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.

Aéronautique. Paris. 4. année. October, 1922.
Rouch, J. La route aérienne Paris-Londres. Influence des vents en fonction de l'altitude. p. 318–320.

American academy of arts and sciences. Proceedings. Boston, v. 57. November, 1922.
Ward, R. de C. Julius von Hann (1839–1921). p. 491–493. [Obituary.]

American society of heating and ventilating engineers. Journal. N. Y. v. 28. November, 1922.
Development of the Anderson and Armspach dust determinator. p. 780–787.

Aviation. N. Y. v. 13. Dec. 11, 1922.
Meisinger, C. LeRoy. Interpretation of meteorological maps. Free-air conditions may be deduced from proper interpretation of surface conditions. p. 774–776.

Beiträge zur Physik der freien Atmosphäre. Leipzig. Bd. 10. 1. Aug. 1922.
Bemmelen, W. van. Land- und Seebrise in Batavia. p. 169–177.
Berek, M. Ueber die zeitliche Aenderung des vertikalen Temperaturgefälles in der freien Atmosphäre. p. 63–90.
Georgii, Walter. Die Windbeeinflussung durch Gebirge. p. 178–184.
Hergesell, H., & Bjerknes, V. Robert Wenger, p. I–VIII. [Obituary.]
Kleinschmidt, E. Ueber die Ursache der halbtägigen Barometerschwankung und über die mondtägige Wind und Luftdruckschwankung auf Berggipfeln. p. 151–168.
Linke, Franz. Transmissions-Koeffizient und Trübungsfaktor. p. 91–103.
Peppler, W. Beiträge zur Physik der freien Atmosphäre. p. 130–150.
Reger, J. Der jährliche Gang der Luftbewegung über Lindenberg bis 2000 m. Höhe. p. 104–129.

Brazil. Directoria de meteorologia. Revista mensal de meteorologia. Rio de Janeiro. v. 1. Junho, julho & agosto, 1922.
Sampaio Ferraz, J. de. As ondas de frio no Brasil. p. 37–44.
Silva, Moacir. Proverbios meteoro-agrícolas. (Weather lore.) p. 49–52.

Ciel et terre. Bruxelles. 38. année. Sept.–oct. 1922.
Boutquin, A. Spectacles de la nature. Un lever de soleil vu du sommet du Niesen (Oberland bernois). p. 301–308.
J., J. La prévision du temps à longue échéance. J. Rouch. p. 339–342.

Engineering. London. v. 114. Nov. 17, 1922.
Rainfall and floods. p. 614–616.

Engineering news-record. N. Y. v. 89, 1922.
Fisher, Charles T. Lightning bolt follows reinforcing in concrete highway. p. 828. (Nov. 16.)
Redway, Jacques W. A study of high winds and thunderstorm effects. p. 892. (Nov. 23.)
Hodges, Paul V. Data concerning cloudburst flood at Colorado Springs. Hydraulic factors determined from flood-line measurements.—Relation between cloudburst and flood. p. 921–922. (Nov. 30.)
Burgess, Alfred S. Safe yields of drainage areas in years of minimum rainfall. Presentation and discussion of miminum runoffs in northeastern United States—mass curves to show safe yields. p. 970–971. (Dec. 7.)

France. Académie des sciences. Comptes rendus. Paris t. 175, 1922.
Lacoste, J. Nouvelles observations radiogoniométriques des parasites atmosphériques. p. 707–708. (23 oct.)
Virville, Adrien Davy de, & Obaton, Fernand. Sur l'ouverture et la fermature des fleurs météoriques persistantes. p. 841–843. (6 nov.)
Roger, E. Sur le retour périodique des grands hivers. p. 1089–1090. (27 nov.)
Schaffers, V. La foudre et les arbres. p. 1087–1089. (27 nov.)

Geofysiske kommission. Geofysiske publikationer. Kristiania. 1922.
Bjerknes, J., & Solberg, H. Life cycle of cyclones and the polar front theory of atmospheric circulation. v. 3, no. 1.
Størmer, Carl. Notes relatives aux aurores boreales. v. 2, no. 8.
Werenskiold, W. Frozen earth in Spitsbergen. v. 2, no. 10.
Werenskiold, W. Mean monthly air transport over the North Pacific Ocean. v. 2, no. 9.

Great Britain. Meteorological office. Monthly meteorological charts. East Indian seas.
Smith, L. A. Brooke. Weather in Australian waters. With some suggestions as to show navigators may forecast by using W/T weather reports. (November, 1922.)
Durst, C. S. Notes on the weather of the New Zealand—Panama route. (December, 1922.)
Durst, C. S. The barometer. (January, 1923.)

Great Britain. Meteorological office. Monthly meteorological charts. North Atlantic Ocean. December, 1922.
Hennessy, J. Heavy storm in western North Atlantic.

Heating and ventilating magazine. N. Y. v. 19. August, 1922.
Recent progress of English investigators in determining the relation of atmospheric conditions to fatigue. What the katathermometer has done in furnishing data for the relief of workers in oppressive atmospheres. p. 31–35.

Hemel en Dampkring. Den Haag. 20. Jaarg. Dec. 1922.
Everdingen, E. van. De geluidsproeven bij Oldebroek. p. 247–253.
Pesch, A. J. van. Groote hagelkorrels. p. 255–258.
Waarnemingen van de geluidsproef bij Oldebroek in het Buitenland. (Mededeeling van het Kon. Ned. Meteor. Instituut.) p. 253–254.

India. Meteorological department. Memoirs. Calcutta. v. 23, pt. 3. 1922.
Field, J. H. Mean monthly characters of upper-air winds deduced from the flights of pilot balloons at thirteen stations in India during the period 1910 to 1919.

International Institute of agriculture. International review of the science and practice of agriculture. Monthly bulletin of agricultural intelligence and plant diseases. Rome. v. 13. December, 1921.
Keen, B. A., & Russell, E. J. The factors determining soil temperature. p. 1515–1517. [Abstract.]
Rosales, S. P. Relation of cultivation of "abaca" (Musa textilis) to climatic conditions in the Philippines. p. 1514–1515. [Abstract.]

International Institute of agriculture. International review of the science and practice of agriculture. Monthly bulletin of agricultural intelligence and plant diseases. Rome. v. 13. 1922.
Information concerning the Amazon region, Brazil. p. 16–20. (Jan.)
Shutt, F. T. The fertilising value of rain and snow. (1): Researches in Canada. p. 163–164. (February.) [Abstract.]

Japan. Central meteorological observatory. Seismological bulletin. Tokyo. v. 1. July, 1922.
Nakamura, Saemontaro. On the destructive earthquake occurred [sic] near Tokyo on the 26th April, 1922. p. 39–44.
Ushiyama, T. On the destructive earthquake near Tokyo on the night of 8th December, 1921. p. 36–38.

Meteorologia pratica. Montecassino. Anno 3. Luglio-Agosto 1922.
Grablovitz, Giulio. Eliofania. p. 121–123.
Grablovitz, Giulio. Stazione meteorica del R. osservatorio geodinamico d'Ischia. p. 134–135.
Mendini, Giuseppe. Meteore e malattie. p. 124–126.
Pinauda, D. Francesco. L'osservatorio geofisico "Rosmini" di Domodossola. p. 133–134.
Venturini, Luigi. Pesca e meteore. p. 126–127.
Verde, Felice. L'osservatorio di Spezia. p. 137–138.
Zanon, P. Francesco Saverio. Osservatorio meteorologico e geodinamico del Seminario patriarcale di Venezia. p. 135–137.

Quarterly journal of economics. Cambridge, Mass. v. 36. Aug, 1922.
Wright, Philip Green. Moore's work in cycles: A review. p. 691–704.

Reale accademia dei Lincei. Atti. Roma. (5) Rendiconti. v. 31. fasc. 12. 1922.
Artom, Alessandro. Sulle condizioni elettriche di formazione della grandine. p. 513–518.

Revue générale des sciences. Paris. 33 année. 1922.
Mathias, E. La prévision scientifique du temps d'après le dernier livre de M. Guilbert. p. 552–556. (13 oct.)
B., A. Sur la radiogoniométrie des parasites atmosphériques et la prévision du temps. p. 569–570. (30 oct.)

Sociedad astronómica de España y America. Revista. Barcelona. Año XII. Julio-Agosto 1922.
Selga, Miguel. Las nieblas en Baguio. p. 53–58.

Terrestrial magnetism and atmospheric electricity. Baltimore. v. 27. September, 1922.

Marsden, E. Some experiments on the penetrating radiation present in the atmosphere. p. 101–104.

Wisconsin State cranberry growers' association. 35th annual meeting. Wisconsin Rapids, Wis. Jan. 10, 1922.

Malde, O. G. Local forecasting of his own cranberry bog very important for the Wisconsin cranberry grower. p. 25–29.

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

NOTE.—Data for the above not having been received in time from South America will appear in a later issue.—*Editor.*

SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING NOVEMBER, 1922.

HERBERT H. KIMBALL, in Charge Solar Radiation Observations.

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 very close to normal values for November at all three stations.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged close to the November normal at Washington and Lincoln, and considerably below the normal at Madison, the deficiency being due to unusual cloudiness.

Skylight-polarization measurements made on six days at Washington give a mean of 58 per cent, with a maximum of 68 per cent on the 17th. At Madison measurements made on the morning and afternoon of the 16th give a mean of 71 per cent. These are average polarization values for November at the respective stations.

NOTE.—Continuous registration of the total solar and sky radiation received on a horizontal surface, which was interrupted at Lincoln, Nebr., on June 2, 1921, on account of a defect in the Callendar receiver, was resumed on November 7, 1922, the defective receiver having been replaced by one that had been in use at Washington.

Beginning with November 1, the record of the total solar and sky radiation at Washington has been obtained by means of a thermopile of 50 gold-palladium, platinum-rhodium junctions in series, connected alternately to white and black metal rings, exposed horizontally under a hemispherical glass cover. The registration is by means of an Engelhard recording voltmeter, and the standardization has been effected by comparing the thermopile record with readings of the Marvin and the Smithsonian pyrheliometers. A description of the thermopile will be given at a later date.

TABLE 1.—*Solar radiation intensities during November, 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.*
November 1...	4.75	.....	0.90	1.03	1.20	1.40	1.10	0.73	0.64	0.55	5.79
8...	6.50	0.73	0.80	1.01	1.17	1.35	.....	.....	0.97	0.89	3.30
9...	4.95	0.71	0.92	1.06	1.23	.....	.....	.....	.....	.....	4.75
10...	4.57	0.87	0.92	1.04	1.25	.....	1.19	0.89	0.60	.....	4.17
17...	4.17	0.69	0.83	0.99	1.16	1.41	1.16	.....	.....	.....	4.17
20...	5.56	0.80	0.93	1.13	1.28	.....	.....	.....	.....	.....	4.57
23...	3.30	.....	0.82	1.00	1.21	1.47	.....	0.96	0.84	0.71	3.45
24...	2.87	0.80	0.91	0.96	1.26	.....	.....	.....	.....	.....	2.49
29...	3.45	0.64	0.79	1.23	.....	.....	.....	.....	.....	.....	3.00
Means.....	.....	0.75	0.87	1.05	1.22	.....	1.15	0.86	0.76	0.72	.....
Departures.....	.....	−0.01	+0.02	+0.04	+0.03	.....	−0.02	−0.09	−0.06	−0.01	.....

Madison, Wis.

November 14...	5.17	.....	.....	.....	.....	.....	.....	1.18	.....	.....	4.57
16...	3.45	0.75	0.96	1.15	1.30	.....	.....	1.06	.....	.....	4.57
23...	4.37	1.00	1.11	1.26	1.35	.....	.....	1.24	.....	.....	3.15
Means.....	.....	(0.88)	(1.04)	(1.20)	(1.32)	.....	.....	1.16	.....	.....	.....
Departures.....	.....	+0.01	+0.03	+0.04	+0.02	.....	.....	−0.01	.....	.....	.....

Lincoln, Nebr.

November 2...	5.56	0.76	0.87	1.16	.....	.....	.....	.....	.....	.....	7.04
7...	3.45	.....	1.07	1.22	1.43	1.69	1.42	.....	.....	.....	3.30
14...	3.15	.....	0.96	1.07	.....	.....	1.28	1.08	0.91	.....	3.15
15...	3.63	.....	1.13	1.25	1.40	.....	1.35	1.19	1.05	0.93	3.99
16...	4.37	.....	0.97	1.15	1.38	1.64	1.33	1.18	1.06	1.00	5.56
22...	3.30	.....	.....	1.09	1.30	.....	1.29	1.16	1.03	0.93	3.81
23...	4.37	0.93	1.07	1.22	1.39	1.59	.....	1.28	.....	1.04	4.57
24...	2.62	.....	1.24	1.31	.....	.....	.....	1.25	1.13	.....	2.06
28...	3.45	.....	1.10	1.25	1.33	.....	.....	.....	.....	.....	4.37
Means.....	.....	(0.84)	1.05	1.19	1.37	.....	1.33	1.19	1.04	0.98	.....
Departures.....	.....	−0.12	−0.01	−0.02	+0.01	.....	−0.05	−0.01	−0.01	+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.*
Nov. 5...	205	106	170	−26	−62	−56	−3,743	−1,576	.....
12...	216	118	191	+9	−32	−22	−3,680	−1,802	.....
19...	214	131	256	+28	−5	+55	−3,485	−1,839	.....
26...	148	131	230	−23	+4	+43	−3,644	−1,811	.....