

## GEOPHYSICS

# Plan Antarctic Stations

**Present plans for the International Geophysical Year, a world-wide look at the earth, its seas and air in 1957-58, include at least 45 stations in or near Antarctica.**

By ANN EWING

► AT LEAST 45 stations will be operated by 12 nations on Antarctica or in sub-Antarctic waters during the International Geophysical Year, a world-wide probe of the earth we live on in 1957-58.

Their cooperative programs will mark the first time so many nations have combined efforts to learn the secrets locked in the White Continent. Part of an international look at the earth, its seas and air, the plans for the Antarctic expeditions were made recently in Paris by delegates from the 12 countries.

Members of the expeditionary forces are expected to raise Antarctica's population at least 10 times, from its present 80 to no less than 800, not including Emperor penguins.

Of the 45 "down under" stations now planned, 26 will be on the continent itself, nearly three times as many as were expected when Antarctic plans for the International Geophysical Year were made in 1954 at Rome.

Five new nations, Belgium, Chile, Japan, the Union of South Africa and the USSR, announced at the Paris meeting their intentions of setting up Antarctic bases for coordinated scientific observations during 1957-58.

The United States will operate three of the new bases, bringing to six its total number of stations on the White Continent. These will be located at the new Little America, the South Pole, McMurdo Sound, Vahsel Bay, Knox Coast and in Marie Byrd Land.

## Russian Bases

Russia revealed that her scientists, for the first time, will man two, and perhaps three, bases on the continent.

One is planned for the Knox Coast at 104 degrees east longitude, another several hundred miles inland on the same meridian. The third possible station would be another 200 or 300 miles farther inland and to the west of the second, the Russian delegate suggested at the Paris Antarctic Conference.

The seven nations that previously agreed to operate existing or new stations on Antarctica during 1957-58 are Argentina, Australia, France, Great Britain, New Zealand, Norway and the United States.

At least 40 countries are now coordinating their research efforts for the International Geophysical Year, or IGY, to improve our knowledge of this planet.

Dr. L. M. Gould, president of Carleton College and chairman of the Antarctic Committee of the U. S. National Committee for IGY, called the Paris meeting "historical."

"Never before," he said, "have nations cooperated on such a large-scale enterprise. Previous expeditions to the Antarctic have largely been by individual nations working alone. The international, cooperative plans now being made insure the gathering of much more information than if each nation were acting independently."

One example of the "unprecedented" international cooperation is acceptance by the U. S. of responsibility for handling weather information for all nations. For the first time, daily weather maps will be issued for the Antarctic regions. Representatives

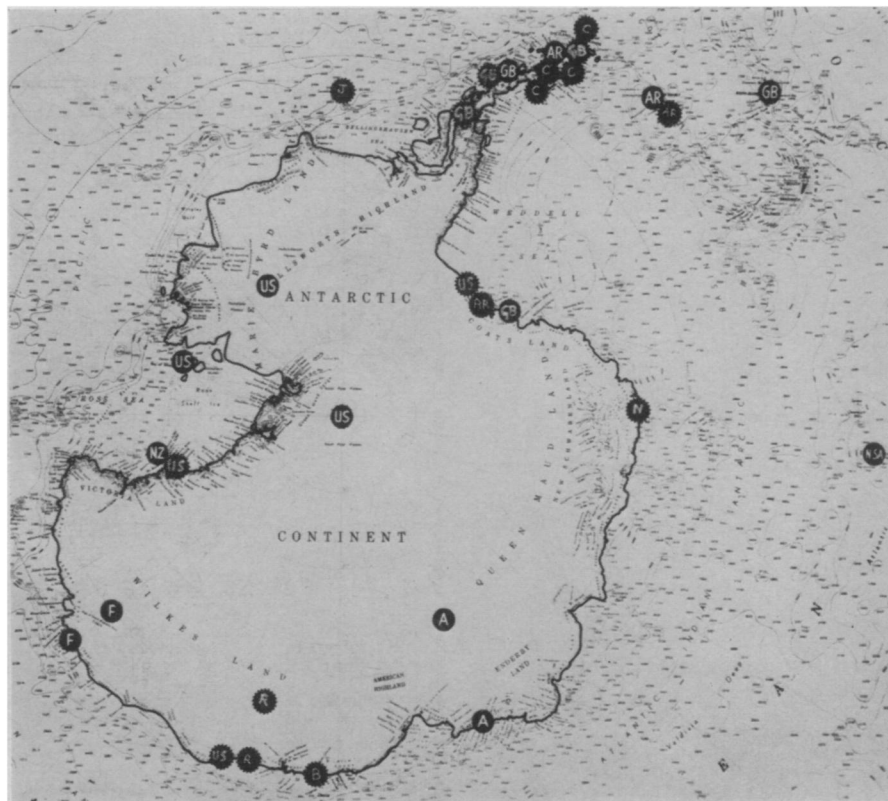
at the Paris meeting agreed that all stations in the Antarctic and in sub-Antarctic waters, as well as field parties, would regularly radio their local weather conditions to the central facility, which will be located at the new Little America.

There, all reports will be consolidated and, based on this overall picture, weathermen will make forecasts for the individual areas. Their predictions will be broadcast daily to the other stations.

The frequencies to use for weather forecasts and other required radio communications are being worked out by an international committee, each country designating one person to the working group. Radio facilities will be divided into mother, daughter and relay stations.

Prediction of the best usable frequencies for radio communications six months or a year in advance will be made by Australian scientists. U. S. radio experts will make the short-term forecasts.

Next November, in "Operation Deepfreeze," the U. S. is sending two icebreak-



**ANTARCTIC STATIONS PLANNED**—This map shows the location of 26 proposed bases to be established on Antarctica during the International Geophysical Year during 1957-58, as well as a few of the stations planned for sub-Antarctic waters. Ar stands for Argentina, A for Australia, B for Belgium, C for Chile, F for France, GB for Great Britain, J for Japan, NZ for New Zealand, N for Norway, SA for South Africa, R for Union of Soviet Socialist Republics, and US for United States.

ers, two or three freighters and a tanker to the Ross Sea, taking advantage of the Antarctic summer of 1955-56 to establish the new Little America near Kainan Bay.

Another icebreaker will explore the Vahsel Bay area.

Aircraft will make reconnaissance flights over Byrd Land and the South Pole, laying ground for airlifting supplies to field forces during 1957-58.

**Weddell Sea**

Other bases announced at the Paris meeting include:

Argentina, on the Weddell Sea, at 78 degrees south, 37 degrees west.

Chile, two stations on the Palmer Peninsula; two on the South Shetland Islands and two in southern Chile. These are all existing bases that will have increased staffs for International Geophysical Year observations.

Belgium, on the Queen Mary Coast at 95 degrees east.

Japan plans to set up a summer station on Peter I island.

Although most of the 45 stations are widely scattered, two sets of three each are relatively close together, one group on the Knox Coast, which is almost directly south of Australia, and the other on Vahsel Bay, which lies south of Argentina. Belgium, Russia and the U. S. will operate the Knox Coast bases, all within 500 miles of each other. In the Vahsel Bay area, Argentina, Great Britain and the U. S. will have stations within 200-300 miles of each other.

**Purposely Close**

The close proximity of the two groupings will allow scientists to make a much needed, detailed study of the two regions, something never before attempted in Antarctic exploration. Research programs at these stations will be coordinated.

The U. S. scientific program for IGY is under the direction of the National Academy of Sciences, with Dr. Gould as chairman of the Antarctic Committee Logistic and expeditionary forces will be directed by the Navy for the U. S. National Committee for IGY. Rear Adm. Richard E. Byrd is in overall charge of these operations, and Rear Adm. George E. Dufek is field commander.

Dr. Georges Laclavere, Secretary-General of the International Union of Geodesy and Geophysics, called the Paris Antarctic Conference and was subsequently elected its chairman.

In addition to the 45 permanent stations, at least four lengthy overland expeditions are planned, one of which will cross the continent. The British and French now expect to send one each, and the U. S. expects to send two.

Science News Letter, August 20, 1955

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