# TROPICAL STORMS
## Background information

### Tropical storm terminology

All cyclonic circulation originating over tropical waters are referred to as 'tropical cyclones', by international agreement, and their classification by form and intensity is as follows:

**Tropical disturbance:** A moving area of thunderstorms in the tropics that maintains its identity for 24 hours or more.

**Tropical depression:** Rotary circulation at the surface; maximum sustained wind speed less than 63 km/h.

**Tropical storm:** Distinct rotary circulation; maximum sustained wind speed more than 63 km/h. It is given a name.

**Tropical cyclone:** A tropical storm with winds of more than 119 km/h that is usually accompanied by heavy rain, thunder, lightning, coastal tidal surges and possible tornadoes. They can be hundreds of kilometers wide. These storms are known as 'typhoons' in the western North Pacific and 'tropical cyclones' or 'cyclones' in the southwest Indian Ocean and western South Pacific Ocean around Australia, the Bay of Bengal and Arabian Sea, and as 'hurricanes' in the western North Atlantic, central and eastern North Pacific.

### When do tropical cyclones occur?

- The *typhoon season* in the western North Pacific is typically from May to November.
- The *tropical cyclone season* in the South Pacific and Australia is typically from November to April.
- The *hurricane season* in the Americas/Caribbean is typically from June to November.
- The *tropical cyclone season* in the Bay of Bengal/Arabian Sea is typically from April to June, and September to November.
- The *tropical cyclone* season on the east coast of Africa is typically from November to April.

### Naming of tropical cyclones

Tropical cyclones can last for a week or more and there may be more than one at a time. They are therefore named to avoid confusion. Each year, tropical cyclones are named in alphabetical order, with women's names and men's names alternating, according to a list developed by the National Meteorological and Hydrological Services of the World Meteorological Organization (WMO) members of a specific region. Typhoon-affected countries have their own naming system (as of 2000), which consists of a list of animal, flower, astrological and some personal names, used in a preset order.

## Tropical cyclone, typhoon, hurricane categories

The Saffir-Simpson Hurricane Wind Scale (SSHWS) classifies hurricanes (tropical cyclones, typhoons) into five categories of intensity, according to wind speed and ocean surge.

| Category | Damage | Wind speed (km/h) | Air pressure (mb) | Storm surge (m) |
|---|---|---|---|---|
| 1 | Light | 119-153 | >980 | 1.2-1.5 |
| 2 | Moderate | 154-177 | 965-979 | 1.8-2.4 |
| 3 | Extensive | 178-208 | 945-964 | 2.7-3.6 |
| 4 | Extreme | 209-251 | 920-944 | 4.0-5.5 |
| 5 | Catastrophic | >252 | <920 | >5.5 |

The Saffir-Simpson Classification System for Hurricanes

## What to expect with storms of different categories

**Category 1:**
Very dangerous winds will produce some damage. Well-constructed frame homes could sustain damage to roof shingles, siding and gutters. Large tree branches will snap and shallow-rooted trees may topple. Extensive damage to power lines and poles is likely and will result in power outages that could last a few to several days.

**Category 2:**
Extremely dangerous winds will cause extensive damage. Well-constructed frame homes could sustain major roof and siding damage. Many shallow-rooted trees will be snapped or uprooted and may block roads. Near-total power loss is expected with outages that could last from several days to weeks.

**Category 3:**
Devastating damage will occur. Well-built frame homes may sustain major damage or removal of roof and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.

**Category 4:**
Catastrophic damage will occur. Well-built framed homes may sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles will topple. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

**Category 5:**
Catastrophic damage will occur. A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

## Want more information?

The World Meteorological Organization (WMO):
http://www.wmo.int/pages/prog/www/tcp/index_en.html

https://www.wmo.int/pages/mediacentre/factsheet/tropicalcyclones.html

Detailed, real-time information on tropical cyclones around the world is available at:
http://severe.worldweather.wmo.int

The latest weather forecasts of selected cities worldwide is available at:
http://worldweather.wmo.int

The Saffir-Simpson Hurricane Wind Scale is available at:
http://www.nhc.noaa.gov/aboutsshs.shtml

The Australian Bureau of Meteorology:
http://www.bom.gov.au/cyclone/about/





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