

CHATS WITH THE WEATHERMAN

Friday, November 11, 1932

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Reading Time: 10 Minutes

ANNOUNCEMENT: The Weather Man is here again. Today he turns detective and unravels some mysteries of the briny deep. Like a Sherlock Holmes, he pieces together stories of baffling storms and wrecks at sea.

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It was a blustery night in January 1929.

Fourteen men put out from Port Arthur, Texas, for Mobile, Alabama, in an ocean-going tug. The tug had a big barge in tow.

The next morning, a ship playing the waters along the Gulf Coast sighted a boat's mast rising up out of the waves. A big barge drifted near by. The crew of the foundered tug had disappeared into the sea. The few men who had been able to get life preservers were frozen to death in the icy wind and waves.

What happened to that tug and crew out there in the Gulf of Mexico after they left Port Arthur?

Nobody seemed to know. Even the weather charts apparently gave no help. The charts showed no important storm in that particular locality that night. Seemingly the wreck would go down on the records as "cause unknown".

Several months later, relatives of the 14 members of the crew sued the owner of the tug for \$500,000 damages. The relatives charged the tug was unseaworthy. They backed up their argument with weather records. The highest wind shown in the official record of the nearest weather station on the night of the wreck was only 30 miles an hour. The relatives argued a seaworthy tug would not go down in a 30-mile wind.

In answering the charges, the tug owners showed that the construction of their craft had been approved by government inspectors. The owners held the wreck to be due to an "Act of God"; that is, to weather conditions beyond their control. Under the "Act of God" clause, they could plead for "limitation of damages." In other words, they could say "The tug went down through no fault of ours. We should not be held responsible for lives lost by peril of the sea; we have already lost our investment in the vessel that foundered."

There the case stood: On the one hand, the tug owners held the wreck due to an "act of God." On the other hand, the crew's relatives presented weather records showing no storm of any consequence was recorded on the nearby coast the night of the wreck.

Things looked rather bad for the owners of the tug.

But, as the tug owners pored over the weather records, they began to wonder

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Did those records tell the whole story of weather conditions out in the Gulf where the tug went down? The Weather Bureau's stations at Port Arthur and New Orleans are 350 miles apart. Knowing from experience the treacherous nature of storms at sea, and knowing also that ships at sea make reports which reach the U. S. Weather Bureau in Washington they turned to that office for help.

But how could they follow the trail of a storm several months old?

Well, the average person couldn't. But the Weather Bureau has men who know storms like the Indian knew the Buffalo or deer. They have tracked storms for years; know their tricks and habits, and the trail they leave. Given a few stray clues from the weather records, the course and behavior of a storm can be pieced together like the Indian could follow the deer's trail and actions by a few disturbed leaves and twigs. So, W. F. McDonald, in charge of the marine division, was asked to trace down the truth of what happened that night off the Louisiana coast, so that the court might have an unbiased report on which to base judgment.

McDonalds secured the weather records of Coast Guard stations along the coast. He studied the logs of ships sailing along the Texas and Louisiana coast on the night the tug was wrecked. Bit by bit, he pieced together the story of weather conditions in the Gulf between Port Arthur and New Orleans where the tug went down.

This, very briefly, is what McDonald told the court:

For two days before the night of the wreck a cold wave moved down across the Great Plains toward the Gulf. The cold air from the Plains lined up against the warm air over the Gulf of Mexico right along the Gulf Coast. In weather language, we call the dividing line between the cold air and warm air the "cold front," and it is generally true that where cold air and warm air are lined up against each other like that—like two opposing armies—something will happen. That "something" usually is rain, and sometimes a cold wave with a "norther" blowing across the Gulf Coast.

In producing that, the cold air simply noses its way along, pushing the warm air back, and at the same time, up. As the warm air rises, it cools off, contracts and so to speak, squeezes out some of its moisture. That moisture falls as rain. Along with the rain, there may be a moderate wind, but not necessarily a storm.

Sometimes, however, this arrangement of cold air below, pushing the warmer lighter air up from the ground or water surface, is forced out of safe relation in a little spot along the general dividing line between the two armies. A mass of cold air pushes in over the top of the warm atmosphere at the surface of the earth. Then things happen! You've seen oil rise from the bottom of a vessel when water is poured on top. Well, there can be a gigantic overturning in the air, by a very similar process, when cold air gets out of its proper place, and is forced to run in over a mass of warm moist air. Violent local storms result, and their violence has nothing to do with the amount of ground they cover. The small, terrific tornado is such a storm.

The violent action may readily turn into a whirl, like the suck hole that forms when water runs out of a bathtub. Such a whirl, beginning on a local scale

can travel along and enlarge itself as it goes, until after a day or two it may have spread out, under favorable circumstances, into the large circular system of wind, cloudiness, and rain, that appears on the Weather Map as a "low pressure area".

Something like that was what McDonald saw when he put those maps and records together. A story began to unfold. Along the west coast of the Gulf, he found changes in the wind and barometer. Later, the maps showed the wind and barometer change at stations farther and farther east. Those changes evidently took place along the coast about as fast as a storm would travel.

When the disturbance passed along the coast, twenty or thirty miles out in the Gulf beyond Port Arthur, it was just a small but evidently a violent "twister". The diameter of the violent area was not large enough to show up in the wind velocities recorded on the Weather Bureau instruments at Port Arthur.

Further east, at the mouth of the Mississippi River, the records clearly revealed the path of the center, which came very close to a Coast Guard patrol boat that was driven to seek shelter inside the River. The diameter of the storm was greater here, and the wind instruments at New Orleans, fifty miles from the center, showed a higher speed than had been recorded some hours previously at Port Arthur. The next morning, the weather map clearly revealed a vigorous cyclonic storm area, east of the Mississippi Delta, with good strong winds on its outskirts, at Mobile and Pensacola.

So, as McDonald looked back over the weather records for the night of the wreck and the day following, he found a whirling storm born in the afternoon on that "cold front" near Galveston. As it moved eastward, the whirl was too small and too far out from land to be recorded by the Weather Bureau stations but showed up pretty clearly at the Coast Guard Stations. Between Port Arthur and New Orleans, the storm had evidently hit the tug and barge. The tug foundered. The storm passed on, spread out and in spreading its violence over more ground became less dangerous. The weather records at Port Arthur and New Orleans showed no storm bad enough to wreck a seaworthy tug, but the weather sleuth was able to track out the monster that did the tragic deed!

ANNOUNCEMENT: And that, ladies and gentlemen, was the Weather Man's solution of a mysterious wreck at sea. The Weather Man will be with us again two weeks from today with another story from the U. S. Weather Bureau.

National Oceanic and Atmospheric Administration

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