

# Tropical Cyclone Outlook Season 2013/14

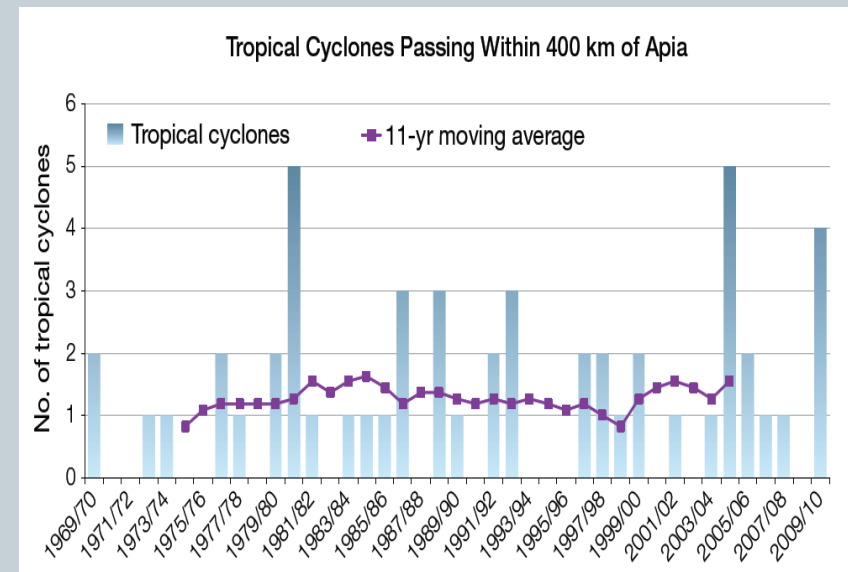


**PREPARED BY:**

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# Facts about Samoa's Tropical Cyclone Season

- Tropical Cyclone season for Samoa is between 1<sup>st</sup> November to 30<sup>th</sup> April
- Between 1969/70 and 2009/10 only Tropical Cyclone Keli occurred outside these months – June 97
- 52 TCs passed within 400km of Apia, Samoa
- This represents an average of 10 cyclones per decade
- TCs are most frequent in El Nino years (16 cyclones per season) and occurrences in La Nina years are less frequent (10 cyclones per season)
- Inter-annual variability in the number of TC in the vicinity of Samoa is large; ranging from zero in some seasons to five in 1980/81 and 2004/05 seasons
- This high variability makes it difficult to identify any long-term trend in frequency.

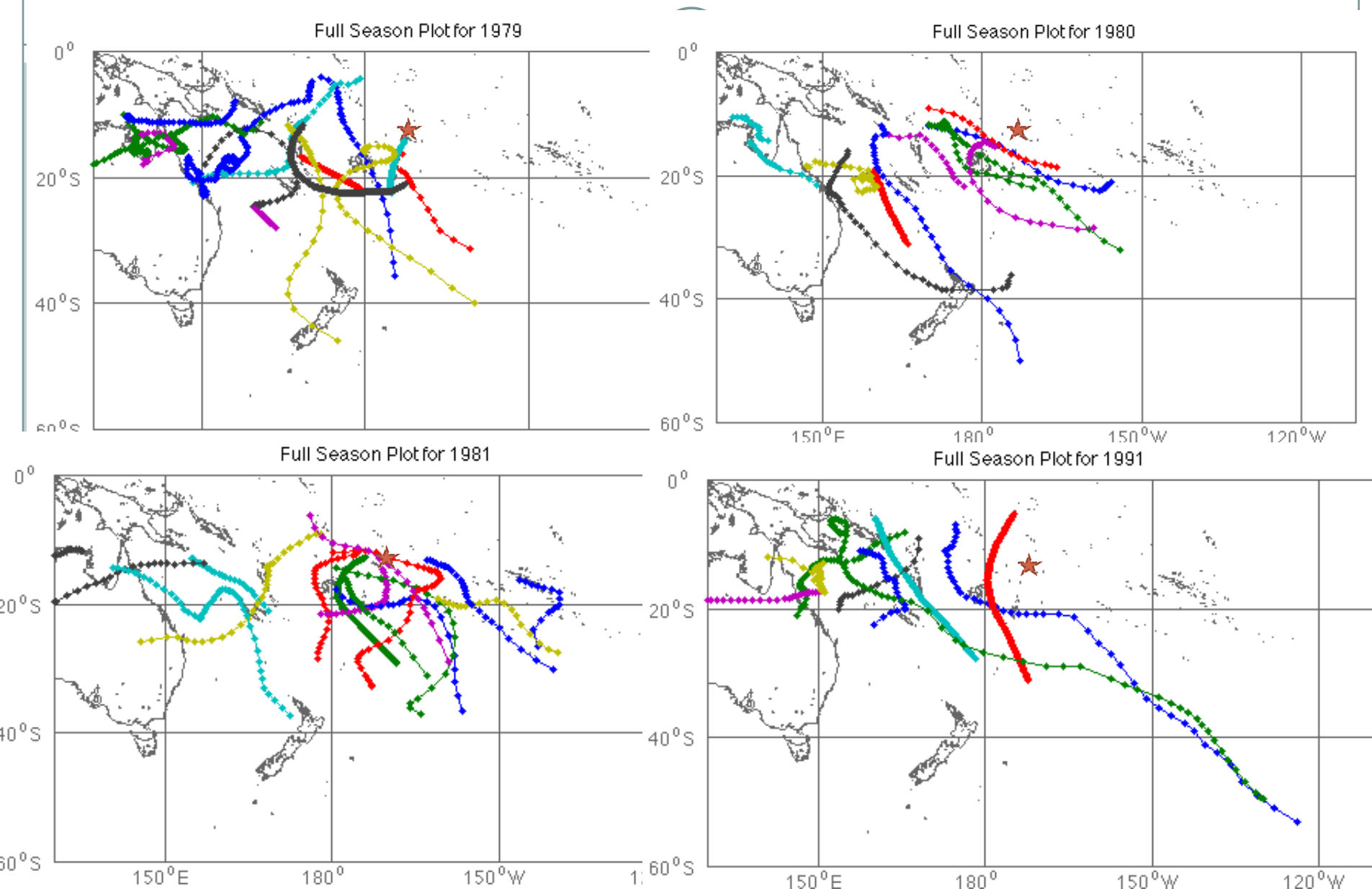


# Methodology employed

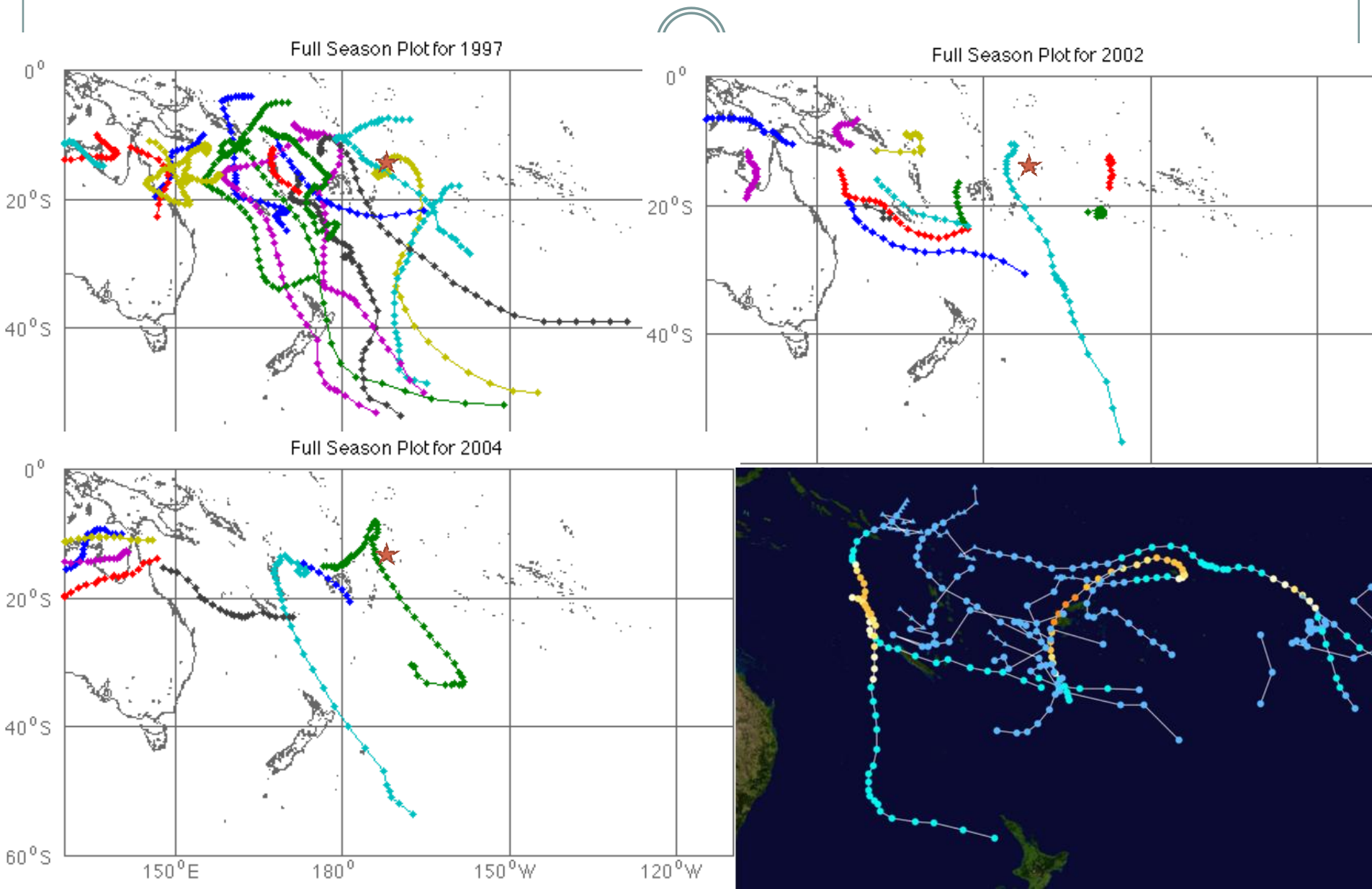


- Assessed current El Nino Southern Oscillation (ENSO) conditions (ocean and atmosphere)
- Select analog tropical cyclone seasons similar to current year
- Analog years selected (7 analog seasons)  
1978/79, 1979/80, 1980/81, 1990/91, 1996/97, 2001/02, 2003/04 and 2012/13.
- Evaluate TC frequency, strength and impacts
- Generate outlook 2013-2014.

*Plots of tropical cyclone tracks for analogue years used in the 2013-14 seasonal forecast for the full season (November – April).*



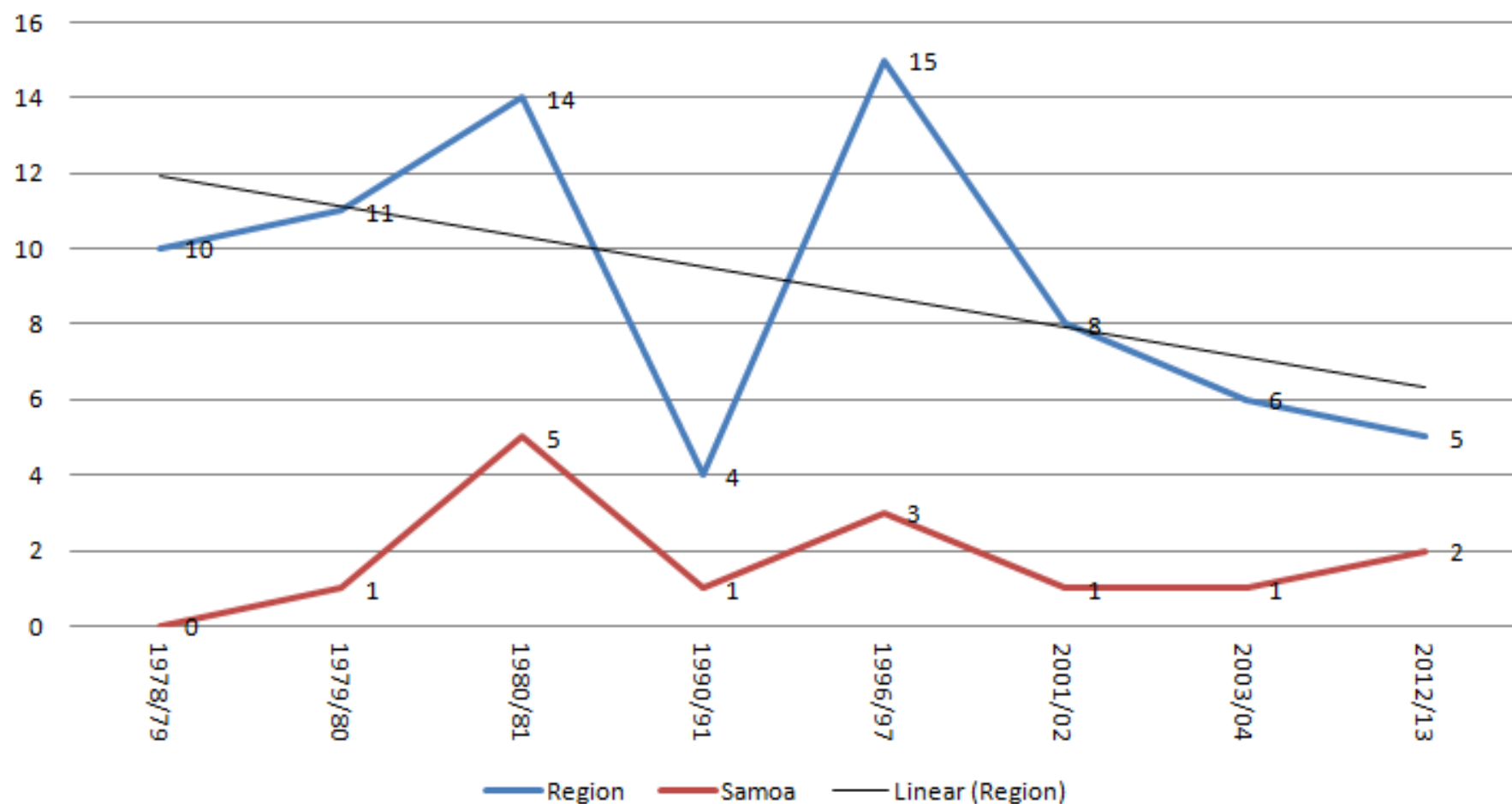
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# Analogue seasons and intensity of TC that occurred in 400km of Apia, Samoa

Season (8)	Number		Category					TC Names
	Region	Samoa	Cat1	Cat2	Cat3	Cat4	Cat5	
1978/79	10	0						
1979/80	11	1		1				Val
1980/81	14	5	3	1	1			Esau, Authur Betsy, Daman, Un-named-2
1990/91	4	1				1		Ofa
1996/97	15	3	1		2			Cora, Wes, Evan
2001/02	8	1				1		Waka
2003/04	6	1					1	Heta
2012/13	5	2			1	1		Evan, Garry
AVERAGE	9	2	4/14	2/14	4/14	3/14	1/14	

## Tropical Cyclone Frequency in ENSO Neutral Seasons Pacific vs Samoa



# Conclusion



**Based on analysis of historical analog seasons, we conclude that:**

- (a) For the whole Southwest Pacific, 9 named cyclones is expected.**
- (b) For Samoa, on average risk slightly elevated to 2-3 named cyclones possible, maximum number possible is 5**
- (c) It is possible for at least 1-2 cyclones to reach Category 3 strength (mean wind speeds of at least 118km/h)**
- (d) It is possible for 1 storm to reach Category 4 or stronger (mean wind speeds of at least 159km/h)**



# Tropical Cyclone Classification



Category	Name	Strength
Cat 1	Tropical Cyclone	39-54 mph 68-87 km/h
Cat 2	Tropical Cyclone	55-72 mph 87-117 km/h
Cat 3	Severe Tropical Cyclone	74-98 mph 119-158 km/h
Cat 4	Severe Tropical Cyclone	99-127 mph 159-204 km/h
Cat 5	Severe Tropical Cyclone	> 127mph > 204km/h