

Comparison of National Hurricane Center versus Australia's "Bureau of Meteorology"

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In Australia, the Bureau of Meteorology is the nerve center for most of Australia's weather information. Although Australia's BOM is similar to the United States' National Weather Service, it handles all tropical cyclone information, including watches and warnings. There is no Hurricane/Cyclone Center in Australia like there is in the United States' National Hurricane Center. Instead, the BOM regional centers in Perth, Darwin & Brisbane all handle the cyclone warning services. The first item of comparison deals with when both countries deal with their tropical season.

Because both countries are in different hemispheres (north vs. south) & have their seasons during different parts of the year (summer in Australia occurs in December-February whereas in the U.S. it occurs in June-September), the tropical season occurs at different times of the year. In the U.S., the hurricane season lasts from April to November, with the peak of storms occurring during September and October. However, Australia's tropical cyclone season runs from November to April; moreover, the height of the season occurs usually around February or March (although powerful hurricanes can strike anytime during the season. So how does Australia prepare for a cyclone versus how the U.S. prepares for a hurricane? (Although called typhoon in the Pacific Ocean, the Aussie's refer to one as a cyclone.)

In both the United States and Australia, the NHC & BOM issue hurricane/cyclone forecast outlooks 3-7 days out, depending on what part of the season (active vs. calm) it is in. Once a storm over the Atlantic/Pacific Ocean is detected, both the NHC and the BOM issue updates about the storm every six hours or so. In the U.S., once a storm develops circular motion, it becomes an unnamed tropical depression and is closely monitored for strengthening. If the storm reaches sustained winds of 39 mph, it becomes a named tropical storm. The NHC may send out "Hurricane spotter airplanes" into the storm to take measurements from inside. The Aussies do mostly the same things as the U.S., but slightly different.

In Australia, once a storm reaches sustained winds of about 63 km/h, the storm becomes a named tropical cyclone. At that time, Tropical Cyclone Information Bulletins are issued once every six hours if a tropical cyclone exists within the Australian region, but is not expected to threaten any coastal or island communities within the next 48 hours. The bulletins include the cyclone's name, current location and its forecast movement. No cyclone watches are issued at this time, but are issued shortly after.

In the United States, a tropical storm watch is issued when tropical storm conditions, including winds from 39 to 73 miles per hour (mph), pose a possible threat to a specified coastal area within 36 hours. It is upgraded to a tropical storm warning when tropical storm conditions, are expected in a specified coastal area within 24 hours or less. If the storm reaches sustained winds of at least 74 mph, then it becomes a hurricane. A hurricane watch is issued for a specified coastal area when a hurricane or a hurricane-related hazard is a possible threat within 36 hours. A hurricane warning is issued when a hurricane with sustained winds of 74 mph or higher is expected in a specified coastal area in 24 hours or less. A hurricane warning can remain in effect when dangerously high water or a

combination of dangerously high water and exceptionally high waves continues, even though the winds may have subsided below hurricane intensity.

In Australia, a tropical cyclone watch is issued every six hours when there are indications that sustained winds in the cyclone are at least 125 km/h; moreover, this is issued when the winds are expected to affect coastal or island communities within 48 hours but not within 24 hours. The tropical cyclone watch is the equivalent of the U.S.'s version of a hurricane watch. A tropical cyclone warning is an advice issued every three hours when there are indications that a cyclone is expected to affect coastal or island communities within 24 hours. The warning advice also informs of expected maximum wind gusts. Forecasts of heavy rainfall, flooding and abnormally high tide are included where necessary. Communities under threat are also advised to take precautions necessary to safeguard their lives and property. When a cyclone is under radar surveillance close to the coast, hourly advices may be issued. These watches and warnings are carried by the Standard Emergency Warning Signal. This signal is sounded on broadcast media in an emergency situation to gain public attention. This would typically occur in an area where a tropical cyclone of category 2 or stronger is expected to affect a community within 12 hours. Once a tropical storm is within striking distance of the mainland, both the U.S. and Australia must begin to issue watches and warnings. For both countries, once the hurricane/cyclone warnings are issued, other products are issued that relate to the storm.

The biggest product that is almost always issued is a tornado watch. Because hurricanes can cause conditions to become favorable for the development of tornadoes, a tornado watch is usually issued for the area where the hurricane/cyclone is expected to make landfall. Especially in the United States, a tornado warning is rarely issued because most tornadoes produced by tornadoes are so weak and have such a short lifespan, it is impossible to spot one inside a hurricane/cyclone.

Both countries use a similar hurricane/cyclone scale to categorize the intensity of the storm. Australia uses their own scale, while the U.S. uses the Saffir-Simpson Scale; in addition, both scales range from 1-5. 1 is a weak hurricane/cyclone (winds of less than 125 km/h [80mph] in Australia and about 75 mph in the United States). 5 is an extremely severe hurricane/cyclone (winds of greater than 280 km/h [200 mph] in Australia & winds greater than 155 mph in the United States).

So it looks like although both countries are located in different parts of the world, have their four seasons during different parts of the year, and even called a tropical system by different names, both Australia and the United States have very similar guidelines when it comes to tropical systems.

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