



TROPICAL CYCLONES

Please note that the foundation messages are included in the previous section: Key messages for all-hazards household and family disaster planning. Separate messages are also available for other specific hazards.

Tropical cyclones are defined as an atmospheric closed low pressure circulation system rotating counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere (includes: cyclone, extra-tropical cyclone, tropical cyclone, hurricane, typhoon).

Tropical cyclones are relatively slow moving but severe forward-tracking storms with fast rotational winds of at least 65 knots (120–320 kilometres per hour or 74–200 miles per hour). They have an eye: a central calm area. The maximum sustained wind is experienced close to the eye-wall or outer edge of the cyclone.

These storms are referred to as:

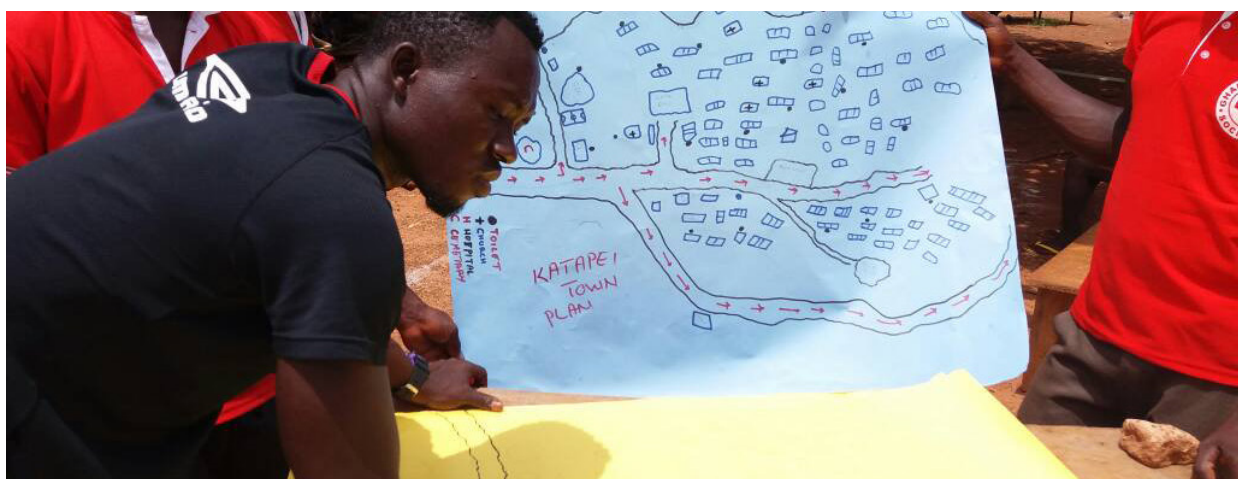
- **cyclones** when these occur in Southeast Asian waters and the Indian Ocean
- **typhoons** when they occur in East Asian and Pacific waters
- **hurricanes** when they occur in the Atlantic, Gulf of Mexico or Caribbean Sea.

See also key messages for floods

Each type is associated with a particular season that can last as long as seven months each year.

Major hazards associated with tropical cyclones are: strong winds, which can destroy or seriously weaken structures, tear off roofs and topple power lines and trees; torrential rainfall, wind-driven water, powerful and destructive marine waves and storm surges, which cause mainly coastal flooding, but can also cause inland flooding of fresh and sea water via tributaries.

Cyclones can cause deaths (mostly flood-related, but also from electrocution and the impact of collapsing structures and blowing debris), serious property and infrastructure damage, severe erosion, destruction of standing crops and vegetation, instability of ground, deposits of mud, sand and gravel, food shortages and contamination of drinkable water. These effects can lead to loss of shelter and livelihoods, disruption of transportation and critical life-line infrastructure and destruction of community.



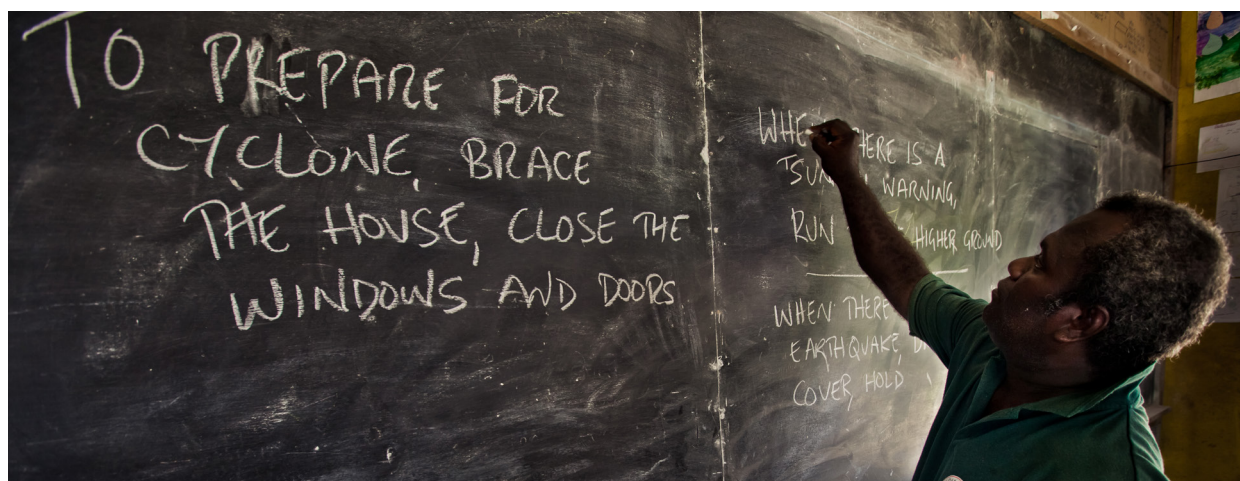
Assess and plan

Key messages	Context-specific details
Know your area's risks related to cyclone, hurricane or typhoon	<ul style="list-style-type: none"> Learn about the risks and potential impacts of severe tropical storms that can impact your location (especially winds, storm surge and flooding).
Make an evacuation plan: know your shelter destination, evacuation route and transportation method	<ul style="list-style-type: none"> If evacuation is necessary, work with your network to determine various transportation options. If you do not know the different options, ask your local emergency manager about plans for people without private vehicles, or for anyone requiring assistance. Make sure everyone in your household knows where to go if they have to leave the area.
Work with the community to identify local cyclone shelters	<ul style="list-style-type: none"> Work with the community to identify safe local cyclone shelter locations for anyone who will need them. Make sure each household member knows the location and route to the agreed shelter.
Work with the community and strategic place provisions of water and food	<ul style="list-style-type: none"> Strategically place drinkable water, food, cooking equipment, and blankets. This can save lives. Work with employers, school and community leaders and organizations to stockpile and store these provisions in safe places.
Store valuables up high	<ul style="list-style-type: none"> Keep important papers in a waterproof bag, and store equipment, feedstock and other valuables in a location high above where potential floodwater can reach. Keep copies of important documents in another place, out of your area.



Mitigate risks: physical or environmental

Key messages	Context-specific details
Build and maintain your home with severe tropical storms in mind	<ul style="list-style-type: none"> • Install permanent external storm shutters on windows and doors wherever possible, to protect these from flying debris. • Be sure that roofs are securely fastened to the frame structure. Minimize roof overhangs, as winds can catch and lift them. • Where possible, elevate furnaces, water heaters and electrical panels. • Install check valves in plumbing to prevent floodwater from backing up into drains. • Consider building a safe room, for tornado safety. Hurricanes and tropical storms provide ideal conditions to form tornadoes.
Inspect and repair your roof annually	<ul style="list-style-type: none"> • Inspect your roof at the beginning of the storm season and make repairs, such as fixing loose tiles, as needed. The roof is often the most vulnerable part of the house. Fix any loose tiles. • For wooden structures, brace the roof to the main structure and add hurricane straps to secure the roof. • For lightweight roofs, secure sandbags on top, to increase stability. • Clear rain gutters and downspouts, and fix any that are loose.
Keep trees and bushes well trimmed	<ul style="list-style-type: none"> • Where necessary, remove branches and small trees that may fall on the house. Remove or prune older trees, damaged branches and ornamental trees that will not be able to withstand strong winds. (In some cases, removing some branches allows wind to blow through large trees rather than toppling them.)



Prepare to respond: develop skills and store provisions

Key messages	Context-specific details
Practise your evacuation routes	<ul style="list-style-type: none"> Make sure household members know where to evacuate to, what route to take, and where to meet each other, if they have to leave.
Stay informed	<ul style="list-style-type: none"> Monitor the weather closely. If you are advised to evacuate, or if you think you are in danger, evacuate immediately away from the storm's path. Make sure you understand the difference between a watch and a warning in early warning weather reports: <ul style="list-style-type: none"> A watch means there is a threat of cyclone, hurricane or typhoon conditions within 36 hours. This is the time to check your preparations. A warning means that the conditions are expected within 24 hours or less.
Keep supplies to protect your home	<ul style="list-style-type: none"> Keep supplies on hand to protect your home – for example, plywood, plastic sheeting, nails, a hammer and saw, a crow bar, sand, shovels, sandbags and washboards.
Keep vehicle fuel tanks filled	<ul style="list-style-type: none"> During the storm season, refill vehicle fuel tanks before they are half empty, in case you need to evacuate.

If you receive a cyclone, hurricane or typhoon watch

Prepare your property for high winds and surge waters	<ul style="list-style-type: none"> During a cyclone, hurricane or typhoon watch, you need to: <ul style="list-style-type: none"> remove any debris or loose items, and bring anything indoors that is at risk of becoming a flying object securely close permanent storm shutters or fix wood or other protective materials outside to protect windows from wind prepare sandbags, flood washboards or plastic sheeting, to stop water getting in through doors, lower windows or vents.
Keep your pets and service animals indoors	<ul style="list-style-type: none"> Bring your pets and service animals indoor well before the storm. Maintain direct control of your pets and service animals, and take them with you if you evacuate.

Stay informed	<ul style="list-style-type: none"> • Listen to the radio or watch television for information. • Close storm shutters or board up windows from the outside. • Secure outdoor objects or bring them inside. • Fill bottles with drinking water, and bathtubs and any large containers with water for sanitation. • Check your personal supplies, including prescription medications. • Turn the refrigerator thermostat to coldest setting and keep it closed.
Attend to utilities	<ul style="list-style-type: none"> • Turn off electricity, gas supply and water, if you are told to do so. • Disconnect any small appliances.
Prepare to evacuate	<ul style="list-style-type: none"> • Check that your evacuation supplies and your <i>go-bags</i> are ready, including water and high-energy food and emergency contact information. Wear rain boots if possible. Charge mobile phone batteries.
Know when and where to evacuate	<ul style="list-style-type: none"> • You need to evacuate if you live on the coast, on a flood plain, near a river or on an inland waterway. • If you live in a temporary or lightweight structure, evacuate early. • Evacuate if you are directed to do so by local authorities. • Evacuate down to the second or third floor if you live in a high-rise building, as winds are much stronger at higher levels. • Evacuate to designated shelters based on prior planning. Evacuate if you feel you may be in danger but do not evacuate during the storm.
If you don't evacuate, <i>shelter-in-place</i>	<ul style="list-style-type: none"> • If you are not advised to evacuate, secure and brace all exterior doors and close all interior doors. Keep curtains and blinds closed. • Stay indoors, away from windows, skylights and doors. • If in a high-rise building, remain on the floor least likely to be affected by strong winds as well as storm-surge floodwaters. • Take refuge in a small interior room, hallway or closet. • Be aware that the eye of the storm is deceptively calm and quiet. The storm is not over. If things seem calm, it is probably the lull at the centre of the storm, so maintain your secure position and do not go outside as the winds will get stronger again. • Be prepared for tornadoes. Hurricanes and tropical storms provide ideal conditions to form tornadoes.
If you are in a building	<ul style="list-style-type: none"> • Stay on lower floors but above basement and ground level since these may flood. In dense urban settings, the severity of winds increases at higher altitudes. The impact of any storm is far more severe at around the tenth floor and above.
Turn off utilities and gas tanks and unplug small appliances	<ul style="list-style-type: none"> • If you are instructed, or if you have time before evacuating, turn off all utilities and cooking or heating gas tanks. Unplug small appliances.
After the storm passes, check on neighbours and help anyone who is injured or trapped	<ul style="list-style-type: none"> • Give first aid where appropriate. • Do not move seriously injured people unless they are in immediate danger of further injury. • Seek professional medical help for serious injuries.
After the storm passes, stay safe	<ul style="list-style-type: none"> • Check for building damage and stay out of damaged buildings. • Beware of ground level and above ground hazards – especially, flood and electrocution related-hazards. • Practise good hygiene and avoid consuming potentially contaminated food or water.