

Tropical Cyclones 2007-2008



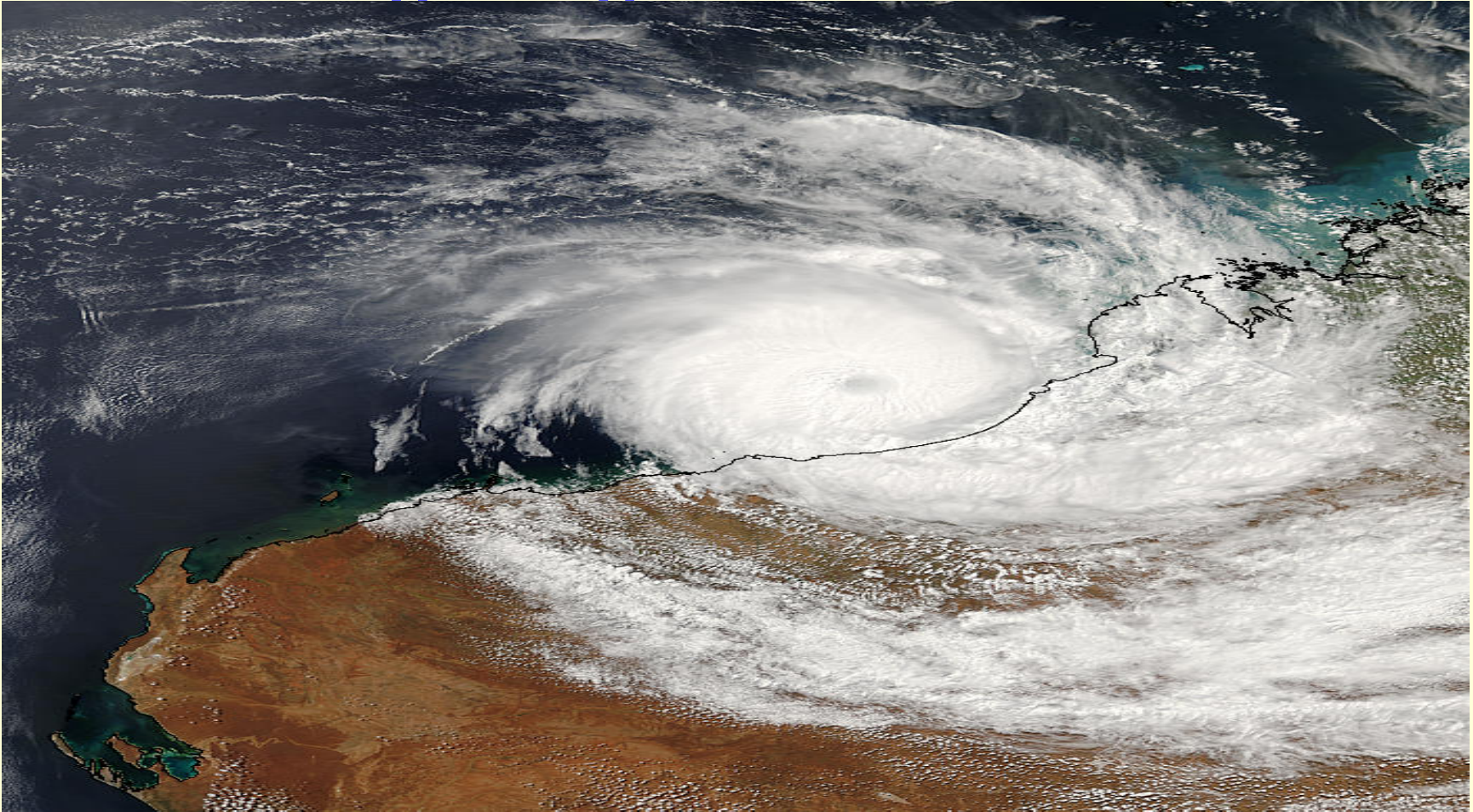
or

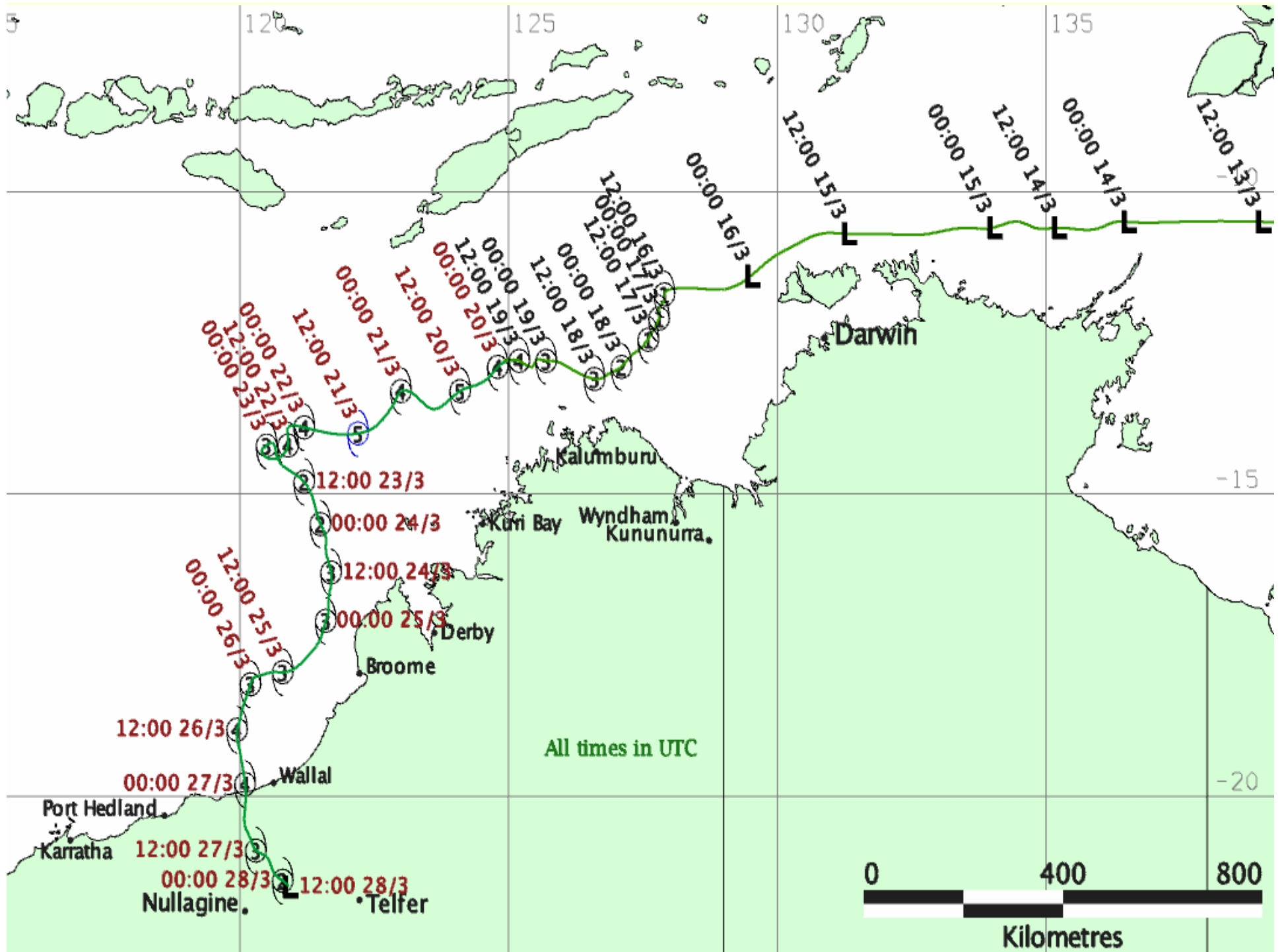
Crystal Ball Gazing



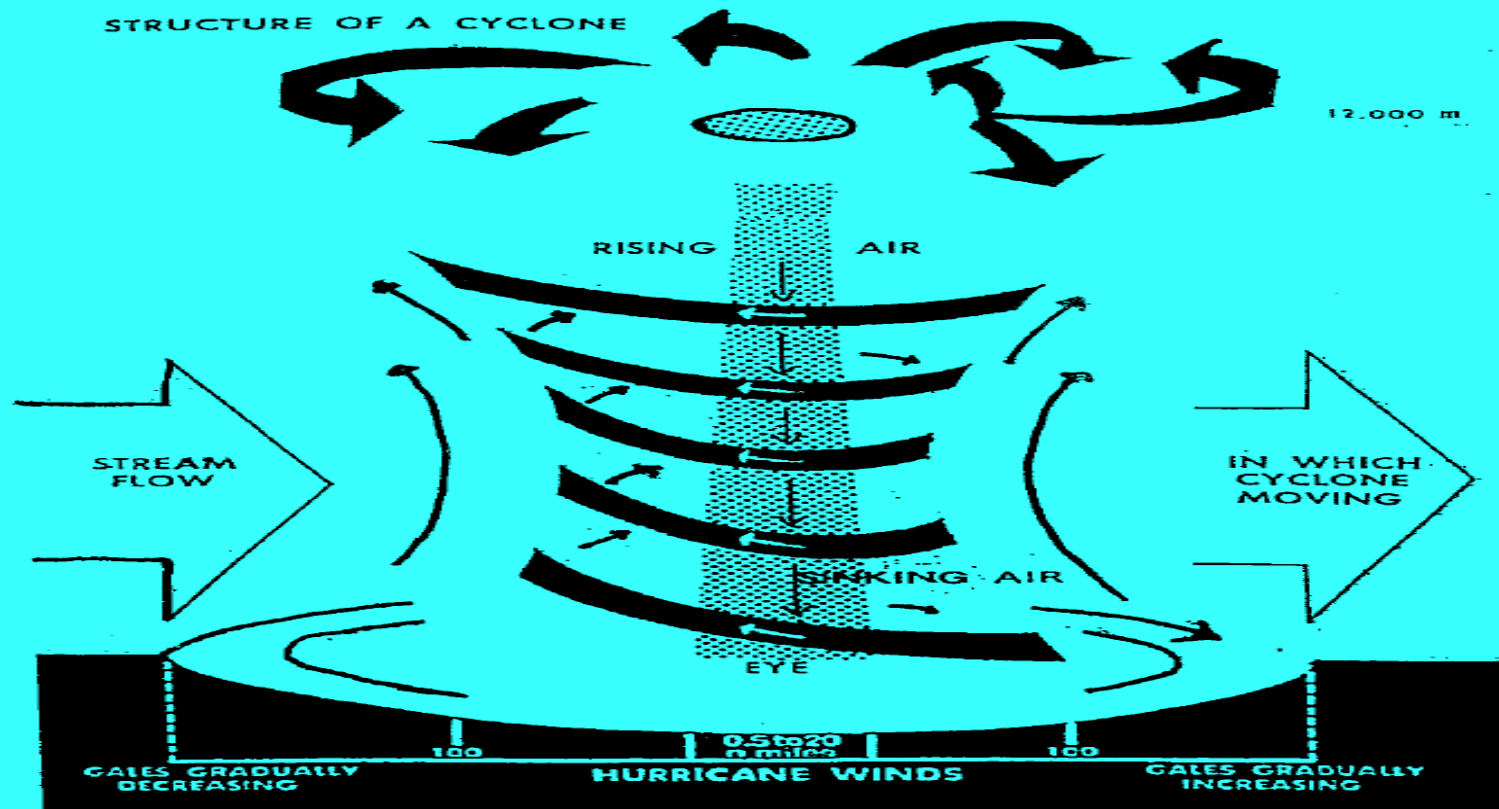
TC "FAY"

**Strongest on the 26/03/04 at 910 hp
gusting to 160 knots**





Structure of a cyclone



The typical structure of a mature tropical cyclone.

Cyclone Severity Categories

Structure of a Cyclone (Schematic)



A cyclone severity category is assigned to a named cyclone in all cyclone warning messages.

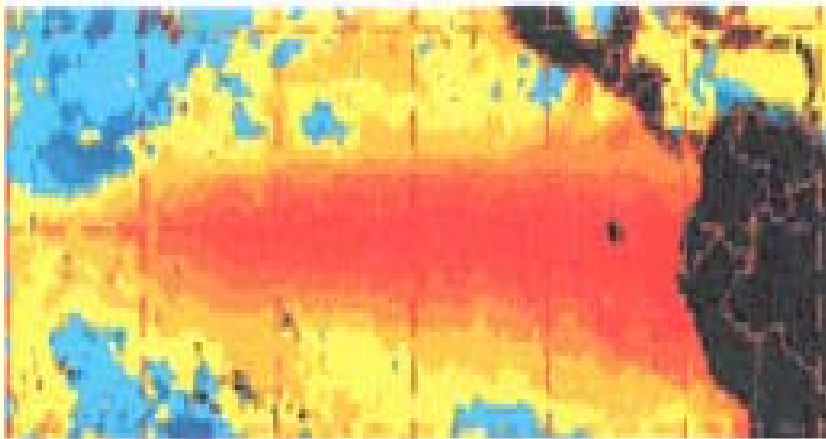
The category is chosen based on maximum mean gust speed. Typical values of maximum mean wind speed and central pressure are provided for comparison.

A description of the structural damage that might be associated with each category is also given.

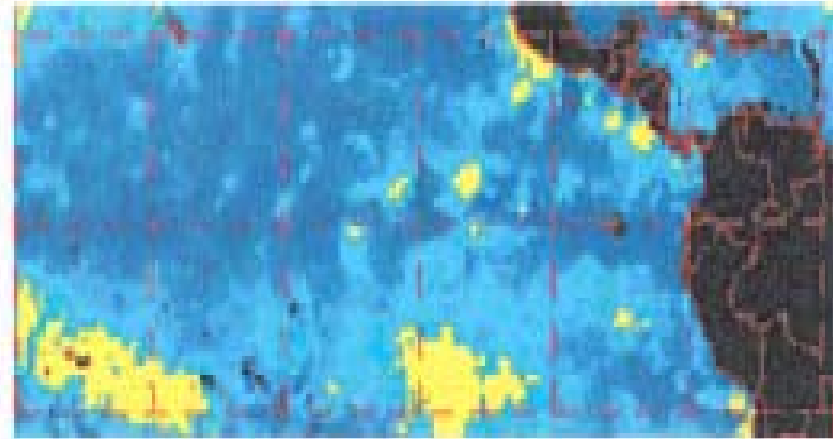
Category	Strongest Gust (km/hr)	Average Maximum Wind (km/hr)	Indicative Central Pressure (hPa)	Typical Effects
1	<125	63-90	>985	Negligible house damage. Damage to some crops, trees and caravans
2	125-170	90-125	985-970	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings.
3	170-225	125-165	970-955	Some roof and structural damage. Some caravans destroyed. Power failures likely
4	225-280	165-225	955-930	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures.
5	>280	>225	<930	Extremely dangerous with widespread destruction.

El Niño / La Niña

El Niño (December 1997)



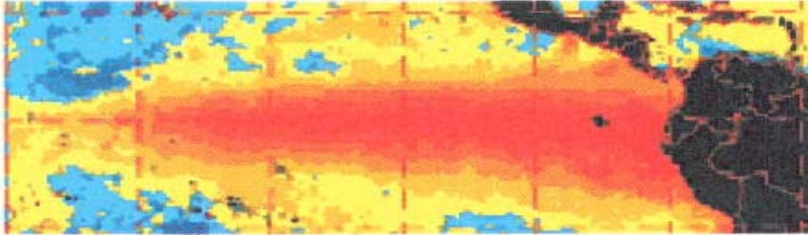
La Niña (December 2000)



-50 -45 -40 -35 -30 -25 -20 -15 -10 -05 000 050 100 150 200 250 300 350 400 450 500

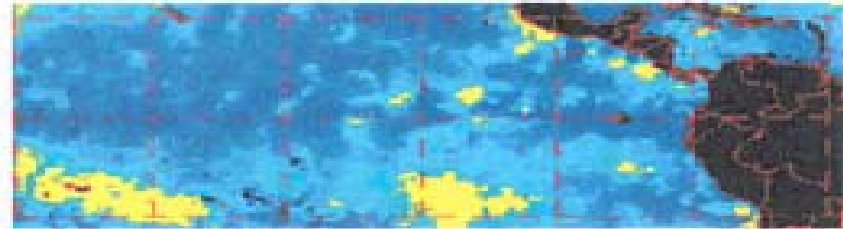
Sea surface temperature anomalies (°C)

El Niño (December 1997)



El Niño (EN) is characterized by a large scale weakening of the trade winds and warming of the surface layers in the eastern and central equatorial Pacific Ocean. El Niño events occur irregularly at intervals of 2-7 years, although the average is about once every 3-4 years. They typically last 12-18 months, and are accompanied by swings in the Southern Oscillation (SO), an inter-annual see-saw in tropical sea level pressure between the eastern and western hemispheres.

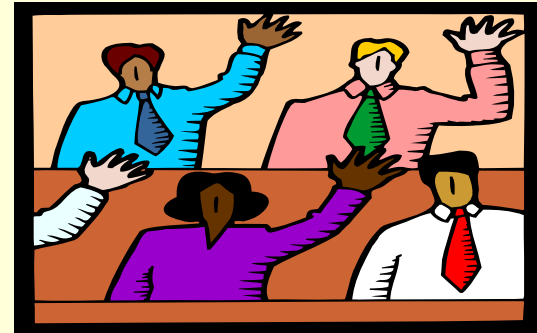
La Niña (December 2000)



During El Niño, unusually high atmospheric sea level pressures develop in the western tropical Pacific and Indian Ocean regions, and unusually low sea level pressures develop in the southeastern tropical Pacific. SO tendencies for unusually low pressures west of the date line and high pressures east of the date line have also been linked to periods of anomalously cold equatorial Pacific sea surface temperatures (SSTs) sometimes referred to as La Niña.

TC Season 2007-2008

The jury is still out!



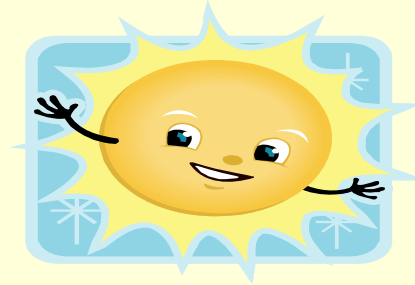
Will it be El Niño, La Niña or Neutral?



Australian Government
Bureau of Meteorology
Special Services Unit

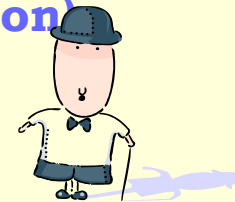
Weather Services Available

**Seasonal tropical cyclone outlook
(November to April forecast, updated
monthly)**



**Medium term tropical cyclone formation risk
(7 day forecast, updated daily)**

**Short term tropical cyclone forecast
(3 day forecast, updated 6 hourly upon formation)**



Special Services Unit (SSU)

Seasonal tropical cyclone outlook

The SSU provides an annual forecast for the number of tropical cyclones, and general indications of onset and cessation times for the Western Australian tropical cyclone season between November and April. For the upcoming 2007-2008 season the forecast will provide more detailed guidance on a month by month basis. Additionally, the forecast will be updated on the first Tuesday following the beginning of each month during the tropical cyclone season.

Medium term tropical cyclone formation risk

During the 2007-2008 season there will be daily updates on the likelihood of tropical cyclone activity in the NW basin (between 105 east and 130 east), extending out to 7 days. These forecasts will be based on model guidance, climatological guidance, and intra-seasonal oscillations (such as the Madden Julian Oscillation, Southern Oscillating Index, and the Indian Ocean Dipole) and be in the form of three ratings: low, moderate and high. These ratings will correspond to 0-10%, 20-40% and 50-100% respectively.

Short term tropical cyclone forecast

This will be provided for the 2007-2008 season. These services can be altered where possible to better suit your operations. Please contact either Grant Elliot or Emma Lybrand at the Bureau of Meteorology for a quote.