

"Frozen" Weather Assets

Meteorology

Science in general, and especially meteorology, the science of the weather, is like a business with many of its assets "frozen" and unavailable to the people who need to make use of them. So declared Dr. W. J. Humphreys, of the U. S. Weather Bureau, in his address as president of the American Meteorological Society.

"Many investigations that deal directly with each particular science, and especially so many more that deal with it indirectly, are lost for years, if not forever, in the jungle of journals and tangle of tongues," Dr. Humphreys said. "In this sense meteorology, to be specific, is actually one of the poorest of all sciences. Its assets, indeed, are amazingly great and rapidly accumulating, but they are frozen to such a depth and breadth that only a Hercules could make them liquid—available for power and light, and able, besides, to change the forlorn desert of our ignorance to an inspiring field of knowledge."

Some of these frozen assets are the thousands of observations of temperature, atmospheric pressure, wind speed and direction and rainfall that are made daily, the world over. They are used for the prediction of future weather, and then become immediately buried in the thousands of records made the next day. Though these records are published periodically in summaries, for many investigations only the originals will serve.

As a specific asset that should be made more liquid, Prof. Humphreys cited the collection of over 4,000 photomicrographs of snow crystals, that have been made by W. A. Bentley, of Jericho, Vermont. A few of these have been published or used as suggestions for art patterns. In the main, however, said Dr. Humphreys, "this great wealth of material lies unused in the keeping of the patient genius who accumulated it. On any day so simple and so common a thing as a carelessly discarded cigarette, or so inevitable an event as the snapping of the thread of a single life, may indeed destroy utterly, or scatter to the winds this unique collection of a lifetime."

The way to make this asset liquid would be to publish a large selection of the pictures in book form, Dr. Humphreys said. To do this would not cost more than an expensive automobile, and would probably be returned with a profit, he stated.

Science News-Letter, December 29, 1928

Shotgun Measures Ocean Depths

Oceanography

Firing a shotgun under water to measure the depth of the ocean was the expedient resorted to by Capt. J. P. Ault, commander of the non-magnetic yacht "Carnegie," now cruising in the south Pacific, when the sonic depth finder was temporarily out of commission.

According to radio dispatches from Capt. Ault to the Carnegie Institution of Washington, owners of the vessel, the oscillator on the ship's keel developed a slight leak. This oscillator sends out a sound wave which travels to the bottom of the ocean, and is then reflected back. It is picked up on the return by a microphone, and the time that it has required for the round trip affords a measure of the depth.

The emergency method adopted was to attach the shotgun to the end of a pipe which could be extended twenty feet below the surface. When the gun was fired the sound waves travelled to the bottom and returned

as an echo, just as with the regular echo. Capt. Ault stated that the method checked well with depth measurements by extending a sounding wire to the bottom.

The ship left Balboa, Canal Zone, on October 25 and reached Easter Island on December 4, four days ahead of schedule. This was the first of six passages that she will make of the Pacific. On account of an imminent storm she left Easter Island on December 12, but was driven westward by a gale. On December 16, according to the last word that has been received, she was in latitude 32 degrees south and longitude 111 degrees west. During the Balboa-Easter Island voyage, the scientists made 58 observations of the earth's magnetism, 70 depth determinations by the sonic method, 24 pilot balloon flights, 23 biological stations and a number of other observations.

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SCIENCE NEWS-LETTER, The Weekly Summary of Current Science, Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.
Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address all communications to Washington, D. C. Cable address: Scienservc, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cents a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science. Advertising rates furnished on application.

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