

## 80 Application of meteorology.

- 81 Weather forecasting: basis, (.1) Local, (.2) Collected observations.  
 82 Agricultural meteorology. Climate and crops. Phenology. Ecology.  
 83 Hydrology.  
 84 Manufacturing and business aspects of the weather.  
 85 Land transportation and the weather.  
 86 Marine meteorology. Oceanography.  
 87 Aeronautical meteorology.  
 88 Military meteorology.  
 89 Physiological effects of weather and climate on man.

## 90 Climatology.

- 91 General climatology: the climatic elements; climate in relation to latitude, surface covering, altitude, and exposure.  
 92 Climatology: climates of the world and their effects on the people. [Divided geographically by continents or natural regions.]  
 93 Changes of climate in historical and geological time.

## BIBLIOGRAPHY.

## RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Professor in Charge of Library.

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:

## Aitken, John.

Ground-ice. diagr. 27½ cm. (Reprinted from Journal of the Scottish meteorological society. 3d ser. vol. 18, no. 35. 1918. p. 13-18.)

## Ångström, Anders.

Determination of the constants of pyrogeometers. Stockholm. 1918. cover-title, 16 p. 3 tables. diagrs. 22 cm. (Arkiv för matematik, astronomi och fysik . . . Band 13. No. 8. Meddelande från Uppsala universitets fysiska institution.)

On the radiation and temperature of snow and the convection of the air at its surface. Observations at Abisko in January 1916. Stockholm. 1918. cover-title, 18 p. tables. 22 cm. (Arkiv för matematik, astronomi och fysik . . . Band 13. No. 21.) Literature, p. 17-18.

## Arrhenius, Svante [August].

The destinies of the stars: authorized tr. from the Swedish by J. E. Fries. New York [etc.] 1918. xvii, 256 p. plates. (part. fold.) 19½ cm. [Chapter 3.—The climatic importance of water vapour. 4.—Atmosphere and physics of the stellar bodies. 5.—The chemistry of the atmosphere.]

## Batavia. Magnetisch en meteorologisch observatorium.

. . . Observations made at secondary stations in Netherlands East-India . . . Vol. 4-5. (1914-1915.) Batavia. 1917-1918. 2v. tables. 37 cm.

Observations made at the Royal magnetical and meteorological observatory at Batavia . . . Vol. 37, 1914 . . . Batavia. 1918. xxvi, 116 p. charts. tables. 36½ cm.

## Chamber of commerce of the United States of America.

Relation of weather and business in regard to rainfall. Washington. 1919. 12 p. charts. 27½ cm.

## Harvard travellers club.

Handbook of travel. Cambridge, Mass. 1917. 3 p. l., 544 p. plate. illus. tables. diagrs. 18 cm. [Meteorological observations, by R. DeC. Ward, p. [451]-472.]

## Harvey, R[odney] B[eecher].

Hardening process in plants and developments from frost injury. Washington. 1918. plates. charts. tables. 26 cm. (Reprinted from Journal of agricultural research. Vol. 15, No. 2, p. 83-111.) Literature cited, p. 108-111.

## Leverett, Frank.

Surface geology and agricultural conditions of Michigan: with a chapter on climate by C. F. Schneider. Lansing, Mich. 1917. 223 p. 23½ cm. (Michigan geological and biological survey. Publication 25. Geological series 21. Published as part of the Annual report of the Board of geological survey for 1917.)

## Lourenço Marques. Observatório Campos Rodrigues.

Relatório. Ano de 1917. Volume 9. Lourenço Marques. 1918. 102 p. incl. tables. 38½ cm. At head of title: Provincia de Moçambique. Serviços de Marinha.

## Lundblad, Ragnar.

A theory of the pyrogeometer of Ångström. Stockholm. 1918. cover-title, 10 p. 22 cm. (Arkiv för matematik, astronomi och fysik . . . Band 13. No. 7. Meddelande från Uppsala universitets fysiska institution.)

## McEwen, George F[rancois].

Oceanic circulation and its bearing upon attempts to make seasonal weather forecasts. A sketch of observational methods and explanations. 20 p. 23½ cm. (Bulletin of the Scripps institution for biological research of the University of California. No. 7. [La Jolla, Cal.] 1918.) Bibliography, p. 19-20. [Largely historical.]

## Maryland. Geological survey.

The geography of Maryland, by W. B. Clark. Baltimore. 1918. 5 p. l., [41]-167 [4] p. illus. maps. diagrs. 25½ cm. (Special publication, volume 10, part 1.) [Climate, p. 99-101.]

## Mysore. Meteorological dept.

Report on rainfall registration in Mysore for 1917 . . . Bangalore. 1918. 1 p. l., xvii, 53 p. charts (part. fold.). tables. 31½ cm.

## Salter, Carle.

The relation of rainfall to configuration. [London] 1918. cover-title, 37 p. charts (part. fold.). tables. 22 cm. At head of title: The institution of water engineers. [cf. pp. 33-41, M. W. R., Jan., 1919.]

## Seeley, D[ewey] A[lsdorf].

The length of the growing season in Michigan. charts. tables. 23 cm. (Reprinted from the 20th Report of the Michigan academy of science [Lansing, Mich.] 1918. p. [223]-232.)

## Shaw, [William] Napier.

Memorandum on atmospheric visibility. [London] 1918. 16 p. charts. 22½ cm. (Published for the Naval meteorological service, Hydrographical dept., Admiralty.) [Abstr. to be published in Feb. Review.]

## RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH 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 journal of science. New Haven. v. 47. February, 1919.*

Winchell, A. N., & Miller, E. R. Further notes on the dustfall of March 9, 1918. pp. 133-134. [cf. M. W. R., Nov., 1918.]

*Aviation. New York. v. 6. February 15, 1919.*

Tucker, Frank T. Winds and the transatlantic flight. p. 85.

*Franklin institute. Journal. Philadelphia. v. 187. February, 1919.*

Shelton, F. H. Windmills, picturesque and historic. p. 171-188.

*Journal of geography. New York. v. 18. February, 1919.*

Palmer, Andrew H. Water power in California. p. 41-53.

*London, Edinburgh, and Dublin philosophical magazine. London. v. 57. January 1919.*

Jeffreys, Harold. On travelling atmospheric disturbances. p. 3-8.

McLeod, A. R. On the lags of thermometers with spherical and cylindrical bulbs in a medium whose temperature is changing at a constant rate. p. 134-144.

*Nature. London. v. 102. January 16, 1919.*

Shaw, Napier. Climograph charts. p. 383.

Dines, W[illiam] H[enry]. Some temperature anomalies. pp. 384-385.

Dines, J[ohn] S[omers]. Cyclones. p. 385.