UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

CHATS WITH THE WEATHER MAN. RELEASE Friday, May 13, 1932

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ANNOUNCEMENT: Every other Friday, our old friend Ob. Server, brings us the results of his chats with specialists of the United States Weather Bureau. Today he tells us about the possibilities of weather maps for all the northern half of the world, including all North America, Europe, Asia, and the seas that lie between-- -------Well, Mr. Ob. Server?---------

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You radio listeners may hear a good bit about radio before we get through. I gather from what Mr. E. B. Calvert, chief of the forecast division of the United States Weather Bureau tells me, that advances in practical weather science have been largely a matter of speedy communication.

We have been so used to reading and relying on weather forecasts for lo these many years that we hardly realize that real practical weather forecasting is still considerable of a youngster. It has grown as means of communication have been developed. In fact, Mr. Calvert credits Morse and Marconi with being the two men who have done most to make possible the development of weather science.

It practically began with Morse's invention of the electric telegraph, but it was not until Marconi came along with the radio that the weather forecaster was able to get word from vast gaps and blind spots not reachable by land-line telegraph.

Of course, folks have probably been trying to figure the ways of the weather since there were any folks, but for thousands of years they apparently didn't make much headway.

The Greek philosopher, Aristotle, Mr. Calvert says, is generally considered as the father of weather science. He wrote a treatise on the subject, but having no way of measuring the pressure of the atmosphere or the temperature, or of getting word promptly of what the weather was in otherplaces, he couldn't really do much about it. Nobody else being any better informed, Aristotle remained a weather authority for 2,000 years.

But even when Toricelli invented the barometer, less than three hundred years ago, progress in weather science was still slight. One hundred and fifty years ago, when George Washington, and Thomas Jefferson, and Benjamin Franklin had thermometers and a keen interest in reading them, advance in weather knowledge rode a slow coach.

Practical weather science, as we know it, is based on the idea of getting a picture of the weather made up of accurate measurements of temperatures, pressures and air movement from a number of stations, taken at the same time, over a wide area. From that picture or map of the weather as is, the long-experienced forecaster estimates what the weather will probably be at different points on the map. For any such estimate to be of practical value, the records from the different stations must literally beat the wind to the mapping and forecast office.

If electric communications over wires and through the ether had not been invented, Mr. Calvert says, meteorological service today would not have its high place among the necessary and valuable economic organizations of this and other countries of the world. He doubts if there is any other science so vitally dependent on wire and radio communication.

Weather maps were first made and used for weather forecasting in this country in 1868. The great weather scientists, Abbe, through the Cincinnati Chamber of Commerce, induced the Western Union Telegraph Company to provide daily weather reports from places along its lines. Telegraph operators served as observers. At that time, the company had a number of offices in the northern and southern states east of the Mississippi, and their wires had been extended westward nearly to the Rocky Mountains. The Signal Corps of the U.S. Army was pushing its military lines far into the southwest and the northwest, but very few reports were available west of the Mississippi.

Well, for many years after the weather service of the United States was established, the range of the electric telegraph was the area covered by the weather maps used for forecasting. Even back in those early days of weather forecasting, our meteorologists began to reach out for wider and wider knowledge of circulation of air around this top half of the globe. They even made up weather maps of the northern hemisphere from reports of land stations in this and other countries. Those maps were just for scientific study. They were made up from reports sent in by mail, and were issued just one year late.

Weather maps one year behind time were not much practical use. Maps made up from current observations sent by telegraph and cable could not be complete. In the first place, as Mr. Calvert points out, barren wastes and frozen regions where telegraph lines have never been run and where such lines probably never would be run are just as important from the weather viewpoint as the fertile, populated regions of the earth.

In the second place, nearly two thirds of the northern hemisphere is water. Oceans have as much and as many kinds of weather as land areas. Wire lines cannot be built over the oceans so as to contact ships. A northern hemisphere chart without weather reports from vessels plying the vast water expanses would be wholly inadequate. So if we had to rely on telegraph lines and cables, our forecasters couldn't have a complete

picture of the weather in the northern hemisphere.

Opportunity for weather maps of land and sea was born when Marconi invented the wireless telegraph. The U.S. Weather Bureau got its first weather report from a ship at sea by radio in the Atlantic in 1905 and the first from a ship in the Pacific in 1907. In 1906 the Weather Bureau got 758 radio ship reports. In 1922, the number was about 15,000 and last year the number of weather reports received from ships at sea by radio was about 70,000.

With the aid of ship reports and the exchange of land reports with other nations, the United States Weather Bureau now makes up a weather map of the entire northern hemisphere for office use, and could easily publish that daily weather map giving a comprehensive picture of current weather conditions for the use of many people interested, should economic conditions improve.

A hundred reports are sent in every day to the Weather Bureau headquarters by land line telegraph from stations in the United States, At Toronto, telegraphic contact is made and reports from 43 Canadian stations are received. Many of those Canadian reports, Mr. Calvert tells me, are collected by radio. Through the U.S. Signal Corps radio system, 15 weather stations in Alaska forward their daily reports, while 5 stations in Greenland relay their reports to Toronto by radio, from where they are sent by land line to Washington. All are used to make up the northern hemisphere map.

The Weather Bureau gets reports from 26 stations in the West Indies by means of cable and Navy radio, while 20 stations in Mexico forward reports by cable to New Orleans and from there to Washington by land line. From Central America the reports of 8 stations come by radio and land line. So much for our own Continent.

From 90 stations scattered through Europe, Asia, western Russia and Siberia reports are collected and forwarded to this country in a radio bulletin from the powerful English radio station at Rugby, England. In like manner by means of the Navy radio from the Manila Observatory and by radio from the U.S. Ship Houston, in the China Sea we get 90 station reports from points in China, Japan, and Eastern Asia. In addition to these daily reports from land stations, we get 200 more from ships at sea. All these reports are entered in the northern hemisphere map.

These reports coming in each day give us a fairly complete map of the weather a few hours after observations have been made "from Greenland's icy mountains to India's coral strand".

ANNOUNCEMENT: You have just listened to an account of the northern hemisphere weather map now a practical reality by means of radio. This program has come to you as a presentation of the United States Department of Agriculture and Station ----------.

National Oceanic and Atmospheric Administration

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July 23, 2010