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Article 1

Typhoon, Hurricane, Cyclone: What's the Difference?

By Ker Than, for National Geographic PUBLISHED OCTOBER 15, 2013

A massive cyclone that slammed into India's east coast on Saturday has left more than a dozen dead and forced more than a half a million people to flee homes that lie in vulnerable coastal and low-lying areas.

"This is one of the largest evacuations undertaken in India," M. Shashidhar Reddy, vice chairman of the National Disaster Management Authority, told reporters in the capital, New Delhi. "Our priority is to minimize loss of life."

Cyclone Phailin (a Thai word for "sapphire") is officially the strongest storm to batter India since Cyclone Odisha made landfall in the same region in 1999 and killed 10,000 people. At the peak of Phailin's power, its winds reached speeds of up to 160 miles per hour (257 kilometers per hour). By Sunday, Phailin's fierce winds had diminished to 80 miles per hour (129 kilometers per hour), and the cyclone's strength continues to lessen as it moves farther inland.

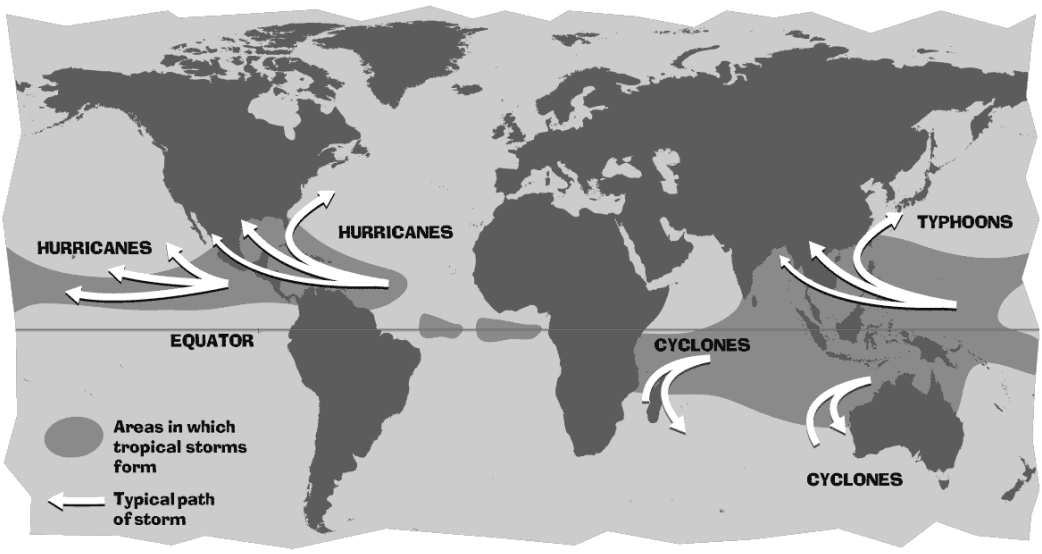
If you've never lived in Asia, you might be wondering what it feels like to experience a typhoon. But if you've ever survived a hurricane or cyclone, you already know the answer.

That's because hurricanes, cyclones, and typhoons are all the same weather phenomenon. Scientists just call these storms different things depending on where they occur.

In the Atlantic and northern Pacific, the storms are called "**hurricanes**," after the Caribbean god of evil, named Hurrican.

In the western Pacific, the same powerful storms are called "**typhoons**."

In the Indian Ocean or off the cost of Australia, they are called "**cyclones**."



A **cyclone** is a system of winds rotating counterclockwise in the Northern Hemisphere around a low pressure center.

To be classified as a hurricane, typhoon, or cyclone, a storm must reach wind speeds of at least 74 miles per hour (119 kilometers per hour). If a hurricane's winds reach speeds of 111 miles per hour (179 kilometers per hour), it is upgraded to an "intense hurricane." If a typhoon hits 150 miles per hour (241 kilometers per hour)—as Usagi did—then it becomes a "supertyphoon."

Different Seasons
While the Atlantic hurricane season runs from June 1 through November 30, the typhoon and cyclone seasons follow slightly different patterns. In the northeastern Pacific, the official season runs from May 15 to November 30. In the northwestern Pacific, typhoons are most common from late June through December. And the northern Indian Ocean sees cyclones from April to December.

Whatever you choose call them, these monster storms are powerful natural events with the capacity to wreak some serious havoc.
According to NOAA's National Hurricane Center, the average hurricane eye—the still center where pressure is lowest and air temperature is highest—stretches 30 miles (48 kilometers) across, with some growing as large as 120 miles (200 kilometers) wide.

The strongest storms, equivalent to Category 5 on the Saffir-Simpson scale, have sustained winds that exceed 155 miles per hour (250 kilometers per hour).

Saffir-Simpson Scale: Measure the size and wind speed of a hurricane (Category 1-5). Where 1 is weak and 5 is major.

Saffir - Simpson Hurricane Scale

Category	Kph	Mph	Estimated Damage
1 (weak)	119-153	74-95	Above normal; no real damage to structures
2 (moderate)	154-177	96-110	Some roofing, door, and window damage, considerable damage to vegetation, mobile homes, and piers
3 (strong)	178-209	111-130	Some buildings damaged; mobile homes destroyed
4 (very strong)	210-251	131-156	Complete roof failure on small residences; major erosion of beach areas; major damage to lower floors of structures near shore
5 (devastating)	>251	>156	Complete roof failure on many residences and industrial buildings; some complete building failures

With the aid of satellites and computer models, such storms can be predicted several days in advance and are relatively easy to track. But as Hurricane Sandy showed recently, predicting the path that a hurricane or typhoon or cyclone will take after it's formed is still tricky.

Effects of Global Warming?
In recent years, scientists have debated whether human-caused global warming is affecting hurricanes by making them stronger or causing them to occur more frequently.

In theory, warmer atmospheric temperatures should lead to warmer sea surface temperatures, which should in turn support stronger hurricanes. This is because hurricanes form when warm moist air rises over tropical waters and winds speeds reach beyond 73 mph. This is why hurricanes lose a lot of their strength once they reach land because they are no longer “fueled” by the warm oceans.

The number of Category 4 and 5 hurricanes worldwide nearly doubled from the early 1970s to the early 2000s. Moreover, both the duration of tropical cyclones and their strongest wind speeds have increased by about 50 percent over the past 50 years.

But there is no scientific consensus on a link is between climate change and hurricanes.
"Average tropical cyclone maximum wind speed is likely to increase, although increases may not occur in all ocean basins," according to the 2012 Intergovernmental Panel on Climate Change report. "It is likely that the global frequency of tropical cyclones will either decrease or remain essentially unchanged."

Safety Alerts for Hurricanes
When meteorologists suspect hurricane activity in an area they issue either a hurricane watch or a hurricane warning. *Hurricane Watch:* Means a hurricane may hit within 48 hours. *Hurricane Warning:* Means a hurricane may hit within 36 hours