

SNOW COVER, COLD WAVES, AND ZERO TEMPERATURES

The snow cover in central Michigan has a big influence on temperature, and a study was made of cold waves and zero and subzero readings in connection with the depth of snow. The study covers 15 consecutive years, from 1912 to 1926, inclusive.

One hundred and twelve cold waves occurred in the 15 years as follows:

Month	Number of cold waves	Snow cover	Per cent
January.....	41	41	100
February.....	25	25	100
March.....	18	14	78
November.....	9	4	44
December.....	19	17	89
Total.....	112	101	90

However, cold waves in March and November being more decided drops in temperature rather than real cold waves, may be excluded; this gives a percentage in favor of cold waves with a snow covering as 98%.

Even more conclusively is the vital importance of a snow cover shown in a study of the days with zero or below. Zero was not reached when the ground was bare. The depth of snow during the winter months does not seem to be important as long as it is above 3 inches; any unusually cold winter month with a number of very low readings was found to have a covering of snow, and the severity of the cold seemed to be increased by a depth of over 6 inches. Therefore in the following table it was so divided:

	T. to 6 inches	6 inches or over
Zero to -10°.....	101	52
-10° or lower.....	13	16
Total.....	114	68

It was also found that cold winter months were not followed by a cold spring unless there was a snow cover. The earlier the snow melts over the northern counties of Michigan the sooner does warm weather become established.—*R. M. Dole.*

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, JANUARY, 1927

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January was characterized by a rather intense atmospheric circulation in the south and by stable weather in the central zone.

Important anticyclonic centers developed between the 1st and 4th, 7th and 11th, 17th to 19th, and 21st to 31st in the far south; these days had characteristically good weather in general, with strong southerly winds of 1,000 to 1,500 meters per minute between the coasts of Chiloe and Arauco, and high temperature in the central zone. The maxima were from 33° C. to 35° C. in the shade.

Atmospheric depressions crossed the far south during the 5th and 6th, 12th to 14th, and 16th to 20th. The rains were limited in general to the region between Valdivia and Chiloe, precipitation varying from 10 to 30 mm., while it rained occasionally as far north as Concepcion.—*Transl. B. M. V.*

BIBLIOGRAPHY

C. FITZHUGH TALMAN, Meteorologist in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Ångström, Anders.

Praktisk meteorologi, en inledning till väderleksförutsägelsernas teori och praktik. Stockholm. [1926.] 144 p. illus. 18 cm. (Natur och kultur 60.)

Boerema, J.

Typen van den regenval in Nederlandsch-Indië. (Rainfall types in the Netherlands Indies.) Java. n. d. 103 p. figs. plates (fold.). 27½ cm. (K. Mag. en met. observ. te Batavia. Verh. no. 18.)

Boyian, R. K.

Atmospheric dust and condensation nuclei. Dublin. 1926. p. 58-70. fig. 26½ cm. (Proc. Roy. Irish acad., v. 37, sec. A, no. 6.)

Collens, A. E.

Leeward Islands. Hurricane warnings and amended hurricane code for official use in the colony of the Leeward Islands. Antigua. 1927. 7 p. 24½ cm.

Crane, Mannin.

Fragments of tornadoes. p. 92-93. figs. 25 cm. (Cunard mag., v. 18, no. 2, Jan., 1927.)

Defant, Albert.

Wetter und Wettervorhersage. (Synoptische Meteorologie.) 2te., vollständig umgearb. Auflage. Leipzig. 1926. vii, 346 p. figs. 26 cm.

Dice, Marion E.

Lightning hazards. A meteorological analysis of the relative lightning hazard at various locations in southern California. p. 27-31. figs. 32 cm. (Oil bull., Los Angeles, v. 13, no. 1, Jan., 1927.)

Drouth in California. p. 473-527. figs. plates. 23½ cm. (Commonwealth, pt. 2, San Fran., v. 2, no. 52, Dec. 28, 1926.) (Trans. of the Commonwealth Club of Cal., v. 21, no. 11.)

Edwards, Ivo, & Tymms, F.

Commercial air transport . . . With a foreword by Air Vice Marshal Sir Sefton Brancker. London. 1926. xv, 163 p. illus. plate. 21½ cm.

Frick, R.-O.

Le peuple et la prévision du temps. Étude sur les dictons météorologiques. Bale. 1926. 75 p. 24½ cm. (Extr.: Archives suisses des trad. popul. T. 26 (1926).)

Gregg, W[illiam] R.

Meteorological service for commercial aeronautics. p. 17-23. illus. 27½ cm. (U. S. Air Service, v. 12, Feb., 1927.)

Grunsky, C. E.

Contribution to the climatology of the ice age. San Francisco. 1927. p. 53-85. figs. 26 cm. (Proc. Cal. acad. sci., 4th ser., v. 16, no. 2, Jan. 31, 1927.)

Hill, Leonard Erskine, & Campbell, Argyll.

Health and environment. London. 1925. xi, 208 p. illus. diagrs. plates. 22 cm.

Millás, José Carlos.

Acerca de las trayectorias medias de los huracanes de las Antillas. 1 sheet. 56 cm. (Bol. hidrog., Habana. no. 8, Marzo 10, 1926.)

Sobre la genesis del huracan. 1 sheet. 52 cm. (Bol. hidrog. Habana. no. 12, Mayo 25, 1926.)

Nolan, J. J., & Sachy, G. P. de.

Atmospheric ionisation. Dublin. 1927. p. 71-94. figs. 27 cm. (Proc. Roy. Irish acad., v. 37, sec. A, no. 7.)

Nolan, J. J., & others.

Equilibrium of ionisation in the atmosphere. Dublin. 1925. 12 p. figs. 27½ cm. (Proc. Roy. Irish acad., v. 37, sec. A, no. 1.)

Nunn, Roscoe.

Climate of Baltimore. p. 15, 25. figs. 31 cm. (Baltimore, v. 20, no. 5, Feb., 1927.)

Reese, Joe Hugh.

Florida's great hurricane. Miami. c1926. 94 p. illus. 23½ cm.

Sekiguti, Rikiti.

Attempt to detect a direct effect of the solar activity on the air temperature at some stations in the central part of Japan. 21 p. plates. 26½ cm. (Repr.: Mem. Imp. mar. obs., v. 3, no. 1.)

Sener, H. H.

Keeping sleet off trolley wires. p. 963-965. illus. 30½ cm. (Elec. railway journ., N. Y., v. 59, no. 24, June 17, 1922.)