

THE DROUGHT OF 1921 IN THE BRITISH ISLES.

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The general rainfall in England and Wales was the least in 1921, so far as can be ascertained, since 1788. Individual long records indicated that over a considerable part of the southeast of England 1921 was the driest year for at least a century and a half.

The months of 1921 were not individually so remarkable as was shown by a comparison with the driest month known to have occurred in the British Isles generally. As shown by a map of standard deviation of annual rainfall 1881-1915, for the British Isles, the least fluctuations of annual rainfall occurred along the coast in the northwest, increasing to a maximum in the southeast and center of the land masses. Constructing

charts showing the distribution of barometric pressure over the globe during and preceding each of the great droughts, beginning with 1864, it is found that the conditions which commonly prevail during dry spells are high pressure over the British Isles, the greatest deviation from normal being usually over southeast England; low pressure over the Arctic regions, especially near Spitzbergen; and, generally, low pressure near the Tropics. The first factor is related to the 11-year sun-spot cycle, occurring most frequently two years after the sun-spot minimum and three or four years after sun-spot maximum, so that it tends to recur every five or six years. Great droughts occur only when both of these factors are favorable. With pressure low over the Arctic, two or three months warning of a drought would be given by the development of high pressure over northern Russia.

BIBLIOGRAPHY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

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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:

Canada. Department of the interior.

Surface-water supply of Canada. . . . Climatic years 1918-19 and 1919-20. By K. H. Smith. Ottawa. 1921. 144 p. map. 25 cm. (Water resources paper no. 29.) [Includes collected data and normals of precipitation for stations in New Brunswick, Nova Scotia, and Prince Edward Island. p. 133-142.]

Catalonia. Servei meteorològic.

Instruccions per a la transmissió de telefonemes referents al temps, per les estacions Catalanes adscrites al servei meteorològic de la mancomunitat de Catalunya. Barcelona. n. d. 8 p. 23 cm.

Cox, Henry J.

Did you ever swear you saw something you did not see? [Deals with use of weather records in court. Excerpted from American magazine, N. Y. Jan., 1922. p. 48-49, 71-72.]
Speaking of the weather. [Excerpted from American magazine, N. Y. Aug., 1920. p. 34-35, 214, 216, 218.]

Exner, F. M.

Julius von Hann, 23. März 1839 bis 1. Oktober 1921. [Separat-Abdruck aus der Meteorologische Zeitschrift, Bd. 38, H. 11, 1921. p. 321-327.]

Febrer, Joaquim.

Pluges a Catalunya durant l'estiu de 1921. Barcelona. 1921. 8 p. illus. 22 cm. (Servei meteorològic de Catalunya. Notes d'estudi. no. 1.)

Follansbee, Robert.

Some characteristics of run-off in the Rocky mountain region. Washington. 1922. p. 55-74. 23 cm. (U. S. Geological survey. Water-supply paper 500-C. Contributions to the hydrology of the U. S. 1921.)

France. Ministère de l'agriculture.

Annales. . . . Météorologie agricole. Paris. 1917-18. Fasc. 49. 28 cm.

Granada. Estación sismológica de Cartuja.

El sismógrafo "Berchmans" . . . a cargo de pp. de la compañía de Jesús. Sevilla. 1921. 8 p. 22 cm.

Great Britain. Meteorological office.

Weather map. Fifth issue (reprint of fourth). An introduction to modern meteorology. By Sir Napier Shaw. London. 1921. 109 p. illus. charts. 15½ cm. (M. O. 225 i.)

Harrassowitz, Hermann L. F.

Die Klimate und ihre geologische Bedeutung. Giessen, 1919. p. 212-232. (Sonderabdruck: Bericht der Oberhessischen Gesellschaft für Natur- und Heilkunde zu Giessen. Neue Folge. Naturwissenschaftl. Abteilung. Bd. 7 (1916-1919).)

India. Naval intelligence division.

Manual of Netherlands India (Dutch East Indies). London. n. d. 548 p. maps. 22½ cm. [Note.—Chapter 3. Climate. Includes tabulated data for many stations.]

Jardi, Ramon.

Un pluviògraf d'intensitats. Barcelona. 1921. 12 p. illus. 23 cm. (Servei meteorològic de Catalunya. Notes d'estudi. no. 2.)

Kopecký, J.

Bioklimatické úvahy ve vztahu k "sytostnímu doplňku" vlhkosti vzdušné. Praha. 1916. 17 p. diagr. 28 cm. (Bio-climatic considerations. no. 13.)

Poznámky z klimatologie. Vydal. n. d. 26 p. 28 cm. (Climatological remarks. no. 14.)

Maryland. State weather service.

[Climatology of Maryland and Delaware.] Baltimore. 1921. 3 maps. (Maryland state weather service in cooperation with the United States weather bureau, Johns Hopkins university and the University of Maryland.)

Mascart, Jean.

Impressions et observations dans un voyage à Ténérife. Paris. n. d. 366 p. illus. 25 cm.

Meyer, Hermann L. F.

Klimazonen der Verwitterung und ihre Bedeutung für die jüngste geologische Geschichte Deutschlands. Leipzig. 1916. p. 193-248. illus. 23½ cm. (Sonderabdruck aus "Geologische Rundschau." Bd. 7. H. 5/6.)

Montessus de Ballore, Fernand de.

Bibliografía general de temblores y terremotos. pt. 1-7. Santiago de Chile. 1915-1919. 26½ cm.

Olmstead, Martin A.

The storm, Washington, D. C., Jan. 27, 28, 1922. Washington. c1922. unpag. illus. 17 cm.

1st Pan-Pacific scientific conference. Honolulu, Hawaii. 1920.

Proceedings of the first Pan-Pacific scientific conference, under the auspices of the Pan-Pacific union. Honolulu, Hawaii, August 2 to 20, 1920. pt. 1-3. Honolulu. 1921. 3 v. maps. 22½ cm. (Bernice P. Bishop museum. Special pub., no. 7, pt. 1, 1921.) [Contains papers on seismology and meteorology.]

Paris. Services techniques d'hygiène.

Météorologie. Paris. 1921. T. 1. [Repaged reprint from Annales des Services techniques d'hygiène de la ville de Paris. Compte rendu des travaux de 1913 à 1919.]

Pinkhof, M.

Bijdrage tot de theorie der halo-verschijnselen. Amsterdam. 1919. 4,90 p. illus. 26½ cm. (Verhandl. der K. Akad. van wetenschap te Amsterdam. 1st sec., deel 13, no. 1.) [German abstract bound at end.]

Rouch, J.

Les observations météorologiques faites en mer par les navires français de guerre et de commerce. p. 257-260. chart. 28 cm. (Extrait: Annales hydrographiques recueil de documents et mémoires relatifs à l'hydrographie et à la navigation. 3e sér., t. 3, années 1919-20.)

Salter, M. de Carle S.

Rainfall of the British Isles. London. 1921. 13, 295 p. illus. front. 19 cm.

Shaw, A. Norman.

Physical problems which arise in studying the influence of atmospheric conditions upon health. p. 25-33. 25½ cm. (Excerpt: Royal Canadian institute. Transactions. v. 13, pt. 2, Sept., 1921.)