RADIO AIDING IN WEATHER FORECAST

NEARING EXACT SCIENCE

Meteorological Experts Believe Time Coming When Conditions Can Be Foretold Weeks in Advance

Meteorology—the business of weather forecasting—eventually will approach an exact science, in which conditions for weeks, even months in advance may be predicted with comparative certainty.

This is the belief of experts of the United States Weather bureau, who point out that the progress of meteorology in the future depends upon the development of radio communication.

The weather bureau was the pioneer of all agencies of the United States government in development and experiments with radio, according to E. B. Calvert, meteorologist in charge of the forecasting room.

"The investigations were undertaken soon after Marconi began his studies of wireless telegraphy in 1895," Calvert said. "It was forseen that this form of communication presented a field of opportunity in meteorology in securing current weather information from inaccessible places and from ships, the providing of storm warnings to vessels at sea, and supplementing or replacing the weather bureau system of collecting weather reports by telegraph and cable.

Radio is Used

"Radio has been utilized continuously by the weather bureau for more than twenty years, and it now plays a large and indispensable part in the bureau's activities."

Accurate long forecasting will never be possible until the entire northern hemisphere is dotted with radio stations, according to Calvert; and even then, he pointed out, it is questionable to what degree of accuracy predictions may be made over thirty-six hours in advance.

There are now millions of uncharted square miles out beyond the jurisdiction of civilization where "weather" may originate without the knowledge of the various nations of the world. A few stations already dot the American far north, in Alaska, the Hudson Bay region of Canada, and on the islands off the coast, such as Greenland and Iceland.

In Northern Europe a few stations daily flash weather conditions southward to be relayed around the world. Little is known of the Northern Siberian wastes and of the great spaces between the northern borders of America, Europe, Asia and the polar regions.

Daily Observance

Calvert said that not only the information of conditions in these vast territories must be obtained daily, but that the action of weather there must be studied over long periods to determine "how it acts" under every possible circumstance.

A glance at the daily map in the weather bureau discloses a widely varied set of conditions in even the limited charted areas. A tornado may originate on the southern coast of the United States; a cyclone in Kansas; a blizzard in Montana; a warm wave throughout the mid-Atlantic sections as well as a cold wave may sweep down from Greenland.

To forecast the weather the bureau's experts must know the habits of these irregularities; how the tornado usually conducts itself; in which direction the cyclone will go and whether the Montana blizzard will be neutralized in the mid-West by the warm winds from the Gulf stream.

That is the weather bureau's daily problem.

"The first radiogram received by the Weather bureau containing a weather observation taken on a ship in the Atlantic was from the S. S. New York on December 3, 1905," Calvert said. "In 1906 the vessel weather service was established as a distinct project. The masters of about fifty vessels agreed to take observations daily and forward them by radio to Washington. At the present time practically all ships on the high seas make daily observations and forward them to the Weather bureau.

Canada Will Aid

"Arrangements are being made by the Canadian government to establish radio stations in the Mackenzie river region primarily for the purpose of obtaining meteorological reports. These will be made available to the United States Weather bureau.

"It is apparent that meteorology will advance hand in hand with radio," Calvert declared. "There must be a close, undisturbed contact between the agencies engaged in meteorological and radio activities.

"The crying need of meteorology is more information from ships and from inaccessible places, and especially from the areas in and about the polar regions."

It costs money to joint most organizations, but you get a dividend when you unite with the Trade at Home Club of this city.

Folks at the winter resorts reported bathing in the warm sunshine, but they should also take a bath in real water at least once a week.

INVENTS METHOD TO DEADEN SOUND

Possibility It Can Be Eliminated Altogether By The New Device

By causing successive waves of sound to interfere with each other's transmission, D. G. W. Stewart, a professor of physics at the University of Iowa, has perfected a device which he believes in time may be used to eliminate undesirable noises and to adjust sounds "to an individual's aesthetic taste."

The establishment of quiet zones for hospitals and the requirement of mufflers for automobiles testify to the penetrating nature of sound waves. They will pass, Dr. Stewart says, through the most minute crack, and even through an apparently solid wall.

Calls It "Acoustic Wave Filter"

With the theory that sound waves would expand themselves were they placed in conflict with one another, Dr. Stewart worked out his device, which he calls an "acoustic filter."

The results are obtained, Dr. Stewart explains, not by placing obstructions in the path of sound, but by setting up a sort of battle between the various waves, thus causing a disordered transmission.

A brass cylinder tube one-half inch in diameter and six inches long, containing nothing but air and open at both ends, is caused to transmit all tones of a piano up to a certain note and above this to transmit no audible sound. With another and slightly different tube, the tones below this same, or any other note, will be refused transmission, whereas all higher tones pass freely.

May Be "Selective" in Its Operation

"Other equally remarkable results of a similar nature can be obtained," said Dr. Stewart in explaining his device. "The tubes, while entirely open and free from obstructions, have at regular intervals, branching tubes and chambers. At each branching joint waves are reflected backward through the tube. The design of the branches can be made in such a manner as to produce a backward reflection and an interference of almost any group of tones."

Dr. Stewart explained that he considered the device truly a filter. It is a new basic method of manipulating sound waves and may find application in many acoustic devices in use today.

Would be interesting to start a popularity contest between the prettiest girl and the one who can make the best pie. Only one guess as to who would win.