	n.	21.9		
						1,000	902.3	−1.4		47	2.56	n.	18.1		
						750	931.1	−0.9		59	3.35	n.	15.5	0	
						500	961.0	0.4		71	4.47	n.	9.3		
10:24	973.9	0.8	76	n.	7.4	396	973.9	0.8		76	4.92	n.	7.4		9/10 A.St., nw.

March 15, 1918.

A. M.															
8:05	988.9	−2.2	87	n.	2.7	396	988.9	−2.2		87	4.43	n.	2.7		8/10 Ci.St., wsw.
						500	976.0	−2.5		84	4.17	n.	4.1		Solar halo, 22° radius, from 8:15 to 9:10 a. m.
						750	946.0	−3.3		77	3.57	n.	7.6	0	
						1,000	916.7	−4.1		69	2.99	n.	11.1		
9:12	989.2	0.0	69	n.	3.1	1,112	904.0	−4.4	0.31	66	2.79	n.	12.6	760	
						1,250	888.0	−5.2		65	2.56	n.	12.3		
						1,500	860.5	−6.6		64	2.24	nnw.	11.8		
9:23	989.2	0.4	70	n.	3.6	1,524	857.7	−6.7	0.56	64	2.22	nnw.	11.8		
9:31	989.2	0.6	68	n.	3.1	1,655	843.3	−4.8	−1.45	57	2.33	nnw.	12.1	2,200	
						1,750	833.2	−5.3		55	2.15	nnw.	11.6		
						2,000	806.9	−6.4		48	1.71	n.	10.5		
						2,250	781.8	−7.6		41	1.32	n.	9.3		
9:57	989.2	0.8	59	nnw.	2.7	2,307	775.9	−7.9	0.48	40	1.25	n.	9.0	3,100	
						2,500	757.4	−8.8		35	1.01	n.	9.1		8/10 Ci.St., wsw.
10:40	989.7	1.8	55	nnw.	3.1	2,713	736.9	−9.8	0.44	30	0.79	n.	9.3		
						2,500	757.4	−8.9		35	1.00	n.	9.4		
						2,250	781.8	−7.9		41	1.28	n.	9.5		
						2,000	806.9	−7.0		46	1.55	n.	9.7		
						1,750	833.9	−5.9		52	1.93	n.	9.8		
10:59	989.9	2.0	55	nw.	2.7	1,718	837.4	−5.8	−0.56	53	1.99	n.	9.8	1,800	
11:06	989.9	2.5	53	nw.	3.1	1,575	852.9	−6.6	0.46	58	2.03	n.	11.0		
						1,500	861.2	−6.3		59	2.12	n.	10.6		
						1,250	889.0	−5.1		62	2.47	n.	9.4		
						1,000	917.7	−4.0		64	2.80	nnw.	8.1	0	
11:20	989.9	3.0	50	nnw.	3.1	859	934.1	−3.3	1.38	66	3.06	nnw.	7.4		
						750	947.1	−1.8		62	3.26	nnw.	6.4		
						500	977.0	1.7		51	3.52	n.	4.1		
11:32	989.9	3.1	47	n.	3.1	396	989.9	3.1		47	3.59	n.	3.1		8/10 Ci.St., wsw.; 1/10 St.Cu., w.

March 16, 1918 (No. 1).

A. M.															
8:18	982.3	0.4	68	sw.	6.3	396	982.3	0.4		68	4.28	sw.	6.3		Cloudless.
						500	969.4	1.6		61	4.18	sw.	9.0		
8:28	982.2	0.8	69	sw.	6.7	736	941.8	4.3	−1.15	46	3.82	wsw.	15.1	1,100	
						750	940.2	4.2		45	3.71	wsw.	14.8		
						1,000	911.0	2.8		33	2.47	wsw.	9.8		
						1,250	883.9	1.5		20	1.36	wsw.	4.8	2,700	
10:06	981.3	5.7	54	sw.	6.3	1,361	871.8	1.4	0.55	20	1.35	wsw.	4.6	3,400	
						1,500	856.8	1.5		16	1.09	wsw.	4.1	3,000	
10:20	981.0	6.3	53	wsw.	5.4	1,597	846.3	1.6	0.20	10	0.69	wsw.	3.3		
						1,500	856.8	2.1		12	0.85	wsw.	3.9	3,900	
						1,250	883.9	3.3		18	1.39	wsw.	5.3	1,800	
						1,000	911.0	4.6		24	2.04	sw.	6.8		
						750	939.3	5.7		30	2.75	sw.	8.3	0	
10:54	980.2	7.8	50	sw.	6.3	702	944.3	5.9	−1.70	31	2.88	sw.	8.6		
10:56	980.2	7.9	49	wsw.	6.3	603	955.8	4.2	1.84	33	2.72	wsw.	8.6		
						500	967.8	5.6		41	3.73	wsw.	7.4		
10:58	980.1	8.0	49	wsw.	6.3	396	980.1	8.0		49	5.26	wsw.	6.3		Cloudless.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 16, 1918 (No. 2).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m.p.s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m.p.s.*	*volts.*	
1:00	978.0	13.2	30	wsw.	8.0	396	978.0	13.2	.....	30	4.55	wsw.	8.0	.....	Cloudless.
						500	965.9	11.8	.....	32	4.43	wsw.	8.4	.....	
1:15	977.7	13.5	29	wsw.	7.6	659	947.3	9.6	1.37	34	4.06	sw.	9.0	0	
						750	937.1	9.1	.....	32	3.70	sw.	8.9	1,280	
						1,000	908.8	7.8	.....	28	2.96	sw.	8.5	.....	
						1,250	881.6	6.4	.....	24	2.31	wsw.	8.1	1,800	
						1,500	855.0	5.1	.....	19	1.67	wsw.	7.7	2,500	
						1,750	829.2	3.7	.....	15	1.19	w.	7.3	2,800	
2:03	976.7	13.9	30	wsw.	7.6	1,922	811.7	2.8	0.54	12	0.90	w.	7.0	3,100	
						2,000	804.0	2.5	.....	11	0.80	w.	6.7	.....	
						2,250	779.0	1.6	.....	8	0.55	w.	5.8	.....	
						2,500	754.7	0.6	.....	5	0.45	wnw.	4.8	2,000	
						2,750	731.7	0.3	.....	2	0.12	wnw.	3.9	.....	
3:24	975.6	16.0	23	wsw.	7.2	2,757	731.2	−0.3	0.42	2	0.12	wnw.	3.9	.....	
						2,750	731.7	−0.3	.....	2	0.12	wnw.	3.9	.....	
						2,500	754.7	0.9	.....	2	0.13	wnw.	5.7	.....	
						2,250	778.4	2.1	.....	2	0.14	w.	7.4	2,100	
						2,000	803.0	3.3	.....	2	0.15	w.	9.1	.....	
3:48	975.2	16.3	23	wsw.	7.6	1,847	818.7	4.0	0.74	2	0.16	w.	10.1	1,900	
						1,750	828.4	4.7	.....	4	0.34	w.	10.0	.....	
						1,500	854.0	6.6	.....	8	0.78	wsw.	9.8	.....	
						1,250	880.4	8.4	.....	12	1.32	wsw.	9.5	1,040	
						1,000	907.0	10.3	.....	16	2.02	sw.	9.3	0	
						750	934.5	12.1	.....	20	2.82	sw.	9.1	.....	
4:23	974.6	16.1	23	sw.	7.2	658	944.7	12.8	1.79	21	3.10	sw.	9.0	.....	
						500	962.5	15.6	.....	23	4.08	sw.	7.6	.....	
4:29	974.5	16.1	24	sw.	6.7	396	974.5	16.1	.....	24	4.39	sw.	6.7	.....	Cloudless.

March 17, 1918.

A. M.															
7:28	970.1	2.2	73	nw.	3.3	396	970.1	2.2	.....	73	5.23	nw.	3.3	.....	7/10 Ci.St., wnw.
						500	958.0	6.3	.....	61	5.83	nnw.	7.2	.....	
7:30	970.1	2.2	72	nw.	3.3	531	954.3	7.5	−3.93	58	6.01	nnw.	8.3	0	
						750	929.5	11.9	.....	40	5.57	n.	7.5	.....	
7:58	970.3	4.0	67	nw.	3.7	768	927.5	12.4	−2.39	38	5.47	n.	7.4	.....	
						750	929.5	11.9	.....	39	5.43	n.	6.9	.....	
8:20	970.2	5.6	63	nw.	3.3	621	944.0	8.4	−1.16	47	5.18	n.	3.7	.....	
						500	958.0	7.0	.....	56	5.61	nnw.	3.5	.....	
8:25	970.1	5.8	63	nw.	3.3	396	970.1	5.8	.....	63	5.81	nw.	3.3	.....	9/10 Ci.St., wnw.

March 18, 1918, series (No. 1).

A. M.															
9:03	963.5	10.9	30	sw.	9.8	396	963.5	10.9	.....	30	3.91	sw.	9.8	.....	5/10 Ci.St., n.; 4/10 Ci., nw.
						500	951.0	13.6	.....	24	3.74	sw.	16.2	.....	
9:10	963.5	10.7	29	sw.	8.9	741	925.0	20.0	−2.64	11	2.57	wsw.	30.9	0	
						750	924.0	19.9	.....	11	2.56	wsw.	30.8	.....	
						1,000	897.3	18.5	.....	9	1.92	wsw.	27.9	.....	
						1,250	871.5	17.1	.....	7	1.36	wsw.	24.9	.....	
9:23	963.5	12.0	30	sw.	10.3	1,467	849.6	15.9	0.56	5	0.90	wsw.	22.4	1,500	
						1,500	846.0	15.6	.....	5	0.89	wsw.	22.5	.....	
						1,750	821.5	13.6	.....	4	0.62	wsw.	22.9	.....	
						2,000	797.7	11.6	.....	4	0.55	wsw.	23.4	2,400	
						2,250	774.1	11.2	.....	3	0.40	wsw.	23.9	.....	
9:45	963.5	13.8	23	sw.	8.5	2,359	763.9	8.7	0.81	3	0.34	wsw.	24.1	3,300	
						2,500	751.0	7.8	.....	3	0.32	wsw.	21.1	.....	
10:05	963.5	15.3	21	sw.	8.5	2,752	728.1	6.2	0.68	3	0.28	wsw.	15.6	4,200	
						2,500	751.0	8.0	.....	3	0.32	wsw.	17.9	3,600	
						2,250	774.1	9.8	.....	2	0.24	wsw.	20.2	.....	
						2,000	797.7	11.6	.....	2	0.27	wsw.	22.4	.....	4/10 Ci., nw.
11:17	963.6	21.0	14	sw.	10.3	1,848	812.6	12.7	0.74	2	0.29	wsw.	23.8	2,700	
						1,750	822.0	13.4	.....	2	0.31	wsw.	24.8	.....	
						1,500	846.8	15.3	.....	1	0.17	wsw.	27.3	.....	
11:46	963.3	22.8	10	sw.	11.6	1,279	869.0	16.9	0.56	1	0.19	wsw.	29.6	1,500	
						1,250	872.0	17.1	.....	1	0.20	wsw.	29.0	.....	
						1,000	897.3	18.5	.....	2	0.43	sw.	24.1	.....	
NOON	963.1	23.9	9	sw.	13.0	745	925.0	19.9	1.32	2	0.46	sw.	19.0	0	
						500	951.0	23.1	.....	7	1.98	sw.	13.2	.....	
P. M.															
12:06	963.2	24.5	9	sw.	10.7	396	963.2	24.5	.....	9	2.77	sw.	10.7	.....	4/10 Ci., nw.

March 18, 1918, series (No. 2).

P. M.															
12:54	962.6	24.9	8	sw.	13.9	396	962.6	24.9	.....	8	2.52	sw.	13.9	.....	4/10 Ci., nw.
						500	951.0	23.5	.....	8	2.32	sw.	14.6	.....	
						750	924.0	20.1	.....	7	1.65	sw.	16.3	.....	
1:02	962.5	25.0	6	sw.	13.0	882	909.8	18.3	1.36	7	1.47	sw.	17.2	810	
						1,000	897.3	17.6	.....	6	1.21	sw.	17.1	.....	
						1,250	871.4	16.0	.....	5	0.91	wsw.	16.9	.....	
1:16	962.5	25.1	6	sw.	11.6	1,466	849.4	14.6	0.63	4	0.66	wsw.	16.8	1,700	
						1,500	846.2	14.3	.....	4	0.65	wsw.	16.9	.....	
						1,750	821.3	12.1	.....	4	0.56	wsw.	17.4	.....	
						2,000	797.0	10.0	.....	4	0.49	wsw.	18.0	.....	4/10 Ci., nw.
1:31	962.5	25.5	8	sw.	12.5	2,156	782.1	8.6	0.87	4	0.45	wsw.	18.2	3,100	
						2,250	773.0	7.9	.....	4	0.42	wsw.	17.3	.....	
						2,500	750.0	6.5	.....	4	0.39	wsw.	14.9	.....	

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 18, 1918, series (No. 2)—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
1:48	962.5	26.0	8	sw.	13.0	2,684	733.4	5.4	0.61	4	0.36	wsw.	13.1	3,700	
						2,750	727.7	5.1		4	0.35	wsw.	12.8		
						3,000	705.4	4.1		4	0.33	sw.	11.4	3,500	
2:25	962.2	26.2	5	sw.	13.4	3,008	704.8	4.1	0.44	4	0.33	sw.	11.4		
						3,000	705.4	4.1		4	0.33	sw.	11.4		
						2,750	727.7	5.3		4	0.36	sw.	12.9	2,900	3/10 Ci., nw.
						2,500	750.0	7.0		4	0.40	sw.	14.4		
2:48	961.9	26.0	4	sw.	12.5	2,312	767.1	7.4	0.82	4	0.41	sw.	15.5		
						2,250	773.0	7.9		4	0.43	sw.	15.5	2,100	
						2,000	796.2	9.0		4	0.46	sw.	15.5		
						1,750	820.4	12.0		4	0.56	sw.	15.4		
3:06	961.8	25.7	4	sw.	14.3	1,581	837.3	13.4	0.87	4	0.61	sw.	15.4		
						1,500	845.0	14.1		4	0.64	sw.	15.4	760	
						1,250	870.7	16.3		4	0.74	sw.	15.5		
						1,000	896.6	19.0		4	0.88	sw.	15.6		
3:23	961.7	25.7	5	sw.	12.5	876	909.8	19.5	1.35	4	0.91	sw.	15.6	0	
						750	923.0	21.2		5	1.31	sw.	14.6		
						500	949.9	24.6		6	1.86	sw.	12.5		
3:30	961.6	26.0	6	sw.	11.6	396	961.6	26.0		6	2.02	sw.	11.6		2/10 Ci., nw.

March 18, 1918, series (No. 3).

P. M.															
4:09	961.4	25.7	6	sw.	12.1	396	961.4	25.7		6	1.98	sw.	12.1		2/10 Ci., nw.
						500	950.1	24.2		6	1.81	sw.	13.4		
4:18	961.4	25.3	6	sw.	12.5	738	924.3	20.8	1.43	7	1.72	sw.	16.3	0	
						750	923.0	20.7		7	1.71	sw.	16.3		
						1,000	896.0	18.4		7	1.48	sw.	16.0	560	
						1,250	870.0	16.1		7	1.28	sw.	15.8		
						1,500	845.0	13.8		7	1.10	sw.	15.5		1/10 Ci., nw.
4:43	961.2	25.0	6	sw.	11.2	1,750	820.0	11.5	0.92	7	0.95	sw.	15.3	1,400	
						2,000	795.5	10.1		7	0.87	sw.	14.5		
						2,250	771.9	8.6		7	0.78	sw.	13.8	2,100	
						2,500	748.7	7.3		6	0.61	sw.	12.9		
5:11	861.1	24.3	7	sw.	10.3	2,750	726.1	5.7	0.58	6	0.55	sw.	12.3	2,600	
						3,000	704.4	3.7		6	0.48	sw.	11.1	2,500	
						3,250	682.8	1.6		7	0.48	sw.	9.8		
5:45	961.1	22.4	10	ssw.	8.5	3,279	680.4	1.4	0.76	7	0.47	sw.	9.7		
						3,250	682.8	1.6		7	0.48	sw.	9.8		
						3,000	704.4	3.4		7	0.55	sw.	10.5		
						2,750	726.1	5.1		6	0.53	wsw.	11.2	2,200	1/10 Ci., nw.
						2,500	748.7	6.9		6	0.60	wsw.	11.9		
6:17	961.2	19.8	16	ssw.	8.9	2,394	758.5	7.6	0.53	6	0.63	wsw.	12.2	1,700	
						2,250	771.9	8.4		6	0.66	wsw.	13.3		
						2,000	795.5	9.7		7	0.84	wsw.	15.4		
6:32	961.3	19.0	16	ssw.	8.0	1,771	817.6	10.9	0.86	7	0.91	wsw.	17.2	1,100	
						1,750	820.0	11.1		7	0.92	wsw.	17.3		
						1,500	845.0	13.2		7	1.06	wsw.	17.9		
						1,250	870.0	15.4		7	1.22	sw.	18.5		
6:48	961.4	18.6	15	ssw.	8.9	1,112	884.2	16.6	0.70	7	1.32	sw.	18.9	0	
						1,000	896.0	17.4		7	1.39	sw.	18.1		
						750	923.0	19.1		7	1.55	ssw.	16.2		
7:02	961.5	18.6	17	ssw.	8.9	499	951.1	20.9	−0.23	7	1.73	ssw.	14.4		
7:05	961.5	18.5	17	ssw.	8.5	396	961.5	18.5		17	3.62	ssw.	8.5		Few Ci., nw.

March 18, 1918, series (No. 4).

P. M.															
7:42	961.5	17.6	14	ssw.	8.9	396	961.5	17.6		14	2.82	ssw.	8.9		Few Ci., nw.
						500	949.6	18.5		14	2.98	ssw.	13.0		
7:51	961.5	17.4	14	ssw.	9.4	601	938.7	20.1	−0.82	14	3.29	ssw.	20.9	0	
						750	922.2	18.9		14	3.06	ssw.	22.5		
8:03	961.5	16.9	15	ssw.	11.6	929	903.3	17.3	0.85	14	2.76	ssw.	24.5	420	
						1,000	895.8	16.8		14	2.68	ssw.	23.6		
						1,250	869.9	15.2		14	2.42	ssw.	20.5		
						1,500	844.5	13.5		14	2.17	ssw.	17.3		
8:13	961.6	17.0	14	ssw.	12.1	1,742	820.4	11.9	0.66	14	1.95	ssw.	14.3	1,280	
						1,750	819.5	11.9		14	1.95	ssw.	14.3		
						2,000	794.8	10.7		12	1.54	sw.	13.3	1,500	
						2,250	771.4	9.6		10	1.20	sw.	12.4	2,500	Cloudless.
8:50	961.7	16.6	15	ssw.	12.5	2,487	749.9	8.5	0.36	8	0.89	sw.	11.5	1,700	
						2,250	771.4	7.9		7	0.75	sw.	11.7	1,700	
9:28	961.9	15.1	15	ssw.	9.4	2,185	777.3	9.3	0.55	7	0.82	sw.	11.8	1,300	
						2,000	794.8	10.3		7	0.88	sw.	12.6	950	
						1,750	819.5	11.7		8	1.10	sw.	13.6		
						1,500	844.5	13.1		9	1.36	sw.	14.6		
						1,250	869.9	14.4		10	1.64	ssw.	15.7		
						1,000	895.8	15.8		10	1.80	ssw.	16.7		
						750	922.9	17.2		11	2.16	ssw.	17.7	0	
10:02	962.1	14.2	18	ssw.	7.6	616	937.4	17.9	−1.77	11	2.26	ssw.	18.3		
						500	950.8	15.8		15	2.69	ssw.	13.1		
10:10	962.2	14.0	19	ssw.	8.5	396	962.2	14.0		19	3.04	ssw.	8.5		Cloudness.

March 18-19, 1918, series (No. 5).

P.M.															
10:51	962.4	13.2	19	ssw.	2.7	396	962.4	13.2		19	2.88	ssw.	2.7		Cloudless.
						500	950.7	15.0		21	3.58	ssw.	17.1		
10:57	962.5	13.0	20	ssw.	11.2	638	935.3	17.3	−1.69	24	4.74	ssw.	36.1	0	
						750	922.8	16.6		23	4.34	ssw.	32.9		
						1,000	895.6	15.2		21	3.63	ssw.	25.7	6,20	
						1,250	870.0	13.7		20	3.14	ssw.	18.5		

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 18-19, 1918, series (No. 5)—Continued.

Time.	Surface.					At different heights above sea.									Remarks
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	*°C.*	*%*		*m. p. s.*	*m.*	*mb.*	*°C.*		*%*	*mb.*		*m. p. s.*	*volts.*	
11:16	962.7	12.6	22	ssw.	4.9	1,356	859.4	13.1	0.58	19	2.87	ssw.	15.5	1,100	
						1,500	844.6	12.4		18	2.59	ssw.	14.8		
						1,750	820.0	11.2		17	2.26	ssw.	13.5		Cloudless.
						2,000	795.1	10.0		16	1.96	ssw.	12.2		
11:30	962.8	12.2	23	ssw.	8.0	2,036	791.9	9.8	0.49	16	1.94	ssw.	12.0	2,200	
						2,250	771.5	8.3		15	1.64	ssw.	11.4	2,700	Few Ci., nw.
						2,500	748.5	6.5		14	1.36	ssw.	10.8	2,900	
A.M.															
12:07	963.1	10.9	23	ssw.	5.4	2,735	727.4	4.8	0.71	13	1.12	ssw.	10.2		
						2,500	748.5	6.5		13	1.26	ssw.	11.1	2,300	
12:44	963.1	10.5	24	ssw.	10.7	2,254	771.1	8.2	0.52	12	1.30	ssw.	12.1	2,500	
						2,000	795.1	9.5		11	1.31	ssw.	13.3		
						1,750	820.0	10.8		11	1.42	sw.	14.4		
						1,500	844.6	12.1		10	1.41	sw.	15.6		
1:04	963.1	10.7	23	ssw.	4.9	1,448	849.8	12.4	0.30	10	1.44	sw.	15.8	1,500	Cloudless.
						1,250	870.0	13.0		12	1.80	sw.	19.0		
						1,000	896.0	13.7		13	2.04	sw	23.1	520	
						750	932.2	14.5		15	2.48	sw.	27.1		
1:22	963.2	10.0	25	ssw.	10.7	677	931.4	14.7	−1.81	16	2.68	sw.	28.3	0	
						500	951.3	11.5		23	3.12	sw.	17.2		
1:35	963.3	9.6	27	sw.	10.7	396	963.3	9.6		27	3.23	sw.	10.7		Few Ci.St., wsw.

March 19, 1918, series (No. 6).

A.M.															
2:21	963.5	7.9	34	sw.	6.6	396	963.5	7.9		34	3.62	sw.	6.6		Few Ci.St., wsw.
						500	951.1	9.9		33	4.03	sw.	6.7		
2:28	963.5	7.8	36	sw.	7.0	700	928.9	13.8	−1.94	31	4.89	sw.	7.0		
						750	923.4	13.7		30	4.70	sw.	7.0	0	
						1,000	896.2	13.0		28	4.19	sw.	7.3		
						1,250	870.0	12.4		25	3.60	sw.	7.6		
2:43	963.5	7.2	34	sw.	7.8	1,386	856.0	12.0	0.26	24	3.37	sw.	7.8	2,200	
						1,500	844.7	11.4		23	3.10	sw.	9.0		
						1,750	819.6	10.1		22	2.72	sw.	11.5		
						2,000	794.9	8.8		21	2.38	sw.	14.0		
2:54	963.5	7.3	36	sw.	8.2	2,006	794.5	8.8	0.52	21	2.38	sw.	14.1	3,100	
						2,250	771.0	7.1		20	2.02	sw.	13.0		
						2,500	748.0	5.5		20	1.18	sw.	11.9		
3:28	963.5	7.0	34	sw.	7.0	2,700	730.0	4.1	0.58	19	1.56	sw.	11.0	3,900	
						2,500	748.0	5.1		19	1.67	sw.	11.5		
						2,250	771.0	6.3		18	1.72	sw.	12.1		
3:45	963.5	7.4	32	sw.	7.4	2,233	772.6	6.4	0.73	18	1.73	sw.	12.1	2,500	
						2,000	794.9	8.1		18	1.94	sw.	13.3		
						1,750	819.6	9.9		17	2.07	sw.	14.6		
4:04	963.5	7.7	31	sw.	7.4	1,670	827.2	10.5	0.38	17	2.16	sw.	15.0	2,000	
						1,500	844.7	11.1		17	2.25	sw.	16.9		
						1,250	870.0	12.1		17	2.40	sw.	19.8		
						1,000	896.2	13.0		18	2.70	sw.	22.6	1,200	
						750	923.4	13.9		18	2.86	sw.	21.4		
4:25	963.5	7.2	32	sw.	7.4	710	927.7	14.1	−2.45	18	2.90	sw.	25.9		
						500	951.1	9.0		29	3.33	sw.	13.3	0	
4.41	963.5	6.4	34	sw.	7.0	396	963.5	6.4		34	3.27	sw.	7.0		Few Ci.St., wsw.

March 19, 1918, series (No. 7).

A. M.															
5:35	963.5	6.6	32	sw.	8.5	396	963.5	6.6		32	3.12	sw.	8.5		Few Ci. St., wsw.
						500	951.5	9.9		33	4.03	sw.	15.4		
5:45	963.5	5.8	34	sw.	8.0	613	938.6	13.4	−3.13	34	5.23	wsw.	23.0	0	
						750	923.3	13.2		32	4.85	wsw.	20.6		
5:58	963.5	5.6	37	sw.	9.4	948	901.9	12.8	1.79	28	4.14	sw.	17.2	1,400	
						1,000	896.0	12.6		28	4.09	sw.	16.9		
						1,250	869.9	11.8		26	3.60	sw.	15.4		
						1,500	844.1	10.8		24	3.11	sw.	14.9		
6:13	963.6	4.4	40	ssw.	7.2	1,703	824.0	10.1	0.36	22	2.72	sw.	12.7	2,600	1/10 Ci. St., wsw.
						1,750	819.6	9.8		22	2.67	sw.	12.6		
						2,000	795.5	8.3		20	2.19	sw.	12.2		
						2,250	771.8	6.9		19	1.89	ssw.	11.9	3,900	
6:58	963.8	4.7	44	ssw.	8.0	2,480	750.0	5.5	0.59	18	1.63	ssw.	11.5	5,100	
						2,500	748.4	5.4		18	1.61	ssw.	11.5		
						2,750	725.7	4.3		17	1.41	ssw.	11.0		
						3,000	703.5	3.2		16	1.23	ssw.	10.5	6,200	
7:40	963.8	6.2	38	sw.	6.7	3,121	692.9	2.7	0.36	15	1.11	ssw.	10.3		
						3,000	703.5	3.0		15	1.14	ssw.	10.6		
						2,750	725.7	3.8		15	1.20	ssw.	11.3	5,000	
8:00	963.8	6.6	38	sw.	5.8	2,698	730.0	3.9	0.61	15	1.21	ssw.	11.4		
						2,500	748.4	5.1		15	1.32	ssw.	11.4		
						2,250	771.8	6.6		14	1.36	ssw.	11.4	3,700	
						2,000	795.5	8.2		14	1.52	sw.	11.4		
8:23	963.8	7.4	36	sw.	3.6	1,761	818.1	9.6	0.43	13	1.55	sw.	11.4	2,300	
						1,750	819.6	9.6		13	1.55	sw.	11.4		
						1,500	844.1	10.7		14	1.80	sw.	12.3		
						1,250	869.9	11.8		14	1.94	sw.	13.1		
						1,000	896.0	12.8		15	2.22	wsw.	13.9	1,510	
						750	923.3	13.9		16	2.54	wsw.	14.7		
8:48	963.8	8.6	34	sw.	8.0	728	925.8	14.0	−3.81	16	2.56	wsw.	14.8	620	
8:52	963.8	8.9	34	wsw.	8.0	559	944.9	7.6	0.92	18	1.88	wsw.	12.7		
						500	951.5	8.1		23	2.48	wsw.	9.6		
8:54	963.8	9.1	33	wsw.	4.0	396	963.8	9.1		33	3.93	wsw.	4.0		1/10 Ci. St., wsw.

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 19, 1918, series (No. 8).

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	*volts.*	
9:33	964.2	12.2	26	wsw.	4.0	396	964.2	12.2	.....	26	3.69	wsw.	4.0	.....	1/10 Ci. St., wsw.
						500	952.2	12.7	.....	24	3.53	wsw.	7.9	.....	
						750	924.8	13.8	.....	18	2.84	sw.	17.2	.....	
9:53	964.4	12.8	25	wsw.	7.6	762	923.2	13.9	−0.46	18	2.86	sw.	17.6	1,280	
						1,000	897.5	12.7	.....	17	2.50	sw.	17.9	.....	
10:03	964.5	13.3	24	sw.	6.7	1,219	874.4	11.6	0.50	17	2.32	sw.	18.2	2,500	
						1,250	871.0	11.5	.....	17	2.31	sw.	18.0	.....	
						1,500	845.0	10.5	.....	15	1.90	sw.	16.0	.....	
						1,750	820.0	9.6	.....	13	1.55	sw.	13.9	4,000	
						2,000	795.9	8.6	.....	11	1.23	sw.	11.9	.....	
10:32	964.7	14.2	21	sw.	7.2	2,193	777.9	7.9	0.38	10	1.06	sw.	10.4	4,500	
						2,250	773.5	7.5	.....	10	1.04	sw.	10.7	.....	
						2,500	749.7	5.9	.....	11	1.02	sw.	11.9	5,600	
						2,750	727.0	4.4	.....	12	1.00	sw.	13.1	6,100	
						3,000	705.0	2.8	.....	13	0.97	sw.	14.3	7,800	1/10 Ci. St., wsw.
11:49	964.3	19.1	17	sw.	4.0	3,230	685.4	1.3	0.61	14	0.94	sw.	15.4	5,700	
						3,000	705.0	2.6	.....	14	1.03	sw.	13.1	.....	
						2,750	727.0	4.1	.....	14	1.15	sw.	10.6	.....	
P. M.															
12:13	964.0	20.2	16	sw.	10.3	2,626	738.0	4.8	0.68	14	1.20	sw.	9.4	5,300	
						2,500	749.7	5.7	.....	14	1.28	sw.	9.6	.....	
						2,250	773.2	7.3	.....	13	1.33	sw.	10.1	5,000	
						2,000	796.6	9.0	.....	12	1.38	ssw.	10.5	.....	
12:42	963.7	20.5	14	sw.	10.3	1,829	812.9	10.2	0.51	11	1.37	ssw.	10.8	2,900	
						1,750	820.0	10.6	.....	11	1.41	ssw.	11.0	.....	
						1,500	844.8	11.9	.....	12	1.67	ssw.	11.6	.....	
						1,250	870.2	13.2	.....	12	1.82	s.	12.2	2,100	
						1,000	896.5	14.5	.....	13	2.15	s.	12.8	.....	
1:10	963.0	20.8	14	ssw.	5.4	779	920.7	15.6	1.46	13	2.30	s.	13.3	0	
						750	923.5	16.0	.....	13	2.36	s.	13.1	.....	
						500	950.8	19.7	.....	14	3.21	ssw.	11.8	.....	
1:17	962.7	21.2	14	ssw.	11.2	396	962.7	21.2	.....	14	3.53	ssw.	11.2	.....	2/10 Ci. St., wsw.

March 20, 1918.

A. M.															
8:09	964.2	9.4	41	s.	3.1	396	964.2	9.4	.....	41	4.83	s.	3.1	.....	2/10 Ci., wsw.; 3/10 Ci. St., wsw.
						500	952.0	10.8	.....	39	5.05	s.	5.9	.....	
						750	924.2	14.0	.....	33	5.27	sw.	12.5	1,500	
8:23	964.2	10.4	39	s.	3.6	865	911.7	15.5	−1.30	31	5.46	sw.	15.6	.....	
						1,000	897.1	14.6	.....	30	4.99	sw.	14.3	.....	
						1,250	871.0	12.8	.....	29	4.29	sw.	11.8	2,500	
						1,500	845.5	11.1	.....	27	3.57	ssw.	9.3	3,200	
9:00	964.2	12.7	34	s.	5.4	1,652	830.5	10.0	0.70	26	3.19	ssw.	7.8	4,000	
						1,750	820.6	9.3	.....	26	3.05	ssw.	8.2	.....	
						2,000	795.9	7.6	.....	26	2.71	ssw.	9.1	.....	
						2,250	772.3	6.0	.....	26	2.43	ssw.	10.1	.....	
						2,500	749.0	4.3	.....	26	2.16	s.	11.0	.....	
						2,750	726.4	2.6	.....	26	1.92	s.	12.0	.....	3/10 Ci., wsw.; 3/10 Ci. St., wsw.
9:55	963.8	15.0	30	sw.	6.3	2,996	704.5	0.9	0.68	26	1.70	s.	12.9	8,000	
						3,250	682.5	0.2	.....	28	1.74	ssw.	10.4	9,000	
						3,500	662.0	−0.4	.....	31	1.83	sw.	8.0	.....	
11:02	963.5	18.2	24	ssw.	5.8	3,523	660.4	−0.5	0.27	31	1.82	sw.	7.8	.....	
11:05	963.5	18.3	24	ssw.	5.8	3,614	652.9	0.6	−1.21	27	1.72	ssw.	10.2	10,500	
						3,750	641.8	−0.3	.....	26	1.55	ssw.	11.3	.....	5/10 Ci., wsw.; 1/10 A. Cu., wsw
						4,000	622.0	−2.1	.....	24	1.23	ssw.	13.2	11,000	
						4,250	602.4	−3.8	.....	22	0.98	ssw.	15.2	.....	
11:23	963.3	18.6	24	sw.	7.6	4,348	594.8	−4.5	0.57	21	0.88	ssw.	16.0	.....	
						4,250	602.4	−4.1	.....	21	0.91	ssw.	15.5	.....	
						4,000	622.0	−2.9	.....	23	1.10	ssw.	14.2	11,000	
						3,750	641.8	−1.8	.....	24	1.26	ssw.	12.8	.....	
						3,500	662.0	−0.7	.....	24	1.38	ssw.	11.5	.....	
						3,250	682.2	0.4	.....	25	1.57	ssw.	10.2	7,200	
						3,000	703.8	1.5	.....	26	1.77	ssw.	8.9	.....	
P. M.															
12:01	963.1	20.5	23	ssw.	2.7	2,852	716.6	2.2	0.60	26	1.86	ssw.	8.1	6,200	
						2,750	725.7	2.8	.....	26	1.94	ssw.	8.6	.....	5/10 Ci., wsw.; 3/10 St. Cu., wsw.
						2,500	748.0	4.3	.....	27	2.24	ssw.	9.8	.....	
						2,250	771.3	5.8	.....	27	2.49	s.	11.1	5,200	
						2,000	795.2	7.3	.....	28	2.86	s.	12.3	.....	
12:31	962.8	21.5	19	ssw.	6.3	1,800	815.0	8.5	0.84	28	3.11	s.	13.3	3,500	
						1,750	819.8	8.9	.....	28	3.19	s.	13.1	.....	
						1,500	844.6	11.0	.....	28	3.68	s.	12.3	.....	
						1,250	870.0	13.1	.....	29	4.37	s.	11.5	1,600	
						1,000	896.4	15.2	.....	29	5.01	s.	10.6	.....	
12:59	962.5	22.1	18	ssw.	7.2	836	914.3	16.6	1.37	29	5.48	s.	10.1	260	
						750	923.2	17.7	.....	27	5.47	s.	9.8	.....	
						500	950.5	21.2	.....	21	5.29	ssw.	8.9	.....	
1:06	962.3	22.6	19	ssw.	8.5	396	962.3	22.6	.....	19	5.21	ssw.	8.5	.....	1/10 Ci., wsw.; 5/10 A. Cu., wsw.

March 21, 1918.

A. M.															
8:46	965.8	11.6	59	nne.	8.5	396	965.8	11.6	.....	59	8.06	nne.	8.5	.....	Light haze during flight.
						500	953.6	11.0	.....	56	7.35	nne.	9.2	.....	
8:53	966.0	12.4	56	nne.	8.5	684	933.2	10.0	0.55	50	6.14	ne.	28.0	0	
						750	925.7	9.6	.....	49	5.86	ne.	27.6	.....	
						1,000	898.3	8.1	.....	47	5.08	ne.	26.3	.....	
						1,250	872.3	6.5	.....	45	4.36	ne.	25.0	.....	
10:30	966.9	16.2	28	nne.	11.2	1,306	866.9	6.2	0.61	44	4.17	ne.	24.7	.....	

TABLE 12.—*Fair-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 21, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,500	846.0	5.3		48	4.28	ne.	23.1	2,000	
						1,750	820.9	4.2		53	4.37	ne.	20.9	3,000	1/10 St. Cu., nw.
						2,000	796.2	3.2		59	4.54	ne.	18.8		
10:44	967.0	16.7	31	nne.	9.4	2,013	795.1	3.1	0.44	59	4.50	ne.	18.7	1,800	
						2,000	796.2	4.1		58	4.75	ne.	17.1		
10:49	967.1	16.8	30	nne.	10.3	1,993	797.4	4.7	8.00	57	4.87	ne.	16.3		
						2,000	796.2	4.7		57	4.87	ne.	16.2	1,800	
						2,250	772.6	3.5		58	4.55	ne.	13.2	2,700	
						2,500	749.0	2.4		59	4.28	ne.	10.2	1,000	
11:30	967.7	16.1	31	nne.	13.4	2,515	747.9	1.9	0.54	60	4.21	ne.	8.9		
						2,500	749.0	2.0		60	4.24	ne.	11.3		
						2,250	773.1	3.5		57	4.47	ne.	13.1	0	
11:45	968.0	17.6	23	nne.	8.9	2,177	780.1	4.0	−2.92	56	4.55	ne.	14.2	2,700	
11:48	968.0	17.6	22	nne.	9.4	2,129	784.7	2.6	0.48	59	4.35	ne.	16.0	1,200	
						2,000	797.5	3.2		55	4.23	ne.	16.3		
						1,750	822.3	4.4		46	3.85	nne.	17.0		
P. M.															
12:05	968.2	17.7	20	nne.	10.7	1,586	839.0	5.2	0.84	41	3.63	nne.	17.4	1,400	2/10 St. Cu., nw.
						1,500	847.8	5.9		40	3.72	nne.	17.4		
						1,250	874.3	8.0		38	4.08	nne.	17.4	0	
						1,000	900.9	10.1		36	4.45	nne.	17.5		
						750	928.5	12.2		34	4.83	nne.	17.5		
12:37	968.0	18.0	24	ne.	12.1	741	929.4	12.3	1.57	34	4.87	nne.	17.5		
						500	956.3	16.1		27	4.94	ne.	12.7		
12:45	968.0	17.7	24	ne.	10.7	396	968.0	17.7		24	4.86	ne.	10.7		Few St. Cu., nw.

March 22, 1918.

A. M.															
8:43	973.6	2.7	49	ne.	7.2	396	973.6	2.7		49	3.64	ne.	7.2		Parhelia 22° to right of sun from 8:20 to 9:04 a. m.
						500	961.0	1.3		49	3.29	ne.	8.4		7/10 Ci.St., e.
8:48	973.6	3.1	45	ne.	9.4	636	945.0	− 0.5	1.33	48	2.81	ne.	10.0	2,100	
						750	931.5	1.4		42	2.84	ne.	11.1		
9:00	973.6	4.5	42	ne.	8.5	934	910.8	4.5	−1.68	33	2.78	ene.	12.9	6,400	
						1,000	933.5	4.2		32	2.64	ene.	12.5		
						1,250	876.5	3.2		28	2.15	ne.	10.9	8,800	6/10 Ci.St., e.
9:15	973.7	4.8	41	ne.	8.5	1,321	868.8	2.9	0.41	27	2.03	ne.	10.4		
						1,500	850.0	3.6		18	1.42	ne.	8.6		
9:28	973.8	5.4	38	ne.	8.5	1,515	847.1	3.7	−0.31	17	1.35	ne.	8.4	10,300	
						1,750	824.0	3.1		16	1.22	ne.	8.1		
						2,000	798.7	2.2		13	0.93	ene.	7.6	13,500	
						2,250	774.7	1.8		12	0.84	ene.	7.4		
9:53	974.0	7.0	34	ene.	9.4	2,313	768.9	1.6	0.71	12	0.82	ene.	7.3	14,000	8/10 Ci.St., e.
						2,500	751.0	0.2		9	0.56	ne.	7.5		
10:28	973.8	7.8	31	ene.	8.5	2,610	740.9	− 0.7	0.77	8	0.46	ne.	7.6	13,400	
						2,750	728.0	− 1.4		8	0.44	ne.	6.9	15,200	
						3,000	705.5	− 2.6		7	0.34	ene.	5.8		Faint solar halo, 22° radius, from 11:14 to 11:46 a. m.
						3,250	683.1	− 3.8		6	0.27	ene.	4.6		
11:15	973.5	10.2	24	ne.	6.7	3,237	680.1	− 4.0	0.49	6	0.26	ene.	4.4		
						3,250	683.1	− 3.8		6	0.27	ene.	4.5	11,000	Faint parhelia, 24°, to right and left of sun. Ended 11:28 a. m.
						3,000	705.0	− 2.5		6	0.30	ene.	4.9		
						2,750	728.0	− 1.1		5	0.33	ne.	5.3		
						2,500	751.0	− 0.2		5	0.30	ne.	5.7		
11:38	973.4	11.0	22	ne.	7.6	2,298	770.0	1.3	0.02	5	0.34	ne.	6.0	10,400	
						2,250	774.7	1.3		5	0.34	ne.	6.2		
						2,000	798.7	1.3		5	0.34	ne.	7.2		
						1,750	824.0	1.4		6	0.41	ene.	8.3		
P. M.															
12:02	973.3	11.2	21	ene.	8.5	1,622	837.5	1.4	0.63	6	0.41	ene.	8.8	7,600	
						1,500	850.0	2.2		8	0.57	ene.	8.8		
						1,250	876.5	3.7		11	0.88	ene.	8.8	6,000	
						1,000	903.5	5.3		15	1.34	ne.	8.8	2,700	
						750	931.5	6.9		19	1.89	ne.	8.8		
12:31	973.1	11.8	20	ne.	7.6	607	948.8	7.8	1.99	21	2.22	ne.	8.8	1,000	
						500	961.0	9.9		21	2.56	ne.	8.0		
12:42	973.1	12.0	21	ne.	7.2	396	973.1	12.0		21	2.95	ne.	7.2		8/10 Ci.St., e.

March 25, 1918.

A. M.															
8:17	973.8	11.2	38	ssw.	6.4	396	973.8	11.2		38	5.05	ssw.	6.4		Few St.Cu., nw.
						500	961.5	11.0		37	4.86	ssw.	7.9		
						750	933.0	10.4		36	4.54	ssw.	11.5		
8:22	973.7	11.4	39	ssw	6.4	844	922.8	10.2	0.22	35	4.36	ssw.	12.8	1,390	
						1,000	905.0	10.1		35	4.33	ssw.	12.3		
						1,250	878.5	10.0		36	4.42	sw.	11.4	3,700	
8:50	973.4	13.2	37	ssw.	6.9	1,486	854.2	9.9	0.05	37	4.51	sw.	10.6		
						1,500	852.7	9.8		37	4.48	sw.	10.6		
						1,750	827.5	8.9		38	4.33	sw.	10.3		
						2,000	803.1	7.9		39	4.15	sw.	10.0	6,600	1/10 St.Cu., nw.
						2,250	779.3	6.9		41	4.08	sw.	9.6	7,700	
						2,500	756.0	5.9		42	3.90	sw.	9.3	8,200	2/10 St.Cu., nw.
						2,750	733.5	5.0		43	3.75	sw.	9.0	8,700	3/10 St.Cu., nw.
10:40	972.5	17.6	28	ssw.	8.3	2,997	711.2	4.0	0.39	44	3.58	sw.	8.7	9,700	3/10 A.Cu., nw.; 2/10 St.Cu., nw.
						3,250	689.3	2.0		46	3.25	sw.	8.2		
						3,500	668.0	0.0		48	2.93	wsw.	7.7		
						3,750	647.5	− 2.0		50	2.59	wsw.	7.2	10,500	
10:50	972.4	18.4	26	ssw.	8.3	3,936	629.9	− 3.7	0.79	52	2.33	wsw.	6.8		
						4,000	627.1	− 4.0		54	2.36	wsw.	7.1		
						4,250	611.5	− 6.3		68	2.44	w.	9.1	12,000	

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 25, 1918—Continued.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
11:51	971.1	20.4	23	ssw.	12.9	4,500	588.4	− 8.5		83	2.46	w.	11.1		
						4,694	573.8	−10.3	0.91	90	2.28	wnw.	12.7	14,300	
						4,750	569.7	−10.8		89	2.15	wnw.	12.8		
						5,000	551.3	−12.9		87	1.74	wnw.	13.3		Few Ci., nw.; Few St.Cu., nw.
						5,250	533.1	−15.1		82	1.34	wnw.	13.8		
						5,500	515.4	−17.2		78	1.05	wnw.	14.2		
						5,750	498.2	−19.4		74	0.81	wnw.	14.7		
						6,000	481.8	−21.5		71	0.63	nw.	15.2	18,500	
						6,250	465.9	−23.7		67	0.48	nw.	15.7		
						6,500	450.0	−25.8		63	0.37	nw.	16.1	21,200	
						6,750	437.3	−28.0		59	0.27	nw.	16.6		
P. M.															
1:06	969.7	22.4	20	ssw.	12.9	6,843	428.4	−28.8	0.79	58	0.24	nw.	16.8		
						6,750	436.7	−28.1		57	0.26	nw.	16.7		
						6,500	448.3	−26.3		55	0.30	nw.	16.5		
						6,250	463.0	−24.5		52	0.34	nw.	16.3		Few Ci., nw.
						6,000	478.5	−22.7		50	0.40	nw.	16.1		
						5,750	494.7	−20.9		47	0.44	nw.	15.9		
						5,500	511.6	−19.1		45	0.50	nw.	15.7		
						5,250	528.8	−17.3		42	0.56	nw.	15.5		
2:18	967.8	22.7	18	ssw.	12.9	5,239	529.6	−17.2	0.34	42	0.56	nw.	15.5	11,000	
						5,000	546.2	−16.4		55	0.78	nw.	14.5		
						4,750	564.5	−15.5		68	1.07	nw.	13.4		
2:35	967.4	22.8	18	ssw.	13.3	4,626	573.8	−15.1	0.87	75	1.22	nw.	12.9		
						4,500	583.3	−14.0		72	1.30	nw.	12.8	7,100	
						4,250	606.6	−11.8		66	1.46	wnw.	12.5		
						4,000	622.5	− 9.6		60	1.61	wnw.	12.2		1/10 Ci., nw.
2:54	967.0	22.9	18	ssw.	11.5	3,926	628.4	− 9.0	0.82	58	1.65	wnw.	12.1	6,100	
						3,750	642.8	− 7.6		56	1.80	wnw.	12.9		
						3,500	663.1	− 5.5		52	2.00	w.	14.0		
						3,250	684.5	− 3.5		49	2.23	w.	15.1	4,500	
						3,000	706.3	− 1.5		46	2.48	w.	16.2		
						2,750	728.7	0.6		43	2.74	wsw.	17.3	2,600	
						2,500	751.7	2.6		39	2.87	wsw.	18.4		
						2,250	775.0	4.7		36	3.07	sw.	19.5		
3:36	966.1	23.3	18	ssw.	13.3	2,012	797.7	6.6	1.04	33	3.22	sw.	20.5		
						2,000	799.0	6.7		33	3.24	sw.	20.4	2,000	
						1,750	823.1	9.3		30	3.52	sw.	18.1		
						1,500	848.0	11.9		28	3.90	ssw.	15.8		
3:54	965.6	23.2	17	ssw.	12.4	1,322	866.3	13.8	0.80	26	4.10	ssw.	14.1	0	1/10 Ci., nw.
						1,250	874.0	14.4		25	4.10	ssw.	14.4		
						1,000	900.0	16.4		21	3.92	ssw.	15.6		
4:05	965.4	23.6	18	ssw.	12.0	819	919.2	17.8	1.25	18	3.67	ssw.	16.5		
						750	926.5	18.7		17	3.67	ssw.	15.7		
						500	953.7	21.8		13	3.40	ssw.	12.7		
4:13	965.4	23.1	12	ssw.	11.5	396	965.4	23.1		12	3.39	ssw.	11.5		Few Ci., nw.

March 26, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.															
4:10	959.9	20.2	30	ene.	10.3	396	959.9	20.2		30	7.10	ene.	10.3		Light haze.
						500	948.2	18.5		31	6.60	ene.	10.6		
						750	921.0	14.4		33	5.41	ene.	11.2		
4:17	960.0	20.1	30	ene.	11.6	806	914.8	13.5	1.63	34	5.26	ene.	11.3	0	
						1,000	894.0	11.8		40	5.54	ene.	10.6		
4:42	960.2	19.0	33	ene.	9.8	1,185	874.1	10.1	0.38	45	5.56	ene.	10.0	680	
5:57	961.1	15.4	39	ene.	8.9	1,054	888.2	9.9	−0.12	46	5.61	ene.	11.7	1,400	Few Ci., wnw.
						1,000	894.0	9.8		46	5.58	ene.	12.1		
6:10	961.3	14.7	41	ene.	9.8	795	916.6	9.6	1.20	48	5.74	ene.	13.7		
						750	921.9	10.1		47	5.81	ene.	13.3		
						500	949.7	13.1		43	6.48	ene.	11.2		
6:17	961.4	14.4	41	ene.	10.3	396	961.4	14.4		41	6.72	ene.	10.3		Light haze.

March 27, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Electric potential.	Remarks.
P. M.															
1:48	965.0	14.8	35	ese.	13.3	396	965.0	14.8		35	5.89	ese.	13.3		Cloudless.
						500	953.5	12.8		35	5.17	ese.	15.3		
1:54	964.9	14.8	34	ese.	12.0	684	932.3	9.2	1.94	36	4.19	e.	18.8	0	
						750	925.0	8.7		37	4.16	e.	18.4		
2:00	964.8	14.8	34	ese.	13.3	944	903.2	7.2	0.77	40	4.06	e.	17.2		
						1,000	897.5	7.8		40	4.23	e.	17.5	1,800	
						1,250	871.0	10.6		39	4.98	ese.	18.8		
2:10	964.8	14.6	33	ese.	12.0	1,341	861.1	11.6	−1.11	39	5.33	ese.	19.3		
						1,500	845.0	10.6		40	5.11	ese.	16.8		
						1,750	820.0	9.1		42	4.86	se.	12.8	7,200	Few Ci., w.
						2,000	795.0	7.6		43	4.49	se.	8.8	7,800	
3:01	964.8	15.4	33	e.	10.6	2,083	787.4	7.1	0.61	44	4.44	se.	7.5	4,400	
						2,250	771.1	6.0		42	3.93	se.	7.4		
						2,500	748.0	4.3		40	3.32	se.	7.2	8,200	
						2,750	725.7	2.6		37	2.73	se.	7.1		
						3,000	703.3	0.9		35	2.28	se.	6.9		
3:21	964.8	15.6	34	e.	10.1	3,164	688.9	− 0.2	0.67	33	1.98	se.	6.8	8,000	
						3,000	703.3	0.9		35	2.28	se.	6.9		
						2,750	725.7	2.6		37	2.73	se.	7.1		
						2,500	748.0	4.3		40	3.32	se.	7.3		
3:48	964.8	15.6	33	e.	10.6	2,315	765.4	5.5	0.63	42	3.79	se.	7.4		
						2,250	771.1	5.9		42	3.90	se.	8.0	4,800	
						2,000	795.0	7.5		43	4.56	se.	10.3		
						1,750	820.0	9.0		43	4.94	ese.	12.6	5,100	
						1,500	845.0	10.6		44	5.62	ese.	14.9		
4:09	964.9	15.2	33	e.	10.6	1,485	846.6	10.7	−1.54	44	5.66	ese.	15.0		

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 27, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						1,250	871.0	7.1		45	4.54	ese.	11.5		
4:13	964.9	15.4	33	e.	9.7	1,226	873.4	6.7	0.94	45	4.41	ese.	11.1	1,000	
						1,000	897.5	8.8		44	4.99	ese.	13.1		
4:29	965.0	15.2	33	e.	9.2	802	919.5	10.7	1.11	44	5.66	ese.	14.9	0	
						750	925.0	11.3		43	5.76	ese.	14.1		
						500	953.5	14.0		36	5.75	e.	10.3		
4:35	965.0	15.2	33	e.	8.7	396	965.0	15.2		33	5.70	e.	8.7		Few Ci., w.

March 28, 1918.

A. M.															
8:33	970.6	4.5	52	e.	8.9	396	970.6	4.5		52	4.38	e.	8.9		8/10 Ci.St., w.
						500	958.4	3.7		52	4.14	e.	8.9		Faint solar halo, 22° radius, at beginning of flight, becoming distinct and complete at 11:12 a. m., and continuing at end of flight.
8:38	970.6	4.7	53	e.	8.9	752	928.9	1.9	0.73	52	3.65	ese.	9.0		
						1,000	901.3	7.2		58	5.89	se.	8.1		
8:48	970.6	5.1	50	ese.	8.5	1,182	881.4	11.1	−2.14	62	8.19	se.	7.4		
						1,250	874.5	10.7		61	7.85	se.	7.7		
						1,500	848.3	9.3		58	6.80	se.	8.9	14,000	
						1,750	823.0	7.9		55	5.86	sse.	10.0		
						2,000	798.7	6.5		52	5.03	sse.	11.2		
9:24	970.6	7.0	50	ese.	7.6	2,239	775.6	5.2	0.56	49	4.34	sse.	12.3	19,500	
						2,250	775.0	5.1		49	4.31	sse.	12.3		
						2,500	751.3	3.7		45	3.58	sse.	11.9	20,000	
						2,750	729.0	1.3		41	2.75	sse.	11.5	19,000	
						3,000	707.0	0.9		38	2.48	se.	11.0		
						3,250	685.4	−0.6		34	1.98	se.	10.6		
10:53	970.6	9.9	44	ese.	9.8	3,451	668.0	−1.7	0.60	31	1.64	se.	10.3		
						3,250	685.4	−0.5		31	1.82	se.	9.7		
						3,000	707.0	1.1		31	2.05	se.	8.9		
						2,750	729.0	2.7		32	2.46	se.	8.1		
						2,500	751.3	4.2		32	2.64	se.	7.4	16,500	
11:10	970.6	10.5	42	ese.	8.9	2,245	775.6	5.8	0.73	32	2.95	se.	6.6	14,500	
						2,000	799.2	7.6		38	3.97	se.	10.0		
						1,750	824.0	9.4		45	5.31	ese.	13.4		
11:51	970.9	12.3	40	ese.	9.4	1,556	843.7	10.8	−1.52	50	6.48	ese.	16.1	10,500	
						1,500	849.5	9.9		53	6.47	ese.	15.4		
						1,250	875.7	6.2		66	6.26	ese.	12.4	5,000	
P. M.															
12:05	970.9	12.0	40	ese.	8.9	1,148	886.3	4.6	0.91	71	6.02	ese.	11.1		
						1,000	902.0	5.9		65	6.04	ese.	10.7		
12:14	970.8	12.0	40	ese.	8.0	773	927.6	8.0	1.19	57	6.12	ese.	10.0	680	
						750	930.0	8.3		56	6.13	ese.	9.9		
						500	958.4	11.3		44	5.89	ese.	8.9		
12:20	970.8	12.5	39	ese.	8.5	396	970.8	12.5		39	5.65	ese.	8.5		8/10 Ci. St., w.

March 29, 1918.

P. M.															
12:44	979.6	15.0	38	ene.	4.5	396	979.6	15.0		38	6.48	ene.	4.5		5/10 Ci. St., w.; 2/10 A. St., w.
						500	967.3	12.8		38	5.62	ene.	5.4		Partial solar halo, 22° radius from 12:50 to 1:45 p. m.
12:59	979.4	14.8	36	ne.	4.5	628	952.7	10.2	2.07	37	4.61	ne.	6.6		
						750	938.9	9.5		36	4.27	ne.	6.5	690	
						1,000	910.7	8.2		33	3.59	ne.	6.4	1,700	
						1,250	883.3	6.8		30	2.96	ne.	6.3		4/10 A. St., w.
2:00	978.7	15.7	33	ne.	4.9	1,294	878.5	6.6	0.54	30	2.92	ne.	6.3	2,700	
						1,500	856.5	5.5		25	2.26	ne.	5.2		
						1,750	830.4	4.2		20	1.65	ne.	4.2		
2:32	978.3	16.6	33	ene.	4.9	1,835	821.8	3.8	0.58	18	1.44	ne.	3.8		
						1,750	830.4	4.4		19	1.59	ne.	3.8		
						1,500	856.0	6.0		22	2.06	ne.	3.8	1,200	2/10 A. St., w.
						1,250	882.7	7.6		25	2.61	ne.	3.8	1,800	
						1,000	909.8	9.2		28	3.26	ne.	3.7		
						750	937.9	10.8		30	3.58	ne.	3.7		
3:04	978.0	17.6	29	ne.	4.0	618	952.7	11.7	2.57	32	4.40	ne.	3.7		1/10 A. Cu., w.; 2/10 A. St., w.
						500	965.7	14.4		30	4.92	ne.	4.1		
3:22	977.9	17.4	28	ene.	4.5	396	977.9	17.4		28	5.56	ene.	4.5		4/10 A. Cu., w.; 1/10 A. St., w.

March 30, 1918.

A. M.															
10:46	970.1	14.0	44	wsw.	4.5	396	970.1	14.0		44	7.03	wsw.	4.5		3/10 Ci., nnw.
						500	957.8	12.9		44	6.55	wsw.	5.3		
11:27	969.3	15.6	39	wsw.	5.4	678	937.3	11.1	1.03	44	5.81	wsw.	6.8	0	
						750	929.0	10.7		45	5.79	wsw.	7.1		
						1,000	900.9	9.5		47	5.58	wsw.	8.0	2,300	
						1,250	873.9	8.2		49	5.33	wsw.	9.0		
						1,500	848.1	6.9		51	5.07	wsw.	10.0		1/10 Ci., nnw.
P. M.															
12:03	968.5	17.2	34	sw.	5.8	1,687	829.5	6.0	0.51	52	4.86	wsw.	10.7	4,600	
						1,750	823.0	5.7		51	4.67	wsw.	10.6		
						2,000	797.9	4.5		46	3.87	wsw.	10.3		Light haze during flight.
						2,250	773.4	3.3		42	3.25	wsw.	10.0		
						2,500	749.8	2.1		38	2.70	wsw.	9.7	9,300	
						2,750	727.0	1.0		33	2.17	wsw.	9.3		
						3,000	704.7	− 0.2		29	1.74	wsw.	9.0		
12:37	967.1	18.5	30	sw.	7.2	3,162	690.3	− 1.0	0.47	26	1.46	wsw.	8.8	10,200	
						3,250	683.0	− 1.4		25	1.36	wsw.	8.7	12,000	
						3,500	661.9	− 2.4		21	1.05	wsw.	8.6	11,000	

TABLE 12.—*Free-air data from kite flights at Drexel Aerological Station, March, 1918*—Continued.

March 30, 1918—Continued.

Time.	Surface.					At different heights above sea.									Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		Electric potential.	
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.		
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	*volts.*	
						3,750	641.0	− 3.4		18	0.83	w.	8.4		
1:37	965.6	19.4	28	wsw.	8.9	3,883	629.5	− 4.0	0.42	16	0.70	w.	8.3		
						3,750	640.6	− 3.4		16	0.74	w.	8.9		
						3,500	661.0	− 2.4		17	0.85	w.	10.1	11,000	
						3,250	681.9	− 1.3		18	0.99	w.	11.3	9,900	
						3,000	703.2	− 0.3		19	1.13	wsw.	12.5		
						2,750	725.6	0.8		20	1.29	wsw.	13.7		
2:22	964.6	20.1	30	wsw.	9.8	2,501	748.0	1.8	0.65	21	1.46	wsw.	14.9	7,200	
						2,250	772.5	3.4		28	2.18	wsw.	14.0		
						2,000	796.8	5.1		35	3.08	wsw.	13.1		
						1,750	821.6	6.7		41	4.02	sw.	12.3		
						1,500	846.4	8.3		48	5.26	sw.	11.4	2,800	
						1,250	871.1	10.0		55	6.75	sw.	10.5		
3:00	963.5	20.4	31	wsw.	8.9	1,213	874.8	10.2	0.94	56	6.97	sw.	10.4	1,700	
						1,000	897.0	12.2		50	7.10	sw.	10.9		
3:19	963.1	20.7	29	wsw.	13.0	810	917.5	14.0	1.50	45	7.19	sw.	11.4	760	
						750	923.9	14.9		43	7.28	sw.	11.2		
						500	951.0	18.6		35	7.50	sw.	10.6	0	
3:35	962.7	20.2	31	sw.	10.3	396	962.7	20.2		31	7.34	sw.	10.3		

March 31, 1918.

A. M.															
8:59	955.0	14.0	44	nnw.	8.0	396	955.0	14.0		44	7.03	nnw.	8.0		6/10 Ci. St., w.
						500	943.1	12.2		46	6.54	nnw.	10.8		
9:08	955.1	14.6	43	nnw.	8.0	639	927.7	9.8	1.73	48	5.82	n.	14.6	0	
						750	915.1	8.9		50	5.70	n.	15.0		
						1,000	887.9	6.7		54	5.30	n.	16.0	1,700	
						1,250	861.5	4.6		59	5.00	n.	17.0		
						1,500	835.5	2.5		63	4.61	n.	18.0		
9:26	955.4	14.7	41	n.	9.8	1,601	825.2	1.6	0.85	65	4.46	n.	18.4		
9:29	955.5	14.8	41	n.	9.8	1,652	820.0	3.1	−3.06	68	5.19	n.	16.1	2,600	
						1,750	810.0	2.5		69	5.04	n.	15.3		
						2,000	785.5	1.0		71	4.66	n.	13.2		
9:45	955.8	15.0	41	n.	8.9	2,052	780.6	0.7	0.60	71	4.57	n.	12.8	1,800	4/10 Ci. St., w.
						2,250	762.1	0.3		67	4.18	n.	13.2	2,600	
						2,500	739.0	− 0.1		62	3.76	nnw.	13.7	6,300	
						2,750	716.7	− 0.6		56	3.25	nnw.	14.1		
						3,000	694.6	− 1.0		51	2.87	nw.	14.6		
10:41	956.8	13.0	47	n.	8.9	3,252	672.7	− 1.5	0.34	46	2.48	nw.	15.1	9,000	7/10 Ci. St., w.
						3,000	694.6	− 0.6		48	2.79	nw.	14.2		
						2,750	717.2	0.2		50	3.10	nw.	13.2		Partial solar halo, 22° radius, began 10:55 a. m. and continued at end of flight.
						2,500	740.2	1.1		52	3.44	nw.	12.3	5,400	
						2,250	763.6	1.9		54	3.79	nnw.	11.4		
						2,000	787.0	3.3		56	4.33	nnw.	10.4		
						1,750	811.4	4.1		58	4.75	nnw.	9.5	3,500	
11:19	957.0	12.6	49	n.	6.7	1,647	821.7	4.5	−0.78	59	4.97	nnw.	9.1	3,300	
						1,500	836.6	4.0		60	4.88	nnw.	12.7		
11:31	956.9	12.9	45	n.	6.3	1,442	842.5	2.9	0.75	60	4.52	nnw.	14.1		
						1,250	862.7	4.3		60	4.99	nnw.	13.3	1,500	8/10 Ci. St., w.
						1,000	889.4	6.2		60	5.69	n.	12.3		
						750	917.0	8.1		60	6.48	n.	11.3		
11:53	956.7	13.4	43	n.	7.2	653	927.7	8.8	1.87	60	6.80	n.	10.9	0	
						500	944.9	11.7		46	6.32	n.	8.7		
M.															
12:00	956.7	13.6	36	n.	7.2	396	956.7	13.6		36	5.61	n.	7.2		8/10 Ci. St., w.

TABLE 13.—*Free-air data from kite flights at Ellendale Aerological Station, December, 1917.*

December 17, 1917.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
P. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	
2:57	955.7	1.7	89	s.	6.7	444	955.7	1.7	.....	89	6.15	s.	6.7	3/10 A.St., sw.
						500	949.5	2.2	.....	81	5.80	ssw.	7.0	
3:12	955.7	1.8	88	s.	5.8	632	933.7	3.4	−0.90	61	4.76	sw.	7.6	
						750	920.0	8.4	.....	45	4.96	sw.	10.0	
3:15	955.7	1.8	88	s.	4.9	763	918.9	8.9	−4.20	43	4.90	sw.	10.3	Few A.St., sw.
						1,000	891.8	7.5	.....	40	4.15	sw.	11.1	
						1,250	864.7	5.9	.....	37	3.44	sw.	12.0	
						1,500	837.8	4.4	.....	33	2.76	wsw.	12.9	
						1,750	814.2	2.9	.....	30	2.26	wsw.	13.7	
4:15	955.8	1.4	86	s.	4.0	1,993	790.6	1.4	0.72	27	1.83	wsw.	14.6	
						1,750	814.2	3.4	.....	25	1.95	wsw.	14.6	
						1,500	837.8	5.5	.....	24	2.17	wsw.	14.6	
						1,250	864.7	7.6	.....	22	2.30	sw.	14.7	Cloudless.
						1,000	891.8	9.7	.....	21	2.53	sw.	14.7	
6:18	956.0	−1.1	89	sw.	6.7	917	902.4	10.4	−1.16	20	2.52	sw.	14.7	
						750	920.0	8.5	.....	22	2.44	sw.	13.9	
6:24	956.0	−1.2	89	sw.	6.7	692	927.1	7.8	−0.46	23	2.43	sw.	13.6	
						500	949.5	0.8	.....	74	4.79	sw.	7.9	
6:30	956.0	−1.2	89	sw.	6.3	444	956.0	−1.2	.....	89	4.92	sw.	6.3	Cloudless.

December 19, 1917.

A. M.														
9:25	956.2	7.8	68	wnw.	6.3	444	956.2	7.8	.....	68	7.19	wnw.	6.3	9/10 A.St., wnw.
						500	949.8	9.6	.....	.....	.....	wnw.	9.4	
9:30	956.2	7.4	66	wnw.	6.7	640	934.0	14.0	−3.16	.....	.....	wnw.	17.0	
						750	921.8	13.2	.....	.....	.....	wnw.	17.3	
						1,000	894.0	11.4	.....	.....	.....	wnw.	17.9	
						1,250	867.8	9.5	.....	.....	.....	wnw.	18.5	
						1,500	842.3	7.7	.....	.....	.....	wnw.	19.2	
10:05	956.9	6.5	69	wsw.	4.0	1,515	841.3	7.6	0.73	.....	.....	wnw.	19.2	
						1,750	816.9	6.0	.....	.....	.....	wnw.	19.7	
						2,000	792.8	4.2	.....	.....	.....	nw.	20.1	4/10 Ci.St., wnw.; 5/10 A.St., wnw.
10:44	957.3	7.8	62	wsw.	6.7	2,230	771.3	2.6	0.70	.....	.....	nw.	20.6	
						2,250	769.2	2.5	.....	.....	.....	nw.	20.6	
						2,500	745.2	0.7	.....	.....	.....	nw.	20.7	6/10 Ci.St., wnw.; 3/10 A.St., wnw.
11:15	957.3	8.5	60	sw.	4.5	2,683	728.9	−0.6	1.68	.....	.....	nw.	20.8	
						2,500	745.2	4.2	.....	.....	.....	nw.	23.7	Solar halo, 22° radius, began at 11:40 a. m. and continued at end of flight.
P. M.														
12:45	956.5	10.2	58	sw.	4.0	2,479	747.0	4.8	.....	.....	.....	nw.	24.0	9/10 Ci.St., wnw.; head kite broke away at 12:46 p. m.

December 31, 1917.

P. M.														
2:43	970.7	−11.1	92	sw.	6.3	444	970.7	−11.1	.....	92	2.16	sw.	6.3	10/10 St., sw.
						500	963.6	−10.0	.....	93	2.42	sw.	6.7	Altitude of St. base about 700 m.
						750	933.0	− 5.2	.....	95	3.74	wsw.	8.5	
3:09	970.2	−10.6	96	ssw.	6.3	808	925.9	− 4.1	−1.92	96	4.16	wsw.	8.9	
						1,000	903.0	0.3	.....	96	5.99	wsw.	10.0	
3:16	970.1	−10.6	98	sw.	6.7	1,073	895.4	2.0	−2.30	96	6.78	wsw.	10.4	
3:40	969.8	−10.4	96	ssw.	5.8	1,190	881.9	2.6	0.02	92	6.78	wsw.	8.2	
3:55	969.7	−10.2	92	ssw.	5.8	1,025	900.0	3.5	−5.10	92	7.22	sw.	9.9	
						1,000	902.1	2.2	.....	92	6.59	sw.	9.9	
						750	931.9	−10.5	.....	95	2.36	sw.	10.1	
4:05	969.6	−10.2	93	ssw.	5.8	723	935.1	−11.9	0.65	95	2.08	sw.	10.1	
						500	963.6	−10.5	.....	94	2.33	ssw.	5.9	
4:12	969.5	−10.1	94	ssw.	4.9	444	969.5	−10.1	.....	94	2.42	ssw.	4.9	10/10 St., sw.

TABLE 14.—*Free-air data from kite flights at Ellendale Aerological Station, January, 1918.*

January 2, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
P. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
2:40	967.9	− 9.4	75	s.	4.5	444	967.9	− 9.4	.....	75	2.06	s.	4.5	7/10 Ci. St., nw.
						500	960.6	− 9.9	.....	76	1.99	s.	5.0	
3:21	967.4	− 9.9	74	s.	5.8	723	933.0	−12.1	0.97	76	1.63	s.	6.8	
						750	929.4	−12.3	.....	76	1.60	s.	7.1	
3.46	967.1	− 9.0	73	s.	6.3	883	913.2	−13.5	0.88	76	1.44	s.	8.8	4/10 Ci. St., nw.
						1,000	899.0	− 9.9	.....	76	1.99	s.	8.3	1/10 Ci. St., nw.
4:17	966.6	− 9.4	70	s.	6.7	1,100	887.5	− 6.8	−4.19	76	2.61	s.	7.9	
						1,000	899.0	−12.1	.....	76	1.63	s.	9.7	
4:32	966.4	− 9.6	71	s.	6.3	981	901.0	−13.1	0.63	76	1.49	s.	10.0	
						750	929.4	−11.6	.....	74	1.66	s.	8.6	
						500	960.6	−10.1	.....	72	1.85	s.	7.0	
4:43	966.2	− 9.7	72	s.	6.7	444	966.2	− 9.7	.....	72	1.92	s.	6.7	

January 3, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
9:00	953.0	−10.2	96	ssw.	4.5	444	953.0	−10.2	.....	96	2.45	ssw.	4.5	7/10 A. Cu., nw.; 2/10 St. Cu., wnw.
						500	945.8	− 8.5	.....	94	2.78	sw.	5.1	
						750	916.2	− 0.7	.....	86	4.95	w.	7.6	
9:10	952.9	−10.0	97	ssw.	4.9	774	913.7	0.0	−3.09	85	5.19	w.	7.8	8/10 Ci. St., nw.; 1/10 St. Cu., wnw.
10:04	952.6	− 8.6	93	ssw.	5.8	813	909.1	0.2	−0.51	80	4.96	nnw.	10.0	
						1,000	888.0	1.4	.....	78	5.27	nnw.	11.0	
						1,250	861.0	3.0	.....	74	5.61	nnw.	12.4	
						1,500	835.0	4.6	.....	71	6.02	nnw.	13.8	
						1,750	810.0	6.2	.....	68	6.45	nnw.	15.3	
						2,000	785.4	7.8	.....	64	6.77	nnw.	16.7	
10:07	952.6	− 8.5	93	ssw.	5.4	2,025	783.2	8.0	−0.64	64	6.87	nnw.	16.8	
						2,250	761.4	5.6	.....	67	6.10	nnw.	17.1	
						2,500	738.3	3.0	.....	70	5.31	nnw.	17.3	
						2,750	716.2	0.4	.....	73	4.59	nnw.	17.6	9/10 Ci. St., nw.
						3,000	694.2	− 2.2	.....	76	3.87	nnw.	17.9	
11:01	952.3	− 6.0	79	ssw.	3.1	3,095	686.1	− 3.2	0.94	77	3.60	nnw.	18.0	
						3,000	694.2	− 2.4	.....	76	3.80	nnw.	17.8	
						2,750	716.2	− 0.3	.....	72	4.29	nnw.	17.2	Solar halo, 22° radius from 12:20 to 1:15 p. m.
						2,500	738.3	1.9	.....	68	4.77	nw.	16.7	
						2,250	761.4	4.0	.....	64	5.20	nw.	16.1	
P. M.														
1:32	951.6	− 0.3	74	ssw.	1.3	2,205	766.5	4.4	0.54	65	5.44	nw.	16.0	
						2,000	785.4	5.5	.....	64	5.78	nw.	15.1	
						1,750	810.0	6.9	.....	64	6.37	nw.	14.1	
						1,500	835.0	8.2	.....	63	6.85	nw.	13.0	
2:11	951.6	0.0	74	sw.	1.8	1,357	850.1	9.0	−1.55	63	7.23	nw.	12.4	
						1,250	861.0	7.3	.....	66	6.75	nw.	11.1	
						1,000	888.0	3.5	.....	72	5.65	wnw.	8.0	
						750	916.0	− 0.4	.....	79	4.67	w.	4.9	
2:24	951.6	0.2	77	sw.	1.8	743	916.8	− 0.5	0.27	79	4.63	w.	4.8	
						500	944.9	0.2	.....	78	4.84	sw.	2.4	
2:27	951.6	0.3	78	sw.	1.8	444	951.6	0.3	.....	78	4.87	sw.	1.8	

January 8, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
9:15	966.0	−20.2	71	ne.	4.9	444	966.0	−20.2	.....	71	0.72	ne.	4.9	3/10 Ci. St., nne.; 6/10 A.Cu.,ne.
						500	959.4	−19.0	.....	78	0.88	ne.	5.8	3/10 Ci. Cu., nne.
9:45	966.1	−20.2	79	n.	5.8	542	953.5	−18.1	−2.14	83	1.02	ne.	6.4	
						750	927.8	−14.4	.....	78	1.36	ene.	6.7	
10:10	966.3	−20.1	80	n.	6.3	816	919.6	−13.2	−1.79	77	1.50	ene.	6.8	
11:57	966.9	−18.9	82	n.	4.0	885	912.0	−12.4	−0.48	75	1.57	ene.	5.2	Few Ci. St., nne.
P. M.														
12:24	966.6	−18.6	81	n.	3.1	782	924.2	−12.2	−1.84	72	1.53	ne.	5.5	
						750	927.8	−12.8	.....	73	1.47	ne.	5.3	
						500	959.4	−17.4	.....	78	1.03	n.	3.9	
12:33	966.5	−18.4	79	n.	3.6	444	966.5	−18.4	.....	79	0.95	n.	3.6	

January 10, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
9:45	976.4	−24.3	71	nw.	8.5	444	976.4	−24.3	.....	71	0.48	nw.	8.5	10/10 A.St., wnw.
						500	968.4	−24.8	.....	69	0.44	nw.	9.1	Light snow from 9:00 to 11:40 a. m.
9:56	976.4	−24.3	65	nw.	9.8	713	940.8	−26.8	0.93	63	0.33	nw.	11.2	
						750	935.3	−26.9	.....	63	0.33	nw.	11.1	
						1,000	903.1	−27.9	.....	64	0.29	nw.	10.5	
						1,250	872.3	−28.9	.....	65	0.27	nnw.	10.0	
10:32	976.2	−24.7	64	nw.	9.8	1,402	854.4	−29.5	0.39	65	0.25	nnw.	9.6	
						1,500	842.2	−28.0	.....	65	0.30	nw.	10.2	
11:44	975.8	−25.6	61	nw.	11.2	1,698	819.3	−25.0	−1.18	65	0.40	wnw.	11.2	Partial solar halo, 22° radius, began 11:40 a. m. and continued at end of flight.
						1,500	840.9	−26.6	.....	64	0.34	wnw.	11.7	
						1,250	870.6	−28.7	.....	64	0.28	nw.	12.4	
P. M.														
12:35	975.3	−25.7	52	nw.	12.5	1,047	896.6	−30.4	0.73	63	0.23	nw.	13.0	Parhelia began 12:22 p. m. and continued at end of flight.
						1,000	901.7	−30.1	.....	63	0.23	nw.	12.8	
						750	934.3	−28.2	.....	62	0.28	nw.	11.7	
						500	967.2	−26.4	.....	60	0.32	nw.	10.6	
12:57	975.0	−26.0	60	nw.	10.3	444	975.0	−26.0	.....	60	0.34	nw.	10.3	10/10 A.St., wnw.

TABLE 14.—*Free-air data from kite flights at Ellendale Aerological Station, January, 1918*—Continued.

January 12, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	*° C.*	%		*m.p.s.*	*m.*	*mb.*	*° C.*		%	*mb.*		*m.p.s.*	
9:55	956.4	−25.4	70	nw.	13.9	444	956.4	−25.4	.....	70	0.42	nw.	13.9	3/10 Ci.St., nw.
						500	948.8	−25.3	.....	62	0.38	nw.	17.9	
9:57	956.4	−25.4	70	nw.	13.9	533	944.7	−25.2	−0.22	57	0.35	nw.	20.2	
						750	916.0	−19.8	.....	53	0.56	n.	18.5	
10:06	956.4	−25.0	65	nw.	12.1	762	915.6	−19.5	−2.49	53	0.57	n.	18.4	
						1,000	885.6	−19.6	.....	54	0.58	n.	18.7	
						1,250	856.7	−19.6	.....	55	0.59	n.	19.0	
						1,500	828.3	−19.7	.....	56	0.59	n.	19.3	Few Ci.St., nw
10:50	956.1	−23.7	71	nw.	12.1	1,564	821.7	−19.7	0.09	56	0.59	n.	19.4	
						1,500	828.3	−19.6	.....	55	0.59	n.	19.4	
						1,250	856.7	−19.2	.....	51	0.57	n.	19.3	
						1,000	885.6	−18.8	.....	47	0.54	n.	19.2	
11:42	955.3	−23.2	59	nw.	12.5	878	900.4	−18.6	−2.77	45	0.53	n.	19.2	
						750	916.0	−22.2	.....	44	0.37	nnw.	16.4	
11:50	955.2	−23.0	62	nw.	12.5	705	921.7	−23.4	0.23	43	0.32	nnw.	15.4	
						500	947.3	−22.9	.....	56	0.43	nw.	11.7	
11:59	955.0	−22.8	60	nw.	10.7	444	955.0	−22.8	.....	60	0.47	nw.	10.7	Few Ci. St., nw.

January 14, 1918.

A. M.														
9:03	956.4	−20.6	30	nw.	7.6	444	956.4	−20.6	.....	30	0.29	nw.	7.6	Few A.Cu., nw.
						500	949.3	−19.7	.....	31	0.33	nw.	8.3	
9:20	956.3	−20.3	46	nw.	6.7	739	919.2	−15.7	−1.66	33	0.51	nnw.	11.3	
						750	917.7	−15.7	.....	33	0.51	nnw.	11.3	
						1,000	886.8	−16.0	.....	32	0.48	nnw.	11.6	
						1,250	857.7	−16.2	.....	32	0.47	nw.	11.8	
						1,500	829.9	−16.4	.....	31	0.45	nw.	12.0	
9:52	956.1	−19.0	39	nw.	4.5	1,661	813.1	−16.6	0.10	31	0.44	nw.	12.2	
						1,750	803.0	−16.8	.....	31	0.43	nw.	12.5	
						2,000	776.8	−17.2	.....	32	0.43	nw.	13.2	
						2,250	751.8	−17.6	.....	32	0.41	nw.	13.9	
						2,500	727.4	−18.1	.....	33	0.41	nw.	14.7	Few A.St., nw.
						2,750	703.8	−18.5	.....	33	0.39	nw.	15.4	
						3,000	680.5	−18.9	.....	34	0.39	nw.	16.2	
11:20	955.9	−16.7	48	nw.	4.9	3,214	660.6	−19.3	0.14	34	0.37	nw.	16.8	
						3,000	680.5	−19.0	.....	41	0.46	nw.	17.4	
						2,750	703.8	−18.8	.....	50	0.58	nw.	18.1	
P. M.														
1:14	955.4	−14.5	50	nw.	4.5	2,623	715.3	−18.6	0.74	54	0.64	nw.	18.4	Cloudless.
						2,500	727.4	−18.1	.....	54	0.66	nw.	17.4	
						2,250	751.8	−17.2	.....	55	0.74	nw.	15.4	
						2,000	776.8	−16.3	.....	55	0.80	nw.	13.4	
						1,750	803.0	−15.3	.....	56	0.90	nw.	11.4	
2:06	955.3	−14.6	72	wnw.	4.5	1,549	825.3	−14.6	−0.14	56	0.96	nw.	9.8	
						1,500	829.9	−14.7	.....	55	0.94	nw.	9.7	
						1,250	857.3	−15.0	.....	48	0.79	nw.	9.0	
						1,000	886.0	−15.4	.....	41	0.65	nw.	8.2	
2:35	955.0	−14.2	66	wnw.	4.9	770	914.6	−15.7	0.43	35	0.54	nw.	7.6	Cloudless.
						750	917.0	−15.6	.....	37	0.58	nw.	7.4	
						500	948.0	−14.5	.....	62	1.07	wnw.	5.4	
2:39	954.9	−14.3	68	wnw.	4.9	444	954.9	−14.3	.....	68	1.20	wnw.	4.9	

January 15, 1918.

A. M.														
9:09	951.7	−18.6	82	wnw.	4.9	444	951.7	−18.6	.....	82	0.97	wnw.	4.9	1/10 A.St., nw.
						500	944.5	−15.7	.....	81	1.26	wnw.	9.4	
9:13	951.7	−18.4	78	nw.	4.9	593	933.2	−10.9	−5.17	79	1.89	nw.	17.0	
						750	913.7	−11.4	.....	70	1.60	nw.	15.5	
						1,000	883.8	−12.1	.....	57	1.22	nw.	13.2	
9:38	951.9	−17.7	71	nw.	8.9	1,219	860.0	−12.7	0.29	45	0.92	nw.	11.1	
						1,250	855.4	−12.8	.....	46	0.93	nw.	11.2	
						1,500	828.0	−13.6	.....	52	0.98	nw.	12.4	
						1,750	801.2	−14.5	.....	59	1.02	nw.	13.6	
						2,000	775.7	−15.3	.....	65	1.04	nw.	14.7	
						2,250	750.5	−16.1	.....	72	1.07	nw.	15.9	Few Ci.St., nw.
10:20	952.0	−16.6	46	nw.	9.8	2,340	741.7	−16.4	0.33	74	1.07	nw.	16.3	
						2,500	725.7	−17.5	.....	74	0.96	nw.	17.4	
						2,750	702.2	−19.2	.....	74	0.82	nw.	19.2	
						3,000	679.3	−20.9	.....	75	0.70	nw.	20.9	2/10 A.Cu., nw.; 1/10 A.St., nw.
						3,250	656.5	−22.6	.....	75	0.60	nw.	22.7	6/10 A.Cu., nw.
10:54	952.0	−15.5	67	nw.	13.0	3,320	649.9	−23.1	1.30	75	0.57	nw.	23.2	Altitude of A. Cu. base about 2,200 m.
						3,250	656.5	−22.5	.....	73	0.58	nw.	22.5	
						3,000	679.3	−20.2	.....	64	0.65	nw.	20.1	
						2,750	702.2	−17.9	.....	56	0.71	nw.	17.6	Parhelia from 11:30 to 11:45 a.m.
P. M.														
12:55	951.4	−13.9	71	nw.	10.3	2,583	717.7	−16.4	0.38	50	0.72	nw.	16.0	
						2,500	725.7	−16.1	.....	53	0.79	nw.	15.8	
						2,250	750.0	−15.1	.....	62	1.01	nw.	15.1	
						2,000	774.5	−14.2	.....	72	1.28	nw.	14.5	
						1,750	800.2	−13.2	.....	81	1.58	nw.	13.8	
2:07	950.6	−13.2	75	nw.	13.0	1,618	814.7	−12.7	0.21	86	1.75	nw.	13.5	
						1,500	826.5	−12.5	.....	86	1.78	nw.	14.6	
						1,250	853.9	−11.9	.....	85	1.86	nw.	17.0	
						1,000	882.6	−11.4	.....	84	1.92	nw.	19.4	
2:53	950.6	−12.8	78	nw.	12.1	941	890.3	−11.3	−4.08	84	1.94	nw.	20.0	
3:04	950.6	−12.8	78	nw.	13.4	838	902.5	−15.5	0.69	84	1.32	nw.	16.2	
						750	913.0	−14.9	.....	83	1.39	nw.	15.6	
						500	942.9	−13.2	.....	79	1.54	nw.	13.8	
3:12	950.6	−12.8	78	nw.	13.4	444	950.6	−12.8	.....	78	1.58	nw.	13.4	Few A.St., nw.

TABLE 14.—*Free-air data from kite flights at Ellendale Acrological Station, January, 1918*—Continued.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
	mb.	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C.*		%	*mb.*		*m. p. s.*	
January 16, 1918.														
P. M.														
1:37	951.5	−10.6	79	nw.	13.4	444	951.5	−10.6		79	1.94	nw.	13.4	10/10 St.Cu., nnw.
						500		−11.1				nw.	14.7	Light snow throughout flight.
						750		−13.1				nnw.	2 .3	Altitude of St.Cu. base about 750 m.
1:43	951.5	−10.4	81	nw.	18.8	772		−13.3	0.82			nnw.	20.8	
						1,000		−12.1				nnw.	16.3	
2:05	951.7	−10.3	82	nw.	18.3	1,058		−11.8	−0.53			nnw.	15.2	
						1,000		−12.1				nnw.	15.5	
2:20	952.1	−10.2	82	nw.	20.1	782		−13.3	0.92			nnw.	16.4	Altitude of St.Cu. base about 800 m.
						750		−13.0				nnw.	16.3	
						500		−10.7				nw.	15.7	
2:32	952.3	−10.2	83	nw.	15.6	444	952.3	−10.2		83	2.12	nw.	15.6	10/10 St.Cu., nnw.
January 17, 1918.														
A. M.														
8:51	963.1	−16.0	83	nnw.	11.6	444	963.1	−16.0		83	1.24	nnw.	11.6	1/10 A.Cu., nnw.; 1/10 Ci.St., nnw.
						500	955.7	−16.5		83	1.19	nnw.	12.8	2/10 A.Cu., nnw.; few Ci.St., nnw.
						750	924.2	−18.9		85	0.97	nnw.	18.1	
9:03	963.2	−16.1	80	nnw.	10.7	798	918.8	−19.4	0.96	85	0.93	nnw.	19.1	
						1,000	893.3	−21.6		87	0.77	nnw.	19.9	7/10 St.Cu., nnw.; few Ci.St., nnw.
						1,250	864.1	−24.4		89	0.59	nnw.	20.9	
9:22	963.6	−15.9	79	nnw.	11.6	1,276	861.3	−24.7	1.11	89	0.57	nnw.	21.0	
9:38	964.0	−15.8	86	nnw.	13.0	1,410	846.2	−21.3	−1.98	83	0.76	nnw.	21.1	9/10 St.Cu., nnw.
10:06	964.5	−15.4	88	nnw.	10.7	1,247	865.8	−23.6	1.47	78	0.56	nnw.	20.0	Light snow from 9:25 to 10:29 a. m.
						1,000	895.2	−20.0		84	0.87	nnw.	17.5	Parhelia from 9:40 to 10:50 a. m.
10:29	964.4	−15.1	79	nnw.	13.4	933	903.6	−19.0	0.78	86	0.97	nnw.	16.8	Solar halo, 22° radius; partial circumzenithal arc of 31° radius and partial circumhorizontal arc visible from 9:40 to 10:30 a. m.
						750	926.0	−17.6		85	1.10	nnw.	15.4	
						500	957.1	−15.6		84	1.31	nnw.	13.4	
10:42	964.3	−15.2	84	nnw.	13.0	444	964.3	−15.2		84	1.36	nnw.	13.0	
January 18, 1918.														
A. M.														
8:45	960.5	−13.7	87	nw.	5.8	444	960.5	−13.7		87	1.62	nw.	5.8	10/10 St., nnw.
						500	953.4	−14.0		89	1.61	nw.	6.4	Light snow throughout flight.
						750	923.2	−15.5		97	1.52	n.	9.3	
8:55	960.4	−13.4	83	nw.	6.7	804	915.8	−15.8	0.58	99	1.51	n.	9.9	
						1,000	892.7	−15.9		99	1.50	n.	10.7	10/10 St.Cu., n.
9:10	960.4	−13.4	83	nw.	6.3	1,201	868.8	−16.1	0.08	99	1.48	n.	11.6	
						1,250	862.8	−16.4		99	1.44	n.	11.9	
						1,500	834.0	−17.6		97	1.25	n.	13.5	
						1,750	806.9	−18.9		95	1.08	n.	15.1	
						2,000	780.6	−20.2		94	0.95	n.	16.7	
9:33	960.2	−13.0	84	nw.	6.7	2,114	768.7	−20.8	0.51	93	0.88	n.	17.4	
						2,250	754.7	−21.2		93	0.85	n.	17.0	
						2,500	729.3	−21.9		93	0.79	n.	16.3	Altitude of St.Cu. base about 2,700 m.
10:42	960.1	−12.2	84	nw.	8.0	2,590	720.6	−22.2	0.29	93	0.77	n.	16.0	Clock stopped.
January 19, 1918.														
A. M.														
9:15	965.6	−14.4	91	nnw.	8.9	444	965.6	−14.4		91	1.58	nnw.	8.9	10/10 St., nnw.
						500	957.9	−15.0		91	1.50	nnw.	10.0	Faint partial solar halo, 22° radius, from 9:05 to 9:30 a. m.
						750	927.0	−17.4		93	1.23	nnw.	14.8	
9:22	965.6	−14.3	87	nnw.	9.4	811	919.7	−18.0	0.98	93	1.15	nnw.	16.0	
						1,000	896.3	−16.9		93	1.28	nnw.	15.0	4/10 A.St., n. Few St. nnw.
9:36	965.7	−14.3	86	nnw.	9.4	1,192	874.2	−15.8	−0.58	93	1.42	n.	14.0	
						1,250	867.2	−15.9		93	1.41	n.	14.1	9/10 A.Cu., n. Light snow from beginning of flight to 11:00 a.m.
						1,500	838.8	−16.3		93	1.36	n.	14.4	
						1,750	811.8	−16.6		94	1.33	n.	14.8	
						2,000	785.2	−17.0		94	1.29	n.	15.2	
						2,250	759.5	−17.5		95	1.24	n.	15.5	
						2,500	734.3	−17.9		95	1.20	n.	15.9	
10:24	965.9	−13.3	87	nnw.	10.3	2,588	726.0	−18.0	0.10	95	1.18	n.	16.0	
						2,500	734.3	−18.0		95	1.18	n.	16.2	
						2,250	759.5	−17.8		96	1.22	n.	16.7	
11:31	965.9	−12.0	85	nnw.	12.1	2,173	768.0	−17.8	0.27	96	1.22	n.	16.8	4/10 A.Cu., n.
						2,000	785.2	−17.3		96	1.28	n.	15.7	
						1,750	817.8	−16.7		97	1.37	n.	14.1	
						1,500	839.8	−16.0		98	1.47	n.	12.6	
P. M.														
12:24	966.1	−11.4	86	nnw.	11.6	1,347	857.7	−15.6	0.21	98	1.53	n.	11.6	
						1,250	868.4	−15.4		98	1.56	n.	11.8	
						1,000	897.9	−14.9		96	1.60	nnw.	12.2	
12:45	966.4	−11.0	84	nnw.	10.7	911	909.0	−14.5	0.75	96	1.66	nnw.	12.3	
						750	928.8	−13.2		91	1.77	nnw.	12.2	
						500	958.0	−11.4		84	1.92	nnw.	12.1	
12:49	966.4	−11.0	82	nnw.	12.1	444	966.4	−11.0		82	1.94	nnw.	12.1	3/10 Ci.St., n. Few St.Cu., n.
January 21, 1918.														
A. M.														
8:55	960.4	−10.4	84	w.	3.6	444	960.4	−10.4		84	2.11	w.	3.6	10/10 St., wnw.
						500	953.6	−10.5		85	2.11	w.	4.0	Light snow from 8:25 to 11:00 a. m.
						750	923.0	−10.7		88	2.15	wnw.	5.9	
9:22	960.7	−10.2	84	nw.	4.0	893	906.1	−10.8	0.09	90	2.18	nw.	6.9	

TABLE 14.—*Free-air data from kite flights at Ellendale Aerological Station, January, 1918*—Continued.

January 21, 1918—Continued.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
						1,000	893.6	−10.8		90	2.18	nw.	7.0	
						1,250	865.4	−12.5		91	1.88	nw.	8.8	
						1,500	837.7	−13.6		91	1.71	wnw.	10.1	Altitude of St. base about 1,900 m.
						1,750	810.6	−14.8		92	1.55	wnw.	11.4	
						2,000	783.9	−16.0		92	1.38	wnw.	12.7	
9:44	960.9	−10.0	77	nw.	3.6	2,031	780.3	−16.1	0.65	92	1.37	wnw.	12.8	
						2,000	783.9	−15.8		92	1.41	wnw.	12.7	
						1,750	810.6	−13.8		93	1.71	wnw.	12.3	
						1,500	837.7	−11.7		94	2.10	nw.	11.9	
10:42	961.4	− 9.0	84	nw.	6.7	1,466	841.2	−11.4	−0.71	94	2.15	nw.	11.8	
						1,250	865.4	−12.9		95	1.90	nnw.	8.8	
10:58	961.5	− 9.2	85	nw.	5.8	1,186	872.8	−13.4	0.58	95	1.81	nnw.	7.9	
						1,000	893.6	−12.3		91	1.92	nnw.	7.1	
						750	923.0	−10.9		87	2.08	nw.	6.1	
						500	953.6	− 9.4		82	2.25	nw.	5.1	10/10 St. Cu., wnw.
11:14	961.4	− 9.1	81	nw.	4.9	444	961.4	− 9.1		81	2.28	nw.	4.9	
January 23, 1918.														
A. M.														
9:37	940.8	1.9	86	nw.	13.4	444	940.8	1.9		86	6.03	nw.	13.4	10/10 St., nw.
						500	934.0	1.6		87	5.97	nw.	14.6	Rain from 9:00 to 9:15 a. m.
						750	905.4	0.5		92	5.82	wnw.	19.9	
9:42	940.8	1.9	86	nw.	12.5	815	898.2	0.2	0.46	93	5.77	wnw.	21.3	Altitude of St. base about 800 m.
						1,000	877.8	−0.7		94	5.41	wnw.	21.1	
						1,250	850.9	−1.9		95	4.96	nw.	20.9	
10:01	940.8	1.9	84	nw.	13.4	1,358	839.1	−2.4	0.32	96	4.80	nw.	20.8	
						1,250	851.1	−2.2		96	4.89	nw.	20.1	
						1,000	878.8	−1.9		95	4.96	nw.	18.4	
11:28	942.8	0.2	87	nw.	13.0	817	899.7	−1.6	0.40	94	5.03	nw.	17.2	Altitude of St. base about 700 m.
						750	907.2	−1.3		92	5.04	nw.	17.0	
						500	936.7	−0.3		86	5.13	nw.	16.3	
11:45	943.1	−0.1	85	nw.	16.1	444	943.1	−0.1		85	5.15	nw.	16.1	10/10 St., nw.
January 24, 1918.														
A. M.														
8:23	944.8	−3.6	84	sw.	4.5	444	944.8	−3.6		84	3.80	sw.	4.5	10/10 St., sw.
						500	937.9	−3.1		81	3.82	sw.	5.9	
						750	908.7	−0.9		69	3.91	w.	12.1	
8:31	944.7	−2.7	84	sw.	6.7	845	898.2	0.0	−0.90	64	3.91	w.	14.4	
						1,000	879.9	−0.9		64	3.63	w.	14.4	
						1,250	852.3	−2.3		64	3.23	wnw.	14.3	
						1,500	825.9	−3.8		64	2.84	wnw.	14.3	4/10 St., w.; 6/10 A. St., w.
						1,750	800.5	−5.2		64	2.52	wnw.	14.2	4/10 St., nw.; 1/10 A.Cu., nw.; 5/10 A. St., nw.
						2,000	775.8	−6.7		64	2.22	nw.	14.1	
9:14	944.1	−1.4	86	wsw.	6.3	2,194	757.1	−7.8	0.58	64	2.02	nw.	14.1	4/10 St., nw.; 6/10 A.Cu., nw.
						2,250	751.3	−8.1		64	1.96	nw.	14.2	
						2,500	727.2	−9.6		64	1.72	nw.	14.4	
						2,750	704.0	−11.1		64	1.50	nw.	14.7	
						3,000	681.3	−12.5		64	1.32	nw.	14.9	6/10 A.Cu., nw.; 4/10 A.St., nw.
						3,250	659.2	−14.0		64	1.16	nw.	15.2	
9:58	943.9	0.4	81	w.	8.0	3,259	658.7	−14.0	0.75	64	1.16	nw.	15.2	
						3,250	659.2	−13.9		64	1.17	nw.	15.3	
						3,000	681.3	−11.6		59	1.33	nw.	17.2	
						2,750	704.0	−9.3		53	1.46	nw.	19.2	
11:35	943.3	2.5	74	wnw.	9.4	2,599	719.2	−7.9	0.64	50	1.56	nw.	20.4	
						2,500	727.2	−7.3		50	1.64	nw.	21.3	
						2,250	751.3	−5.7		51	1.93	nw.	23.5	
P. M.														
12:08	943.2	2.8	72	wnw.	8.9	2,009	775.2	−4.1		52	2.25	nw.	25.6	Kite damaged.
January 25, 1918.														
A. M.														
9:10	963.9	−22.6	73	nne.	7.6	444	963.9	−22.6		73	0.58	nne.	7.6	1/10 Ci.St., wnw.; 1/10 A.St., wnw.
						500	956.2	−22.8		75	0.58	nne.	7.7	
9:23	964.1	−22.9	73	nne.	6.3	665	935.4	−23.4	0.36	79	0.58	ne.	8.1	1/10 Ci.St., wnw.
						750	925.0	−21.7		76	0.66	nne.	9.3	3/10 St.Cu., wnw.; 1/10 A.St., wnw.
						1,000	894.7	−16.7		68	0.96	n.	12.7	Solar halo, 22° radius, began 9:34 a. m. and continued at end of flight.
						1,250	865.3	−11.7		61	1.36	nw.	16.1	
9:51	964.4	−22.4	65	ne.	7.2	1,302	859.6	−10.7	−1.99	59	1.44	nw.	16.8	
						1,500		−11.3		57	1.32	nw.	17.6	
						1,750		−12.1		54	1.16	nw.	18.7	
						2,000		−12.9		51	1.02	nw.	19.8	
						2,250		−13.7		48	0.89	wnw.	20.9	
						2,500		−14.5		45	0.78	wnw.	21.9	5/10 Ci.St., wnw.; 2/10 A.St., wnw.
						2,750		−15.3		42	0.67	wnw.	23.0	Partial circumzenithal arc from 10:00 to 10:10 a. m.
10:29	965.3	−22.3	65	nne.	4.5	2,796		−15.4	0.32	41	0.65	wnw.	23.2	
						2,750		−15.2		42	0.68	wnw.	22.9	
						2,500		−14.4		47	0.82	nw.	21.4	
						2,250		−13.5		52	0.98	nw.	19.9	1/10 Ci.St., wnw.; 3/10 A.Cu., wnw.
						2,000		−12.7		58	1.18	nnw.	18.4	9/10 A. St., wnw.
P. M.														
12:17	966.1	−21.9	66	nne.	5.8	1,792	804.8	−12.0	−2.14	62	1.35	nnw.	17.2	
						1,750	808.8	−12.9		61	1.22	nnw.	16.4	
						1,500	836.7	−18.2		55	0.67	n.	11.9	
12:37	966.0	−21.8	67	nne.	5.4	1,310	858.1	−22.3	−0.52	51	0.42	nne.	8.4	
						1,250	865.3	−22.6		53	0.42	nne.	8.4	
						1,000	894.7	−23.9		61	0.43	nne.	8.4	
12:51	965.9	−21.7	67	nne.	7.2	885	909.4	−24.5	0.66	65	0.43	nne.	8.4	
						750	925.0	−23.6		66	0.48	nne.	7.9	
						500	956.2	−22.0		67	0.56	nne.	6.9	
1:00	965.9	−21.6	67	nne.	6.7	444	965.9	−21.6		67	0.59	nne.	6.7	9/10 A. St., wnw.

TABLE 14.—*Free-air data from kite flights at Ellendale Acrological Station, January, 1918*—Continued.

Januart 26, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	°*C.*	%		*m. p. s.*	*m.*	*mb.*	°*C*		%	*mb.*		*m. p. s.*	
9:04	975.3	−29.5	82	nne.	5.4	444	975.3	−29.5	.....	82	0.32	nne.	5.4	10/10 A.St., w.
						500	967.8	−29.7	.....	85	0.32	nne.	5.9	
9:15	975.5	−29.4	82	nne.	5.8	709	939.7	−30.4	0.34	94	0.34	ne.	8.0	
						750	933.7	−29.4	.....	91	0.36	ne.	7.9	
						1,000	902.1	−23.3	.....	76	0.56	ene.	7.6	
9:31	975.7	−29.3	82	nne.	6.3	1,047	897.0	−22.1	−2.46	73	0.61	ene.	7.5	
						1,250	873.1	−21.1	.....	63	0.58	ene.	6.8	
						1,500	844.2	−19.9	.....	51	0.53	ene.	5.8	
10:46	976.3	−28.5	74	n.	6.3	1,592	833.5	−19.4	−0.56	47	0.51	ene.	5.5	
						1,500	844.2	−20.0	.....	48	0.49	ene.	5.8	
						1,250	873.1	−21.5	.....	51	0.45	ene.	6.8	
11:24	976.6	−27.8	68	n.	5.4	1,128	888.0	−22.3	−2.09	52	0.43	ene.	7.2	
						1,000	904.0	−25.0	.....	56	0.35	ne.	6.8	
11:41	976.8	−27.4	69	n.	5.8	779	932.0	−29.6	0.75	62	0.24	nne.	6.2	
						750	936.8	−29.4	.....	61	0.24	nne.	6.2	
						500	969.1	−27.5	.....	75	0.36	n.	6.3	
11:48	976.9	−27.1	78	n.	6.3	444	976.9	−27.1	.....	78	0.39	n.	6.3	10/10 A.St., w.

January 28, 1918.

A. M.														
9:10	964.6	−21.3	76	nw.	11.6	444	964.6	−21.3	.....	76	0.69	nw.	11.6	Few St.Cu., nw.
						500	956.9	−22.1	.....	75	0.63	nw.	12.5	
						750	925.0	−25.6	.....	71	0.42	nw.	16.7	
9:12	964.6	−21.3	76	nw.	10.7	786	920.4	−26.1	1.40	71	0.40	nw.	17.3	
						1,000	893.9	−21.8	.....	67	0.58	nw.	18.1	
						1,250	864.6	−16.7	.....	62	0.87	nw.	19.1	9/10 St.Cu., nw.
9:33	964.9	−21.1	77	nw.	12.5	1,467	840.2	−12.3	−2.03	58	1.22	nw.	20.0	
						1,500	835.9	−12.5	.....	58	1.20	nw.	20.0	Altitude of St.Cu., base about 750 m.
						1,750	808.3	−13.7	.....	56	1.04	nw.	19.6	
						2,000	782.1	−14.9	.....	55	0.92	nw.	19.2	
						2,250	756.7	−16.1	.....	53	0.79	wnw.	18.9	Partial solar halo, 22° radius, visible at intervals during flight.
						2,500	731.8	−17.3	.....	52	0.69	wnw.	18.5	
10:10	965.2	−21.2	76	nw.	13.0	2,589	723.9	−17.7	0.63	51	0.65	wnw.	18.4	
						2,500	731.8	−17.0	.....	52	0.71	wnw.	18.4	
						2,250	756.7	−15.1	.....	56	0.91	wnw.	18.5	
						2,000	782.1	−13.1	.....	60	1.18	wnw.	18.6	10/10 St.Cu., nw.
11:20	965.7	−20.2	71	nw.	14.8	1,972	785.4	−12.9	−0.81	60	1.20	wnw.	18.6	
						1,750	808.3	−14.7	.....	61	1.04	wnw.	17.9	
						1,500	835.9	−16.7	.....	62	0.87	nw.	17.0	
11:56	966.2	−20.6	70	nw.	14.3	1,253	864.4	−18.7	−3.21	63	0.73	nw.	16.2	
						1,000	893.9	−26.8	.....	68	0.35	nw.	15.7	
P. M.														
12:08	966.2	−21.0	69	nw.	14.3	917	905.1	−29.5	1.84	69	0.27	nw.	15.6	Altitude of St. Cu., base about 850 m.
						750	925.0	−26.4	.....	69	0.37	nw.	15.1	
						500	958.1	−21.8	.....	70	0.60	nw.	14.5	
12:18	966.1	−20.8	70	nw.	14.3	444	966.1	−20.8	.....	70	0.66	nw.	14.3	10/10 St., nw.

January 30, 1918.

A. M														
8:34	982.7	−32.2	80	nw.	3.1	444	982.7	−32.2	.....	80	0.24	nw.	3.1	4/10 Ci.St., w.
						500	974.5	−31.6	.....	79	0.25	nw.	4.2	
8:48	982.7	−32.0	80	nw.	3.6	755	940.6	−28.6	−1.16	77	0.33	n.	9.2	
						1,000	908.8	−26.8	.....	79	0.41	n.	7.6	
9:24	982.9	−31.3	81	nw.	4.5	1,175	887.5	−25.5	−0.74	80	0.48	n.	6.4	
						1,250	878.4	−25.3	.....	78	0.48	n.	6.4	
						1,500	849.3	−24.6	.....	69	0.45	nnw.	6.3	8/10 Ci.St., w.
						1,750	820.6	−23.9	.....	61	0.43	nnw.	6.2	
10:30	983.4	−30.1	82	nnw.	6.3	1,789	816.2	−23.8	−0.20	60	0.43	nnw.	6.2	
						1,750	820.6	−23.8	.....	60	0.43	nnw.	6.3	
						1,500	849.3	−24.2	.....	60	0.41	n.	7.1	
10:48	983.7	−29.8	65	nnw.	8.0	1,384	863.4	−24.3	−0.53	60	0.40	n.	7.5	
						1,250	879.2	−25.0	.....	63	0.39	n.	7.0	
						1,000	910.0	−26.3	.....	67	0.37	n.	6.2	
11:02	983.8	−29.6	65	nw.	7.6	915	920.8	−26.8	−3.58	69	0.36	n.	5.9	
11:20	983.8	−29.3	66	nw.	5.8	809	934.5	−30.6	0.44	74	0.26	nnw.	6.4	
						750	942.0	−30.3	.....	73	0.26	nnw.	6.3	
						500	976.0	−29.2	.....	68	0.28	nw.	5.9	
11:23	983.8	−29.0	67	nw.	5.8	444	983.8	−29.0	.....	67	0.28	nw.	5.8	7/10 Ci.St., w.

January 31, 1918.

P. M.														
1:22	980.0	−22.2	49	wnw.	5.8	444	980.0	−22.2	.....	49	0.41	wnw.	5.8	Cloudless.
						500	972.3	−22.9	.....	51	0.39	wnw.	6.1	
1:48	979.6	−22.7	54	wnw.	6.3	659	951.3	−24.7	1.17	58	0.37	wnw.	6.9	
						750	939.5	−24.6	.....	57	0.37	wnw.	6.9	
						1,000	907.5	−24.3	.....	55	0.37	wnw.	7.0	
						1,250	876.9	−24.1	.....	52	0.36	wnw.	7.1	
2:45	978.9	−22.7	57	w.	4.5	1,503	846.6	−23.8	−0.11	50	0.36	wnw.	7.2	
3:03	978.7	−22.1	57	w.	3.6	1,529	843.6	−23.7	−0.15	47	0.33	wnw.	8.2	
						1,500	846.8	−23.7	.....	47	0.33	wnw.	8.1	
						1,250	876.9	−23.5	.....	46	0.34	wnw.	6.9	
3:27	978.7	−22.1	57	w.	3.1	1,024	904.0	−23.3	−0.55	46	0.34	wnw.	5.8	
						1,000	907.5	−23.4	.....	46	0.34	wnw.	6.0	
3:38	978.7	−21.9	58	w.	4.0	771	936.0	−24.7	0.86	51	0.33	wnw.	8.4	
						750	939.5	−24.5	.....	51	0.34	wnw.	8.0	
						500	971.2	−22.4	.....	57	0.46	w.	3.7	
3:45	978.7	−21.9	58	w.	2.7	444	978.7	−21.9	.....	58	0.49	w.	2.7	Cloudless.

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918.*

February 1, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:39	961.0	−24.8	68	ssw.	12.5	444	961.0	−24.8	.....	68	0.44	ssw.	12.5	10/10 St.Cu., wnw.
						500	953.3	−22.8	.....	66	0.51	ssw.	13.4	
						750	922.2	−13.9	.....	57	1.04	sw.	17.4	
8:45	961.0	−24.7	69	ssw.	11.2	965	896.8	− 6.2	−3.57	50	1.81	sw.	20.9	
						1,000	892.4	− 6.3	.....	48	1.72	sw.	20.6	
						1,250	864.1	− 6.8	.....	36	1.24	wsw.	18.2	9/10 A.Cu., wnw.
9:04	960.8	−24.6	65	ssw.	8.5	1,403	847.0	− 7.1	0.26	29	0.97	wsw.	16.8	
						1,250	863.2	− 6.6	.....	27	0.94	wsw.	18.2	
9:22	960.7	−24.2	59	ssw.	8.0	1,148	874.1	− 6.3	−3.80	26	0.93	wsw.	19.2	
						1,000	890.8	−11.9	.....	28	0.61	wsw.	18.1	6/10 A.Cu., wnw.
						750	920.8	−21.4	.....	30	0.27	sw.	16.3	
9:46	960.5	−23.2	62	ssw.	8.9	567	944.2	−28.4	4.39	32	0.14	sw.	15.0	
						500	953.3	−25.5	.....	49	0.29	ssw.	13.1	
9:50	960.5	−23.0	63	ssw.	11.6	444	960.5	−23.0	.....	63	0.49	ssw.	11.6	

February 2, 1918.

A. M.														
9:36	952.4	−16.1	95	nne.	7.2	444	952.4	−16.1	.....	95	1.42	nne.	7.2	9/10 A.St., sw.
						500	945.8	−15.3	.....	91	1.46	nne.	7.0	6/10 A.St., sw.
11:15	952.3	−13.3	75	ene.	6.3	690	922.1	−12.7	−0.80	79	1.61	ene.	6.3	Partial solar halo, 22° radius, and parhelia visible from 10:45 to 11:00 a. m.
						500	945.8	−13.1	.....	76	1.49	ene.	6.3	1/10 Ci.St., sw.; 2/10 A.St., sw.
11:36	952.3	−13.2	75	ene.	6.3	444	952.3	−13.2	.....	75	1.46	ene.	6.3	

February 4, 1918.

P. M.														
2:12	971.0	−16.7	68	s.	6.3	444	971.0	−16.7	.....	68	0.96	s.	6.3	9/10 A.Cu., nw.
						500	963.9	−17.4	.....	68	0.90	s.	7.5	
2:20	970.7	−16.7	68	s.	5.8	750	931.7	−20.5	1.24	69	0.68	s.	12.8	
						1,000	901.0	−12.2	.....	38	0.81	s.	10.3	
2:35	970.3	−16.3	64	s.	7.2	1,101	889.0	− 8.9	−3.31	26	0.74	s.	9.3	
						1,250	871.6	− 8.5	.....	30	0.89	s.	10.5	
						1,500	843.5	− 7.7	.....	37	1.18	ssw.	12.5	
						1,750	816.7	− 7.0	.....	44	1.49	sw.	14.5	
3:04	969.5	−16.5	75	s.	6.7	1,949	796.5	− 6.4	−0.29	49	1.74	sw.	16.1	
						2,000	791.2	− 6.2	.....	52	1.88	sw.	16.2	10/10 A.St., nw.
						2,250	766.2	− 5.1	.....	69	2.75	ssw.	16.7	
3:24	969.0	−16.4	76	s.	7.6	2,409	751.1	− 4.4	−0.27	79	3.33	w.	17.0	
						2,250	766.2	− 4.6	.....	81	3.36	w.	15.6	
						2,000	791.2	− 4.8	.....	84	3.43	wsw.	13.3	
4:00	968.2	−15.7	80	s.	8.5	1,764	814.8	− 5.1	−0.24	87	3.46	sw.	11.2	
						1,750	816.7	− 5.1	.....	86	3.42	sw.	11.3	
						1,500	842.8	− 5.7	.....	61	2.31	ssw.	13.4	
4:18	968.0	−15.9	80	s.	8.5	1,309	863.4	− 6.2	−2.56	42	1.52	s.	15.0	
						1,250	869.9	− 7.7	.....	42	1.34	s.	14.8	
						1,000	898.0	−14.1	.....	41	0.73	s.	14.1	
4:35	967.8	−16.0	80	s.	8.0	790	924.0	−19.5	1.01	41	0.44	s.	13.5	
						750	928.2	−19.1	.....	46	0.52	s.	12.9	
						500	960.0	−16.6	.....	74	1.05	s.	9.3	
4:40	967.8	−16.0	80	s.	8.5	444	967.8	−16.0	.....	80	1.20	s.	8.5	10/10 A.St., nw.

February 5, 1918.

A. M.														
8:15	946.5	−11.7	96	ssw.	4.5	444	946.5	−11.7	.....	96	2.14	ssw.	4.5	10/10 A. St., sw.
						500	938.7	− 8.4	.....	87	2.60	sw.	6.5	
						750	908.9	6.6	.....	48	4.68	wnw.	15.3	
8:26	946.4	−11.6	92	ssw.	5.4	787	905.0	8.8	−6.00	42	4.76	wnw.	16.6	
						1,000	881.9	7.9	.....	41	4.37	nw.	13.9	
8:38	946.3	−11.6	89	ssw.	4.5	1,113	871.5	7.4	0.43	41	4.22	nw.	12.5	
						1,250	857.2	6.0	.....	45	4.21	nw.	13.2	
						1,500	831.5	3.5	.....	53	4.16	nw.	14.5	
						1,750	806.6	1.1	.....	60	3.97	wnw.	15.7	
						2,000	781.8	− 1.4	.....	68	3.70	wnw.	17.0	
9:12	946.2	−10.0	90	ssw.	4.5	2,176	763.9	− 3.2	1.00	73	3.42	wnw.	17.9	5/10 A. Cu., sw.
						2,250	757.1	− 3.6	.....	73	3.30	wnw.	19.7	5/10 A. St., sw.
						2,500	733.4	− 5.2	.....	71	2.80	w.	25.8	
9:35	946.2	− 9.0	87	ssw.	5.4	2,657	718.5	− 6.1	0.56	70	2.56	w.	29.6	
						2,500	733.4	− 5.3	.....	75	2.93	w.	27.3	
10:32	946.0	− 6.2	80	ssw.	4.5	2,335	748.7	− 4.4	1.02	81	3.42	wnw.	24.8	
						2,250	757.0	− 3.5	.....	78	3.56	wnw.	24.2	
						2,000	781.0	− 1.0	.....	68	3.82	wnw.	22.3	
						1,750	805.9	1.6	.....	59	4.05	wnw.	20.3	4/10 A. St., w.; 4/10 A. Cu., w.
						1,500	831.5	4.1	.....	50	4.10	wnw.	18.4	
P. M.														
12:04	945.9	3.3	65	wsw.	7.6	1,376	844.4	5.4	0 52	45	4.04	wnw.	17.5	
						1,250	857.8	6.1	.....	44	4.14	wnw.	17.0	
						1,000	884.1	7.4	.....	43	4.43	w.	16.0	
						750	911.0	8.7	.....	42	4.73	w.	15.0	
12:24	945.7	3.5	67	w.	5.4	707	915.8	8.9	−1.98	42	4.79	w.	14.8	
						500	938.7	4.8	.....	62	5.33	w.	8.4	
12:30	945.7	3.7	67	w.	6.7	444	945.7	3.7	.....	67	5.38	w.	6.7	

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 6, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	*° C.*	*%*		*m. p. s.*	*m.*	*mb.*	*° C.*		*%*	*mb.*		*m. p. s.*	
8:23	958.7	−3.7	84	wnw.	5.8	444	958.7	− 3.7	.....	84	3.76	wnw.	5.8	2/10 A. Cu., nw.
						500	951.5	− 3.4	.....	82	3.77	wnw.	6.6	
						750	921.9	− 2.0	.....	74	3.83	wnw.	10.1	
						1,000	893.0	− 0.6	.....	66	3.83	nw.	13.5	
8:43	958.9	−3.5	86	wnw.	3.6	1,249	866.7	0.8	−0.56	58	3.75	nw.	17.0	
						1,500	839.2	− 0.8	.....	60	3.43	nw.	17.2	
						1,750	813.9	− 2.5	.....	61	3.03	nw.	17.4	
						2,000	789.1	− 4.1	.....	63	2.73	nw.	17.6	
9:02	959.1	−3.1	80	wnw.	4.0	2,056	783.1	− 4.5	0.66	63	2.64	nw.	17.6	
						2,250	765.0	− 5.7	.....	57	2.15	nw.	18.3	
						2,500	741.6	− 7.2	.....	49	1.63	nw.	19.2	
						2,750	717.3	− 8.7	.....	42	1.22	wnw.	20.0	
9:33	959.6	−2.5	80	wnw.	4.0	2,966	696.8	−10.0	0.39	35	0.91	wnw.	20.8	
						2,750	716.5	− 9.6	.....	68	1.83	nw.	22.0	
10:20	960.3	−1.6	82	nw.	4.5	2,680	723.4	− 9.5	0.80	79	2.14	nw.	22.4	
						2,500	740.8	− 8.1	.....	64	1.96	nw.	20.7	
11:03	960.8	−0.7	83	nw.	7.2	2,267	763.4	− 6.2	0.50	44	1.59	nw.	18.4	
						2,250	765.0	− 5.3	.....	55	2.15	nw.	17.5	
						2,000	789.0	− 4.8	.....	62	2.53	nw.	17.0	
						1,750	815.1	− 3.5	.....	78	3.56	nw.	15.7	
11:38	961.0	0.0	77	nw.	6.7	1,667	824.1	− 3.1	0.67	84	3.96	nw.	15.3	
						1,500	841.2	− 2.0	.....	65	3.36	nw.	14.0	
11:51	961.1	0.2	83	nnw.	7.2	1,323	860.6	− 0.8	−0.38	45	2.57	nw.	12.7	
						1,250	868.4	− 1.1	.....	53	2.95	nw.	11.8	
						1,000	895.8	− 2.0	.....	80	4.14	nnw.	8.8	
P. M.														
12:05	961.0	0.1	79	nnw.	5.4	874	910.4	− 2.5	0.60	94	4.66	nnw.	7.3	
						750	924.4	− 1.8	.....	91	4.79	nnw.	6.9	
						500	953.9	− 0.2	.....	84	5.05	nnw.	5.6	
12:11	961.0	0.1	83	nnw.	5.8	444	961.0	0.1	.....	83	5.10	nnw.	5.8	Few St. Cu., nw.

February 7, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.														
8:38	956.7	−10.3	93	e.	3.6	444	956.7	−10.3	.....	93	2.35	e.	3.6	5/10 A. Cu., w.; 5/10 A. St., w.; Few St. Cu. s.
						500	949.4	−10.0	.....	94	2.44	ese.	4.5	
						750	918.7	− 8.6	.....	98	2.88	sse.	8.5	Parhelia from 8:10 to 8:45 a. m.
8:51	956.7	−10.2	93	e.	3.1	868	905.7	− 8.0	−0.54	100	3.10	s.	10.4	
						1,000	889.2	− 6.9	.....	96	3.27	s.	10.3	
						1,250	861.7	− 4.8	.....	89	3.63	ssw.	10.2	
						1,500	835.7	− 2.6	.....	82	4.03	sw.	10 1	
						1,750	810.1	− 0.5	.....	75	4.40	wsw.	10.0	
9:30	956.4	− 9.2	97	e.	6.3	1,775	807.2	− 0.3	−0.85	74	4.41	wsw.	10.0	10/10 St., w.
						2,000	785.0	− 1.6	.....	86	4.60	wsw.	10.6	Moist snow from 9:48 to 10:15 a. m.
9:58	956.0	− 8.6	96	ese.	4.0	2,240	761.6	− 3.0	0.51	98	4.66	w.	11.2	
						2,000	785.0	− 1.9	.....	92	4.80	wsw.	9.8	
						1,750	810.1	− 0.8	.....	86	4.91	wsw.	8.3	
						1,500	835.7	0.3	.....	80	4.99	sw.	6.8	
						1,250	862.3	1.3	.....	74	4.97	ssw.	5.4	5/10 St., w.; 5/10 St. Cu., s.
10:21	956.1	− 7.4	95	ese.	7.2	1,148	873.9	1.8	−3.00	72	5.01	ssw.	4.8	
						1,000	890.3	− 2.9	.....	82	3.94	s.	5.0	
10:47	956.3	− 7.5	94	se.	6.7	748	919.5	−10.2	0.95	98	2.50	sse.	5.4	
						500	949.4	− 7.8	.....	96	3.02	se.	5.7	
10:52	956.3	− 7.3	95	se.	5.8	444	956.3	− 7.3	.....	95	3.13	se.	5.8	

February 8, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.														
8:34	970.5	−9.2	81	nnw.	9.4	444	970.5	− 9.2	.....	81	2.26	nnw.	9.4	1/10 Ci.St., wsw.; 2/10 A.St., wsw.
						500	963.5	− 9.6	.....	84	2.26	nnw.	12.1	
8:42	970.5	−9.2	84	nnw.	8.9	751	932.5	−11.6	0.78	95	2.14	nnw.	24.2	2/10 Ci.St., wsw.
						1,000	902.9	− 8.5	.....	78	2.31	nnw.	23.4	
						1,250	874.2	− 5.3	.....	60	2.35	nnw.	22.7	
						1,500	846.8	− 2.2	.....	43	2.19	nnw.	21.9	
9:02	970.6	−8.9	81	nnw.	10.3	1,625	834.0	− 0.6	−1.26	34	1.98	nnw.	21.5	
						1,750	820.7	− 1.4	.....	34	1.85	nnw.	21.2	
						2,000	795.2	− 2.9	.....	33	1.58	nnw.	20.7	
						2,250	770.7	− 4.5	.....	32	1.34	nnw.	20.2	
9:25	970.7	−8.4	79	nnw.	12.5	2,364	759.5	− 5.2	0.40	32	1.26	nnw.	20.0	4/10 St.Cu., nnw.
						2,250	770.7	− 5.0	.....	35	1.40	nnw.	20.2	Altitude of St.Cu. base about 1,100 m.
						2,000	795.2	− 4.5	.....	41	1.72	nnw.	20.6	
						1,750	820.7	− 4.1	.....	48	2.08	nnw.	21.0	
						1,500	847.8	− 3.7	.....	54	2.42	nnw.	21.4	
10:58	972.5	−6.2	80	nnw.	15.2	1,360	864.3	− 3.4	−2.71	58	2.67	nnw.	21.6	
						1,250	876.3	− 6.4	.....	72	2.56	nnw.	20.8	10/10 St.Cu., nnw.
11:17	972.9	−6.0	80	nnw.	13.9	1,057	898.9	−11.6	0.91	96	2.16	nnw.	19.3	Altitude of St.Cu. base about 900 m.
						1,000	905.1	−11.5	.....	96	2.18	nnw.	19.2	
						750	935.0	− 8.8	.....	89	2.57	nnw.	15.4	Light snow begun 11:00 a.m. and continued at end of flight.
						500	966.0	− 6.5	.....	83	2.93	nnw.	12.3	
11:41	973.3	−6.0	82	nnw.	11.6	444	973.3	− 6.0	.....	82	3.02	nnw.	11.6	

February 9, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.														
8:39	966.9	−2.8	74	wsw.	6.7	444	966.9	− 2.8	.....	74	3.58	wsw.	6.7	7/10 A.St., wnw.
						500	960.2	− 1.5	.....	68	3.67	wsw.	7.6	6/10 A.Cu., nw.; 2/10 A.St., nw.
						750	930.8	4.5	.....	41	3.45	w.	11.7	
8:54	966.6	−1.8	79	wsw.	6.3	857	918.4	7.1	−2.40	29	2.93	wnw.	13.4	
						1,000	902.0	6.2	.....	31	2.94	wnw.	14.6	
						1,250	874.4	4.5	.....	34	2.86	wnw.	16.7	
						1,500	848.0	2.9	.....	37	2.79	w.	18.9	

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 9, 1918—Continued.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
						1,750	822.4	1.3	.....	40	2.68	w.	21.0	
						2,000	797.2	− 0.4	.....	33	1.95	w.	23.1	
9:28	966.0	−0.5	68	w.	7.2	2,047	792.5	− 0.7	0.84	44	2.53	w.	23.5	
						2,000	797.2	− 0.2	.....	44	2.64	w.	23.1	
						1,750	822.4	2.4	.....	42	3.05	w.	21.3	
10:38	965.1	2.4	62	w.	9.8	1,687	829.0	3.0	0.88	41	3.11	w.	20.8	
						1,500	848.0	4.6	.....	38	3.22	w.	19.6	
						1,250	874.4	6.8	.....	33	3.26	wnw.	18.1	
						1,000	901.1	9.0	.....	29	3.33	wnw.	16.5	
P. M.														
12:22	964.1	5.0	59	w.	9.4	830	919.9	10.5	−1.42	26	3.30	wnw.	15.5	
						750	928.9	9.4	.....	33	3.89	wnw.	14.1	
						500	957.0	5.8	.....	54	4.98	w.	9.9	
12:30	964.0	5.0	59	w.	8.9	444	964.0	5.0	.....	59	5.14	w.	8.9	3/10 Ci.St., nw.

February 11, 1918.

A. M.														
9:57	948.6	2.4	77	n.	6.3	444	948.6	2.4	.....	77	5.59	n.	6.3	7/10 Ci.St., w.; 2/10 A.St., w.
						500	941.9	2.6	.....	74	5.45	n.	6.6	
						750	913.5	3.4	.....	62	4.84	nnw.	8.2	
10:06	948.6	2.4	77	nnw.	5.8	864	900.7	3.8	−0.33	56	4.49	nnw.	8.9	
						1,000	885.7	6.3	.....	43	4.11	nw.	8.7	
10:18	948.5	2.5	78	nnw.	6.3	1,058	879.4	7.4	−1.86	37	3.81	nw.	8.6	
						1,250	859.0	6.0	.....	40	3.74	nw.	11.0	Parhelia observed from 10:25 to 10:30 a.m.
						1,500	833.0	4.1	.....	43	3.52	wnw.	14.2	
						1,750	807.4	2.2	.....	46	3.29	wnw.	17.4	
10:55	948.2	3.4	77	nnw.	7.2	1,820	800.7	1.7	0.75	47	3.25	wnw.	18.3	
						2,000	782.2	0.5	.....	48	3.04	wnw.	18.7	7/10 Ci.St., w.; 2/10 A.St., w.; Few A.Cu. w.
						2,250	758.0	−1.1	.....	50	2.78	w.	19.2	
						2,500	734.9	−2.7	.....	52	2.54	w.	19.7	
11:14	948.2	4.0	76	nnw.	7.2	2,675	718.9	−3.8	0.58	53	2.35	w.	20.0	
						2,500	734.9	−2.9	.....	48	2.30	w.	19.5	
						2,250	758.0	−1.6	.....	40	2.14	wnw.	18.9	
P. M.														
12:10	948.4	5.6	70	nnw.	4.5	2,141	768.7	−1.0	0.48	37	2.08	wnw.	18.6	
						2,000	782.2	−0.3	.....	40	2.38	wnw.	17.3	
						1,750	807.4	0.9	.....	45	2.93	wnw.	15.1	
						1,500	833.0	2.1	.....	50	3.56	wnw.	12.9	
12:46	949.3	5.2	68	nnw.	5.4	1,263	858.2	3.2	0.18	55	4.23	wnw.	10.8	
						1,250	859.0	3.2	.....	55	4.23	wnw.	10.7	
						1,000	885.7	3.7	.....	59	4.70	nw.	9.5	
						750	914.1	4.1	.....	64	5.24	nw.	8.2	
						500	943.2	4.6	.....	68	5.77	nnw.	7.0	
1:05	949.7	4.7	69	nnw.	6.7	444	949.7	4.7	.....	69	5.89	nnw.	6.7	

February 12, 1918.

P. M.														
1:24	953.5	2.8	67	sw.	5.4	444	953.5	2.8	.....	67	5.00	sw.	5.4	2/10 A.St., w.; 3/10 St.Cu., wsw.
						500	947.0	2.2	.....	69	4.94	sw.	5.8	
						750	918.1	−0.5	.....	76	4.45	ssw.	7.6	
1:35	953.5	2.7	65	ssw.	6.3	802	912.0	−1.1	1.09	77	4.29	ssw.	8.0	
						1,000	889.0	−2.6	.....	81	3.99	ssw.	7.1	
2:06	953.3	2.6	65	ssw.	5.8	1,125	875.5	−3.6	0.77	83	3.75	ssw.	6.6	7/10 St.Cu., wsw.; kites broke away at 2:10 p.m.

February 15, 1918.

A. M.														
9:05	978.0	−22.0	74	nne.	6.3	444	978.0	−22.0	.....	74	0.62	nne.	6.3	1/10 Ci.St., nw.; 1/10 Ci.Cu., nw.; 3/10 A.Cu., nw.
						500	970.0	−22.5	.....	72	0.58	ne.	6.2	
9:14	978.0	−21.8	75	nne.	6.3	628	953.7	−23.5	0.81	66	0.48	ene.	5.9	Solar halo 22° radius, observed from 8:50 to 11:00 a.m.
						750	937.2	−21.3	.....	59	0.54	ene.	6.0	7/10 Ci.St., nw.; 1/10 A.Cu., nw.
						1,000	906.2	−16.9	.....	46	0.63	e.	6.3	
9:38	978.0	−20.9	77	nne.	8.5	1,018	904.9	−16.6	−1.77	45	0.64	e.	6.3	
						1,250	877.2	−16.4	.....	29	0.42	ese.	5.4	9/10 Ci.St., nw.
10:37	978.4	−19.3	78	nne.	6.7	1,290	873.3	−16.4	−0.16	26	0.38	ese.	5.2	
						1,250	877.3	−16.5	.....	27	0.39	ese.	5.3	
						1,000	907.3	−17.1	.....	32	0.43	e.	6.1	
11:05	978.7	−18.4	75	nne.	5.4	867	924.6	−17.4	−1.64	35	0.46	ene.	6.5	
						750	939.0	−19.3	.....	37	0.41	ene.	5.9	
11:08	978.8	−18.3	75	nne.	5.4	648	952.2	−21.0	1.47	39	0.36	ene.	5.4	
						500	971.0	−19.0	.....	66	0.75	ne.	5.0	
11:14	978.8	−18.0	76	nne.	4.9	444	978.8	−18.0	.....	76	0.94	nne.	4.9	10/10 A.St., nw.

February 18, 1918.

A. M.														
8:37	956.5	−10.9	93	nne.	11.6	444	956.5	−10.9	.....	93	2.22	nne.	11.6	10/10 St., ne.
						500	949.0	−11.2	.....	93	2.17	nne.	12.5	Light snow throughout flight.
						750	918.0	−12.6	.....	92	1.89	ne.	16.5	Altitude of St. base about 800 m.
8:48	956.5	−10.8	93	nne.	10.3	894	901.8	−13.4	0.56	92	1.76	ne.	18.8	
						1,000	888.4	−13.1	.....	92	1.80	ne.	15.9	
						1,250	860.2	−12.2	.....	93	1.98	ene.	8.9	
9:06	956.4	−11.3	93	nne.	13.9	1,354	848.8	−11.9	−0.80	93	2.04	ene.	6.0	
						1,250	860.2	−11.7	.....	94	2.10	ene.	8.5	
9:46	956.1	−12.0	88	nne.	14.3	1,136	872.9	−11.5	−1.20	95	2.16	ne.	11.3	
						1,000	887.7	−13.1	.....	94	1.84	ne.	12.9	
10:07	956.1	−12.3	88	nne.	12.5	837	907.9	−15.1	0.69	92	1.50	ne.	14.8	Altitude of St. base about 750 m.
						750	917.0	−14.5	.....	91	1.57	ne.	14.3	
						500	949.0	−12.8	.....	89	1.80	nne.	12.8	
10:19	956.3	−12.4	88	nne.	12.5	444	956.3	−12.4	.....	88	1.84	nne.	12.5	10/10 St., ne.

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 19, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:27	963.2	−26.0	76	nnw.	8.9	444	963.2	−26.0	.....	76	0.43	nnw.	8.9	7/10 Ci.St., nw.
						500	955.9	−26.0	.....	76	0.43	nnw.	9.0	
						750	923.1	−24.8	.....	74	0.47	nnw.	11.8	
						1,000	891.6	−23.8	.....	73	0.52	n.	14.2	
8:48	963.6	−25.9	76	nnw.	14.8	1,213	866.9	−22.9	−0.40	72	0.55	n.	16.2	
						1,250	861.9	−22.8	.....	72	0.56	n.	16.1	
						1,500	833.0	−22.4	.....	74	0.60	n.	15.1	
						1,750	805.9	−22.0	.....	76	0.64	n.	14.1	
						2,000	779.0	−21.7	.....	78	0.68	n.	13.1	
9:09	964.0	−25.4	67	nnw.	16.5	2,032	775.8	−21.6	−0.16	78	0.69	n.	13.0	
						2,250	752.7	−21.5	.....	75	0.67	n.	13.3	
						2,500	727.2	−21.4	.....	72	0.65	nnw.	13.6	1/10 Ci.St., nw.; 5/10 Ci.Cu., nw.
9:29	964.3	−25.0	68	nnw.	17.9	2,537	724.7	−21.4	−0.04	72	0.65	nnw.	13.6	
						2,500	727.2	−21.4	.....	72	0.65	nnw.	13.6	
						2,250	752.7	−21.5	.....	73	0.65	nnw.	13.4	
						2,000	779.0	−21.5	.....	74	0.66	n.	13.2	
						1,750	807.1	−21.6	.....	74	0.65	n.	13.1	
10:45	965.6	−23.0	72	nnw.	15.2	1,532	832.1	−21.6	−0.43	75	0.66	n.	12.9	
						1,500	835.8	−21.7	.....	75	0.65	n.	13.0	
						1,250	865.1	−22.8	.....	74	0.56	n.	14.1	
						1,000	895.0	−23.9	.....	73	0.51	n.	15.1	
11:23	966.1	−22.0	74	nnw.	12.5	875	910.8	−24.4	0.60	72	0.48	n.	15.6	
						750	926.1	−24.2	.....	73	0.50	n.	15.8	
						500	958.2	−22.7	.....	77	0.61	nnw.	17.3	
11:35	965.6	−21.8	83	nnw.	18.3	444	965.6	−21.8	.....	83	0.71	nnw.	18.3	

February 20, 1918.

A. M.														
8:12	989.0	−31.8	80	nw.	5.4	444	989.0	−31.8	.....	80	0.25	nw.	5.4	Cloudless.
						500	981.8	−31.8	.....	79	0.24	nw.	5.8	
						750	947.1	−32.0	.....	74	0.22	nw.	7.8	
8:20	989.0	−31.7	80	nw.	4.9	833	936.0	−32.0	0.05	73	0.22	nw.	8.4	
						1,000	914.2	−31.7	.....	71	0.22	nw.	8.5	
						1,250	883.0	−31.3	.....	68	0.22	nw.	8.7	
						1,500	852.3	−30.8	.....	65	0.22	wnw.	8.9	
						1,750	823.2	−30.4	.....	62	0.22	wnw.	9.1	
						2,000	794.4	−29.9	.....	60	0.23	wnw.	9.3	
9:11	989.3	−29.8	65	nw.	7.2	2,136	779.8	−29.7	−0.18	58	0.22	wnw.	9.4	
						2,250	767.2	−29.5	.....	56	0.22	wnw.	10.2	
						2,500	740.9	−29.0	.....	51	0.21	wnw.	11.9	
						2,750	715.4	−28.5	.....	46	0.20	wnw.	13.7	
						3,000	691.4	−28.0	.....	41	0.19	wnw.	15.4	
10:04	989.9	−28.1	56	nw.	6.3	3,235	670.1	−27.5	−0.20	36	0.17	wnw.	17.0	
						3,250	668.7	−27.5	.....	36	0.17	wnw.	17.2	
						3,500	646.6	−28.3	.....	35	0.16	wnw.	17.3	
						3,750	625.0	−29.0	.....	33	0.14	wnw.	17.6	
						4,000	603.8	−29.7	.....	32	0.12	wnw.	18.0	
						4,250	582.5	−30.5	.....	31	0.11	wnw.	18.3	
10:40	990.1	−27.1	60	nw.	5.8	4,363	572.0	−30.8	0.18	30	0.10	wnw.	18.4	
						4,250	582.5	−30.6	.....	30	0.10	wnw.	17.9	
						4,000	603.8	−30.5	.....	29	0.10	wnw.	16.7	
						3,750	625.0	−30.4	.....	29	0.10	wnw.	15.4	
P. M.														
12:07	999.5	−24.5	69	nw.	6.7	3,532	643.8	−30.2	0.33	28	0.10	wnw.	14.4	
						3,500	646.6	−30.1	.....	28	0.10	wnw.	14.3	1/10 Cu., nw.
						3,250	668.7	−29.3	.....	27	0.11	wnw.	13.6	
						3,000	691.4	−28.4	.....	25	0.11	wnw.	12.9	
						2,750	715.4	−27.6	.....	24	0.12	wnw.	12.2	
						2,500	741.0	−26.7	.....	23	0.12	wnw.	11.5	
						2,250	768.3	−25.9	.....	21	0.12	wnw.	10.8	1/10 St.Cu., nw.; 3/10 Cu., nw.
1:46	989.7	−24.0	60	wnw.	6.3	2,153	779.8	−25.6	−0.71	21	0.12	wnw.	10.5	
						2,000	796.0	−26.7	.....	22	0.12	wnw.	10.1	
2:14	989.7	−24.4	69	wnw.	5.8	1,753	845.1	−29.7	0.13	25	0.10	wnw.	8.8	
						1,500	854.5	−29.6	.....	27	0.11	wnw.	8.7	
						1,250	884.8	−29.3	.....	32	0.13	wnw.	8.3	
						1,000	916.0	−29.0	.....	37	0.16	wnw.	8.0	
2:45	989.8	−24.1	60	wnw.	7.6	789	943.6	−28.7	1.31	42	0.18	wnw.	7.7	
						750	948.7	−28.2	.....	44	0.20	wnw.	7.7	
						500	982.6	−24.9	.....	56	0.35	wnw.	7.6	
2:51	989.9	−24.2	59	wnw.	7.6	444	989.9	−24.2	.....	59	0.40	wnw.	7.6	

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 21, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:29	980.3	−31.0	61	ssw.	4.0	444	980.3	−31.0	.....	61	0.21	ssw.	4.0	Cloudless.
						500	973.0	−29.8	.....	60	0.23	ssw.	5.8	
						750	940.1	−24.6	.....	53	0.34	ssw.	13.8	
8:39	980.0	−30.9	61	s.	4.9	848	927.9	−22.6	−2.08	51	0.41	ssw.	17.0	
						1,000	907.9	−21.1	.....	54	0.50	ssw.	17.2	Few Ci.St., w.
8:51	979.7	−30.7	62	s.	4.9	1,207	882.4	−19.0	−1.00	59	0.67	ssw.	17.4	
						1,250	877.2	−18.7	.....	59	0.68	ssw.	17.4	
						1,500	848.2	−17.3	.....	60	0.80	ssw.	17.4	
						1,750	820.3	−15.8	.....	61	0.93	sw.	17.4	
						2,000	793.5	−14.4	.....	61	1.06	sw.	17.4	
9:37	978.2	−27.1	60	s.	6.3	2,162	776.2	−13.4	−0.59	62	1.18	sw.	17.4	
						2,250	767.0	−14.0	.....	61	1.10	sw.	17.4	
						2,500	741.5	−15.8	.....	59	0.90	sw.	17.2	
9:52	977.7	−26.2	64	ssw.	7.2	2,524	739.9	−16.0	0.59	59	0.88	sw.	17.2	
						2,500	741.5	−15.9	.....	59	0.90	sw.	17.1	
						2,250	767.0	−14.7	.....	59	1.00	sw.	15.8	
						2,000	792.1	−13.6	.....	59	1.11	sw.	14.5	
						1,750	818.0	−12.5	.....	59	1.22	sw.	13.3	Few Ci.St., w.
P. M.														
12:02	974.3	−19.7	72	ssw.	9.4	1,498	844.7	−11.3	−2.21	59	1.36	sw.	12.0	Solar halo, 22° radius, from 12:10 p. m. to end of flight.
						1,250	872.3	−16.8	.....	60	0.83	sw.	13.0	
12:13	974.0	−19.2	74	ssw.	9.8	1,208	877.8	−17.7	−2.29	60	0.77	sw.	13.2	
						1,000	902.0	−22.5	.....	66	0.53	ssw.	13.2	6/10 Ci.St., sw.
12:30	973.6	−18.6	75	ssw.	13.9	846	921.8	−26.0	1.87	71	0.40	ssw.	13.2	
						750	933.3	−24.2	.....	72	0.49	ssw.	12.6	
						500	965.8	−19.5	.....	74	0.80	ssw.	11.0	
12:42	973.4	−18.5	75	ssw.	10.7	444	973.4	−18.5	.....	75	0.89	ssw.	10.7	

February 22, 1918.

A. M.														
8:33	962.4	−18.1	88	s.	5.8	444	962.4	−18.1	.....	88	1.08	s.	5.8	2/10 Ci.St., nnw.
						500	955.6	−15.1	.....	82	1.34	ssw.	7.8	
						750	925.0	− 1.9	.....	55	2.87	w.	16.7	
8:43	962.3	−17.5	88	s.	5.8	776	921.9	− 0.5	−5.30	52	3.05	w.	17.6	
						1,000	895.3	− 0.7	.....	47	2.71	w.	16.3	
						1,250	867.8	− 0.9	.....	41	2.32	w.	14.9	
						1,500	841.2	− 1.2	.....	35	1.94	w.	13.5	
						1,750	815.6	− 1.4	.....	29	1.58	w.	12.1	
9:14	961.7	−16.1	85	s.	8.5	1,870	803.5	− 1.5	0.18	26	1.40	w.	11.4	
						2,000	790.2	− 2.0	.....	26	1.34	w.	12.1	
						2,250	765.5	− 2.9	.....	25	1.20	w.	13.6	
						2,500	741.0	− 3.8	.....	24	1.07	wnw.	15.0	
9:30	961.2	−15.9	80	s.	7.2	2,673	724.9	− 4.4	0.38	24	1.01	wnw.	16.0	1/10 Ci.St., nnw.
						2,500	741.0	− 3.7	.....	24	1.08	wnw.	16.0	
						2,250	764.0	− 2.7	.....	23	1.12	wnw.	15.9	
						2,000	787.7	− 1.7	.....	23	1.22	w.	15.9	
						1,750	812.1	− 0.7	.....	22	1.27	w.	15.8	
11:25	959.1	− 7.0	86	s.	6.3	1,509	837.1	0.2	0.31	22	1.36	w.	15.8	Few Ci.St., nnw.
						1,500	837.7	0.2	.....	22	1.36	w.	15.8	
						1,250	864.1	1.0	.....	25	1.64	w.	15.7	
						1,000	891.3	1.8	.....	27	1.88	w.	15.7	
P. M.														
12:01	958.7	− 4.4	82	sw.	10.7	764	918.9	2.5	−2.06	30	2.19	w.	15.6	
						750	920.5	− 0.4	.....	52	3.07	wsw.	13.5	
						500	951.0	− 2.9	.....	71	3.41	sw.	11.6	
12:11	958.5	− 4.1	80	sw.	10.7	444	958.5	− 4.1	.....	80	3.46	sw.	10.7	Few Ci.St., nnw

February 23, 1918.

A. M.														
8:53	948.3	− 4.6	86	ssw.	4.9	444	948.3	− 4.6	.....	86	3.57	ssw.	4.9	5/10 Ci.St., w.; 1/10 A.Cu., sw.
						500	947.0	− 1.2	.....	76	4.20	ssw.	6.3	
9:03	948.2	− 4.0	80	ssw.	5.4	720	916.7	12.0	−6.01	39	5.47	wsw.	11.8	
						750	913.3	11.9	.....	39	5.43	wsw.	11.9	
						1,000	885.9	11.0	.....	36	4.73	wsw.	12.8	
						1,250	859.3	10.1	.....	34	4.20	w.	13.6	
						1,500	833.6	9.2	.....	32	3.72	w.	14.5	
9:30	947.9	− 2.4	77	ssw.	3.6	1,587	825.7	8.9	0.36	31	3.53	w.	14.8	
						1,750	808.9	7.5	.....	34	3.53	w.	15.3	1/10 Ci.St., w.
						2,000	784.5	5.2	.....	39	3.45	w.	16.1	
						2,250	760.3	3.0	.....	44	3.34	w.	16.9	
						2,500	737.2	0.8	.....	48	3.11	w.	17.6	
10:06	947.5	0.7	66	ssw.	4.9	2,747	715.0	− 1.4	0.78	53	2.88	w.	18.4	
						2,500	737.2	0.3	.....	52	3.24	w.	18.8	
10:52	947.0	3.8	74	ssw.	6.3	2,250	760.3	2.0	0.81	51	3.60	w.	19.2	6/10 Ci.St., w.
						2,000	784.5	4.0	.....	47	3.82	w.	19.2	
						1,750	808.9	6.1	.....	44	4.14	w.	19.2	
						1,500	833.6	8.1	.....	40	4.32	wnw.	19.2	
						1,250	859.3	10.1	.....	36	4.45	wnw.	19.2	
P. M.														
12:30	946.9	8.7	64	w.	6.7	1,155	869.4	10.9	0.40	35	4.56	wnw.	19.2	
						1,000	885.4	11.5	.....	35	4.75	wnw.	18.8	
						750	912.8	12.5	.....	36	5.22	wnw.	18.1	
1:08	946.9	9.8	58	w.	8.9	700	918.3	12.7	−1.06	36	5.29	wnw.	18.0	
						500	939.8	10.6	.....	50	6.39	wnw.	12.0	
1:19	946.8	10.0	54	wnw.	10.3	444	946.8	10.0	.....	54	6.63	wnw.	10.3	

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 25, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Remarks.
P. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
1:15	960.4	−8.4	71	nw.	9.4	444	960.4	− 8.4	.....	71	2.12	nw.	9.4	8/10 St. Cu., nw.
						500	953.7	− 9.5	.....	72	1.95	nw.	9.4	
						750	922.3	−12.5	.....	76	1.57	nw.	9.6	
1:25	960.4	−8.3	62	nw.	8.9	811	915.5	−13.3	1.34	78	1.51	nw.	9.6	
						1,000	892.2	−15.4	.....	84	1.34	nw.	9.8	Altitude of St. Cu. base about 1,000 m.
1:45	960.4	−8.0	65	nw.	8.0	1,210	868.5	−17.8	1.13	90	1.14	nw.	10.0	6/10 St. Cu., nw.
						1,250	863.8	−17.7	.....	89	1.14	nw.	10.3	
						1,500	835.5	−17.4	.....	81	1.07	nw.	12.3	
						1,750	808.0	−17.0	.....	74	1.01	nw.	14.3	
						2,000	781.5	−16.6	.....	66	0.94	nw.	16.2	
2:05	960.4	−7.6	66	nw.	7.6	2,160	765.3	−16.4	−0.15	61	0.88	nw.	17.5	
						2,250	755.8	−17.1	.....	56	0.76	nw.	16.8	
2:17	960.3	−6.9	70	nw.	8.0	2,445	736.6	−18.7	0.81	44	0.51	nw.	15.2	
						2,500	730.8	−19.2	.....	45	0.50	nw.	15.6	
						2,750	706.8	−21.7	.....	52	0.45	nw.	17.4	2/10 St. Cu., nw.
2:44	960.2	−7.0	65	nw.	8.0	2,999	683.6	−24.1	0.90	59	0.41	nw.	19.2	
						2,750	706.8	−22.0	.....	54	0.45	nw.	17.9	
						2,500	730.8	−19.9	.....	50	0.52	nw.	16.5	1/10 St. Cu., nw.
						2,250	755.8	−17.9	.....	45	0.57	nw.	15.2	
						2,000	781.5	−15.8	.....	41	0.63	nw.	13.8	
						1,750	808.0	−13.7	.....	36	0.67	nw.	12.4	
4:18	959.2	−6.6	47	nw.	5.8	1,743	809.4	−13.6	0.14	36	0.68	nw.	12.4	
						1,500	835.5	−13.3	.....	38	0.73	nw.	11.4	
4:35	959.0	−6.4	55	nw.	7.6	1,324	855.0	−13.0	−1.27	40	0.79	nw.	10.6	
						1,250	863.8	−13.9	.....	41	0.75	nw.	9.7	
4:37	959.0	−6.4	55	nw.	7.2	1,206	868.5	−14.5	0.91	41	0.71	nw.	9.2	
						1,000	892.2	−12.6	.....	53	1.09	wnw.	8.6	
4:47	958.9	−6.4	55	nw.	5.8	854	909.4	−11.3	1.20	61	1.41	wnw.	8.2	
						750	921.9	−10.1	.....	59	1.52	wnw.	7.7	
						500	952.0	− 7.1	.....	56	1.88	nw.	6.6	
4:54	958.8	−6.4	55	nw.	6.3	444	958.8	− 6.4	.....	55	1.96	nw.	6.3	

February 26, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Remarks.
A. M.														
8:23	946.8	−2.5	72	wsw.	6.3	444	946.8	−2.5	.....	72	3.60	wsw.	6.3	4/10 A. Cu., nw.
						500	940.2	−2.6	.....	72	3.54	wsw.	6.8	
						750	911.0	−2.9	.....	70	3.36	w.	8.9	
						1,000	882.5	−3.3	.....	68	3.16	w.	11.1	1/10 A. Cu., nw.; 1/10 A. St., nw.
						1,250	855.2	−3.6	.....	67	3.03	w.	13.2	
						1,500	828.7	−4.0	.....	65	2.84	wnw.	15.4	
8:50	946.6	−0.9	63	w.	6.7	1,662	811.8	−4.2	0.14	64	2.75	wnw.	16.8	
						1,750	802.7	−5.0	.....	64	2.61	wnw.	17.7	
						2,000	777.1	−7.3	.....	64	2.14	wnw.	20.4	
9:10	946.6	0.2	61	w.	8.0	2,147	763.1	−8.6	0.95	64	1.88	wnw.	22.0	
						2,000	777.1	−7.1	.....	59	1.98	wnw.	21.0	
						1,750	802.7	−4.7	.....	52	2.14	wnw.	19.4	
10:57	946.2	3.7	51	wnw.	8.0	1,604	817.9	−3.2	0.78	47	2.20	wnw.	18.4	
						1,500	828.7	−2.4	.....	43	2.15	wnw.	16.6	
11:11	946.3	4.0	52	wnw.	10.7	1,475	831.5	−2.2	−0.71	42	2.14	wnw.	16.2	
11:21	946.3	4.7	49	wnw.	10.3	1,264	854.1	−3.7	0.84	55	2.46	wnw.	16.4	
						1,250	855.2	−3.6	.....	55	2.49	wnw.	16.3	
						1,000	882.5	−1.5	.....	61	3.29	wnw.	14.1	
11:37	946.4	4.5	50	wnw.	10.7	894	895.0	−0.6	1.13	63	3.66	wnw.	13.2	
						750	911.0	1.0	.....	59	3.88	wnw.	12.3	
						500	940.2	3.9	.....	52	4.20	wnw.	10.7	
11:46	946.5	4.5	50	wnw.	10.3	444	946.5	4.5	.....	50	4.21	wnw.	10.3	1/10 St. Cu., nw.

February 27, 1918.

Time.	Surface. Pressure.	Surface. Temperature.	Surface. Relative humidity.	Surface. Wind. Dir.	Surface. Wind. Vel.	At different heights above sea. Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Remarks.
A. M.														
8:25	962.1	−5.1	90	nw.	5.4	444	962.1	− 5.1	.....	90	3.58	nw.	5.4	1/10 A. Cu., nw.
						500	955.4	− 5.2	.....	89	3.51	nw.	5.9	
						750	925.3	− 5.7	.....	86	3.25	nnw.	7.9	
8:34	962.2	−4.8	88	nw.	5.8	910	906.8	− 6.0	0.19	84	3.09	nnw.	9.2	
						1,000	895.8	− 6.6	.....	83	2.90	nnw.	10.1	
						1,250	868.0	− 8.4	.....	79	2.36	nnw.	12.4	
8:56	962.5	−4.3	88	nw.	8.0	1,352	857.0	− 9.1	0.70	78	2.19	nnw.	13.4	
						1,500	840.4	− 9.8	.....	75	1.98	nnw.	14.1	
						1,750	814.0	−10.9	.....	70	1.67	nnw.	15.2	
						2,000	787.8	−12.0	.....	65	1.41	nnw.	16.3	1/10 Ci. St., wsw.; 1/10 St. Cu., nnw.
9:19	962.8	−3.2	84	nnw.	10.3	2,123	774.9	−12.6	0.31	63	1.29	nnw.	16.8	Altitude of St. Cu. base about 1,300 m.
						2,000	787 8	−12.4	.....	68	1.42	nnw.	16.5	
						1,750	814.0	−12.0	.....	78	1.69	nnw.	15.9	
9:45	963.2	−3.3	84	nnw.	9.4	1,531	837.3	−11.6	0.53	87	1.96	nnw.	15.3	
						1,500	840.4	−11.4	.....	88	2.02	nnw.	15.0	
						1,250	868.0	−10.1	.....	92	2.36	nnw.	13.0	
						1,000	897.1	− 8.8	.....	97	2.77	nnw.	10.9	10/10 St. Cu., nnw.
10:18	963.8	−3.7	86	nnw.	6.7	829	917.5	− 7.9	1.09	100	3.12	nnw.	9.5	Altitude of St. Cu. base about 1,000 m.
						750	927.0	− 7.0	.....	97	3.28	nnw.	9.2	
						500	956.9	− 4.2	.....	88	3.78	n.	8.2	
10:26	963.9	−3.7	86	n.	8.0	444	963.9	− 3.7	.....	86	3.85	n.	8.0	

TABLE 15.—*Free-air data from kite flights at Ellendale Aerological Station, February, 1918*—Continued.

February 28, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:32	970.1	−7.8	91	sw.	5.8	444	970.1	− 7.8	.....	91	2.87	sw.	5.8	Few A. Cu., w.; 2/10 Ci. St. wnw.
.....	.....	.....	.....	.....	.....	500	963.1	− 7.2	.....	89	2.95	sw.	5.7	
9:10	969.6	−6.1	88	sw.	5.4	728	935.2	− 4.7	−1.09	82	3.38	wsw.	5.2	
.....	.....	.....	.....	.....	.....	750	932.8	− 4.7	.....	81	3.34	wsw.	5.3	
.....	.....	.....	.....	.....	.....	1,000	903.0	− 5.3	.....	65	2.54	wsw.	6.0	
.....	.....	.....	.....	.....	.....	1,250	875.0	− 5.8	.....	49	1.84	w.	6.7	
.....	.....	.....	.....	.....	.....	1,500	847.9	− 6.4	.....	34	1.21	w.	7.5	5/10 Ci. St., wnw.
10:23	969.6	−2.8	76	sw.	4.0	1,509	847.2	− 6.4	0.22	33	1.17	w.	7.5	Solar halo, 22° radius, from 10:10 to 11:15 a. m.
.....	.....	.....	.....	.....	.....	1,750	821.0	− 8.3	.....	31	0.94	w.	8.4	
10:53	969.6	−1.5	72	wsw.	5.8	1,972	798.4	−10.1	0.80	29	0.75	w.	9.2	
.....	.....	.....	.....	.....	.....	2,000	795.0	−10.3	.....	29	0.73	w.	9.3	
.....	.....	.....	.....	.....	.....	2,250	770.2	−11.8	.....	29	0.64	w.	10.2	
11:21	969.5	1.0	58	wsw.	5.4	2,444	751.5	−13.0	0.61	29	0.57	w.	10.9	8/10 Ci. St., wnw.
.....	.....	.....	.....	.....	.....	2,500	745.9	−13.4	.....	29	0.55	w.	11.0	
.....	.....	.....	.....	.....	.....	2,750	722.0	−15.4	.....	30	0.48	w.	11.3	
.....	.....	.....	.....	.....	.....	3,000	698.7	−17.3	.....	31	0.41	w.	11.6	
P. M.														
12:15	969.1	3.4	49	wsw.	7.2	3,127	686.4	−18.3	0.76	32	0.39	w.	11.8	
.....	.....	.....	.....	.....	.....	3,000	698.7	−17.3	.....	31	0.41	w.	12.1	
.....	.....	.....	.....	.....	.....	2,750	722.0	−15.5	.....	30	0.47	wsw.	12.6	
.....	.....	.....	.....	.....	.....	2,500	745.9	−13.6	.....	29	0.55	wsw.	13.1	4/10 Ci. St., wnw.
1:09	968.9	4.6	43	wsw.	7.2	2,408	754.5	−12.9	0.89	28	0.56	wsw.	13.3	
.....	.....	.....	.....	.....	.....	2,250	770.2	−11.5	.....	31	0.70	wsw.	12.9	
.....	.....	.....	.....	.....	.....	2,000	795.0	− 9.2	.....	37	1.03	wsw.	12.3	
.....	.....	.....	.....	.....	.....	1,750	821.0	− 7.0	.....	42	1.42	sw.	11.6	1/10 Ci. St., wnw.; few Cu., sw.
.....	.....	.....	.....	.....	.....	1,500	847.9	− 4.8	.....	48	1.96	sw.	11.0	
1:58	968.6	5.5	43	sw.	8.9	1,266	874.3	− 2.7	0.59	53	2.59	sw.	10.4	
.....	.....	.....	.....	.....	.....	1,250	876.0	− 2.6	.....	53	2.61	sw.	10.5	
.....	.....	.....	.....	.....	.....	1,000	904.0	− 1.1	.....	47	2.62	sw.	11.3	
2:11	968.5	5.1	36	sw.	9.4	861	919.8	− 0.3	1.30	44	2.62	sw.	11.8	
.....	.....	.....	.....	.....	.....	750	932.8	1.1	.....	42	2.78	sw.	11.0	
.....	.....	.....	.....	.....	.....	500	962.0	4.4	.....	38	3.18	sw.	9.3	
2:18	968.4	5.1	37	sw.	8.9	444	968.4	5.1	.....	37	3.25	sw.	8.9	

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918.*

March 1, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:20	967.0	0.5	66	sw.	8.0	444	967.0	0.5	.....	66	4.18	sw.	8.0	Cloudless.
						500	960.2	1.5	.....	62	4.22	sw.	9.0	
						750	930.8	5.9	.....	44	4.09	ssw.	13.3	
8:30	966.8	1.0	68	sw.	6.7	887	915.5	8.3	−1.76	34	3.72	w.	15.6	
						1,000	902.8	7.7	.....	34	3.57	w.	15.3	
						1,250	876.0	6.4	.....	35	3.36	w.	14.6	
						1,500	850.2	5.1	.....	36	3.16	w.	13.8	
8:51	966.6	2.2	54	sw.	8.0	1,727	826.2	3.9	0.52	37	2.99	w.	13.2	
						1,750	824.7	3.8	.....	37	2.97	w.	13.4	
						2,000	799.3	2.7	.....	38	2.82	w.	15.0	
						2,250	774.7	1.6	.....	39	2.68	w.	16.6	
						2,500	750.7	0.4	.....	41	2.58	wnw.	18.3	
						2,750	727.8	−0.7	.....	42	2.42	wnw.	19.9	
9:21	966.3	3.9	58	sw.	7.2	2,911	713.1	−1.4	0.46	43	2.34	wnw	21.0	
						2,750	727.8	−0.6	.....	42	2.44	wnw.	20.0	
						2,500	750.7	0.6	.....	40	2.55	wnw.	18.5	
						2,250	774.7	1.8	.....	37	2.58	w.	17.0	
						2,000	799.3	3.0	.....	35	2.65	w.	15.5	Few A.St., nw.
						1,750	824.7	4.2	.....	33	2.72	w.	13.9	
11:23	966.1	9.6	43	w.	5.8	1,728	826.2	4.8	0.56	32	2.75	w.	13.2	
						1,500	850.2	6.1	.....	31	2.92	w.	12.1	
						1,250	876.0	7.5	.....	30	3.11	w.	10.8	
						1,000	902.8	8.9	.....	28	3.19	w.	9.6	
11:50	966.0	10.2	42	w.	5.8	928	910.9	9.3	−1.72	28	3.28	w.	9.2	
11:52	965.9	10.3	42	w.	5.8	777	927.8	6.7	1.08	34	3.34	w.	7.8	
						750	930.8	7.0	.....	35	3.51	w.	7.6	
						500	960.2	9.7	.....	41	5.05	w.	5.4	
11:59	965.9	10.3	42	w.	4.9	444	965.9	10.3	.....	42	5.26	w.	4.9	Few A.St., nw.

March 2, 1918.

A. M.														
8:25	975.0	−1.0	74	nw.	6.3	444	975.0	−1.0	.....	74	4.16	nw.	6.3	Few A.Cu., w.
						500	968.2	−1.1	.....	71	3.95	nw.	6.9	
						750	938.0	−1.5	.....	58	3.13	n.	9.6	
8:38	975.1	−0.4	70	nw.	6.7	847	927.0	−1.7	0.17	53	2.81	n.	10.6	
						1,000	908.7	−2.1	.....	47	2.41	n.	10.4	
						1,250	880.8	−2.9	.....	38	1.82	n.	10.1	
						1,500	853.6	−3.6	.....	28	1.27	nne.	9.8	
9:03	975.3	0.8	62	nw.	8.0	1,667	836.1	−4.1	0.29	22	0.95	nne.	9.6	Few A.St., nw.
						1,750	827.3	−4.4	.....	21	0.89	nne.	10.1	
						2,000	801.1	−5.5	.....	19	0.73	n.	11.8	
9:12	975.3	1.0	61	nw.	7.6	2,032	798.1	−5.6	0.41	19	0.72	n.	12.0	
9:14	975.3	1.0	60	nw.	8.9	2,168	784.4	−5.0	−0.44	18	0.72	n.	12.6	
						2,250	776.0	−5.4	.....	18	0.70	n.	13.0	
						2,500	751.3	−6.7	.....	18	0.62	n.	14.0	
						2,750	728.1	−8.0	.....	17	0.53	nnw.	15.1	
						3,000	705.6	−9.2	.....	17	0.47	nnw.	16.2	
						3,250	683.7	−10.5	.....	16	0.40	nw.	17.3	
						3,500	661.6	−11.8	.....	16	0.35	nw.	18.3	
10:03	975.4	2.5	53	nnw.	8.0	3,701	643.2	−12.8	0.55	16	0.32	nw	19.2	
						3,500	661.6	−11.6	.....	15	0.34	nw	18.1	
						3,250	683.7	−10.1	.....	14	0.36	nw.	16.8	
11:01	976.4	2.8	45	nnw.	4.9	3,193	687.6	−9.8	0.34	14	0.37	nw.	16.5	
						3,000	705.6	−9.1	.....	14	0.39	nw.	15.2	
						2,750	728.1	−8.3	.....	13	0.39	nnw.	13.4	
						2,500	751.3	−7.4	.....	13	0.42	nnw.	11.7	
11:35	976.4	3.4	44	nnw.	4.9	2,398	761.7	−7.1	−0.22	13	0.44	nnw.	11.0	
						2,250	776.0	−7.4	.....	13	0.42	nnw.	9.7	
						2,000	801.1	−8.0	.....	13	0.40	nnw.	7.4	
11:39	976.4	3.5	44	nnw.	5.4	1,948	807.1	−8.1	0.56	13	0.40	nnw.	6.9	
						1,750	827.6	−7.0	.....	14	0.47	nnw.	6.3	
						1,500	855.0	−5.6	.....	15	0.57	nnw.	5.6	
						1,250	883.0	−4.2	.....	17	0.73	nnw.	4.8	
11:49	976.4	3.5	44	nnw.	3.6	1,166	892.1	−3.7	1.06	17	0.76	nnw.	4.6	
						1,000	911.2	−1.9	.....	22	1.15	nnw.	4.5	
11:58	976.4	4.0	42	nnw.	4.5	836	930.0	−0.2	1.10	28	1.68	nnw.	4.4	
						750	940.2	0.7	.....	31	1.99	nnw.	4.4	
						500	969.9	3.3	.....	40	3.10	nnw.	4.5	
P. M.														
12:08	976.4	4.1	42	nnw.	4.5	444	976.4	4.1	.....	42	3.44	nnw.	4.5	Cloudless.

March 3, 1918.

A. M.														
7:15	966.7	−1.7	77	s.	8.9	444	966.7	−1.7	.....	77	4.08	s.	8.9	Few A.Cu., sw.
						500	960.2	−0.9	.....	72	4.08	s.	12.4	
7:23	966.6	−1.6	77	s.	9.8	711	935.4	2.1	−1.42	52	3.70	ssw.	25.5	
						750	931.8	2.1	.....	50	3.56	ssw.	26.3	
7:35	966.5	−1.8	79	s.	10.7	904	915.4	2.0	0.11	44	3.11	ssw.	29.6	
						750	931.8	2.3	.....	46	3.24	ssw.	23.2	
7:48	966.3	−1.5	80	s.	10.3	671	940.0	2.4	−1.59	45	3.27	ssw.	19.9	
						500	960.2	−0.3	.....	70	4.17	s.	12.3	
7:58	966.2	−1.2	78	s.	9.8	444	966.2	−1.2	.....	78	4.31	s.	9.8	

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 5, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
P. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
3:43	964.5	−14.3	87	nnw.	12.1	444	964.5	−14.3	.....	87	1.53	nnw.	12.1	10/10 St., nw.
						500	957.0	−15.1	.....	87	1.42	nnw.	11.5	Light snow throughout flight.
3:54	964.5	−14.0	82	nnw.	13.4	755	925.3	−18.6	1.38	89	1.05	nnw.	8.7	
						1,000	895.0	−19.5	.....	88	0.95	nnw.	10.1	
4:10	964.7	−13.9	82	nnw.	11.2	1,095	884.2	−19.8	0.35	87	0.91	nnw.	10.6	
						1,250	865.2	−18.5	.....	90	1.07	nnw.	10.5	
						1,500	837.3	−16.5	.....	94	1.34	nw.	10.4	
4:12	964.7	−13.9	82	nnw.	10.3	1,528	834.4	−16.3	−0.81	95	1.39	nw.	10.4	
4:38	965.1	−14.0	82	nnw.	10.3	1,631	823.7	−14.7	−0.64	100	1.70	nw.	5.9	
						1,500	838.0	−14.4	.....	97	1.69	nnw.	7.4	Altitude of St. base about 1,350 m.
5:10	965.7	−14.1	82	nnw.	8.5	1,443	845.0	−14.2	−1.93	95	1.69	nnw.	8.0	
						1,250	866.8	−17.9	.....	93	1.17	nnw.	9.3	
5:26	965.9	−14.3	82	nnw.	9.8	1,080	887.2	−21.2	1.13	92	0.84	n.	10.4	
						1,000	896.9	−20.3	.....	91	0.91	n.	10.1	
						750	927.9	−17.5	.....	87	1.13	nnw.	9.2	
						500	959.6	−14.6	.....	83	1.42	nnw.	8.2	
5:45	966.2	−14.0	82	nnw.	8.0	444	966.2	−14.0	.....	82	1.48	nnw.	8.0	10/10 St., nw.

March 6, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Remarks.
P. M.														
1:05	961.4	− 6.9	67	sw.	7.6	444	961.4	− 6.9	.....	67	2.28	sw.	7.6	Cloudless.
						500	954.8	− 7.3	.....	67	2.20	sw.	7.7	
						750	924.0	− 9.1	.....	70	1.97	sw.	8.3	
						1,000	894.0	−10.9	.....	72	1.72	wsw.	8.9	
1:26	960.8	− 6.0	67	sw.	6.7	1,127	879.5	−11.8	0.72	73	1.61	wsw.	9.2	
						1,250	865.7	−10.0	.....	61	1.59	wsw.	10.9	
1:35	960.5	− 5.8	67	sw.	8.0	1,368	852.3	− 8.2	−1.49	50	1.52	wsw.	12.5	
						1,500	837.0	− 9.1	.....	52	1.46	wsw.	12.8	
						1,750	810.5	−10.7	.....	56	1.37	w.	13.4	
						2,000	784.4	−12.3	.....	61	1.29	w.	13.9	
1:54	960.0	− 5.0	68	ssw.	6.7	2,082	776.4	−12.8	0.64	62	1.25	w.	14.1	
						2,250	759.0	−14.1	.....	56	1.00	w.	14.9	
						2,500	734.6	−16.1	.....	48	0.72	w.	16.2	
						2,750	710.8	−18.1	.....	40	0.49	w.	17.4	
2:23	959.3	− 4.3	66	ssw.	8.0	2,958	691.0	−19.8	0.82	33	0.35	w.	18.4	
						2,750	710.8	−18.1	.....	34	0.42	w.	18.4	
						2,500	734.6	−16.0	.....	34	0.51	w.	18.4	
						2,250	759.0	−13.9	.....	35	0.64	w.	18.4	
3:30	958.0	− 2.2	62	ssw.	9.8	2,183	765.9	−13.3	0.48	35	0.68	w.	18.4	
						2,000	784.4	−12.4	.....	43	0.90	w.	18.7	
						1,750	810.5	−11.2	.....	55	1.28	w.	19.2	
4:08	957.5	− 1.0	65	ssw.	10.7	1,724	813.0	−11.1	0.87	56	1.32	w.	19.2	
						1,500	835.2	− 9.2	.....	55	1.53	wsw.	17.4	
						1,250	863.9	− 7.0	.....	55	1.86	wsw.	15.4	
						1,000	891.5	− 4.8	.....	54	2.20	sw.	13.4	
						750	920.6	− 2.7	.....	53	2.59	sw.	11.4	
						500	950.0	− 0.5	.....	52	3.05	ssw.	9.4	
4:53	956.6	0.0	52	ssw.	8.9	444	956.6	0.0	.....	52	3.18	ssw.	8.9	Cloudless.

March 7, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity. Rel.	Humidity. Vap. pres.	Wind. Dir.	Wind. Vel.	Remarks.
A. M.														
8:22	956.1	−3.6	77	nw.	8.9	444	956.1	− 3.6	.....	77	3.48	nw.	8.9	1/10 A.Cu., nw.
						500	949.3	− 4.1	.....	78	3.38	nw.	9.9	
						750	919.0	− 6.3	.....	85	3.05	wnw.	14.4	
8:30	956.2	−3.4	77	nw.	9.8	859	907.0	− 7.2	0.87	88	2.92	wnw.	16.4	
						1,000	890.0	− 7.4	.....	82	2.67	wnw.	15.5	
						1,250	862.0	− 7.7	.....	71	2.26	wnw.	13.9	
8:46	956.3	−3.4	77	nw.	7.6	1,326	854.1	− 7.8	0.13	68	2.14	wnw.	13.4	
						1,500	834.8	− 8.1	.....	59	1.81	wnw.	15.3	
						1,750	808.5	− 8.5	.....	47	1.39	nw.	18.1	
						2,000	782.6	− 9.0	.....	34	0.97	nw.	20.8	
9:11	956.5	−3.2	69	nw.	9.8	2,080	775.1	− 9.1	0.17	30	0.84	nw.	21.7	
						2,250	757.2	−10.6	.....	30	0.74	nw.	21.5	1/10 A.Cu., nw.
						2,500	733.0	−12.7	.....	30	0.61	nw.	21.2	
						2,750	710.0	−14.8	.....	30	0.50	nw.	20.9	
9:30	956.6	−3.2	68	nw.	7.6	2,840	702.0	−15.6	0.83	30	0.47	nw.	20.8	
						2,750	710.0	−14.9	.....	30	0.50	nw.	20.7	
						2,500	733.9	−12.9	.....	30	0.60	nw.	20.4	7/10 Cu., nw.
						2,250	758.8	−10.9	.....	29	0.69	nw.	20.2	
10:57	957.4	−1.9	71	nw.	6.3	2,091	775.1	− 9.6	0.38	29	0.78	nw.	20.0	Altitude of Cu. base about 1,100 m.
						2,000	784.3	− 9.3	.....	32	0.88	nw.	19.8	
						1,750	810.5	− 8.3	.....	40	1.21	nw.	19.3	
						1,500	837.0	− 7.4	.....	48	1.56	wnw.	18.8	
P. M.														
12:14	957.8	−0.3	66	nw.	7.2	1,399	848.1	− 7.0	−0.92	51	1.72	wnw.	18.6	5/10 A.Cu., W.; 3/10 Cu., w.
						1,250	864.4	− 8.4	.....	70	2.09	wnw.	8.2	
12:22	957.8	−0.3	64	nw.	4.9	1,236	866.1	− 8.5	0.99	72	2.13	wnw.	7.2	Partial solar halo, 22° radius, at 11:40 a. m. Parhelia at 11:50 a. m.
						1,000	892.6	− 6.2	.....	75	2.72	wnw.	7.8	
12:39	958.0	0.5	60	wnw.	5.8	813	914.6	− 4.3	1.46	78	3.32	wnw.	8.2	
						750	922.0	− 3.4	.....	75	3.45	wnw.	8.1	
						500	952.0	0.3	.....	63	3.93	wnw.	7.7	
12:46	958.0	1.1	60	wnw.	7.6	444	958.0	1.1	.....	60	3.97	wnw.	7.6	

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 8, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:34	965.9	−10.0	84	ne.	10.3	444	965.9	−10.0	.....	84	2.18	ne.	10.3	9/10 A.Cu., w.
						500	959.2	−10.5	.....	86	2.13	ne.	10.6	
						750	928.7	−12.7	.....	95	1.94	ene.	12.2	
8:45	966.0	− 9.8	80	ene.	9.4	894	910.8	−13.9	0.87	100	1.83	ene.	13.1	
						1,000	898.3	−11.5	.....	73	1.66	ene.	13.1	
8:48	966.1	− 9.8	80	ene.	8.9	1,090	888.0	− 9.5	−2.24	50	1.36	ene.	13.1	
						1,250	869.9	− 9.5	.....	42	1.14	ene.	12.2	
						1,500	842.0	− 9.5	.....	30	0.81	ene.	10.7	
9:04	966.2	− 9.3	78	ene.	8.0	1,578	833.6	− 9.5	0.00	26	0.70	ene.	10.3	
9:42	966.2	− 8.7	70	e.	8.9	1,735	816.9	− 9.4	0.00	19	0.52	ene.	5.6	
						1,500	842.0	− 9.2	.....	16	0.45	ene.	11.3	1/10 A.Cu., w.; 9/10 A.St., w.
10:44	966.0	− 8.1	68	e.	9.8	1,304	863.9	− 9.1	−0.05	14	0.39	ene.	16.0	
						1,250	869.9	− 9.1	.....	14	0.39	ene.	16.4	
10:54	965.9	− 8.0	64	ene.	10.3	1,090	888.0	− 9.2	−1.74	14	0.39	ene.	17.7	
						1,000	898.3	−10.8	.....	24	0.58	ene.	15.0	
11:03	965.9	− 7.8	63	ene.	9.8	883	912.3	−12.8	1.14	37	0.75	ene.	11.5	
						750	928.7	−11.3	.....	45	1.04	ene.	11.5	
						500	959.2	− 8.4	.....	60	1.79	e.	11.6	
11:11	965.8	− 7.8	63	e.	11.6	444	965.8	− 7.8	.....	63	1.98	e.	11.6	

March 9, 1918.

P. M.														
1:44	970.5	−11.1	78	n.	11.6	444	970.5	−11.1	.....	78	1.83	n.	11.6	5/10 St., nw.
						500	963.2	−11.6	.....	78	1.76	n.	11.9	
						750	932.2	−14.1	.....	79	1.41	nne.	13.2	
1:52	970.6	−11.0	78	n.	11.6	803	926.0	−14.6	0.97	79	1.35	nne.	13.5	1/10 St., n.
						1,000	902.4	−13.0	.....	58	1.15	ne.	10.7	
2:00	970.6	−10.8	75	n.	11.6	1,108	889.6	−12.2	−0.79	46	0.98	ne.	9.2	
						1,250	874.0	−11.9	.....	47	1.03	ne.	6.5	Few St., n.
2:50	971.4	− 9.9	70	nne.	10.7	1,326	865.5	−11.8	−0.09	48	1.06	ne.	5.0	
						1,250	874.0	−11.8	.....	43	0.95	ne.	5.6	
						1,000	903.7	−11.8	.....	27	0.60	ne.	7.6	
3:33	972.2	− 9.4	73	nne.	9.4	944	910.8	−11.8	−0.42	23	0.51	ne.	8.1	Few St.Cu., n.
3:37	972.2	− 9.3	72	nne.	7.6	755	933.7	−12.6	1.13	32	0.66	nne.	8.5	
						500	965.7	− 9.7	.....	63	1.68	nne.	8.1	
3:49	972.4	− 9.1	70	nne.	8.0	444	972.4	− 9.1	.....	70	1.97	nne.	8.0	

March 10, 1918.

A. M.														
7:08	971.5	−16.5	95	sse.	5.8	444	971.5	−16.5	.....	95	1.36	sse.	5.8	10/10 A. St., sw.
						500	964.3	−13.9	.....	88	1.61	sse.	7.2	
						750	934.0	− 2.2	.....	59	3.00	s.	13.6	
7:13	971.4	−16.5	95	sse.	6.3	796	928.3	0.0	−4.69	53	3.24	s.	14.8	
						1,000	904.9	1.0	.....	45	2.96	s.	13.3	
						1,250	877.3	2.2	.....	36	2.58	ssw.	11.4	
7:32	971.1	−16.0	95	s.	6.3	1,281	873.6	2.3	−0.47	35	2.52	ssw.	11.2	
						1,500	850.3	2.8	.....	37	2.76	ssw.	12.2	
						1,750	824.0	3.4	.....	40	3.12	ssw.	13.3	
						2,000	798.5	4.0	.....	43	3.50	ssw.	14.4	
7:56	970.7	−15.2	95	s.	6.7	2,184	781.0	4.4	−0.23	45	3.77	ssw.	15.2	
						2,250	773.9	4.4	.....	49	4.10	sw.	15.1	
8:02	970.6	−14.4	91	s.	6.7	2,375	762.8	4.5	−0.05	56	4.72	sw.	14.8	
						2,500	749.9	1.9	.....	63	4.42	sw.	14.9	
						2,750	726.7	− 3.2	.....	78	3.65	sw.	15.0	
8:29	970.1	−13.8	91	s.	3.6	2,992	704.8	− 8.1	1.45	92	2.82	sw.	15.2	
						2,750	726.7	− 6.0	.....	79	2.91	sw.	16.5	
						2,500	749.9	− 3.9	.....	66	2.91	wsw.	17.7	
9:29	969.1	−10.1	90	s.	8.5	2,373	761.3	− 2.8	0.45	59	2.86	wsw.	18.4	
						2,250	773.9	− 2.2	.....	58	2.95	wsw.	18.5	
						2,000	798.0	− 1.1	.....	56	3.12	wsw.	18.7	
						1,750	823.0	0.0	.....	55	3.36	wsw.	18.9	
						1,500	848.8	1.2	.....	53	3.53	sw.	19.1	
						1,250	875.3	2.3	.....	51	3.68	sw.	19.3	
10:47	967.8	− 7.7	87	s.	10.7	1,030	899.2	3.3	−0.78	50	3.87	sw.	19.5	
						1,000	903.0	3.1	.....	50	3.82	sw.	19.1	
10:59	967.6	− 7.2	85	s.	10.3	826	922.2	1.7	−1.49	53	3.66	ssw.	16.7	
						750	931.6	0.6	.....	53	3.38	ssw.	15.4	
11:07	967.5	− 7.0	84	s.	11.6	665	940.6	− 0.7	0.46	53	3.05	ssw.	14.0	
11:13	967.5	− 6.8	84	s.	11.6	600	948.4	− 0.4	−3.72	50	2.96	ssw.	16.1	
						500	961.0	− 4.1	.....	72	3.12	s.	12.4	
11:30	967.3	− 6.2	85	s.	10.3	444	967.3	− 6.2	.....	85	3.08	s.	10.3	10/10 A. St., sw.

March 11, 1918 (No. 1).

P. M.														
1:20	948.0	3.4	74	s.	4.0	444	948.0	3.4	.....	74	5.77	s.	4.0	3/10 A. Cu., wsw.; 4/10 St. Cu., wsw.
						500	941.1	2.9	.....	76	5.72	s.	4.6	
						750	912.9	0.5	.....	84	5.32	s.	7.3	
1:27	947.9	3.2	75	s.	5.4	834	903.1	−0.3	0.95	87	5.19	s.	8.2	
						1,000	885.0	4.9	.....	61	5.28	ssw.	13.7	
1:50	947.7	3.4	75	s.	5.4	1,130	871.1	8.9	−1.80	41	4.67	w.	18.0	
						1,000	885.0	8.3	.....	39	4.27	wsw.	15.5	
2:11	947.6	3.3	75	s.	5.8	985	886.3	8.2	−2.42	39	4.24	wsw.	15.2	
						750	912.9	2.5	.....	44	3.22	sw.	6.7	
2:20	947.6	3.3	75	s.	5.4	696	918.4	1.2	0.87	45	3.00	sw.	4.8	
						500	941.1	2.9	.....	68	5.12	s.	5.3	
2:25	947.6	3.4	74	s.	5.4	444	947.6	3.4	.....	74	5.77	s.	5.4	

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 11, 1918 (No. 2).

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure	Temperature.	Relativ humidity.	Wind.		Altitude.	Pressure.	Temperatur .	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
P. M.	*mb.*	° *C.*	%		*m. p. s.*	*m*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
2:36	947.6	3.4	75	s.	4.9	444	947.6	3.4	.....	75	5.85	s.	4.9	1/10 A. St., w.; 2/10 St. Cu., w.
						500	941.3	2.9	.....	78	5.87	s.	6.5	
2:58	947.6	3.5	74	sw.	4.5	724	915.3	1.1	0.82	92	6.09	w.	13.1	
						750	913.0	1.8	.....	89	6.19	w.	13.4	
						1,000	885.2	8.2	.....	60	6.52	w.	16.1	
3:00	947.6	3.5	74	sw.	4.9	1,057	878.7	9.7	−2.58	54	6.50	w.	16.7	
						1,250	857.3	8.7	.....	47	5.29	w.	17.2	
3:10	947.6	3.4	74	sw.	4.9	1,422	841.0	7.9	0.37	40	4.26	w.	17.7	
						1,250	857.3	8.3	.....	40	4.38	w.	17.2	1/10 A. St., w.; 1/10 St. Cu., w.
						1,000	885.2	8.9	.....	41	4.65	w.	16.4	
3:24	947.6	3.4	75	sw.	4.9	851	901.5	9.3	−0.81	41	4.81	w.	16.0	
						750	913.0	6.5	.....	45	4.36	w.	17.2	
3:26	947.6	3.4	75	sw.	4.9	712	916.9	5.4	2.22	47	4.22	w.	17.6	
3:46	947.6	3.5	74	sw.	4.9	577	932.3	8.4	.....	47	5.18	w.	19.2	
3:52	947.6	3.6	73	sw.	3.6	577	932.3	2.3	−2.00	70	5.05	w.	16.0	
4:02	947.6	3.7	75	sw.	4.9	752	912.3	5.8	−1.67	59	5.44	w.	16.6	
4:06	947.6	3.6	76	sw.	4.0	602	929.2	3.3	0.19	70	5.42	sw.	11.8	
						500	941.3	3.5	.....	74	5.81	sw.	6.8	
4:08	947.6	3.6	76	sw.	4.0	444	947.6	3.6	.....	76	6.01	sw.	4.0	1/10 A. St., w.; 1/10 St. Cu., w.

March 14, 1918.

A. M.														
8:38	971.7	−2.9	85	nnw.	10.7	444	971.7	−2.9	.....	85	4.08	nnw.	10.7	10/10 St., nnw.
						500	965.3	−3.4	.....	87	4.00	nnw.	11.1	Altitude of St. base about 800 m.
						750	936.0	−5.8	.....	97	3.64	nnw.	12.7	
8:40	971.8	−2.9	85	nnw.	9.4	828	925.6	−6.6	0.96	100	3.50	nnw.	13.2	
8:50	971.9	−3.4	86	nnw.	8.9	946	911.8	−7.5	0.76	100	3.23	n.	14.9	
						1,000	905.9	−6.7	.....	90	3.12	n.	15.3	
8:51	971.9	−3.6	86	nnw.	8.9	1,236	878.6	−3.4	−1.41	46	2.12	n.	17.2	
						1,250	876.9	−3.4	.....	46	2.12	n.	17.2	
						1,500	849.3	−3.7	.....	45	2.02	nne.	16.6	
						1,750	823.6	−4.0	.....	45	1.97	nne.	16.0	
9:00	972.0	−4.0	86	nw.	9.8	1,758	822.5	−4.0	0.11	45	1.97	nne.	16.0	
						2,000	797.9	−5.0	.....	43	1.72	nne.	17.1	
						2,250	773.0	−6.0	.....	41	1.51	nne.	18.3	
9:10	972.0	−4.2	86	nw.	9.4	2,455	752.7	−6.8	0.30	39	1.34	nne.	19.2	10/10 St. Cu., nnw.
						2,250	773.0	−6.4	.....	40	1.42	nne.	17.6	
10:05	972.4	−3.6	85	nnw.	8.9	2,044	793.6	−6.0	0.47	42	1.55	nne.	16.0	
						2,000	798.1	−5.8	.....	43	1.61	nne.	15.9	
						1,750	824.3	−4.6	.....	46	1.91	nne.	15.7	5/10 Ci.St., wnw.
10:38	972.7	−3.3	83	nw.	9.4	1,580	842.3	−3.8	0.06	49	2.18	nne.	15.5	
						1,500	850.6	−3.7	.....	48	2.15	nne.	15.5	
						1,250	877.2	−3.6	.....	45	2.03	nne.	15.4	
						1,000	905.9	−3.4	.....	42	1.93	nne.	15.3	
11:04	973.1	−3.2	82	nnw.	10.7	969	910.3	−3.4	.....	42	1.93	nne.	15.3	
11:12	973.3	−3.2	82	nnw.	8.9	867	922.5	−3.4	−0.41	60	2.76	nne.	12.2	
						750	936.0	−5.1	.....	72	2.87	nne.	11.0	Partial solar halo, 22° radius, from 11:18 to 11:46 a. m.; 9/10 Ci.St., w.
11:13	973.3	−3.3	82	nnw.	11.2	711	940.9	−5.6	0.79	76	2.90	nne.	10.6	
						500	967.0	−3.9	.....	81	3.57	nnw.	11.4	
11:19	973.4	−3.5	82	nnw.	11.6	444	973.4	−3.5	.....	82	3.74	nnw.	11.6	

March 15, 1918.

A. M.														
8:39	982.3	−6.6	89	sw.	4.0	444	982.3	−6.6	.....	89	3.12	sw.	4.0	Cloudless.
						500	975.7	−6.2	.....	86	3.11	sw.	6.0	
8:41	982.3	−6.6	88	sw.	4.0	642	957.7	−5.3	−0.66	79	3.09	sw.	10.9	
						750	944.9	−4.9	.....	79	3.20	sw.	9.8	
8:53	982.2	−6.1	85	sw.	4.5	925	923.9	−4.2	−0.39	78	3.35	wsw.	8.0	
						1,000	914.7	−4.3	.....	75	3.20	wsw.	7.9	
						1,250	886.0	−4.6	.....	65	2.70	w.	7.7	
						1,500	858.6	−4.9	.....	55	2.23	w.	7.4	
						1,750	832.0	−5.1	.....	44	1.75	w.	7.2	
						2,000	806.0	−5.4	.....	34	0.98	wnw.	6.9	Few Ci.St., w.
10:30	981.2	−3.8	72	sw.	6.3	2,149	790.5	−5.6	0.11	28	1.07	wnw.	6.8	
						2,250	780.9	−5.9	.....	27	1.00	wnw.	7.1	
						2,500	756.0	−6.8	.....	25	0.86	wnw.	7.9	
						2,750	732.0	−7.7	.....	23	0.73	nw.	8.7	
						3,000	708.3	−8.5	.....	21	0.62	nw.	9.5	
10:46	981.2	−3.8	73	sw.	7.2	3,048	704.1	−8.7	2.08	21	0.61	nw.	9.7	
						3,000	708.3	−8.5	.....	21	0.62	nw.	9.6	
						2,750	732.0	−7.6	.....	21	0.67	nw.	9.1	
						2,500	756.0	−6.6	.....	20	0.70	wnw.	8.6	
						2,250	780.9	−5.7	.....	20	0.76	wnw.	8.1	
						2,000	805.9	−4.7	.....	19	0.78	w.	7.6	
11:46	980.9	−2.8	76	sw.	6.7	1,821	823.9	−4.0	−0.06	19	0.83	w.	7.2	
						1,750	831.2	−4.0	.....	22	0.96	w.	7.7	
P. M.														
12:02	980.8	−2.0	75	sw.	7.2	1,508	857.4	−4.2	0.39	32	1.38	w.	9.2	
						1,500	857.8	−4.2	.....	32	1.38	w.	9.2	
						1,250	885.0	−3.2	.....	37	1.73	w.	9.8	
						1,000	913.4	−2.2	.....	41	2.09	w.	10.3	
12:22	980.4	−1.5	78	sw.	5.4	863	930.0	−1.7	−0.43	44	2.33	w.	10.6	
						750	943.2	−2.2	.....	48	2.44	w.	10.6	
12:24	980.4	−1.5	78	sw.	5.8	630	957.7	−2.7	0.43	53	2.59	wsw.	10.6	
						500	973.7	−2.1	.....	72	3.69	sw.	7.6	
12:27	980.3	−1.5	80	sw.	6.3	444	980.3	−1.5	.....	80	4.31	sw.	6.3	Few Ci.St., w.

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 16, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
8:55	965.9	5.3	42	wsw.	10.7	444	965.9	5.3	.....	42	3.74	wsw.	10.7	7/10 Ci.St., wnw.
						500	958.7	6.7	.....	37	3.63	wsw.	12.4	
8:59	965.9	5.3	42	wsw.	10.7	722	933.9	12.1	−2.45	16	2.26	w.	19.4	
						750	930.3	12.0	.....	16	2.24	w.	19.8	
						1,000	903.0	10.8	.....	16	2.07	w.	22.9	
						1,250	876.2	9.5	.....	15	1.78	w.	26.1	
						1,500	850.2	8.3	.....	15	1.64	w.	29.3	9/10 Ci.St., wnw.
9:23	965.6	4.8	44	wsw.	8.0	1,507	849.3	8.3	0.62	15	1.64	w.	29.4	
						1,500	850.2	8.4	.....	15	1.65	w.	29.2	
						1,250	875.3	10.3	.....	11	1.38	w.	23.3	
10:42	964.7	5.1	54	wsw.	5.8	1,169	883.6	10.9	−0.67	10	1.30	w.	21.4	2/10 A.Cu., wnw.; 7/10 Ci.St., wnw.
10:49	964.6	5.2	54	wsw.	5.4	1,079	893.1	10.3	0.83	11	1.38	wnw.	14.0	
						1,000	901.6	11.0	.....	11	1.44	wnw.	13.4	
11:03	964.5	5.2	54	w.	7.2	825	920.7	12.4	−4.01	12	1.73	wnw.	12.0	
						750	929.2	9.4	.....	15	1.77	wnw.	12.5	
11:12	964.3	5.5	53	w.	7.2	633	942.2	4.7	0.48	19	1.62	w.	13.4	
						500	958.2	5.3	.....	42	3.74	w.	8.0	
11:15	964.3	5.6	52	w.	5.8	444	964.3	5.6	.....	52	4.73	w.	5.8	

March 18, 1918.

Time.	Pressure	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Rel.	Vap. pres.	Dir.	Vel.	Remarks.
A. M.														
7:16	950.9	0.0	94	ssw.	4.0	444	950.9	0.0	.....	94	5.74	ssw.	4.0	10/10 A.St., wnw.
7:22	950.9	0.0	94	s.	5.4	460	949.0	9.5	−5.94	45	5.34	ssw.	4.8	
						500	944.6	10.8	.....	41	5.31	ssw.	4.9	
7:41	950.7	0.6	89	s.	4.5	671	925.2	16.2	−3.18	23	4.24	ssw.	5.1	
						750	916.8	15.8	.....	22	3.95	ssw.	5.2	
9:14	950.8	4.3	80	sw.	4.5	952	895.3	14.9	0.46	18	3.05	sw.	5.5	
						1,000	890.0	14.6	.....	18	2.99	sw.	5.7	
						1,250	864.0	12.9	.....	17	2.53	sw.	6.9	
						1,500	838.2	11.2	.....	17	2.26	sw.	8.1	
						1,750	813.7	9.6	.....	16	1.91	sw.	9.3	
						2,000	789.7	7.9	.....	16	1.70	sw.	10.4	
						2,250	766.4	6.3	.....	16	1.53	sw.	11.6	
						2,500	743.1	4.6	.....	15	1.27	sw.	12.8	
9:23	950.9	4.6	77	sw.	3.6	2,543	739.0	4.3	0.67	15	1.25	sw.	13.0	
						2,750	720.7	2.9	.....	15	1.13	sw.	13.2	
						3,000	699.1	1.2	.....	16	1.07	wsw.	13.4	
						3,250	678.0	−0.5	.....	16	0.94	wsw.	13.6	
9:59	951.3	6.1	73	sw.	3.6	3,363	667.9	−1.3	0.83	16	0.88	wsw.	13.7	
						3,250	678.0	−0.2	.....	16	0.96	wsw.	13.1	
						3,000	699.1	2.2	.....	15	1.07	wsw.	11.8	
10:24	951.2	7.5	70	ssw.	2.2	2,841	712.5	3.8	0.82	15	1.20	wsw.	11.0	
						2,750	720.7	4.5	.....	14	1.18	wsw.	11.0	
						2,500	742.9	6.6	.....	11	1.07	sw.	10.9	
10:45	951.1	8.2	69	s.	2.7	2,463	746.3	6.9	−0.29	11	1.09	sw.	10.9	
						2,250	765.4	6.3	.....	14	1.34	sw.	11.2	
10:57	951.0	8.6	69	s.	3.1	2,220	768.7	6.2	0.66	14	1.33	sw.	12.4	
						2,000	788.9	7.6	.....	14	1.46	sw.	11.4	
						1,750	813.0	9.3	.....	15	1.76	sw.	10.3	
						1,500	837.2	10.9	.....	15	1.96	sw.	9.2	
						1,250	862.8	12.6	.....	16	2.33	ssw.	8.1	
						1,000	889.3	14.2	.....	16	2.59	ssw.	6.9	
						750	916.8	15.9	.....	17	3.07	ssw.	5.7	
11:34	950.6	8.2	73	s.	4.5	701	921.9	16.2	−3.27	17	3.13	ssw.	5.6	
						500	944.6	9.6	.....	64	7.65	s.	4.3	
11:39	950.5	7.8	77	s.	4.0	444	950.5	7.8	.....	77	8.15	s.	4.0	10/10 A.St., wnw.

March 19, 1918.

Time.	Pressure	Temperature.	Relative humidity.	Wind. Dir.	Wind. Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\,m.}$	Rel.	Vap. pres.	Dir.	Vel.	Remarks.
A. M.														
8:34	947.7	2.5	88	s.	3.6	444	947.7	2.5	.....	88	6.43	s.	3.6	3/10 St.Cu., wnw.; 7/10 A.St., wnw.
						500	940.9	4.3	.....	77	6.40	ssw.	3.8	
8:40	947.7	2.5	88	s.	3.1	654	923.7	9.1	−3.14	46	5.32	sw.	4.8	
9:48	948.1	4.8	85	sw.	5.4	735	915.3	12.0	−3.58	30	4.21	nw.	4.1	3/10 St.Cu., wnw.; 7/10 A.St., wnw.
						750	913.7	12.0	.....	30	4.21	nw.	4.2	
						1,000	886.9	12.9	.....	28	4.17	nw.	5.6	
						1,250	861.1	13.7	.....	25	3.92	nw.	7.0	
						1,500	835.9	14.5	.....	23	3.80	nw.	8.5	
9:51	948.1	5.0	84	sw.	5.4	1,627	823.1	14.9	−0.33	22	3.73	nw.	9.2	
						1,750	811.2	13.0	.....	22	3.30	nw.	8.8	
						2,000	787.1	9.0	.....	21	2.41	nw.	7.9	
10:02	948.2	5.3	85	wsw.	4.9	2,156	772.5	6.6	1.57	21	2.05	nw.	7.4	
						2,250	764.0	5.7	.....	22	2.02	nw.	7.3	
						2,500	741.1	3.3	.....	26	2.01	nw.	7.2	
						2,750	719.1	1.0	.....	30	1.97	wnw.	7.0	
10:40	949.1	8.1	72	wnw.	6.7	2,955	700.4	−1.0	0.95	33	1.85	wnw.	6.9	
						2,750	719.2	1.0	.....	32	2.10	nw.	7.9	
						2,500	741.8	3.3	.....	30	2.32	nw.	9.0	
						2,250	765.2	5.7	.....	29	2.66	nnw.	10.2	
P. M.														
12:47	951.1	14.0	63	nnw.	11.2	2,157	774.0	6.6	0.53	28	2.73	nnw.	10.6	
						2,000	788.8	7.4	.....	28	2.88	nnw.	11.1	
						1,750	813.7	8.8	.....	28	3.17	nnw.	12.0	
						1,500	838.8	10.1	.....	29	3.58	n.	12.8	
						1,250	864.8	11.4	.....	29	3.91	n.	13.7	
						1,000	890.8	12.7	.....	29	4.26	n.	14.5	
1:42	951.5	12.9	55	nnw.	11.6	948	895.6	13.0	−2.85	29	4.34	n.	14.7	
1:46	951.5	12.8	55	nnw.	10.3	811	910.4	9.1	0.98	49	5.66	n.	12.0	
						750	917.6	9.7	.....	50	6.02	n.	11.8	
						500	945.3	12.1	.....	54	7.62	nnw.	10.9	
2:04	951.7	12.7	55	nnw.	10.7	444	951.7	12.7	.....	55	8.08	nnw.	10.7	10/10 St.Cu., wsw.

TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 21, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
7:23	964.2	3.0	69	nw.	6.7	444	964.2	3.0	.....	69	5.23	nw.	6.7	Cloudless.
						500	957.5	3.8	.....	62	4.97	nw.	9.6	
7:25	964.2	3.1	68	nw.	8.0	710	933.2	6.9	−1.47	38	3.78	nw.	20.5	
						750	929.0	6.6	.....	37	3.61	nw.	20.2	
						1,000	901.2	4.8	.....	33	2.84	nw.	18.7	Venus plainly visible nearly all day, appearing like a small crescent moon.
						1,250	874.1	3.1	.....	28	2.14	nw.	17.1	
						1,500	847.4	1.3	.....	23	1.54	nnw.	15.5	
						1,750	821.6	−0.5	.....	19	1.11	nnw.	13.9	
7:57	964.8	3.8	66	nw.	8.5	1,962	799.8	−2.0	0.63	15	0.78	nnw.	12.6	
						2,000	795.6	−2.1	.....	15	0.77	nnw.	12.8	
						2,250	771.0	−2.9	.....	14	0.67	nnw.	14.2	
						2,500	747.2	−3.7	.....	14	0.63	nnw.	15.6	
						2,750	724.3	−4.6	.....	13	0.54	nnw.	17.0	
						3,000	701.6	−5.4	.....	13	0.50	nnw.	18.3	1/10 Ci., wnw.
8:28	965.3	5.0	61	nw.	10.3	3,013	700.2	−5.4	0.26	13	0.50	nnw.	18.4	
						3,000	701.6	−5.4	.....	13	0.50	nnw.	18.3	
						2,750	725.0	−4.9	.....	15	0.61	nnw.	16.7	
						2,500	748.1	−4.4	.....	16	0.68	nnw.	15.0	
						2,250	772.3	−4.0	.....	18	0.79	nnw.	13.4	
10:15	966.4	7.6	52	nnw.	9.8	2,106	786.2	−3.7	0.77	19	0.85	nnw.	12.4	
						2,000	797.0	−2.9	.....	19	0.91	nnw.	12.4	
						1,750	822.7	−1.0	.....	20	1.12	nnw.	11.6	
						1,500	848.8	1.0	.....	20	1.31	nnw.	11.0	
						1,250	875.9	2.9	.....	21	1.58	nnw.	10.4	
11:10	967.3	7.6	58	nnw.	10.7	1,054	897.4	4.4	−1.05	21	1.76	nnw.	10.0	
						1,000	903.8	3.8	.....	29	2.33	nw.	9.8	
11:15	967.4	7.9	58	wnw.	8.9	883	916.8	2.6	1.18	47	3.46	wnw.	9.5	
						750	932.6	4.2	.....	50	4.12	nw.	10.3	
						500	961.6	6.5	.....	54	5.23	nnw.	11.8	
11:32	967.6	7.8	56	n.	12.1	444	967.6	7.8	.....	56	5.92	n.	12.1	1/10 Ci., wnw.

March 22, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
7:45	970.4	−0.8	86	s.	4.0	444	970.4	−0.8	.....	86	4.91	s.	4.0	7/10 A.Cu., wnw.
						500	964.1	0.0	.....	75	4.58	s.	5.9	
7:48	970.5	−0.5	84	s.	4.0	723	937.5	3.4	−1.51	29	2.26	s.	13.6	
						750	934.7	3.3	.....	29	2.24	s.	13.4	
						1,000	906.0	2.6	.....	26	1.92	s.	11.7	
8:01	970.6	−0.3	83	s.	4.9	1,213	882.3	1.9	0.31	24	1.68	s.	10.3	
						1,250	878.5	1.8	.....	25	1.74	s.	10.0	
						1,500	851.8	0.9	.....	35	2.28	s.	8.3	
						1,750	825.7	0.1	.....	45	2.77	s.	6.5	
9:17	970.8	2.1	62	s.	4.9	1,937	806.5	−0.5	0.40	52	3.05	s.	5.2	
						1,750	825.7	0.4	.....	48	3.02	s.	7.0	
						1,500	851.8	1.5	.....	42	2.86	s.	9.5	
						1,250	878.5	2.7	.....	36	2.67	s.	11.9	
10:36	970.6	5.1	51	s.	7.6	1,188	885.5	3.0	−0.28	35	2.65	s.	12.5	
						1,000	906.0	2.5	.....	27	1.97	s.	12.4	
10:51	970.6	5.4	48	s.	8.9	827	925.9	2.0	1.17	20	1.41	s.	12.4	
						750	934.7	2.9	.....	25	1.88	s.	11.7	
						500	964.1	5.8	.....	42	3.87	s.	9.4	
10:58	970.6	6.5	46	s.	8.9	444	970.6	6.5	.....	46	4.45	s.	8.9	5/10 A.Cu., wnw.

March 23, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
7:24	967.8	0.2	78	s.	7.2	444	967.8	0.2	.....	78	4.84	s.	7.2	1/10 A.Cu., w.; 1/10 A.St., w.
						500	961.1	0.9	.....	72	4.69	s.	9.5	
						750	931.7	4.2	.....	46	3.80	s.	19.9	
7:28	967.9	0.3	76	s.	7.2	819	924.0	5.1	−1.31	39	3.43	s.	22.8	
						1,000	903.2	6.3	.....	29	2.77	s.	16.4	
7:41	968.0	0.7	75	s.	7.6	1,081	895.0	6.9	−0.69	25	2.49	s.	13.5	
						1,250	876.2	7.0	.....	26	2.61	s.	11.9	
8:07	968.1	1.9	69	s.	8.0	1,437	857.4	7.2	−0.08	27	2.74	ssw.	10.2	
						1,500	850.1	6.8	.....	27	2.67	ssw.	9.8	
						1,750	825.2	5.1	.....	28	2.46	ssw.	8.2	2/10 Ci.St., w.
8:52	967.7	3.9	58	s.	9.4	1,993	800.5	3.5	0.78	28	2.20	ssw.	6.7	
						1,750	825.2	5.6	.....	26	2.37	ssw.	8.0	
						1,500	850.1	7.8	.....	24	2.54	s.	9.3	
10:00	967.2	7.4	46	s.	12.1	1,448	855.8	8.3	0.03	24	2.63	s.	9.6	
						1,250	876.2	8.4	.....	21	2.31	s.	11.5	
10:19	967.2	8.2	46	s.	9.8	1,140	888.6	8.4	−0.82	19	2.09	s.	12.6	
						1,000	903.2	7.2	.....	22	2.24	s.	12.9	
10:36	967.2	9.1	42	s.	8.9	775	929.0	5.4	1.15	28	2.51	s.	13.4	
						750	931.7	5.7	.....	29	2.66	s.	13.2	
						500	961.1	8.6	.....	40	4.47	s.	11.6	
10:42	967.2	9.2	42	s.	11.2	444	967.2	9.2	.....	42	4.89	s.	11.2	1/10 Ci.St., w.

March 24, 1918.

Time.	Pressure.	Temperature.	Relative humidity.	Wind Dir.	Wind Vel.	Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity Rel.	Humidity Vap. pres.	Wind Dir.	Wind Vel.	Remarks.
A. M.														
7:19	972.5	1.3	73	nne.	3.6	444	972.5	1.3	.....	73	4.90	nne.	3.6	1/10 A.St., nw.
						500	966.0	4.3	.....	56	4.65	ne.	7.1	
7:23	972.6	1.7	70	ne.	3.6	544	960.9	6.7	−5.40	42	4.12	ne.	9.9	
						750	937.8	6.0	.....	35	3.27	e.	7.7	2/10 Ci.St., nw.
9:46	973.3	8.2	37	se.	4.5	913	919.2	5.5	0.20	30	2.71	ese.	6.0	
9:55	973.3	8.2	37	ese.	4.5	768	935.7	5.6	1.08	31	2.82	ese.	6.2	
						750	937.8	5.8	.....	31	2.86	ese.	6.1	
						500	966.0	8.5	.....	35	3.88	ese.	4.8	
9:59	973.3	9.1	36	ese.	4.5	444	973.3	9.1	.....	36	4.16	ese.	4.5	3/10 Ci.St., nw.

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TABLE 16.—*Free-air data from kite flights at Ellendale Aerological Station, March, 1918*—Continued.

March 28, 1918.

Time.	Surface.					At different heights above sea.								Remarks.
	Pressure.	Temperature.	Relative humidity.	Wind.		Altitude.	Pressure.	Temperature.	$\frac{\Delta t}{100\ m.}$	Humidity.		Wind.		
				Dir.	Vel.					Rel.	Vap. pres.	Dir.	Vel.	
A. M.	*mb.*	° *C.*	%		*m. p. s.*	*m.*	*mb.*	° *C.*		%	*mb.*		*m. p. s.*	
7:11	965.4	3.9	60	s.	4.9	444	965.4	3.9	.....	60	4.85	s.	4.9	1/10 A.Cu., sw.; 9/10 A.St., sw.
						500	958.7	3.9	.....	58	4.69	s.	6.5	
						750	929.8	4.0	.....	52	4.23	ssw.	13.4	
7:22	965.7	4.1	57	s.	5.4	809	923.3	4.0	−0.03	50	4.06	ssw.	15.1	
						1,000	902.2	6.8	.....	52	5.14	sw.	6.9	
7:32	965.9	4.2	57	ssw.	4.9	1,059	895.6	7.7	−1.48	53	5.57	sw.	4.4	
						1,250	876.0	8.2	.....	57	6.20	wsw.	4.5	
8:18	966.6	4.9	55	s.	6.7	1,362	864.1	8.5	−0.10	59	6.55	wsw.	4.6	
						1,250	876.7	8.6	.....	59	6.59	sw.	5.2	1/10 A.Cu., sse.; 5/10 A.St., sse.
9:55	967.2	7.9	47	s.	10.3	1,058	897.2	8.7	−3.48	59	6.64	ssw.	6.2	
						1,000	903.5	6.7	.....	59	5.79	ssw.	7.0	
10:02	967.2	8.0	46	s.	8.0	897	915.0	3.1	1.19	58	4.43	ssw.	8.3	
						750	931.6	4.9	.....	54	5.71	ssw.	8.2	
						500	960.7	7.8	.....	47	4.97	ssw.	8.0	
10:12	967.3	8.5	45	ssw.	8.0	444	967.3	8.5	.....	45	5.00	ssw.	8.0	7/10 A.St., sse.

March 30, 1918.

A. M.														
7:22	959.8	4.1	64	sw.	8.0	444	959.8	4.1	.....	64	5.24	sw.	8.0	9/10 Ci.St., w.
						500	952.8	5.7	.....	61	5.59	sw.	9.9	
						750	925.0	12.6	.....	46	6.71	wsw.	18.3	
7:25	959.8	4.2	64	sw.	7.6	793	920.1	13.8	−2.78	44	6.94	wsw.	19.8	
						1,000	897.4	12.4	.....	42	6.05	wsw.	16.2	
						1,250	871.0	10.7	.....	39	5.02	w.	12.0	Solar halo, 22° radius, from 7:58 to 8:04 a. m. and partial halo to 8:24 a. m. Parhelia from 8:19 to 8:22 a. m.
7:45	959.6	5.0	62	sw.	7.2	1,277	868.3	10.5	0.68	39	4.95	w.	11.5	6/10 A.Cu., nw.; 2/10 Ci.St., wnw.
						1,500	845.1	8.7	.....	39	4.39	w.	11.0	
						1,750	819.8	6.7	.....	39	3.83	w.	10.4	
8:19	959.1	6.8	57	sw.	7.6	1,870	807.8	5.8	0.79	39	3.60	w.	10.1	
						2,000	795.0	4.9	.....	39	3.38	w.	10.1	
						2,250	771.4	3.2	.....	38	2.92	wnw.	10.0	
8:35	958.8	8.1	52	sw.	6.3	2,483	749.1	1.6	0.80	38	2.61	wnw.	10.0	
						2,250	771.4	3.7	.....	37	2.95	wnw.	10.1	
						2,000	795.0	5.9	.....	35	3.25	w.	10.2	
9:11	958.1	11.8	44	sw.	6.7	1,961	798.6	6.3	0.78	35	3.34	w.	10.2	
						1,750	819.4	8.0	.....	34	3.65	w.	10.6	
						1,500	844.2	9.9	.....	34	4.15	wsw.	11.2	
						1,250	869.9	11.9	.....	33	4.60	wsw.	11.7	
9:53	956.9	16.1	37	sw.	8.9	1,003	895.5	13.8	−0.93	32	5.05	sw.	12.2	
10:00	956.7	16.4	37	sw.	8.9	896	906.9	12.8	0.95	35	5.17	sw.	10.5	
						750	923.6	14.2	.....	34	5.50	sw.	10.0	
						500	950.9	16.6	.....	33	6.23	sw.	9.1	
10:08	956.5	17.1	33	sw.	8.9	444	956.5	17.1	.....	33	6.44	sw.	8.9	3/10 A.Cu., nw.; 5/10 Ci.St., wnw.

March 31, 1918.

A. M.														
7:13	950.5	2.3	66	nw.	13.4	444	950.5	2.3	.....	66	4.76	nw.	13.4	7/10 A. Cu., wsw.
						500	944.2	2.0	.....	66	4.66	nw.	13.9	
						750	915.5	0.6	.....	64	4.08	nw.	16.1	
						1,000	887.1	−0.8	.....	62	3.54	nnw.	18.3	
7:24	950.6	2.5	65	nw.	11.2	1,152	870.2	−1.7	0.56	61	3.23	nnw.	19.6	
						1,250	859.7	−2.2	.....	59	3.00	nnw.	19.0	
						1,500	833.0	−3.4	.....	54	2.48	nnw.	17.4	Few A.Cu., wsw.
						1,750	807.0	−4.6	.....	49	2.03	nw.	15.8	
7:44	950.8	3.0	62	nw.	14.8	1,905	791.3	−5.3	0.48	46	1.80	nw.	14.8	
						2,000	781.6	−5.9	.....	44	1.63	nw.	14.7	
						2,250	757.2	−7.3	.....	40	1.32	nw.	14.6	
						2,500	734.0	−8.8	.....	35	1.01	nw.	14.4	
8:18	951.2	4.4	61	nw.	12.5	2,677	717.1	−9.8	0.56	32	0.84	nw.	14.3	
						2,500	734.0	−9.0	.....	32	0.91	nw.	13.5	
						2,250	758.7	−7.5	.....	31	1.00	nw.	12.4	
						2,000	783.5	−6.2	.....	30	1.09	nw.	11.3	
9:34	951.4	6.8	62	nw.	8.9	1,961	786.7	−6.0	0.60	30	1.10	nw.	11.1	
						1,750	807.8	−4.7	.....	37	1.52	nw.	10.8	
						1,500	834.4	−2.8	.....	45	2.18	nw.	10.5	
10:09	951.2	8.1	48	nw.	8.9	1,310	854.5	−2.1	1.01	51	2.62	nw.	10.2	
						1,250	861.1	−1.5	.....	52	2.80	nw.	10.1	
						1,000	888.8	1.0	.....	55	3.61	nw.	9.8	
10:23	951.1	8.1	43	nw.	8.9	874	902.3	2.3	1.40	57	4.11	nw.	9.6	
						750	916.5	4.0	.....	52	4.23	nw.	9.5	
						500	944.2	7.5	.....	43	4.46	nw.	9.4	
10:34	951.0	8.3	41	nw.	9.4	444	951.0	8.3	.....	41	4.49	nw.	9.4	Few St.Cu., nw.

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