

METEOROLOGY

Northeast's Cold Spring

► BLASTS of icy air sweeping down from Hudson Bay have caused the Northeast's cold spring, delayed planting and ruined crops by frost.

Average temperatures for the Northeast this year may well rival the lows registered in the spring of 1917, which is the coldest March through May period on record for the nation as a whole.

May, 1917, was the coldest spring month recorded in all states east of the Mississippi as well as for seven others from the Great Plains to the Gulf Coast. The western seaboard's coldest spring month was March, 1917.

April and May, 1907, were the coldest spring months for North Dakota, Minnesota, Iowa, Wisconsin and Michigan. In the South, from and including New Mexico eastward, the coldest spring month was March, 1915.

Although on the astronomical calendar spring begins March 21, weathermen consider March, April and May as spring months. The weather maps during these three months, picturing how temperatures in the United States differ from normal, have consistently shown the Northeast below or much below normal.

In most of the country east of the Rocky Mountains, temperatures were below normal in April, and they continued below or much

below normal for the northern half of that area until mid-May, although the southern half warmed up to near normal.

In March, 1956, the Northwest had below normal temperatures, but the other areas west of the Rocky Mountains, and the Northwest since April, have in general averaged near normal or above normal thermometer readings.

Weather Bureau experts at the extended forecast section in Suitland, Md., figure normal temperatures based on 30 years of records from 1921 through 1950. These limits vary from city to city and from month to month. In general, for the spring months, temperature readings varying from the average more than one and a half degrees are in the below or above category, while those varying more than three and a half degrees are in the much below or much above category.

Chilly as this spring has been in upstate New York, thermometer readings will not rival the average of 39.6 degrees Fahrenheit set in the spring months of 1875 in Albany, N. Y., based on records dating from 1820.

St. Louis, Mo., had a temperature average of 48.6 degrees in 1857 for March, April and May, the lowest recorded for spring since 1837.

Science News Letter, June 9, 1956

ANTHROPOLOGY

Modern Man Very Old

► MODERN MAN has existed on earth for more than 50,000 years and possibly 100,000, Dr. Cesare Emiliani of the Enrico Fermi Institute for Nuclear Studies at the University of Chicago reports in *Science* (May 25).

Previously, remains of ancient man have been dated geologically according to the layer of rock in which they were found. Thus, it has been possible for anthropol-

ogists to say that certain fossils date back to the Pleistocene or to one or another of the ice ages.

Now Dr. Emiliani is providing them with a key to the age of these geological periods in years.

The new atomic calendar was developed in this way:

First, cores were taken from the ocean bottom in the Atlantic Ocean and the Caribbean Sea. They contained the remains of little free-floating shell fish, the *Foraminifera*, and were obtained by Dr. Maurice Ewing, director of Columbia University's Lamont Geological Observatory.

Analysis of the *Foraminifera* showed the ratio of the oxygen isotopes 16 and 18 indicated the ocean temperature at the time of deposit on the bottom. A temperature curve, which varied over about eight degrees Centigrade, was drawn.

Next step was to use radiocarbon dating to find at what time the ups and downs of ocean temperature occurred. This was done by Drs. Meyer Rubin and H. E. Suess of the U. S. Geological Survey and Dr. W. D. Urry of the University of Chicago. They found the four major temperature cycles corresponded with the four major glaciations.

It was now possible to translate the an-

Questions

ANIMAL PSYCHOLOGY—How can gastric ulcers be produced experimentally in rats? p. 361.

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PSYCHOLOGY—What causes fatigue felt by jet pilots? p. 365.

PUBLIC HEALTH—Why do some children who participated in 1954 Salk polio vaccine trials now need boosters? p. 358.

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thropologists' geological ages into "years ago."

One of the oldest men lived, it was found, some 50,000 years ago. If the Fontechevade fossils prove to be of true man, then he lived 100,000 years ago.

Neanderthal, an "uncle" in man's family tree, existed for only about 25,000 years or 1,000 generations, the new calendar shows. The evolution of Neanderthal was surprisingly rapid, Dr. Emiliani points out. It took only about 50,000 years and involved 2,000 generations.

This remarkable ability of Homo to evolve, Dr. Emiliani indicates, makes the descent of man from the African ape-men, Australopithecus, more probable.

These ancient ancestors, if that is what they prove to be, probably lived between 300,000 and 350,000 years before the present, the new calendar indicates.

Science News Letter, June 9, 1956

MATH IS FUN

By Joseph Degrazia, Ph.D.

Here is a treasury of brain-teasers. You need not be a mathematical genius to solve these problems and puzzles. What you need is to know how to THINK LOGICALLY—how to REASON. This is practically a "course" in applied logic and reasoning—besides being an immense amount of fun that will keep you absorbed for many hours. You will find not only that MATH IS FUN, but also that learning math can be fun!

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