

# Climate change fuelled deadly Typhoon Gaemi: study

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Manila residents walk amid debris in the aftermath of Typhoon Gaemi, which led to at least 40 deaths in the country.

Climate change turbocharged the winds and rain of Typhoon Gaemi, which killed dozens of people across the Philippines, Taiwan and China

earlier this year, a group of scientists said Thursday.

Gaemi skirted the Philippines in July, triggering floods and landslides that killed at least 40 people, before making landfall in Taiwan and China.

In China, the weather system caused torrential downpours that killed 50 people and prompted authorities to evacuate 300,000.

World Weather Attribution (WWA), a network of scientists who have pioneered peer-reviewed methods for assessing the role of climate change in [extreme events](#), looked at three regions worst affected by the typhoon: the northern Philippines, Taiwan and China's Hunan province.

It found the system's wind speeds were seven percent more intense due to man-made climate change, and its rainfall was 14 percent heavier in Taiwan and nine percent heavier in Hunan.

The study could not draw definitive conclusions about the role of climate change on the rainfall in the Philippines, because of the region's complex monsoon rain patterns.

Still, they found the warm seas that helped form and fuel Typhoon Gaemi "would have been virtually impossible" in a world that had not warmed to the current 1.2 Celsius above pre-industrial levels.



Rescue workers evacuate flood-affected residents in China's Hunan province following heavy rains caused by Typhoon Gaemi.

And the group's modelling found this warming has already increased the number of similarly strong storms by 30 percent -- up from around five a year to six or seven.

"This study confirms what we've expected -- hotter seas and atmospheres are giving rise to more powerful, longer-lived and deadlier typhoons," said Ralf Toumi, director of the Grantham Institute-Climatic Change and the Environment, at Imperial College London.

Teasing out the impact of climate change on tropical cyclones is complicated, but scientists are focusing more work on these weather

systems.

WWA's method involves assessing how unusual an extreme event is, then modelling the likelihood of a similar event and its intensity in two scenarios: today's world, and one without current levels of warming.

The scientists used that method and a new approach developed by Imperial College London that is tailored specifically to [tropical storms](#).



Streets in Taiwan's Kaohsiung are flooded after Typhoon Gaemi hit the island in July.

It uses computer modelling to overcome the relative lack of historical

data on [tropical cyclones](#).

While the Asia-Pacific region has long dealt with typhoons, the scientists warned that their work highlighted "gaps in [typhoon](#) preparedness and the massive impacts caused by Gaemi."

They called for better urban flood management and targeted warnings that offer more information on the likely impacts of a storm.

The study was released as Typhoon Shanshan made landfall in Japan, which issued its highest level warning for wind and storm surges.

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