RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. F. TALMAN, Meteorologist 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 heating and ventilating engineers. Journal. New York. v. 28. July, 1922.
McConnell, W. J., & Houghten, F. C. Body temperatures and their measurements. p. 523-532.

Annalen der Hydrographie und maritimen Meteorologie. 50 Jahrg. 1922.
Benkendorff, R. Die Entwicklung des innerdeutschen Wetter-Nachrichtenverkehrs nach dem Kriege. p. 90-92. (28. Feb.)
Frisch, Karl. Die Inversionsflächen in der freien Atmosphäre. p. 75-89. (28. Feb.) p. 120-135. (31. März.)
Mey, A. Der Sturm an den deutschen Küsten am 23. und 24. Oktober 1921. p. 65-75. (28. Feb.)
Die aerologischen Flugzeugaufstiege der deutschen Seewarte im Jahre 1921. p. 113-120. (31. März.)
Luensee. Die Eisverhältnisse des Winters 1920/21 in den ausserdeutschen europäischen Gewässern. p. 136-138. (31. März.)
Köppen, W. Die Rolle des Temperaturunterschieds von Meer und Luft in der Physik der Atmosphäre. p. 138-140. (31. März.)

Aviation. New York. v. 13. July 31, 1922.
Miller, J. W. An explanation of soaring flight. p. 121-123.

Annales de physique. Paris. T. 17. Mai-juin 1922.
Rothé, E. Sur la radiogoniométrie des parasites atmosphériques et la prévision du temps. (Compte rendu des observations faites à l'Institut de physique du globe de Strasbourg.) p. 385-415.

Conquest. London. v. 3. July, 1922.
Williamson, H. How to make a simple anemometer. p. 376.

France. Académie des sciences. Comptes rendus. Paris. T. 172. 24 juillet 1922.
Mengel, Octave. Sur la chute des poussières dites "pluies de sang"; remarque relative à la neige colorée du 12 mars 1922 en Briançonnais. p. 225-228.

Geographical review. New York. v. 12. July, 1922.
McAdie, Alexander. Monsoon and trade winds as rain makers and desert makers. p. 412-419.
Reed, William Gardner. Military meteorology. p. 403-411.
Taylor, Griffith. The distribution of future white settlement. A world survey based on physiographic data. p. 375-402.

Great Britain. Meteorological office. Monthly meteorological charts. East Indian seas. August, 1922.
Some accounts of tropical cyclones.

Hemel en dampkring. Den Haag. 20e jaarg. August, 1922.
Hartman, Ch. M. A. De hittegolf van Mei 1922. p. 125-127.
Visser, S. W. Een circumhorizontaalboog te Weltevreden. p. 127-133. [Trans. from Met. Zeitschrift.]

Japanese journal of astronomy and geophysics. Transactions and abstracts. Tokyo. v. 1. no. 1. 1922.
Nakamura, Saemontaro. A Japanese proverb on the weather after an earthquake. p. (19).
Terada, Torahiko. Miscellaneous meteorological notes. Nos. 1 & 2. 1. On some cloud-forms due to the effects of topography. 2. Cap-shaped cloud. p. (5). [Abstract.]

London, Edinburgh, and Dublin philosophical magazine. London. v. 44. July, 1922.
Green, George. On fluid motion relative to a rotating earth. p. 52-62.

Meteorological Magazine. London. v. 57. July, 1922.
Botley, Cicely M. Meteorology and folk-lore. The rainbow. p. 157.
Hall, Daniel. The study of weather and crops. p. 149-151.
The Prince of Monaco. p. 155-156. [Obituary.]

Meteorologische Zeitschrift. Braunschweig. Bd. 39. 1922.
Arendt, Th. Weite Hörbarkeit des Donners. p. 188-189. (Juni.)
Kesslitz, Wilhelm V. Beziehungen zwischen Abfluss- und Niederschlagshöhe im Gebiete österreichischer Alpenflüsse. p. 166-173. (Juni.)

Meteorologische Zeitschrift. Braunschweig. Bd. 39. 1922—Contd.
Korhonen, W. W. Ein einfacher Schneedichtemesser. p. 180-182. (Juni.)
Linke, Franz, & Boda, Karl. Vorschläge zur Berechnung des Trübungsgrades der Atmosphäre aus den Messungen der Intensität der Sonnenstrahlung. p. 161-166. (Juni.)
Maurer, J. Ein treuer Satellit der Gletscherschwankung. p. 178-180. (Juni.)
Meyer, Rud. Die Häufigkeit der Niederschlagstage im Ostbaltischen Gebiet nach Stufenwerten der Niederschlagsmenge. p. 182-184. (Juni.)
Wussow, G. Untere Grenzwerte dichter Regenfälle. p. 173-178. (Juni.)
Angenheister, G. Resultate der meteorologischen Beobachtungen am Samoa-Observatorium von 1916 bis 1919. p. 218-220. (Juli.)
Hellmann, G. Die älteste englische Bezeichnung für das Thermometer. p. 208-209. (Juli.)
Iswekow, B. Eine neue mögliche Bestimmungsweise der Grösse der vertikalen Geschwindigkeiten in der freien Atmosphäre. p. 203-208. (Juli.)
Maurer, H. Wann ist ein Ort bei Beurteilung nach Monats-Regenmengen als regenreich oder regenarm zu bezeichnen? p. 212-216. (Juli.)
Noth, H. Windregistrierungen auf der Wasserkuppe. p. 209-212. (Juli.)
Sassenfeld, Max. 70-jährige Mittel der Niederschlagshöhe in Kleve. p. 216-217. (Juli.)
Steiner, L. Die Temperaturverhältnisse in der Eishöhle von Dobsina. p. 193-199. (Juli.)
Wiedemann, Eilhard. Meteorologisches aus der Chronologie von al Biruni. p. 199-203. (Juli.)

National academy of sciences. Proceedings. Washington, D. C. v. 8. July, 1922.
Abbot, C. G., Fowle, F. E., & Aldrich, L. B. The larger results of 20 years of solar radiation observations. p. 177-181.
Dachnowski, Alfred P. The correlation of time units and climatic changes in peat deposits of the United States and Europe. p. 225-231.

Naturwissenschaften. Berlin. 10 Jahrg. 2. Juni 1922.
Süring, R. Lufttrockenheit auf dem Brocken im November und Dezember 1921. p. 516-517. [Abstract.]
Wigand, A. Das Sichtproblem. p. 517. [Abstract.]
Wussow. Untere Grenzwerte dichter Niederschläge. p. 517. [Abstract.]

Reale accademia dei Lincei. Atti. Roma. v. 31. 1922.
Eredia, Filippo. Sulle correnti aeree concomitanti a determinate disposizioni barometriche secondo le osservazioni aerologiche di Catania. p. 366-370. ((5) Rendiconti. fasc. 9. 7 maggio.)
Agamennone, G. Il terremoto di Caldarola (Marche) del 28 agosto 1921. p. 317-321. (23 aprile.)

Reale società geografica italiana. Bolletino. Roma. v 10. ott.-nov. 1921.
Eredia, Filippo. Julius Hann. p. 466-472. [Obituary.]

Royal meteorological society. Quarterly journal. London. v. 48. April, 1922.
Brooks, C. E. P., & Glasspoole, A. I. C. The drought of 1921. p. 139-168. [Cf. this REVIEW, pp. —.]
Dover, John. Comparison of the droughts of 1893, 1911, and 1921, as experienced at Totland Bay, Isle of Wight. p. 206-208.
Hooker, Reginald H. The weather and the crops in eastern England, 1885-1921. p. 115-138.
Kobayasi, T. On a cyclone which crossed the Korean Peninsula and the variations of its polar front. p. 169-184. [Abstract in this REVIEW, p. 356.]
Whipple, F. J. W. The horizontal range of vision as a meteorological observation. p. 85-113.

Royal society of London. Proceedings. London. Ser. A. v. 101. Aug. 1, 1922.
Barker, Muriel. On the use of very small Pitot tubes for measuring wind velocity. p. 435-445.

Science. New York. v. 56. Aug. 11, 1922.
Jones, Arthur Taber. The temperatures of meteorites. p. 169-170.

Scientific American. New York. v. 78. September, 1922.
Across America in eight hours. p. 149. [Discusses alleged permanent west winds at high level over the United States and their use in aviation.]
Waterbury, Ivan C. Electrically harnessing the winds. Yoking windmills to motors to produce light, heat, and power for farm and rural communities. p. 184-185.

Scottish geographical magazine. Edinburgh. v. 38. July 15, 1922.
S., A. Henry Newton Dickson, D. Sc., C. B. E. p. 183-184. [Obituary.]

Società meteorologica italiana. Bolletino bimensuale. Torino. v. 41. Luglio-Agosto. 1922.

Chistoni, Ciro. Fratello Pierotti. p. 51. [Obituary.]

[Giuseppe Lais.] p. 46–47. [Obituary.]

Oddone, Emilio. In tema di nefoscopia. p. 46–47.

Tycos-Rochester, Rochester, N. Y. v. 12. July, 1922.

Flora, S. D. Forecasting tomorrow's weather. p. 8.

Jameson, P. H. The learning of meteorology. p. 5–7; 33–38.

The record-breaking climate of Death Valley. p. 13–14. [Abstract of article by A. H. Palmer.]

Talman, Charles Fitzhugh. Do climates change? p. 16. [Reprinted from Mentor.]

Van Cleef, Eugene. Weather, climate and advertising. p. 24–26. [Reprinted from Bulletin American meteorological society.]

Whiting, Wendell. Bird migration little affected by weather. p. 9–10.

U. S. air service. Washington, D. C. v. 7. 1922.

Hourwich, Iskander. Power output and air temperature. p. 12–16.

U. S. air service. Washington, D. C. v. 7. 1922—Continued.

Halsted, Arthur. Piloting an airplane in squall winds. p. 21–22.

Wetter. Berlin. 39 Jahrg. Mai/Juni 1922.

Gentzen, C. Die Kälteperiode von Mitte Januar bis Mitte Februar 1922. p. 71–76.

Koschmieder, Dr. Wetter-Nachrichtendienst und Luftverkehr. p. 76–79.

Langbeck, K. Inwieweit ist ein Einfluss der Geländeverhältnisse auf das Entstehen der Gewitter anzunehmen? p. 65–71.

Naegler, W. Die heissen Sommer in Leipzig seit 1830, mit besonderer Berücksichtigung des Sommers 1921. p. 81–86.

Peppler, W. Die meteorologischen Bedingungen der Regenbildung nach J. Bjerknes und K. Solberg. p. 86–92.

Peppler, W. Zyklonengruppen und Bahnen der barometrischen Fallgebiete. p. 92–94.

Zeitschrift für Instrumentenkunde. Berlin. 41 Jahrg. Oktober 1921.

Fuss, H. Bambergscher Registrier-Theodolit. p. 281–289.

SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING JULY, 1922.

By HERBERT H. KIMBALL, In Charge, Solar Radiation Investigations.

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.

From Table 1 it is seen that direct solar radiation intensities averaged slightly above the normal for July at Madison, slightly below at Lincoln, and very close to normal at Washington.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged below the July normal at Washington. At Madison it averaged above the normal during the first and third weeks, and below the normal during the second and fourth weeks.

Skylight polarization measurements made on seven days at Washington give a mean of 50 per cent with a maximum of 61 per cent on the 29th. These are close to average values for July at Washington. At Madison, measurements made on five days give a mean of 70 per cent with a maximum of 72 per cent on the 3d and 13th. The mean is above the average polarization for July at Madison.

TABLE 1.—*Solar radiation intensities during July, 1922.*

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

Washington, D. C.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	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.*
July 6	14.10	.....	0.69	0.78	1.00	.....	.....	.....	.....	.....	9.83
12	19.89	0.48	0.61	0.75	0.94	1.21	0.96	0.76	0.57	.....	19.89
17	18.59	0.50	0.59	0.75	0.93	.....	.....	.....	.....	.....	19.89
18	17.96	.....	.....	.....	1.02	1.32	.....	.....	.....	.....	18.59
21	13.13	.....	.....	0.67	0.86	1.05	.....	.....	.....	.....	12.24
28	19.23	.....	.....	.....	.....	1.00	.....	.....	.....	.....	17.96
29	12.24	0.69	0.80	0.93	1.05	1.23	.....	.....	.....	.....	12.24
31	14.10	.....	.....	.....	1.01	1.10	.....	.....	.....	.....	12.68
Means	.....	0.56	0.67	0.78	0.97	1.15	(0.96)	(0.76)	(0.57)	.....	.....
Departures	.....	−0.02	−0.02	−0.04	+0.00	+0.04	±0.00	±0.00	−0.08	.....	.....

TABLE 1.—*Solar radiation intensities during July, 1922*—Continued.

Madison, Wis.

Date.	Sun's zenith distance.										
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	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.*
July 1	16.79	.....	.....	0.71	.....	.....	.....	.....	.....	.....	16.20
3	8.18	.....	.....	.....	1.26	1.45	.....	.....	.....	.....	8.48
8	11.38	.....	.....	.....	1.21	.....	.....	.....	.....	.....	9.47
13	14.10	.....	.....	1.02	1.19	1.39	.....	.....	.....	.....	15.65
18	10.59	.....	.....	.....	1.20	1.39	.....	.....	.....	.....	13.61
19	11.38	.....	.....	1.03	1.19	1.37	.....	.....	.....	.....	12.68
Means	.....	.....	.....	0.92	1.21	1.40	.....	.....	.....	.....	.....
Departures	.....	.....	.....	+0.03	+0.18	+0.14	.....	.....	.....	.....	.....

Lincoln, Nebr.

July 4	9.83	.....	.....	0.92	1.01	1.17	.....	.....	.....	.....	9.47
5	10.97	.....	0.65	0.77	0.96	.....	.....	.....	.....	.....	14.60
7	11.38	.....	1.01	1.10	1.25	1.42	.....	.....	.....	.....	11.38
8	11.38	.....	.....	0.95	.....	.....	.....	.....	.....	.....	13.61
13	11.81	.....	0.76	0.89	1.10	.....	1.01	0.78	0.61	.....	11.38
15	16.20	.....	.....	0.80	1.00	1.26	.....	.....	.....	.....	16.79
18	11.81	.....	0.81	0.91	1.08	.....	1.05	0.88	0.74	.....	10.59
19	11.38	.....	.....	0.79	1.00	1.22	.....	.....	.....	.....	13.61
25	13.61	.....	.....	.....	.....	.....	1.02	0.84	0.73	.....	18.59
26	17.96	.....	.....	0.89	1.07	1.27	1.07	0.89	0.74	.....	17.37
27	14.60	.....	.....	.....	.....	1.34	1.07	0.87	0.72	.....	14.60
28	15.65	.....	.....	.....	.....	1.08	0.89	.....	.....	.....	17.96
31	13.61	.....	.....	0.92	1.05	.....	.....	.....	.....	.....	25.96
Means	.....	.....	.....	0.81	0.88	1.06	1.25	1.02	0.85	0.71	.....
Departures	.....	.....	.....	+0.1	−0.02	−0.02	−0.08	−0.05	−0.04	−0.04	.....

* Extrapolated.

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
July 2	452	561	.....	−56	+23	.....	−3094	−1541	.....
9	477	459	.....	−21	−72	.....	−3243	−2048	.....
16	423	522	.....	−64	+ 5	.....	−3690	−2016	.....
23	453	419	.....	−24	−77	.....	−3861	−2556	.....

MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE.

By C. G. ABBOT, Assistant Secretary.

[Smithsonian Institution, Washington.]

NOTE.—Owing to delay in the mails the data from South America will be included in the August issue of the REVIEW.—EDITOR.