

CHATS WITH THE WEATHER MAN.

Friday, February 7, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

All Regions.

OPENING ANNOUNCEMENT: At this time Station _____ is going to present our old friend Ob. Server. He is a weather-wise person and tells us many interesting things about the weather and what Uncle Sam's Weather Bureau is doing to interpret it. Ob. Server is going to talk about lightning today. All right, Mr. Weatherman.

Well folks, get ready---we're going to have a thunderstorm so we can get some lightning to talk about.

It's now about three o'clock in the afternoon of a hot summer day. That's about the time when thunderstorms boil, roar, and put on a first class show. Look at those 'thunder-heads' climbing up in the west. Watch the clouds gather. Did you hear that thunder?

Now folks, I'm telling you that certainly is a black looking cloud gathering back there in the west. Listen to that thunder roll. Boy, it's going to rain when that cloud gets here. Gee whillikens----did you see that flare of lightning? What a flash---that almost blinded me. Look at those streaks of lightning as they dart towards the earth. Did you see that forked lightning? Man, what a clap of thunder. I'll bet that struck something. Take out the teams---Hurry---Come on let's get away from here.

Conversations similar to the above take place in many thousands of fields throughout this country when thunderstorms put on those spectacular lightning shows. We all see the lightning---we know that it is lightning, and we know that it'll hurt what it hits-but-----that's about as far as we can go.

I believe most of you radio listeners are interested in this subject, so come on, let's go over to the United States Weather Bureau and have a talk with Dr. W.J. Humphreys, who is Uncle Sam's meteorologist that tinkers around with the elements up in the air. Dr. Humphreys came from West Virginia, and he's been monkeying with the weather for a long, long time, but he's never been able to control it yet.

According to Dr. Humphreys we call a thunderstorm by that name probably because the thunder is noisy and disturbs us. It rains, the wind blows, and the lightning flashes in a thunderstorm, and these agencies can be seen and felt. We hear the thunder, but outside the effect of noise on tender nerves it does not harm us. Thunder is like the bark of a dog, or the report of a gun. They do us no harm. The bite of the dog, the bullet from the gun, and the lightning from the thunderstorm are the harmful agencies.

I used to think you could hear it thunder 50 miles, but Dr. Humphreys said

I heard too well. He said that 10 miles was a long distance to hear the loudest thunder. Now when it comes to seeing the dim flash of lightning, that's different. Light can be seen a long way on a dark night.

When I was a little boy I saw all kinds of lightning because I was naturally in the seeing stage. I used to see sheet lightning, streak lightning, forked lightning, and then big balls of fire. Dr. Humphreys said he thought I saw too many kinds of lightning! He said he had heard about sheet, streak, forked, chain, and ball lightning, but he thought 2 divisions would take most of our lightning. Here they are!

First, streak, forked, or chain lightning, are all the same, depending on how you see them. Sheet lightning is apparently the reflection of streak lightning that is hid from your view by a cloud or some object. There is a second classification sometimes called ball lightning, but it's too rare to discuss, and we don't know much about it either.

Lightning is simply the jumping of an enormous spark from point to point in a cloud, from cloud to cloud, and less frequently from clouds to the earth. Lightning can be likened to the spark that jumps the gap in the sparkplug. Much more lightning takes place among the clouds than from the clouds to the earth. However, occasionally a tremendous spark jumps from the clouds toward the earth, and if it's not exhausted before it reaches the earth, it'll strike and ground itself.

The duration of a flash of lightning varies. In some instances it's as short as two-ten-thousandths of a second, and in other instances, the series of subsequent discharges may last for a whole second or even longer..

We all have our own imaginations and we use them when it comes to the length of a flash of lightning, and the length of the streak. Our beliefs don't tally with the records at the Weather Bureau, but they have the instruments and can make accurate readings so we'll have to give in. How long is the longest streak of lightning you ever saw? Dr. Humphreys said lightning streaks varied in length from practically nothing to 10 miles.

How hot is lightning? That's a question that always interested me.

Well, it takes about one-third of an ampere of electricity to burn the 40 watt light globe in your 110 volt lighting circuit. It is believed that heavy streaks of lightning contain as much as 100,000 amperes. That's quite a bit larger than the amount required to burn the light globe, and that means lightning is hot—really hot. It can melt a piece of iron or fuse metal in the twinkling of an eye. Dr. Humphrey has records of lightning heating rods to 1050 degrees Centigrade.

I used to hear it said that an old tree, barn, or haystack, struck by lightning, kept right on burning until it was destroyed regardless of how hard it rained. In other words, rain would not put out lightning fires. Nothing to this according to the specialist. If lightning strikes a haystack it usually runs down the pole to the ground. In such cases the haystack is fired within all the way to the ground, and inside where it is dry, regardless of how hard it is raining on the outside. In such instances that haystack is going to burn about up because it's burning from within where it's dry. Likewise with barns, and old dead trees.

What makes lightning glow, or light up? According to Dr. Humphreys the answer to that question is not definitely known. The streak of lightning must, and does make the air path very hot, but probably not enough to make the light observed. It therefore, seems that the luminosity of a lightning flash is due in part to something other than high temperature.

Now let's see how many different colors of lightning you have seen. Lightning flashes have been reported for every color in the spectrum, but most of these colors fall under white, yellow, pink, or rose.

Is lightning beneficial?

Well, it brings down ammonia, and in the tropics where thunderstorms are severe and frequent, it has been proven that this ammonia is sufficient to be beneficial to plant life.

Where does lightning occur?

The South, especially Florida, and the West, probably see the greatest amount of lightning in this country. The Pacific Coast probably receives the least. I'm talking about thunderstorms accompanied by severe lightning discharges. Of course all sections have lightning at times.

Thunderstorms and lightning are most frequent in the hot summer, but they occur even in winter, and may be dangerous then because the clouds are so close to the ground.

Automobiles, ships at sea, and practically all objects may be struck by lightning. Ships with iron mastpoles pointing skyward simply ground the lightning. Automobiles with steel bodies pass the lightning right off to the ground.

It is safer to be indoors during a thunderstorm, and especially if the house has a well-grounded metallic roof, or if it's properly protected by lightning rods.

The storm is over and we'll have to close. If you desire more information, write this station for a bulletin called, "PROTECTION OF BUILDINGS AND FARM PROPERTY FROM LIGHTNING." It's Farmers' Bulletin No. 1512 and is free for the asking. Good bye for two weeks.

CLOSING ANNOUNCEMENT: You have just heard Ob. Server talk about lightning. He'll be back again in two weeks with more weather information. This is one of the regular weatherman programs coming to you every two weeks through the cooperation of the United States Department of Agriculture and Station_____.

National Oceanic and Atmospheric Administration

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