

METEOROLOGY

Spot Recurring Weather

Midwest's tornadoes last spring probably resulted from a repeating weather pattern, meteorologists hear. Attempt to capture iceberg described.

► **TORNADOES** IN the Middle West last spring probably resulted from a weather pattern that repeated every 10 days for over three months, Jerome Namias of the U. S. Weather Bureau in Washington told the international Toronto Meteorological Conference.

For the period from last February to mid-May, he tracked the motions of air masses at 10,000 to 50,000 feet above the earth's surface. From studies of their tracks he found a reason for the often-heard moan that there is "bad weather every weekend."

Ten days, however, was the pattern for the short, repeating change he discovered. These short-term shifts depended on longer, 30-day shifts in a globe encircling air band. The long-period changes "set the stage" for the short-term, stormy ones, Dr. Namias told the joint meeting of the American Meteorological Society and the Royal Meteorological Society.

The world-girdling band of air high in the atmosphere tends to fall into a certain pattern, with a very long, stretched-out wave motion, Dr. Namias said. The form and positions of these waves above the United States caused large masses of warm air from the Gulf of Mexico to clash with cold air from the Arctic over the Great Plains area, causing snow, sleet, high gales, and even tornadoes. This violent action at first strengthened the westerlies, causing a lengthening of the wave motion in the globe-circling air band. However, as the storms died out, the strong westerly winds declined, thus causing the wave motion of the high air band to shorten again. This shortening set the stage for a repetition of the storm-producing clash of cold and warm air masses.

Such a pattern continued, Dr. Namias said, as long as the world-wide, 30-day changes were relatively small. Over the three and one-half month period, however, the high air band's pattern changed slowly, thus finally causing a breakup of the repeating weather.

Jet Flight Forecasts

► **FLIGHT FORECASTS** at high altitudes for jet airplanes can be made from ground weather observations, Sidney Teweles Jr., of the U. S. Weather Bureau in Washington reported to the Conference. Thus jet pilots flying over areas from which very little weather information is available, such as the Arctic, will have some idea of their safest and fastest routes.

Storm centers stretching from the ground high into the atmosphere, Mr. Teweles has

found, give clues to the best flight paths for jets and high flying commercial planes. Such storm centers can also help to pinpoint the highest wind speeds in the jet streams.

Jet streams are narrow, fast-flowing bands of wind rushing at 200 miles or more per hour from west to east at about 30,000 or 40,000 feet. Stormy weather on the ground is connected with the approach of high speed wind centers in these jet streams, Mr. Teweles reported.

To get airplanes to their destination safely and fast, jet pilots need to know the location of jet streams and the strong wind centers found moving with them. Without accurate high level forecasts, these fast-moving winds would make hash of their schedules.

Mr. Teweles revealed results of a three-day, nation-wide study of wind patterns at high altitudes, made last winter as part of the short range forecasting activities of the Weather Bureau. These results gave a three-dimensional picture of the location and movement of the speedy jet streams.

Strong wind centers move along the length of jet streams, Mr. Teweles has found. The conditions that cause these centers, he believes, can be forecast with



MEASURING LIGHT — John E. Bock, retiring supervisor of the General Electric Illuminating Laboratory, is using this giant white sphere to test a lamp for outdoor lighting.

"some accuracy." Thus jet pilots can be advised as to what flight paths to follow in order to make better time to their destination, as well as to dodge the severe turbulence that is associated with the strong wind centers.

Iceberg for Drinking Water

► **AN ATTEMPT** to capture an iceberg in order to get fresh drinking water at a far northern weather station was made in August by the U. S. Coast Guard Cutter Eastwind, Dr. R. W. Rae of the Meteorological Service of Canada revealed at the Toronto Meteorological Conference.

The cutter, after bringing supplies to the weather station at Eureka on Ellesmere Island, tackled moving the iceberg toward shore in order to make sure that the weathermen had fresh water on hand this winter. The Eastwind tried both towing and pushing, but the iceberg refused to budge, Dr. Rae reported to the meeting.

Usually the weather station's water comes from icebergs caught nearby by chance at freezing time. Last year, however, none were caught, thus causing this year's try at capturing an iceberg.

The Eureka weather station is operated jointly by the U. S. and Canadian governments. The mean temperature there during the year is minus 43 degrees Fahrenheit. Ellesmere Island lies off the northern coast of Greenland.

Science News Letter, October 3, 1953

CHEMISTRY

Chemical Spray Extends Storage Life of Potato

► **HOUSEWIVES** SOON may be able to keep potatoes and onions in their vegetable bins all through winter and spring, and never find a sprout on them.

A chemical that is sprayed on the vegetables before they are harvested will keep Spanish onions from sprouting as long as eight months, and potatoes as long as 12 months if stored in a cool place. The active ingredient in this new spray is maleic hydrazide, a growth regulator developed by the United States Rubber Company.

Absorbed by the leaves, the chemical works its way down into the bulbs. There it stops any further cell division, thus literally nipping the sprouts in the bud. Actually, this is the same solution some homeowners may have used this summer to retard the growth of grass along lawn edges.

The actual increase in storage life as a result of the spray, however, depends upon the variety of onions and potatoes.

The spray is put to work on onions one to two weeks prior to harvesting when the bulbs are mature and the tops begin to fall. Potatoes get the treatment four to six weeks before harvesting.

Science News Letter, October 3, 1953

Dead chestnut is still a cash crop in the Appalachian districts as a source of tannin.