METEOROLOGY

Foretell Seasonal Weather

More accurate long-range weather predictions expected to come from more knowledge of sun's effect on earth's surface, although "how" theories vary.

➤ OUT OF the sun will come knowledge which will make possible more detailed and more accurate long-range predictions of the weather. The next step forward is predicting the weather of an entire season.

But the kind of knowledge of the sun's behavior which is required for these better forecasts, and for better understanding of the fundamental facts of atmospheric circulation, is the subject of controversy among meteorologists and physicists.

Jerome Namias, chief of the Weather Bureau's Extended Forecast Section, says that the primary factors operating to bring about the large-scale, long-period weather regimes are, first, the changes in the amount of radiation received from the sun by the northern hemisphere because of the ever-changing position of the earth with respect to the sun during the year, and, second, the state of the earth and its atmosphere, upon which those changes in radiation work.

These changes operate differently according to whether the sun's rays fall on the ocean, or on bare or snow-covered ground, or whether or not there are clouds in the sky. The receptive factors of the earth's varying surface and its varying cloud cover are themselves different from month to month and from year to year, Mr. Namias points out.

The changes in heating produced by these factors, Mr. Namias goes on, will produce continually different weather patterns when looked at on a nation-wide or hemisphere-wide scale.

Dr. H. C. Willett, professor of meteorology at the Massachusetts Institute of Technology and a former teacher of Mr. Namias, has evolved the theory that solar eruptions and sun spots, irregularly changing the character of the sun's radiation and acting upon the earth's ozonosphere, are connected with large-scale, long-period weather regimes. He says that it will some day be possible to predict such regimes from the sun's activity.

Dr. Willett is now willing to make general weather predictions for as much as a season in advance. At present, however, his predictions are based on a number of considerations, of which irregular solar activity, used statistically, is only one. We still do not have the exact physical knowledge either of what comes to us from the sun, or its direct effects in the higher atmosphere, which is needed to utilize effectively the solar factor in seasonal predictions, according to Dr. Willett. Utilizing this "number of considerations," Dr. Willett made a prediction for last winter which did not turn out so well.

Mr. Namias still confines his predicting to no more than a month in advance, but he believes that his system, which he calls "moderately successful" over the past two and a half years it has been used on a public basis, might be applied to seasonal forecasts. However, much work remains to be done on the methods of applying the theory.

Dr. Willett says that the ultimate possibilities of his solar method are probably farther from practical realization as a seasonal forecasting tool at the present time than is Mr. Namias' method.

As Mr. Namias points out: "Since the ultimate test of a theory lies in its ability to predict, this difference of views may well be resolved during the current generation."

Science News Letter, May 31, 1952

SURGERY

Tonsil Bleeding Less With Regular Operation

➤ BLEEDING AFTER tonsil operations can be prevented if surgeons perform a regular operation instead of snatching the tonsils by snare or guillotine methods, Dr. Ernest B. Emerson, Jr., of the University of Rochester, N. Y., School of Medicine and Dentistry declares in a report to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (May 24).

By a regular operation he means carefully dissecting the tonsil and sewing up the fossa, or pit in the throat, it was taken from.

In 634 patients operated on this way, from children under three to grown-ups of 50 and over, bleeding occurred in only two. One was in a 65-year-old man who jammed his lower dental plate into the wound and tore out the stitches. The other was in a seven-year-old girl who slipped away from her mother to go swimming the third day after the operation. In diving off the high diving tower she landed with her mouth open and tore out the stitches on one side.

Less nausea, because there is no oozed blood to swallow, and greater ease in swallowing, because there is a much smaller wound left open, are other advantages Dr. Emerson finds for the method.

Science News Letter, May 31, 1952

TECHNOLOGY

Blow Over Snow At 45 Miles Per Hour

➤ THE BLOWMOBILE is the Seabees' answer to slippery snow-covered ground that makes walking difficult around Point Barrow, Alaska.

Dubbed "It Won't Work," the blowmobile nevertheless does work and will speed across glistening snow at 45 miles an hour, blown along on its skis by an airplane propeller driven by a 95-horsepower Mercury engine.

Science News Letter, May 31, 1952

BLIND CAVE SALAMANDER—With only tiny, vestigial spots, the cave salamander has no eyes at all and its body is almost without pigment, as this photograph taken with special equipment shows. Measuring four inches in length, it is characterized by a shovel-like snout and external gills.