

METEOROLOGY

Meteorologists Go With Byrd To Study Antarctic Weather

AT THE LITTLE wooden office of the airport weather station in South Washington, Va., a veteran weather man of the first Byrd Antarctic Expedition is making ready to join the Admiral again for a renewed attack on South Polar weather secrets.

While he talks to aviators of such tame matters as ordinary United States weather, William C. Haines is looking ahead to Sept. 25, when he will sail from Boston on Admiral Byrd's ship to study the icy, blizzardy weather of the world's coldest continent.

The whole Antarctic, as big as the United States and Mexico put together, turns out just one commodity that the world takes and uses. That is weather. South America and lands farther from the South Pole get some of their waves of chill, drought, heat, and rain from the busy South Polar weather factory. But the rules of production and distribution that run the factory are almost unknown.

To investigate, to get at some of the reasons, this is the task confronting Mr. Haines and the other meteorological staff member of the expedition, George Grimminger. It is Mr. Grimminger's first venture into the Antarctic. Both men are from the Weather Bureau.

It is expected that one base for observations may be established in the interior, at an advanced position, perhaps not far distant from the Pole. Some of the weather records noted by Mr. Haines on his previous year in the Antarctic may be far eclipsed. His coldest weather record was 72 degrees below zero, and the warmest summer day was just three degrees above freezing. In a mid-winter blizzard, in July, his instruments recorded a drop to 58 below zero and just when the cold was most intense the wind blew 43 miles an hour. And that, Mr. Haines thinks, may be a record for blizzards anywhere.

"We expect to lay stress this year on upper air observations," Mr. Haines said. "We can generalize more accurately about the wind direction and velocity as we find it high in the air. At ground level, weather records are more complicated by influence of local geography."

Winds are especially important in the Antarctic weather, Mr. Haines explained, for winds, even more than icebergs, are carriers of cold there. Swiftly changing temperatures and changes in air density raise the wind, and the wind carries cold across the icy continent and out toward warmer latitudes.

Instruments packed for the expedition's use will include standard equipment, furnished by the U. S. Weather Bureau, for measuring temperature, barometric pressure, wind direction and velocity, and humidity. The clocks have to be adjusted for low temperature, but not much trouble is expected in handling equipment.

The possibility of establishing permanent weather stations in the Antarctic, to keep the world informed and warned of weather brewing there, seems very remote these days, Mr. Haines believes. So expensive is such a proposition that it can only be carried out if leading countries of the world cooperate in the financing. Meanwhile, the data that will be needed are being gathered by the weather explorers, and it is hoped that even without Antarctic weather bureaus the world may profit by greater knowledge of Antarctic weather.

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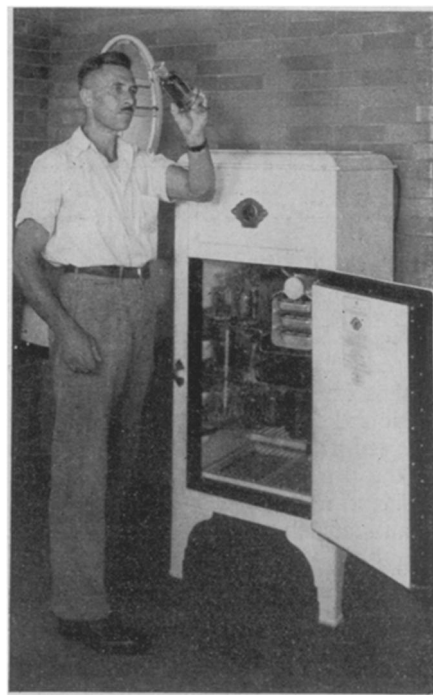
BACTERIOLOGY

Electric Refrigerator Gets New Role as Incubator

ELECTRIC refrigerators are now being successfully used as incubators. This paradox has been reported by Waldo H. Schock, chief operator of the Norwalk, Ohio, sewage treatment plant, where two electric refrigerators have been established. What they incubate, however, is not the conventional "settin' of eggs," but flasks of culture fluids in which bacteria grow.

Instead of reducing the temperature below that at which germs can thrive, as is the case in household refrigerators, these incubator refrigerators raise the temperature to exactly the degree at which certain sewage germs grow.

Ordinary incubators operate at a temperature of 98.6 degrees Fahrenheit, or



WARMED IN A REFRIGERATOR

Reversing the conventional role of the refrigerator, bacteriologists use these electric temperature-control cabinets for the incubation of germs that grow best when they are moderately cool.

body heat, most favorable temperature for the growth of ordinary germs. But the particular germs which Mr. Schock and assistants deal with must be kept for five days at the much lower temperatures of between 66 and 70 degrees. Previously this temperature was maintained, more or less, by equipping the 98.6 incubator with water baths to cool it down. It was hard to keep the temperature steady in this way, however, so electric refrigerators were adopted.

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THE INVISIBLE FRONTIER

an address by

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To be given Friday, Sept. 29, at 2:45 p. m. Eastern Standard Time over stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.