

Labor Day Hurricane of 1935

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09\26\2022

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Labor Day Hurricane of 1935 in Florida Case study

Introduction

The Labor Day Storm was one of the strongest hurricanes to ever hit the United States and one of the strongest landfalls ever recorded. With winds of more than 155 mph and a minimum central pressure of less than 900 hPa, this storm is one of only two known to have made landfall in the United States with Category 5 strength. It remains the third-strongest Atlantic hurricane ever, trailing only hurricanes that lost strength before making landfall.

Facts of the case

On September 2, 1935, The Labor Day Hurricane was a very compact, intense hurricane that happened in the North Atlantic during August 1935. It is still the most powerful hurricane that could ever impact the United States, and for five decades, it was the most intense hurricane to ever storm the Atlantic. It currently ranks third in terms of lowest central pressure, behind Hurricanes Gilbert and Wilma from 2005. (1988)¹. On Labor Day, September 2, 1935, the hurricane that had previously hit the Bahamas made landfall along the Florida Keys with Category 5 winds according to the Saffir-Simpson Hurricane Scale. The Keys' Road and rail connections to Florida's mainland were destroyed in one area by the storm. There were more than 400 fatalities. The initial estimate for the maximum sustained wind speed at landfall was 160 mph. The NOAA Hurricane Research Division (HRD) has conducted reanalysis studies and concluded that the maximum sustained winds at landfall were more likely to be approximately 185 mph. Reliable information indicated that the central pressure, which serves as a benchmark for hurricane intensity, was 26.35 inHg (892 hPa). Up to Hurricane Gilbert in 1988 and Hurricane Wilma in 2005, this was the lowest pressure ever recorded for a hurricane anywhere in the Western Hemisphere. Unverified information stated that the minimum central pressure might reach 26 inches of mercury (880 hPa) (Storm of the Century - Willie Dryer). The hurricane made landfall on the Florida Panhandle once more on September 4 as a Category 2 hurricane after making landfall in the Keys. After that, it went over North Carolina, South Carolina, and Georgia before coming back into the Atlantic Ocean off the Virginia coast. The storm then continued until September 10, when it became extratropical south of Greenland. A single railroad line, the Florida Overseas Railroad portion of the Florida East Coast Railway, was the primary mode of transportation that connected the Florida Keys to mainland Florida². A 10-car evacuation train that had been sent down from Homestead washed ashore on Upper Morecambe Key by the storm surge and strong winds. The train was supposed to rescue a group of World War I veterans who were building a new road bridge in the Upper Keys as part of a government relief program. In the hope of reducing travel time, the engineer decided to reverse the train along the single-track line. However, he was unable to reach the veterans who were waiting before the storm arrived. The locomotive was all that was left on the tracks after several months, and it had to be barged back to Miami. The hurricane killed at least 423 people in total, including 164 locals and 259 veterans working on the road project. Bodies were found as far away as Flamingo and Cape Sable, which is located on the southwest tip of the Florida mainland. The official estimate provided by the National Hurricane Service is still 408 deaths. When the storm struck, 350 of the 718 veterans who were living in the Keys work camps were in Miami to attend a Labor Day baseball game. Many more of the men whose barracks in the Keys were flimsy shacks might have been killed by the storm if it weren't for this outing¹.

Management of the event

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One of the few natural disasters in which risk can be reduced by combining behavioral change, technology, and planning with public health interventions is hurricanes. Effective forecasting, warning, evacuation, and sheltering are the primary strategies for reducing hurricane-related mortality and morbidity among residents of high-risk areas. The significant decrease in cyclone-related deaths and injuries, in addition to the near absence of infectious disease outbreaks in developed nations, is a data-based demonstration of the cyclone preparedness, mitigation, and response strategies' potential for prevention.

Hurricanes are being tracked with increasing precision in terms of location, trajectory, central pressure, wind speed, storm surge, point of landfall, wind fields, and rainfall production, allowing for timely and precise warnings. Hurricanes can also be detected at formation³. The US National Hurricane Center claims that forecasts are accurate because the mean error for their 24-hour storm track is less than 100 miles (160 kilometers), and the mean error for storm intensity is 10 miles per hour (16 kilometers per hour). The seasonal predictability and lengthy warning period of tropical cyclones, the placement of epidemiologists in health departments throughout hurricane zones, the advancement of field investigation technologies, the standardization of sampling methods and definitions of disaster-associated outcomes, and experienced investigational support from professionals in federal government agencies like the CDC all contribute to the success of epidemiologic investigations. The timely deployment and execution of investigations that directly inform response efforts are made easier by these factors. Despite these advancements, the classic studies of the 1970 East Bengal cyclone, which were conducted more than three decades ago, did not significantly improve study designs for the epidemiologic assessment of tropical cyclones⁴.

Conclusion

Hurricanes are powerful storm systems that have caused some of the worst natural disasters in history. In developed nations, recent advancements in construction, forecasting, warning systems, evacuation, and sheltering have significantly reduced the mortality and morbidity associated with tropical cyclones. Despite the obvious potential for prevention, developing nations remain susceptible to devastating damage and loss in the absence of this complement of mitigation technologies. Despite their prevalence at any stage of development, behavioral health consequences are understudied in epidemiological studies. Tropical cyclones are one of the few natural disasters that lend themselves to multidisciplinary, analytical epidemiologic research using prospective study designs. This has the potential to significantly advance the field of disaster epidemiology⁴.

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References

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