

CHATS WITH THE WEATHER MAN,

Friday, November 28, 1930.

ANNOUNCEMENT: Now let's hear from our old friend, Ob. Server. He has been chatting again with some of those meteorologists of the United States Weather Bureau. The snow has begun to fly, and he seems to have gotten an earfull. Well, Mr. Ob. Server tell us about that drifted whiteness covering the fair face of Nature --- and a number of other things -----

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Hats off, men!

If you don't have your hat on around the radio, let's salute anyway.

Let's salute those forest rangers and other hardy cooperative observers who will soon dare the perils of the mountains, and head out on snow-shoes to check up on the snowfall.

It takes nerve and stamina to go into the high mountains of our West in the dead of winter as some of those men will go. Storms and snow-hidden crevasses, and icy-edged cliffs are a few of the dangers they will face.

Yet, Mr. Montrose W. Hayes, chief of the river and flood division of the United States Weather Bureau, tells me, that every year they do it. Beginning about the first of January, the Weather Bureau sends them out equipped with snow-measuring apparatus. They go over the snow fields and check up on the extent of the fields, and the depth and condition of the snowfall, in the mountains where the snow will hang on well into or through the greater part of next summer.

There is good reason for all the risks they run.

You know, snow is just water in another form.

Irrigation projects in the West and the water supplies of many western cities and towns, Mr. Hayes says, are in a large measure dependent on the amount of snowfall. To know how much water will be available for use in mining operations, for power dams, and irrigation reservoirs, it is necessary to know considerable about the amount and condition of the snowfall. The very life of great

stretches of our western country is fed by the melting snows from the Rocky Mountains and Coast Ranges.

The hardy snow-shoe scouts, experienced in mountain travel, measure the depth of the snow by means of stakes previously fastened to trees or set in the ground.

To determine the condition of the snow, they carry snow samplers and light spring balances. As Mr. Hayes describes it, the snow sampler is usually a long tube about two and a half inches in diameter with a scale marked on the outside of it. The observer pushes this tube down into the bed of snow, the depth it goes into the snow being measured by means of the scale on the outside the tube. Then he pulls the tube out full of snow up to the depth it was pushed in.

The object is to find how much water there is in the snow. The more icy the consistency of the snow, the greater the amount of water in it and the longer the snow will last. The tube is weighed on the balance the observer carries with him. The tube is a standardized instrument. Knowing the weight of the snow, it is a simple matter to determine the number of inches of water to which that weight corresponds.

If the snowfall has been light and not wind-packed or sunpacked, it goes off in a hurry. That means a shortage of water shortly after the summer starts. On the other hand, if the snowfall is heavy and well packed by the wind, and then softened by the sun, and frozen again, it forms an icy mass which will last a greater part of the summer.

The reports of the observers are collected in the various district offices of the Weather Bureau. There they are charted and forecasts of the summer supply of water are made for the various streams heading in the mountains.

This snow survey, Mr. Hayes tells me, is difficult and hazardous work, but it is very necessary, and is considered one of the most valuable undertakings of the United States Weather Bureau.

The men who make the survey usually work on a cooperative basis. Most of them are forest rangers.

The survey covers only the Rocky Mountain and Coast Range, as snowfall in our eastern mountains is not so big nor is it the tremendously important factor in the water supply it is in the West.

However, in the Eastern half of the country, the ice in our rivers and harbors is often of considerable importance. Mr. Hayes tells me the Weather Bureau makes measurements of the thickness of the ice and keeps a close check on the movement of ice in rivers.

That is not a matter of settling local bets as to how thick the ice was this year compared to last. Its chief importance is in determining what may be expected when the spring break-up occurs.

After a severe winter, early spring floods are especially disastrous at times on account of the jamming of ice which dams the streams.

Mr. Hayes points out that, the Mississippi and Ohio, might be clear of ice and shipping in progress, but immense quantities of ice be jammed up stream. The Weather Bureau watches such ice gorges closely. Sun and rain lessen the gorge and great flows of ice are likely to sweep down stream and cause big damage to barges, packets, and all other forms of river craft.

At the Weather Bureau sub-stations, the river gage reader keeps a record of the ice formed, and its condition, and telegraphs or telephones that information to the district office.

The Weather Bureau station keeps men on duty all night, and special watchmen are held on duty continuously just to watch the ice gorges when weather conditions indicate a break is imminent.

Pittsburgh is the city most often interested in ice conditions, for ice often does considerable damage at Pittsburgh. However, during the winter of 1917-18, Mr. Hayes says, there was more ice in the Mississippi river than during any other winter on record. The river was full of ice from Memphis to its source, and river packets and barges were sunk by ice at Memphis. Some of the ice went south of Vicksburg, Mississippi.

But we are getting a little ahead of our weather. We started out to talk about the snowfall survey, which is the basis for the practical long-range forecast of summer water supplies in the West. I don't know how you feel about it, but my hat is off to the men who make the snowfall measurements in the mountains!

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ANNOUNCEMENT: That's another of those services of the United States Weather Bureau. Old.Ob. Server will be back two weeks from today to give us the results of another of his chats with the weather man. These chats are presented by Station \_\_\_\_\_ in cooperation with the United States Department of Agriculture.

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# **National Oceanic and Atmospheric Administration**

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