Lyons, Col. H. G.
Meteorology during and after the war. London. 1919. p. 167–180. 25 cm. [In Journal of the Royal society of arts, vol. 67. No. 3455.] [Excerpts reprinted in this REVIEW, Feb., 1919, 47:81–83.]

Millikan, Robert Andrews, & Gale, Henry Gordon.
Practical physics ... being a revision of the authors' "A first course in physics" done in collaboration with Willard R. Pyle. Boston. [1920.] 462 p. 19½ cm.

Moore, Henry L.
Forecasting the crops of the Dakotas. New York. 1920. p. 204–233. 23 cm. (Reprinted from Political science quarterly, vol. 35, no. 2, June, 1920.)

Mrazek, Dr. J.
Windverhältnisse in Prag nach den Pilotvisierungen in der Zeit vom Nov. 1916 bis Nov. 1917. Prag. 1920. 14 p. 30 cm.

Nakagawa, Gen'saburo.
Nippon Kisho-gaku [The meteorology of Japan]. Tokio. 1916. 4, 338, 64 p., 22½ cm. [In Japanese.]

Okada, Takematsu.
Ame [rain]. Tokio. 1916. 1, 361, 5 p. 19 cm. [In Japanese.]

Pollak, Dr. Leo Wenzel.
Ergebnisse der anemometrischen Aufzeichnungen des meteorologischen Observatoriums auf dem Donnersberge (Böhmen) in den Jahren 1905–10. Prag. 1919. 104 p. 30 cm. (Aus dem Institut für kosmiche Physik der deutschen Universität in Prag.)

Rolf, Bruno.
Tables psychrométriques portatives, calculées selon la formule Svensson-Ekholm. Stockholm. 1919. 30 p. 22½ cm.

St. Xavier's college, Calcutta. Meteorological observatory.
Meteorological observations at St. Xavier's college, Calcutta, ... by E. Francotte, S. J. Calcutta. 1918– n. p. 30 x 32 cm.

San Salvador. Observatorio meteorológico.
Anales del Observatorio meteorológico San Salvador, Central America, años de 1917 y 1918. San Salvador, 1919. 113 p. 32 cm.

Schmid, Dr. Bastian, *ed.*
Deutsche Naturwiss enschaft, Technik u. Erfindung im Weltkriege. München. 1919. xi, 1007 p. 27 cm. ["Meteorologie im Kriege" von Siegmund Günther, p. 81–109.]

Sweden. Meteorologiska centralanstalten.
Haglets frekvens i Sverige 1865–1917. Uppsala. 1919. 50. p. 31 cm. (Bihang till Meteorologiska iaktagelser i Sverige. Band 59, 2:dra serien, vol. 45.)

Tscheuschner, Hubert.
La prevision du temps sans instrument. Système pour la prévision de tous les météores de deux à quatre jours d'avance. 10. ed. Paris. 1919. 18 p. 24½ cm.

U. S. Air service.
Altimeters for aerial navigation. Washington. 1919. 9 p. 23 cm.

Uruguay. Instituto meteorológico nacional.
Eclipses de sol del 3 de Diciembre de 1918 y 29 de Mayo de 1919. Montevideo. 1920. 93 p. 28½ cm.

Valdiguié, A.
Climat de Salonique. Salonique. [1918]. 102 p. 21 cm. (Cahiers d'orient (Ancienne Revue Franco-Macédonienne). No. 2.)

Wade, E. B. H.
Report on psychrometer formulae based on observations in Egypt and the Sudan. Cairo. 1920. 72 p. 28 cm. (Ministry of public works, Egypt. Physical department paper No. 2.)

Wallén, Axel.
Les prévisions des niveaux d'eau et des débits en Suède. Stockholm. 1919. p. 340–352. 25 cm. (Separate from Geografiska Annaler 1919, H. 3–4.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. F. TALMAN, Professor in Charge of Library.

The following titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

American society of civil engineers. Proceedings. New York. v. 46. April, 1920.
Vilar y Boy, S. Notes on the Guatemala earthquakes, and earthquake-proof construction. p. 559–569. [The ability of different materials to withstand earthquake strains.]

Aviation. New York. v. 8. June 15, 1920.
Jones, Melville. Over-cloud flying and commercial aeronautics. p. 402–408. [Abstract in later REVIEW.]

Ecology. Brooklyn. v. 1. January, 1920.
Huntington, Ellsworth. The control of pneumonia and influenza by the weather. p. 6–23. [Abstract in later REVIEW.]
Douglass, A. E. Evidences of climatic effects in the annual rings of trees. p. 24–32. [Abstract in Mo. WEATHER REV. Dec., 1919, p. 881.]

Engineering news-record. New York. v. 85. 1920.
Fleming, R. Wind loads on miscellaneous structures. p. 66–68. (July 8.)
Henry, A[lfred] J[udson]. Mississippi river floods of 1920. p. 71. (July 8.)
Lenth, George C. D. Storm water run-off diagram for rational method. p. 151–152. (July 22.)

Geographical teacher. London. v. 10. no. 54.
Fairgrieve, J. The upper air. p. 67. (Summer, 1919.)
Storey, Harold E. An apparatus for teaching the climatic effects of the system of major winds. p. 160–161. (Spring, 1920.)

Great Britain. Advisory committee for aeronautics. Technical report. London.
Dines, J[ohn] S[omers]. Vertical motion in the free air. 443–448. (1913–14.)
Shaw, W[illiam] N[apier]. Formulas and tables of constants for use in the discussion of the results of soundings with registering balloons and pilot balloons. p. 449–457. (1913–14.)
O'Gorman, Mervyn. Photographing the smoke trail of rockets. p. 458. (1913–14).
Bairstow, L. Discussion of the action of different types of air-speed indicator. p. 461–466. (1913–14.)
Rayleigh. Note on the formula for the gradient wind. p. 381–382. (1914–15.)
Pannell, J. R. Calibration of tube anemometers at high velocities. p. 529–532. (1915–16.)
Taylor, G. I. Report on the accuracy with which the temperature error in determining heights by the barometer may be corrected. p. 576–578. (1915–16.)

Japan. Imperial earthquake investigation committee. Bulletin. Tokyo. v. 8. 1920.
Omori, F. The Sakura-jima eruptions and earthquakes. IV, V. p. 323–351; 353–466. (Nos. 4, 5.)

Japan. Imperial earthquake investigation committee. Bulletin. Tokyo. v. 9. 1920.
Omori, F. The Usu-san eruption and the earthquake and elevation phenomena. III. p. 41–76. (No. 2.)

Meteorological magazine. London. v. 55. June, 1920.
Ellison, W. F. A. The ventilation of instrumentsh elters. p. 81–83.

Meteorological society of Japan. Journal. Tokyo. 39th year. June, 1920.
Fujiwhara, S., & Nakano, H. Notes on iridescent clouds. p. 1–9. [Abstract in this REVIEW, pp. 333.]

Nature. London. v. 105. 1920.
Dines, W[illiam] H[enry]. Attainment of high levels in the atmosphere. p. 454. (June 10.) [On an unusually high pilot balloon ascent.]
The thunderstorms of May 29 and the Louth disaster. p. 468. (June 10.) [See May REVIEW, p. 293.]
Bemmelen, W[illem] van. High rates of ascent of pilot balloons. p. 485–486. (June 17.) [Note in later REVIEW.]
Wedderburn, E[rnest] M[aclagan]. The importance of meteorology in gunnery. p. 492–494. (June 17.)
Bjerknes, V[ilhelm.] The meteorology of the temperate zone and the general atmospheric circulation. p. 522–524. (June 24.) [Abstract in later REVIEW.]
Dines, J[ohn] S[omers]. The rate of ascent of pilot-balloons. p. 581. (July 8.) [Note in later REVIEW.]
Douglas, C. K. M. Temperature variations at 10,000 feet. p. 614. (July 15.)

Physical review. Lancaster. v. 15. June, 1920.
Mauchly, S. J., & Thomson, Andrew. Results of atmospheric-electric observations made during the solar eclipse of May 29, 1919. p. 525–526. [Abstract.]
Bauer, L[ouis] A., & Peters, W. J. Effects of differential refraction in the earth's atmosphere upon observed light deflections. p. 527. [Abstract.]
Colvin, Charles H. An air distance recorder. p. 562–564. [Anemometer used on aircraft.]

Royal society of London. Philosophical transactions. London. v. 221. A 582. 1920.
Richardson, Lewis F. Some measurements of atmospheric turbulence. p. 1–28. [Abstract in later REVIEW.]
Royal society of London.. Proceedings. London. v. 97. no. A 686.
Richardson, Lewis F. The supply of energy from and to atmospheric eddies. p. 375. [Abstract in later REVIEW.]
Scientific American monthly. New York. v. 2. July, 1920.
A fog eliminator for motion picture studios. p. 73.
Bancroft, Wilder D. Fog and smoke. p. 74–78.
Calibration of barographs used in airplane altitude measurements. p. 80–81.
Seismological society of America. Bulletin. Stanford university. v. 10. June, 1920.
Taber, Stephen. Jamaica earthquakes and the Bartlett trough. p. 55–89.
Branner, John C. Recent earthquakes in Brazil. p. 90–104.
Annales de géographie. Paris. 29 année. 15 mai 1920.
Rouch, J. La variation du vent en altitude à Oran. p. 222–227.
Astronomie. Paris. 34 année. Juin 1920.
Emmanuelli, Pio. L'astronome I. Galli. p. 292. [Obituary.]
France. Académie des sciences. Comptes rendus. Paris. Tome 170. 1920.
Tilho, J. Sur la fréquence des brouillards dans le Sahara oriental. p. 1435–1438. (14 juin.)
Stanoiévitch, C. M. L'aéroplane et la grêle. p. 1590–1592. (28 juin.) [A questionable method of preventing hail formation by sending airplanes into hail clouds.]
France. Academie des sciences. Comples rendus. Paris. Tome 170, 1920—Continued.
Idrac, P. Sur les courants de convection dans l'atmosphère dans leur rapport avec le vol à voile et certaines formes de nuages. p. 42–44. (5 juillet.) [Note in later REVIEW.]
Annalen der Hydrographie und maritimen Meteorologie. Berlin. 48. Jahrgang. 1920.
Georgii, Walter. Die Ursachen der Nebelbildung. p. 207–222; 241–262. (H. 5, 6.)
Naturwissenschaften. Berlin. 8. Jahrgang. 1920.
Baschin, Otto. Das deutsche geophysikalische Observatorium in Spitzbergen. p. 301–304. (16 Apr.)
Kuhl, W. Über Probleme der meteorologischen Photometrie p. 394. (14 Mai.)
Everling, E. Der Einfluss des Windes im Luftverkehr. p. 418–423. (28. Mai.)
Physikalische Zeitschrift. Leipzig. 21. Jahrgang. 15 Marz 1920.
Bongards, Hermann. Radioaktive Zerfallsprodukte in der freien Atmosphäre und die Wahrscheinlichkeit ihrer Herkunft von der Sonne. p. 141–145.
Prometheus. Leipzig. Jahrgang 31. 1920.
Fehlinger, Hans. Das Trockengebiet Inner-Australiens. p. 185–187. (13. März.)
Hoffmeister, C. Wind und Wasserhosen in Europa. p. 193–196. (20. März.)
Porstmann, W. Die Beheizung der Troposphäre. p. 221–223; 229–231. (10–17. Apr.) [Studies of the vertical temperature gradient.]

SPECIAL OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING JUNE, 1920.

By HERBERT H. KIMBALL, Professor of Meteorology.

(Weather Bureau Solar Radiation Investigations Section, Washington, July 29, 1920.)

For a description of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to this Review for April, 1920, **48**:225.

The monthly means and departures from normal in Table 1 indicate that solar radiation intensities were above normal at all four stations, the excess for air mass 2.0 averaging about 6 per cent.

Table 2 shows an excess in the total radiation received on a horizontal surface at Washington and Madison during the five weeks, May 28 to July 1, inclusive, although at Washington there was a deficiency during the three weeks, June 4 to 24, inclusive. Owing to a broken wire in one of the grids of the callendar pyrheliometer in use at Lincoln it has been necessary to temporarily discontinue the automatic record of solar and sky radiation at that station.

Skylight polarization measurements obtained at Washington on four different days give a maximum of 54 per cent and a mean far the month of 48 per cent. Measurements obtained at Madison on two days give a maximum of 72 per cent and a mean of 70 per cent. These are average values for June for Washington, and above the average for Madison.

TABLE 1.—*Solar radiation intensities during June, 1920.*

[Gram-calories per minute per square centimeter of normal surface.]

WASHINGTON, D. C.

Date.	Sun's zenith distance.										
	8 a.m.	77.8°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	77.8°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
June 1	13.13					1.33					11.38
2	13.13				0.92						15.11
7	8.48			1.01	1.16	1.27					7.29
14	15.11					1.41					12.24
24	13.61			0.73	0.91	1.10					11.81
25	12.24					1.34	1.01				10.21
26	9.83		0.69	0.83	1.00						7.87
Means			(0.69)	0.86	1.00	1.29	(1.01)				
Departures			+0.04	+0.10	+0.09	+0.02	+0.02				

TABLE 1.—*Solar radiation intensities during June, 1920*—Contd.

MADISON, WIS.

Date.	Sun's zenith distance.										
	8 a.m.	77.8°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	77.8°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
June 2	11.38						1.22				9.14
3	6.76			1.12	1.25	1.39					6.27
8	10.59			1.06	1.21	1.42	1.13	0.92			9.83
16	17.37				1.09						15.11
18	8.81					1.36					8.48
22	11.38					1.30					9.47
24	11.38					1.18					10.21
28	17.37					1.14					18.59
30	14.10		0.82	0.95	1.10	1.34					13.61
Means			(0.82)	1.04	1.16	1.30	(1.18)	(0.92)			
Departures			−0.05	+0.08	+0.03	±0.00	+0.12	+0.04			

LINCOLN, NEBR.

June 2	8.18					1.46					5.79
5	7.04			1.06	1.25	1.47	1.19	0.98	0.86	0.74	7.57
8	17.37						1.04				17.37
12	12.24			0.84							14.10
21	9.14					1.45					7.04
23	9.14			0.90	1.13	1.43	1.15	0.95	0.82		7.57
Means				0.93	(1.19)	1.45	1.13	(0.96)	(0.84)	(0.74)	
Departures				+0.01	+0.11	+0.09	+0.03	+0.05	+0.07		

SANTA FE, N. MEX.

June 4	6.27			1.06							7.29
14	6.76		1.02	1.08	1.27	1.49					5.36
15	5.56		1.06	1.11	1.34	1.55	1.32	1.16	1.01		2.87
16	4.17		1.04	1.20	1.27	1.60					2.87
17	4.37		1.08								3.45
18	5.56			1.15	*1.31						5.79
21	4.37			1.30	1.39						2.74
24	5.79					1.59					3.63
28	7.87						1.32	1.14			9.83
29	7.29		1.05	1.14	1.26						7.04
Means			1.05	1.15	1.31	1.56	(1.32)	(1.15)	(1.01)		
Departures			+0.10	+0.09	+0.08	+0.10	±0.00	−0.01	±0.00		

* Extrapolated.