

CHATS WITH THE WEATHER MAN.

RELEASE Friday, July 11, 1931.

ANNOUNCEMENT: Let's have a chat with the weather man now. As usual, our old Ob. Server has been to the specialists of the United States Weather Bureau to find out some of the workings of some of the many services of that organization --- Well, Mr. Ob. Server, what's in the wind today? ----

As you have noticed recently, this is the open season for nerve-racking airplane hop-skip-and-jumps across the ocean and around the world.

The United States Weather Bureau doesn't lend its approval to such dangerous undertakings. But if flyers insist on going, Principal Meteorological Forecaster O. L. Mitchell tells me, the Weather Bureau does give its services to help make the trip a success.

Of course, the weather men never advise any air pilots when to take off. They just supply the weather facts and forecast. It is up to the common sense and experience of the aviators how they act on those facts. But when they reach the other side and tell about the weather they encountered on the way over it is a twice-told tale. They usually find the weather as the Weather Bureau predicted they would find it before they left.

You understand, of course, our Weather Bureau makes a forecast of flying weather for the Atlantic hoppers only to mid-Atlantic.

When the flyers, say at New York ready to take off, ask for this over-sea flying weather service, they generally apply to the local Weather Bureau office. This local office notifies the headquarters at Washington. From the daily reports from weather observers at regular surface stations, airway upper-air stations, and radio reports from ships at sea, the forecaster at Washington makes a forecast of weather along the proposed route of flight for the next twenty-four hours half way across the Atlantic.

In addition, the British Meteorological Service is requested to send its forecast for weather conditions on the eastern half of route. The London office forwards this forecast by radio from London, England, to Washington. The Washington office forwards its own forecast and the London forecast to the local Weather Bureau Station, where a local weather expert turns it over to the waiting aviators. The meteorologist on the ground acts as a contact man for the Washington forecast headquarters. He delivers the forecast and talks it over with the pilots.

In one of these flights from this side eastward across the Atlantic, the main weather aid, is the forecast from our own Weather Bureau. The British Meteorological Service forecasters predict flying weather conditions only 24

hours ahead, just like our United States Weather Bureau forecasters. You must remember, London time is five hours ahead of our Eastern time. So by the time flyers on this side get half way across the ocean to where the London forecast applies, the period for which that forecast was made has about run out.

In making up forecasts for these flights, Mr. Mitchell tells me, the main reliance of the forecaster is the Weather Bureau's chart of the Northern Hemisphere weather conditions made up from reports, literally, from "Greenland's icy mountains to India's coral strands."

Into this chart also go the reports from vessels plying the ship lanes and even others off the main travel routes across the ocean. These reports are sent in daily by radio from ships in the western half of the Atlantic to Washington while those on the eastern side report to London.

Mr. Mitchell was showing me on the maps, how the number of these ship reports, which are the main reliance for reports of conditions at sea, have increased until now there is no considerable area in the North Atlantic from which we do not get reports nearly every day. Those reports, of course, show weather conditions practically at the surface. To make forecasts of upper air weather for trans-Atlantic flyers, the forecaster has to interpret the surface conditions at sea in the light of the relationship of surface and upper-air conditions on land.

In doing that, he makes use of the net-work of upper-air observations taken at weather stations along our airways and at other selected points. Those observations are made with pilot balloons and show the direction and velocity of the wind at different levels. Ten years ago, we didn't have enough of those stations to be of much practical value. Since then the number of stations has been increased so that today there are enough stations distributed throughout the country to give a fairly complete picture of the weather aloft. Our meteorologists can now map the movements of winds across the country at the different levels.

Merely knowing the direction and speed of the wind is not enough. It is highly important to know whether it is hot or cold, dry or moist. If the wind is from a certain direction, whether it will bring clouds or showers depends on how much moisture is in it. Mr. Mitchell says that during some of the worst hot waves of Washington, D. C., the wind comes from the northwest. But those hot winds don't come from Canada and Alaska. What has happened in those cases, is that hot air from our Southwest moving northward has met pressure conditions which forced it to curve back toward the southeast.

For many years, we have had a few kite stations to send up instruments in kites to get temperature and moisture conditions aloft, and now we are inaugurating a more reliable airplane service to get those measurements at different levels above a few places.

In that work, Mr. Mitchell says, we have lagged behind England, and France, and Holland, and especially Germany. We don't need these upper-air temperature and moisture stations as thickly located as the pilot balloon stations for getting the direction and speed of the wind, but Mr. Mitchell hopes that some day we will have at least some twelve to sixteen airplane stations.

He figures that about four spaced across the country from North to South would probably be enough in the East; with a like number in the Middle-West, West and Far West, to give the meteorologist the needed measurements to trace the movements of hot and cold air masses from one part of the country to another and from one level to another.

Upper-air weather observation is still in its infancy. It is so new that nobody knows just what its potentialities are. However, it seems pretty clear that pilot balloons and the airplane are doing much to lift weather science into the third dimension, and give our forecasters more solid facts with which to work.

ANNOUNCEMENT: You have just listened to a chat with the weather man, presented by Station _____ in cooperation with the United States Department of Agriculture. We will have another of these chats two weeks from today.

National Oceanic and Atmospheric Administration

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Beltsville, MD 20704-1387
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