



Australian Government
Bureau of Meteorology

Severe Tropical Cyclone *Frederic*

25 March - 1 April 1999

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

A low in the monsoon trough formed off the north Kimberley coast on 25 March. A favourable upper air pattern and a region of weak vertical wind shear provided a suitable environment for the low to intensify. The low moved to the west-southwest under the steering influence of a mid-level ridge to the south-southeast. It attained cyclone strength on 27 March, the third tropical cyclone in the space of only 2 weeks to affect waters off the northwest coast of Australia. As *Frederic* moved further west it experienced easterly shear, that temporarily slowed its rate of development. The shear reduced overnight on 28 March and an eye became visible the following morning. *Frederic* remained a severe cyclone as it traversed westward across the Indian Ocean. It crossed out of the WA region of responsibility on 1 April and then weakened rapidly due to wind shear.

B. Meteorological Description

Frederic formed within the monsoon trough in a region of low shear and favourable upper outflow. *Frederic* was affected by easterly wind shear in the early stages of its lifetime, then moved through a very favourable environment until it crossed west of 90°E when it again encountered shear. *Frederic* tracked on the northern side of a strong mid level ridge in mid latitudes during its entire lifetime.

C. Impact

There is no known damage associated with Tropical Cyclone *Frederic*.

D. Observations

Frederic was located well out to sea during its lifecycle and therefore no observations were recorded.

Table 1. Best track summary for *Frederic* 25 March – 1 April 1999.

Note: Add 8 hours to convert to WST. Refer to best track database for complete track details.

Year	Month	Day	Hour (UTC)	Position Latitude S	Position Longitude E	Max wind 10min knots	Central Pressure hPa	Rad. of Gales nm
1999	03	25	1300	11.5	119.0	20	1005	
1999	03	25	2200	12.1	117.2	20	1005	

1999	03	26	0100	12.4	116.7	20	1005	
1999	03	26	0400	12.6	116.1	20	1005	
1999	03	26	0700	12.8	115.6	20	1005	
1999	03	26	1000	13.0	115.0	20	1005	
1999	03	26	1300	13.1	114.4	20	1005	
1999	03	26	1600	13.3	113.8	20	1005	
1999	03	26	1900	13.5	113.3	25	1002	
1999	03	26	2200	13.5	112.6	25	1002	
1999	03	27	0100	13.5	111.7	25	1000	
1999	03	27	0400	13.9	111.2	35	995	70
1999	03	27	0700	14.4	110.7	35	995	70
1999	03	27	1000	14.6	110.3	40	990	70
1999	03	27	1300	14.7	109.6	40	990	70
1999	03	27	1600	14.7	109.3	40	990	70
1999	03	27	1900	14.7	109.0	50	985	70
1999	03	27	2200	14.8	108.5	50	985	70
1999	03	28	0100	14.8	108.5	50	985	70
1999	03	28	0400	15.1	107.8	50	985	70
1999	03	28	0700	15.3	107.5	50	985	70
1999	03	28	1000	15.6	106.9	50	985	70
1999	03	28	1300	15.7	106.5	50	985	70
1999	03	28	1600	15.7	106.1	55	980	70
1999	03	28	1900	15.8	105.7	65	970	70
1999	03	28	2200	15.8	105.3	65	970	70
1999	03	29	0100	15.8	104.8	70	965	70
1999	03	29	0400	15.9	103.9	75	960	70
1999	03	29	0700	16.1	103.1	75	960	70
1999	03	29	1000	16.2	102.4	80	955	70
1999	03	29	1300	16.5	101.6	85	950	70
1999	03	29	1600	16.7	100.9	90	945	70
1999	03	29	1900	16.7	100.1	95	940	70
1999	03	29	2200	16.9	99.5	95	940	70
1999	03	30	0100	17.0	98.8	95	940	70
1999	03	30	0400	16.9	98.2	95	935	70
1999	03	30	0700	16.9	97.5	100	930	70
1999	03	30	1000	17.1	96.8	100	930	70
1999	03	30	1300	17.1	95.9	100	930	70
1999	03	30	1600	17.2	95.3	100	930	70
1999	03	30	1900	17.2	94.9	100	930	70
1999	03	30	2200	17.2	94.3	100	930	70
1999	03	31	0100	17.4	93.8	105	925	70
1999	03	31	0400	17.4	93.3	105	920	70
1999	03	31	0700	17.5	92.7	105	920	70
1999	03	31	1000	17.6	92.2	105	920	70
1999	03	31	1300	17.6	91.8	105	920	70
1999	03	31	1600	17.6	91.1	105	920	70
1999	03	31	1900	17.5	90.9	105	920	70
1999	03	31	2200	17.5	90.6	105	920	70
1999	04	1	0100	17.5	90.3	105	920	70
1999	04	1	0400	17.6	90.1	100	930	70
1999	04	1	0700	17.8	89.7	95	940	70
1999	04	1	1000	18.0	89.4	80	955	70

Figure 1. Track of Tropical Cyclone Frederic, 25 March – 1 April 1999.
All times in WST.

