Intense rains cause flooding across southern Florida as scientists predict severe hurricane season

Alex Findijs 14 June 2024

Extensive rain storms battered South Florida this week causing widespread flooding across the region. Beginning on Tuesday, rain totals reached up to 19 inches in Hollywood and 20 inches in northern Miami, nearly double the monthly average precipitation in Miami County. Rain totals along the Gulf Coast were reported at 6-7 inches in several counties and up to 10-11 inches in others.

The heavy rain caused several feet of flooding in many areas. Images from several cities show cars stranded on the street and people wading nearly waist deep amid high flood waters, while nearly 1,200 flights to and from airports in Southern Florida were canceled or delayed due to the storms.

Chuck Watson, a disaster modeler for Enki Research, told Bloomberg that the total damage from the storm could cost more that \$1 billion.

In response to the storms, Florida Governor Ron DeSantis declared a state of emergency and Miami-Dade Mayor Daniella Levine Cava, Miami Mayor Francis Suarez and Fort Lauderdale Mayor Dean Trantalis each declared local states of emergency.

Meteorologists expect the storm system to abate over the weekend. The bulk of the rain fell over Tuesday and Wednesday with smaller storms on Thursday and scattered rainfall on Friday. Despite the breakup of the storm system, flash flooding risk still remained high, with official flood warnings remaining in effect until Friday evening.

The National Weather Service (NWS) warned that even smaller rainfall events could cause flash flooding because of the several days of rain that saturated the soil. With soils soaked and many areas still flooded, there is nowhere for additional rain to drain to, creating the potential for severe flash flooding events, with the NWS

expecting some areas to receive up to 4 more inches of rainfall on Friday. Additional rain could materialize in the coming days as storm systems develop in the waters around Cuba.

With the lower risk of flooding, the Weather Prediction Center decreased the flood threat level from the maximum of four earlier this week to a three, keeping flood watches in effect for over 7 million people.

According to Florida Emergency Management Director Kevin Guthrie, there have not been any reports of destroyed homes and few severely damaged homes and no deaths attributed to the flooding. However, two people did die and three others were injured in a car crash on Wednesday in Collier County, according to the Florida Highway Patrol, attributed to the wet weather conditions. The NWS reports that nearly half of flood-related deaths in the United States involve a vehicle every year.

The heavy rains and flooding come just over a year after similar flooding events last April. Several days of intense rain in mid-April 2023 brought precipitation totals to 14-20 inches of rain across the Fort Lauderdale metro region and a high of 25.91 inches in Fort Lauderdale itself.

This means southern Floridians have seen two 1,000-year rain events in back-to-back years. A 1,000-year event is a recurrence interval, defined as a 0.1 percent chance of occurring in any given year or a likelihood of occurring once every 1,000 years. The statistical likelihood of such events is based on the long-term history of weather events, generally going back 30 or more years. But accelerating climate change, driven by irrational capitalist industrial production, is altering the frequency of such events.

This latest storm was fueled by record-breaking surface water temperatures in the Atlantic Ocean and Caribbean Sea. Recent research has shown that when surface temperatures warm from 80 to 85 degrees Fahrenheit, tropical rainfall increases five times. Data from the National Oceanic and Atmospheric Administration (NOAA) show that surface water temperatures in the Caribbean and around Florida have been around 85 degrees this week and have been well above average by several degrees since January.

Record-breaking temperatures are fueling predictions for a severe hurricane season this year. Colorado State University (CSU) released its hurricane forecast for 2024 in April with a prediction for 11 hurricanes this year, its highest prediction ever. CSU's previous high prediction was nine hurricanes in 2005, one of the most active hurricane years in recorded history and the year of the catastrophic Hurricane Katrina. Since 1851, the first year records began, only seven years have had 11 or more hurricanes.

In total, the CSU report predicts a total of 23 named storms. If accurate, it would be the second largest number of named storms recorded behind 2005 with 28.

This is reflective of a changing climate that is creating an increasing number of extreme weather events. Of the top 10 recorded years for hurricanes and tropical storms in the United States, six have been in the 20th century.

Over the past several decades increasing global temperatures have increased ocean temperatures by nearly one degree Celsius. Increased heat adds moisture to weather events and increases the energy in tropical storms. In the United States this has translated to worse hurricane seasons and increased damage from storms and flooding.

Amy C. Clement, a professor of atmospheric science at the University of Miami, told the *New York Times*, "just like most of climate change, it's the ratcheting up of either the frequency or the intensity of things that do happen normally, like heat waves. So there's more of them, or they last longer."

And this is a global process. Catastrophic flooding in Brazil earlier this month killed 75 people as three months of rain fell in just two weeks. As the storms battered Florida, even worse rain and flooding displaced thousands of people in Chile, including in the capital Santiago, prompting the government to declare a "disaster zone." Intense rainfall in northern Colombia also resulted in a state of emergency as thousands were left stranded last week.

As climate change fuels extreme rain and flooding events it is also causing severe droughts. While northern

Colombia suffered from flooding the capital Bogotá begs for rain with reservoirs at less than 20 percent capacity. Other major cities around the world, such as Mexico City and Johannesburg, South Africa are facing similar levels of water shortage.

In regions suffering from extreme drought the soil dries and becomes hydrophobic, or resistant to water infiltration. When the rains finally do come, they can cause severe flash flooding as water fails to percolate into the soil.

Inaction by all the capitalist governments of the world is exacerbating the climate crisis. Billions of dollars that could be dedicated to fighting climate change are instead spent on war and genocide. And when communities are flooded and destroyed by extreme weather events, there is often too few resources dedicated to recovery. Florida Governor Ron DeSantis said during a press conference that he did not believe the damage was enough to warrant a federal emergency declaration, meaning federal funds will not be made available for those whose homes were damaged.

Inadequate responses to natural disasters are common in the United States. Communities in New Orleans are still feeling the effects of Hurricane Katrina nearly 20 years later, and victims of the recent wildfire, which destroyed the city of Lahaina in Maui, received just \$700 from FEMA to cover immediate needs and an average of just \$3,780 per home from the Biden administration in assistance.

While the environmental disasters may be natural, their impact is largely human-made, as proper resources and infrastructure to mitigate damage and offer relief are starved to make more money available for war and corporate profits.



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