

CHAT WITH THE WEATHER MAN

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FOR BROADCAST PURPOSES ONLY

ANNOUNCEMENT: Our old friend, Ob Server, has again been talking with specialists of the United States Weather Bureau and again brings us one of those chats with the weather man. His story today is not all wet, but there is plenty of water in it, at that--- All right, Mr. Ob. Server our umbrellas are up!-----

You have heard the old saying "It never rains but it pours."

I guess all of us, at one time or another, have been caught out in one of those storms in which the rain seemed to come down by the bucket full. In fact, some of my friends claim they have seen it come down in wash-tubs; but then some folks are inclined to exaggerate.

I've just been talking with Mr. J. B. Kincer, chief of the division of agricultural meteorology, of the United States Weather Bureau, and he has been giving me the low down on our big downpours.

He tells me that Altapass, North Carolina, held the United States record for biggest rainfall in 24 hours for a number of years. That record was made July 15 and 16, 1916, when over 22 inches of rain fell. That was quite a bit of water, but Taylor, Texas, drowned that record in its rain of September 9 and 10, 1921, when two unusually violent thunderstorms brought down 23.22 inches of rain, according to the official gauge. That is the all-time heavy rain record for these United States. In that one day's time, seven times as much rain fell as the normal amount for the entire month of September at that station.

In fact, in many places near-by during that record rain, it is estimated that more than 30 inches of rain fell in fifteen hours. For hours the streets of Taylor, Texas rain 1 to 4 feet deep in water. That was quite a rain!

Mr. Kincer also tells me that there have been some unusual rains in Florida. At Quincy, Florida, on September 15, 1924, 12.9 inches of rain fell in one day, and in August 1915 there was a rain of 15.4 inches one day, which was pretty good for a place where the average rain for the whole month of August amounts to about 7.0 inches.

And speaking of rain coming down by the tub full, we have seen several hard showers in our time. Of course, we can't beat that rainfall at Porto Bello, Panama, in 1911, where there was more than 2 1/2 inches of rain in five minutes. Seven inches of rain fell in half an hour, and people caught out in it had to hold their hands over their faces to get air.

But that was considerable of a shower in southern Michigan when 3.34 inches of rain fell in less than an hour.

In fact, Mr. Kincer says there is no place we don't have some rain at some time. Even the Sahara Desert and Death Valley have light rains; and every now and then a hard shower.

And that reminds me of a story he told of a western real-estate agent and a prospective buyer from the east. The agent was showing the easterner over a big tract of arid land. He waxed eloquent about farming prospects on that land, but the prospective buyer expressed doubt of there being enough moisture for his purposes.

"I know you easterners think that way," countered the agent, "but right here we had thirty inches of rainfall last year."---To cinch the argument, he turned to his driver and said "Isn't that so, Bill?"

"It sure is," Bill drawled, "I was out here myself the night that rain fell." -----

Anyway, Mr. Kincer says, that sometimes they do have some torrential rains in the so-called dry country. And in our western plains States, the hardest rains most frequently come at night.

Some parts of the country, however, are much less liable to have excessive rainfall. Ohio, for instance, is a region where there are few intense rains, but even there the country was soaked in over 6 1/2 inches of rain in one day.

When the floodgates of heaven open up and the rain comes suddenly pouring out in sheets, and in buckets, and by the washtub we used to call it a "cloud-burst."

Of course, there is nothing about a cloud to "burst." But the meteorologists do say that rain sometimes comes down harder, faster and more intensely than it can actually be formed.

What happens in such "cloud-bursts" Mr. Kincer says, is that the rain is formed and falling, but strong upward currents of air support it from below, prevent it from reaching the earth, and so it accumulates in larger quantities than the ordinary sized rain drops. When the uprush of air slackens or the accumulation of water becomes too great for its prop of air to support, we have one of those deluges, which seem so much like the bottom dropping out of the bathtub.

You've probably noticed that the raindrops in a sudden thunder-shower are generally much bigger than those in a slow rain. They had to be bigger and heavier to get down against the strong rising current of air, which helps produce the thundershower.

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As Mr. Kincer explains, raindrops are formed when warm moist air is cooled. A cubic foot of air at zero will hold only 1/2 grain of water vapor. Warm that air up to 60 degrees and it will hold 5 1/2 grains of that invisible water vapor. Heat that air to 80 degrees and it will hold 11 grains of water vapor per cubic foot.

Such hot air rising cools off. The cooler air can no longer hold the load of water vapor with which it started, so part is condensed out in the form of visible droplets which continue to grow until they get big enough to fall to earth as rain drops.

What we call "dampness", however, is not simply a question of how much water there is in the air, since warm air may hold more moisture than cold air and yet feel dry. In fact, even in a desert, with its scorching heat, the air may actually contain more moisture than at a place which appears to us as very damp.

But getting back to our rainfall, we certainly have a lot of variety in the amount of rain in different parts of this country; from 120 inches a year in the Olympic Mountains of Washington, down to less than 5 inches a year in southeastern California.

In fact, there are some striking differences, Mr. Kincer points out, in the Pacific Northwest. While the annual rainfall is 120 inches in western Washington, a little east of there it drops to 25 to 30 inches. Then in the Cascade Mountains, it rises to 80 inches, while still further east in the Columbia Valley it is less than 10 inches, while still further east in the mountains of Idaho it is 40 inches.

You will notice that it is in the mountains that the heavy rainfall occurs. This is because the warm moist air is forced upward in crossing the mountains. Cooled in its upward climb, it can no longer hold as much moisture, so part of that water vapor is condensed out as rain which falls on the mountain side.

That is hardly doing justice to Mr. Kincer's description, but at least that is the rough general idea.

Anyway, you get the main idea, rainfall comes principally as a result of warm, moist air rising. That is one thing that makes it so hard for the weather forecaster to make accurate rain forecasts. The weather charts from which he makes his forecast are made up from reports from all over this country and other countries. Those charts give him rather full information about the horizontal movements of the surface air, but less information about local vertical currents that may be produced and cause a shower here and there.

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ANNOUNCEMENT: Those "bucket fulls of rain" remind me of that old rhyme, "The rain came down in torrents,---I never shall forget---The train pulled into the station, and the bell was ringing wet."---Old Ob. Server will be back with us two weeks from today with another chat with the weather man.

National Oceanic and Atmospheric Administration

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