

June 2023 sets precedent as one of the hottest months in Puerto Rico's history ^[1]

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A woman walks with an umbrella on the beach during a day in June 2023 when there was an extreme heat warning in San Juan (Nahira Montcourt).

Of the 30 days of the month, there were 26 in which the maximum temperature in San Juan exceeded 90 °F and five in which it reached or exceeded 95 °F.

With 20 extreme heat advisories and 27 extreme heat warnings issued, June 2023 set a precedent as one of the hottest months in Puerto Rico's climatological history.

The National Weather Service (SNM) in San Juan confirmed to El Nuevo Día that its three monitoring stations (San Juan, St. Croix and St. Thomas) registered average temperatures (combination between maximum and minimum) above the normal value, although it was the station located at the Luis Muñoz Marín International Airport that ended with a higher figure.

The average temperature in San Juan ended at 85.6 degrees Fahrenheit (°F), a value that was 2.5 degrees above the climatological average. In addition, with that temperature, the month of June in Puerto Rico ranks as the second warmest on record, only behind June 2012, which accumulated an average temperature of 85.7 °F.

"The only reason we did not reach those record values (above June 2012) was because at the end of the month we received rains that cooled the minimum temperature and that caused the average temperature to drop," meteorologist Emanuel Rodríguez González, who works at the SNM, explained to this newspaper.

The more than 20 products of warnings or notices for extreme heat conditions, which set a record of alerts of this type sent in the same month, were issued in response to thermal sensations (heat indexes) that fluctuated between 120 to 122 °F. However, the expert stressed that they recorded an instantaneous heat index (lasting less than five minutes) of 125 °F.

"The increase in humidity-possibly caused by the high or ridiculously high temperatures in the Atlantic at this time-contributed to the high heat indexes," Rodríguez Gonzalez noted about the accumulation of high temperatures in local waters.

The accumulation of heat in the sea is so extreme that the National Oceanic and Atmospheric Administration (NOAA) issued a coral bleaching warning for the waters surrounding the archipelago of Puerto Rico and confirmed that a marine heat wave is affecting the waters of the Atlantic and the Caribbean Sea.

As for what was experienced on land, the heat event that dominated during June and that, although with fluctuations, prevails in the local region, began last April 30, when the first extreme heat warnings were issued. Since then, rain events have interrupted the heat period, but maximum temperatures have remained above the normal threshold with respect to the climatological average.

In fact, the SNM recorded a maximum temperature in San Juan last month that exceeded 90 °F on 26 out of 30 days. In addition, there were five days in which the maximum temperature at the same station exceeded 95 °F. As if the excessive daytime heat was not enough, there were three consecutive nights when the minimum temperature in San Juan did not drop below 82 °F, a record that validates the excessive heat accumulation at night.

Will the likelihood of thunderstorms increase due to the extreme heat?

"Since not everything is San Juan, we considered the different stations we have around Puerto Rico, which records are not as old as San Juan, and we saw that some stations reached their highest average temperature for a month of June or the highest in all months," Rodríguez González pointed out.

Of the total number of stations in the SNM's Cooperative Observers Program (COOP), five had their warmest month on record in June. The weather station that measures temperatures and water accumulation at the agency's office also had its warmest month since it began operations in 2006.

Don Isaac Vélez Rivera maintains, at 79 years old, an illusion for climatology that has been with him since he was a child (Carlos Rivera Giusti).

"(This information) gives us to understand that, although not all over the world, many sectors did

end up warmer than usual and that is what the report of the National Centers for Environmental Information concluded," said the meteorologist.

The expert alluded to a report by the agency under the NOAA umbrella that concluded that states in the United States and its territories experienced multiple potentially deadly heat waves.

In fact, the same agency, whose acronym in English is NCEI, reported yesterday, Thursday, that the planet Earth had its warmest June in the history of the climatological data record that spans 174 years. The average temperature accumulated by the planet last month exceeded 1.89 °F and, in view of this, the agency estimates in more than 99% the probability that 2023 will be among the 10 hottest years on record.

Rodríguez González clarified, however, that there is no database in Puerto Rico or a system for filtering information that would allow the SNM to document potential impacts (illness or mortality) on the population during excessive and prolonged heat events.

In the medium term, he anticipated that "we should continue with above-average temperatures in the area, at least for the next few days," so he urged people to monitor the forecasts and adjust their daily routine to these episodes to avoid health complications.

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