



# DESOLATION ROW

Galveston, Texas, September, 1900

At the beginning of the 20th century, long before instant satellite weather updates, forecasters had to rely mostly on the telegraph to exchange information. On September 4, the Central Office of the U.S. Weather Bureau in Washington, D.C., received messages from ships at sea and weather observers on islands that a tropical storm was moving north through the Caribbean Sea. On the afternoon of the 6th, the barometer began to fall slowly but steadily.

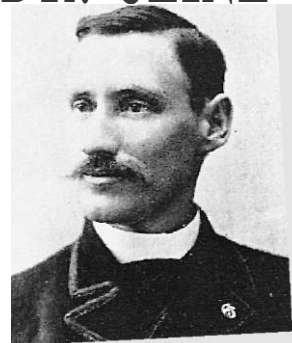
## THOUSANDS SAVED IN GALVESTON BY DR. CLINE

The hurricane that swept Galveston on the evening of September 8, 1900, left 8,000 dead and 5,000 injured. Two-thirds of the city's buildings were washed away, including more than 3,600 homes. It is the worst hurricane disaster recorded in the United States.

The number of casualties in Galveston and neighboring towns would have been even greater had it not been for the warnings given out by Dr. Isaac Cline, Head Observer of the Galveston Weather Bureau. In addition to sending messages over the telephone and telegraph on the morning of the 8th, Dr. Cline drove his horse and cart through the

flooded streets of the beachfront community, warning hundreds of citizens to escape to higher ground.

*The condition of thousands of those who have been spared is far more pitiable than that of the dead. Their resources have been swept away by*



Dr. Isaac Cline

*wind and tide, and they are desolate in the midst of desolation.*

Chandler Harris, noted author

The following is excerpted and adapted from the special report that Galveston Weather Bureau Head Observer Dr. Isaac Cline made to the Central Office two weeks after the hurricane had done its destruction.

## **TELEGRAM**

**September 23, 1900**

On the morning of the 7th, the Central Office in Washington issued storm warnings for Galveston, and signal flags were raised on the roof of the Weather Bureau building downtown to alert the people of the city. Cirrus clouds moved across the blue sky from the southeast, and during the afternoon a heavy swell from the southeast made its appearance in the Gulf of Mexico.

Both were signs of an approaching tropical storm, but the forecaster at the Central Office thought the hurricane would make landfall before it got to Galveston.

By early morning on the 8th, the tide had risen to an unusual height considering that the wind was from the north and northwest. Several inches of water stood in the yards and streets five blocks from the beach. Rain showers commenced at 8:45 A.M., and the storm tide continued to rise.

Cline telegraphed his weather observations to Washington, but the forecaster in the Central Office never issued an official hurricane warning or emergency warnings for Galveston. Against Weather Bureau policy, Cline and his staff spread the word that great danger was approaching.

Dense clouds and heavy rains were in evidence by noon. The wagon bridge and the railroad bridge connecting the island with the mainland were going under water. The barometer fell to 29.42 inches and continued falling rapidly.

By **3:30 P.M.**, telephone and telegraph wires had gone down. The entire island was covered with two to four feet of water.

Storm winds from the northeast increased steadily to hurricane velocity by late afternoon. Pieces of slate roofing and heavy boards torn from buildings blew through the streets, killing many in the beachfront area who only now were trying to escape to higher ground in the center of town.



The anemometer on the roof of the Weather Bureau building blew away at 6:15 P.M. after registering winds of 100 mph. Water was four or five feet deep on the streets of the beach community.

By 7:30 P.M. houses several blocks from the beach stood in 10 feet of water. Buildings on the beachfront were swept from their foundations and smashed together, creating piles of debris 15 feet high that the waves used like battering rams to crush buildings farther inland. After 8:00 P.M., the wind came with an even greater fury for the next three hours, attaining an estimated velocity of at least 120 miles per hour. The barometer fell to 28.53 inches.

Around 11:00 P.M. the wind steadily diminished and the water began to fall. At dawn on the morning of the 9th, the tide was nearly normal under a clear sky with light winds from the south. But sunrise revealed one of the most horrible sights that ever a civilized people have looked upon.

I. M. Cline

## **Activity**

**THEN AND NOW** Refer to the hurricane chart on page 11 and determine the category of the Galveston Hurricane, which took place before the category system was developed. Look at the disaster chart on page 8 and compare the number of lives lost in the Galveston Hurricane with those lost in the Category 4 hurricane that hit Louisiana in 1992. What does this difference indicate? What do we have today (that Isaac Cline didn't have) to help us forecast and prepare for a hurricane? How could we improve our safety measures?