

CHATS WITH THE WEATHER MAN

Friday, October 4, 1929.

No. 2.

Our Airways Weather Service

ANNOUNCEMENT: This is our Friday for a chat with the weather man. Every other Friday old Ob Server serves us something new about the weather, the world's oldest subject of conversation. His connection with the U.S. Weather Bureau helps him find out not only what is being said about the weather; but what is being done about it.

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As an old observer, the thing that stirs me most is this new intensive weather service for airplanes. It is not only important for the high flyers, but is getting more and more important for us groundlings.

Mr. W. R. Gregg, who has charge of the aerological division of the U.S. Weather Bureau, has just been telling me about it. He says these forecasts for flyers are very different from the weather forecasts we've been used to. In this airway weather service observations are made every hour night and day. In fact, on some of the busier routes they are made every half hour. Then, too, the forecasts are for shorter periods and are more specific than the general forecasts made on observations taken twice a day could possibly be. Just think what we could do with short period forecasts in other lines than flying!

And these flying weather forecasts are not only intensive, they are getting to be quite extensive. We now have weather stations located on 20,000 miles of airways. There are 150 weather stations located directly on our main air routes. Reports are sent from one point to another by telephone, telegraph, or teletype printing machines. For instance, along one route, an observer at one point puts his report on the teletype at fifteen minutes past the hour. The other stations are all tied together in this system of communication, so all get the report. As soon as the first station's report is in, the next station starts writing its report on the teletype; and so on, in sequence until all have reported. The consolidated reports are then turned over to the Department of Commerce broadcasting stations and flashed out by voice radio, on frequencies which can be picked up by the airports and also by the pilots in the air.

The pilot guiding his plane with his earphones on his ears may be told by the reports that his terminal is fogged in so he can't land. He then listens for reports from a field where he can land.

Conditions on the fields are not the only things shown in the report. By means of pilot balloons, the observers, of course, determine the velocity and direction of the upper winds at different levels up to 12 or 13 thousand feet.

It is plain that the rate the wind is blowing may make a lot of difference to an aviator. If it is with him; it may boost up his speed, but if it is against him it will cut down his speed and delay him.

Recently, a pilot flying from Cleveland to Chicago got a weather report showing high winds from the east at 10,000 feet. He went up there; caught the boosting wind, and made the distance in record time.

More important to the aviator than speed of winds, however, is the information contained in the weather report as to the ceiling or height of the clouds and visibility or the distance one can see in a horizontal direction.

With the aid of pilot balloons by day and a slanting beam from a searchlight by night, by triangulation the observers are able to calculate the height of the clouds very accurately.

Observations made directly on the air route are not enough for best forecasting. The forecasters must know what is coming from either side of the airway. For that reason, since the first of July, in addition to the 150 stations directly on the airways, 60 first rank stations have been established to form a network of reporting observatories on each side of our main trans-continental air lane. Those 60 stations report to Cleveland, Omaha, Salt Lake City, and San Francisco, from which points forecasts of weather conditions for the next three hours are made and broadcast for the benefit of aviators.

Those three hour forecasts can be more specific and more definite than the long period forecasts, and this network of stations on each side of the airway covers a strip across the country some three or 400 miles wide.

Now, there is where some of us groundlings are beginning to benefit. It seems that some auto clubs have already discovered that by merely equipping themselves with radio sets which can pick up the Department of Commerce broadcasts to flyers, they can get these fresher, more definite, intensive short-range forecasts.

Just think of it! --- Take a ball game, for instance. Folks often call up the weather man, and want to know what the weather is going to be for the ball game. At present, the forecaster in our regular service only has the observations made at 8 A.M. and 8 P.M. He may be able to say from the reports of the conditions at 8 o'clock in the morning, that there will probably be showers in the afternoon; but whether the rain will come before or after the game, it might be impossible for him to say. However, with observations every hour, as they are made in the airway service, he would be in much better position to say just when the expected storm was due to show up. In fact, in a thousand and one activities, the importance of more definite weather information can be readily seen.

But that is getting off our airways. I just mentioned that in passing. As an old observer, that airway idea of specific forecasts from frequent observations day and night sort of fascinates me. And this airplane business is just getting off to a good start!

Of course, as Mr. Gregg mentioned to me, for the airplane to take its rightful place in transportation, it must move day and night! To make night travel safer and more practical the airways are being lighted, 7,500 out of 20,000 miles of main routes are now marked with beacon lights; intermediate landing fields are being established; and radio beacons are being used to guide the planes under poor conditions of visibility. These great services are being performed by the U.S. Department of Commerce, but even more essential to night flying is this already great system of intensive weather observations and forecasts made by my old boss, the U. S. Weather Bureau, in cooperation with the Department of Commerce.

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ANNOUNCEMENT: Friday after next, old Ob Server will be with us again.  
"Whether it rain or whether it snow, we'll have weather, whether or no."

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# **National Oceanic and Atmospheric Administration**

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