

CHAT WITH THE WEATHER MAN

Friday, June 24, 1932

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ANNOUNCEMENT: Now for our usual chat with the weather man. Every two weeks, specialists of the United States Weather Bureau tell us things about our always-important and ever-changing weather. At this time of the year, we generally find the shade, as we listen to a calm discussion of a hot topic.

Speaking of a cool subject for a hot day, how about hail?

Hail used to be considerable of a puzzle to me. A sudden shower of ice pelting right down on a piping hot summer day seemed hard to believe, even when I saw it and felt its sting.

Of course, I understand now that the hot air plays a big part in a hail storm. And by "hot air" I don't mean any of the tall stories sometimes set in circulation after the storm has passed. I refer to the actual heated air.

As Mr. J. B. Kincer, of the United States Weather Bureau explains it, what happens is much like the heat from a fire going up a chimney. There is a strong up draught of warm air from the surface, such as goes with a thunderstorm. And you may have noticed, a hail storm usually comes with a thunder-storm.

Well, according to Mr. Kincer, the big up draught of warm air catches up rain-drops and carries them far up into the colder air, into air cold enough to freeze those drops of water into pellets of ice. Those balls of ice start falling toward the ground.

But that doesn't tell the whole story. If that was the case, a hail stone would always be smooth, clear ice frozen in one piece. But if you have ever taken the trouble to cut through any hail stones or to examine any broken ones you may have noticed that the hail-stone is often made up of a number of concentric layers of ice. Sometimes there will be a layer of hard, clear ice and then a layer of snowy ice, and so on.

As Mr. Kincer points out, those distinct layers mark the ups and downs in the brief life of the hail stone before it came pelting down on your head or bounced harmlessly at your feet. In other words, the tiny frozen rain drop may have started down. It reached warmer air and more water or snow collected around the ice. It may have again been caught up by the rising air current and returned swiftly to the freezing heights. In fact, in some hail stones you examine you may find that there have been several such up and down excursions.

Finally, of course, the hail stone gets too heavy or is thrown outside the strong upward air current and comes diving down to earth.

That idea of the hot air current rising like fire in a chimney is not bad, because that strong draft of warm air is usually very narrow. It covers very little country at a time. In fact, Mr. Kincer says that he has known of a number of instances where there was a severe hail storm on one farm while the farm next to it was untouched by the ice.

As you may recall, Mr. Kincer is in charge of the Weather Bureau division of agricultural meteorology. Keeping track of the weather on farms throughout the country is his job, so hail is one of his worries.

Although hail storms usually cover a very limited territory and frequently last only a few minutes, they can do a lot of damage in a short time. Those showers of bullets of ice beating down on growing crops are a serious matter to the man on whose place they fall. And when you figure all the hail storms here, there, and yonder during the whole summer, the damage mounts to a considerable total.

For instance, just take the damage to the corn crop over the country. Mr. Kincer estimates that in a severe hail-storm year, the total corn damage amounted to a loss of 34,000,000 bushels of corn. That is just one crop mind you. Wheat is another. Mr. Kincer says that hail damage to wheat in one season has been known to amount to 17,000,000 bushels.

Of course, the damage the hail does depends a lot on just when it strikes the crop. Often, however, it comes just before wheat harvest. The shower of ice shatters the wheat heads and beats out the grain. In the case of corn, the worst time for a hail storm seems to be the time from tasseling until the kernels form. The hail stones tear the corn leaf blades, and strip and break the plants, and so cut down the yield from those plants.

Mr. Kincer points out that hail storms are very erratic, irregular kinds of storms. And that is true not only of the individual storm, but of the way the storms are scattered around the country one year with the next. Some years most of the hail seems to be bunched in a few states. Other years these local hot-weather ice showers are rather evenly distributed over the map.

This hail authority says his records show that the biggest number of hail storms have occurred in the upper Mississippi Valley and the Great Plains States. But as we have said, the numbers vary very much from year to year. Ordinarily, there are very few hail storms in the Gulf Coast country, and there are practically none ever experienced on the Pacific Coast.

Speaking of hail storms, however, we couldn't pass up the subject without a word about the size of hail stones. There have been a good many stories about big hail stones. And you can hardly blame a man, when good sized hail stones get to bouncing off him, if he happens to judge the size of a hail stone by the way it feels, rather than by any actual measurement. The evidence is so soon gone that there is seldom much checking up on the estimates.

You have probably heard of hail stones as big as hens' eggs or even as big as base-balls. If you haven't witnessed those chunks of ice yourself, you have probably been a bit skeptical, and maybe you have been right. Yet Mr. Kincer's records show well-authenticated instances of hail stones as big as grape

fruit.

Yes, sir, in a hail storm that struck Potter, Nebraska, four years ago, one of the biggest stones was picked up, weighed, and measured, and the measurements sworn to. That ball of ice with several distinct layers weighed a pound and a half and measured 17 inches around. --- Just imagine having a ball of ice that size hurled at you from the clouds! It is no wonder, windows are sometimes broken and livestock killed by hail-storms.

Some people in Dallas, Texas, still remember the hail-storm of six years ago, when scores of them were reported injured by the falling ice. Mr. Kincer says that some of those hail stones weighed as much as twenty-two ounces. Many of them were reported to be from two to four inches in diameter. But even the stories of those extra big hail stones can't make hail stones as big as marbles or as big as peas melt into insignificance, for the man caught out in the storm.

Of course, storms that are so very local and so extremely erratic as hail storms can't be forecast, Mr. Kincer tells me, but that doesn't prevent the Weather Bureau from collecting all the information it can get on the subject.

And, our agricultural meteorologist says, that information is put to good practical use. By charting the number of hailstorms which happen in the various parts of the country, the Weather Bureau gives farmers and insurance companies a fair basis for estimating the cost of the risk of hail insurance in the different regions.

So you see, the United States Weather Bureau has succeeded in getting some good out of a hail-storm besides that little temporary relief from the heat that often comes with the shower of ice.

ANNOUNCEMENT: You have just listened to a discussion of hail-storms by Mr. J. B. Kincer, in charge of the division of agricultural meteorology of the United States Weather Bureau, as reported this Station _____. We will have another of these chats with the Weather Man two weeks from today.

National Oceanic and Atmospheric Administration

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