

## METEOROLOGY

### Largest weather-data effort

The largest effort ever made to collect information on global weather conditions is underway throughout the month of November.

The project was planned by the international joint organizing committee for the Global Atmospheric Research Program (SN: 9/6, p. 185) to provide data needed for computer experiments simulating the behavior of the atmosphere.

The effort, known as the Global Data Sets Projects, is attempting to assemble as many observations as possible for the month. Information not normally exchanged internationally is being made available, and special observations, particularly in the tropics and the Southern Hemisphere, are being made. Unscheduled airlines flying in the tropics, for example, are furnishing weather reports.

The World Weather Center of the Environmental Science Services Administration at Washington, D.C., is responsible for assembling the master data files. It is also directing the collection of special observations from the Northern Hemisphere. Melbourne, Australia's World Weather Center, is in charge of Southern Hemisphere observations. The effort will be repeated in June of 1970.

## CLIMATOLOGY

### More attention to climatic change

The increasing importance of understanding and predicting changes in the earth's climate (see p. 458) has prompted action on the international scientific level.

At a meeting last month in Geneva, the Commission on Climatology of the World Meteorological Organization decided that new studies relating to climatic changes, including the problems of long-range forecasting, need to be developed. Such studies, it noted, will have far-reaching practical consequences in the planning of human economic activities.

The commission decided to establish an international working group to study methods of predicting climatic change, including studies of fluctuations due to both natural phenomena and human activity.

The working group will also report on the lack of current observational data and on precautions researchers need to insure the data they obtain are scientifically useful.

## CLIMATOLOGY

### Abrupt changes in climate

One of the tools used in reconstructing past climates is pollen analysis. Since the kind of plant life in a region is related to its climate, fossil pollen can provide information on the climate at the time the pollen was distributed.

Work of this type is being carried out at the University of Wisconsin's Center for Climatic Research under the leadership of Dr. Reid A. Bryson.

At a recent American Meteorological Society symposium on the future of the atmosphere, he reported that initial investigation along these lines suggests that:

- Climate seems to follow some sort of step-function, with rather abrupt changes. The essential change from a glacial to a nonglacial climate, Dr. Bryson says, often occurs in periods of as short as roughly 100 years.
- The last two thousand years are more like late-glacial times than like the previous 8,000 years.
- What he describes as "catastrophic" climate changes have happened in the past, and must not be ruled out as future possibilities.

## GEOLOGY

### Survey of Northern Greenland

Maps of Northern Greenland will have to be altered as a result of a survey carried out by a British expedition which spent 18 weeks there this summer. The team was composed of three naval officers, three army officers, four Royal Air Force men and two civilian geologists.

They successfully completed their survey of the peninsula at the extreme north of Peary Land, north of latitude 83. They also undertook a program including geology, glaciology, natural history and meteorology.

Says Major John Peacock, the expedition leader, distances shown on the 1947 maps used by the expedition were 10 percent shorter than they actually proved to be.

The geologists said the discovery of remains of Eskimo fireplaces 4,000 years old suggested that Eskimos once lived much farther north than supposed. They regarded the finding of a large area of volcanic rock as an important contribution to the knowledge of the area.

## GEOPHYSICS

### New argument for earth expansion

Among the various ideas to explain the breaking apart of the continents and their movement about the globe (SN: 11/8, p. 430), the proposal that a major role was played by an expansion of the earth's interior is not widely accepted.

But a Massachusetts Institute of Technology physicist, Dr. Robert H. Meservy, argues that the separation and movement of the continents in the last 150 million years cannot be explained by continental drift on the surface of the present-sized earth. This seems to indicate, he says in the Oct. 31 *SCIENCE*, that a large expansion of the earth's interior has taken place during that time.

His argument is based on topology. To achieve the present arrangement of the continents from reconstruction of an earlier single land mass, the perimeter of the Pacific Ocean, he says, must at some time have enclosed at least half the earth's surface. But all evidence indicates that the perimeter, which now encloses one-third the earth's surface, enclosed less area, in the past. This problem can be resolved, he suggests, by assuming the earth was smaller at the beginning of the process than it is now.

A suggested cause for the earth's expansion is a decline in the strength of gravitational forces. At least two cosmologists suggest that as the universe grows older gravity weakens. Such a relaxation would allow interatomic forces to increase the size of the earth.