



Australian Government
Bureau of Meteorology

Severe Tropical Cyclone *Elsie*

22 - 27 February 1987

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

Severe Tropical cyclone *Elsie* developed after moving off the west Kimberley coast on 22 February. *Elsie* intensified in the following days and took a southerly track from late on 23 February until it made landfall along the eastern Pilbara coast near Mandora station on 25 February at category four intensity. Mandora registered a gust of 222 km/h, at that time the second highest wind gusts recorded on the Australian mainland and a minimum pressure of approximately 943 hPa.

Severe damage was sustained at Mandora, and the two main homestead buildings had to be bulldozed away to allow rebuilding to commence. Damage was also sustained at nearby stations. Heavy rain caused moderate flooding.

B. Meteorological Description

Deep convection associated with a low in the monsoon trough began to develop in the western Gulf of Carpentaria at 1200 UTC 18 February. The resulting system developed a persistent westerly movement, crossing the north of the continent and subsequently moving out to sea near Mitchell Plateau in the Kimberley region at 0000 UTC 22 February. Cyclonic intensity was reached by 0300 UTC 22 February and *Elsie* maintained an erratic, but basically westerly, movement until 0600 UTC 23 February (15.0°S, 122.0°E), by which time the central pressure had fallen to 976 hPa.

The cyclone then moved southward under the influence of an upper-level high centred over the Northern Territory and continued to deepen. *Elsie* crossed the coast at 15.2°S, 121.8°E at 0900 UTC 25 February, passing over Mandora station which recorded a maximum wind gust of 222 km/h and a minimum pressure of approximately 943 hPa (see Figure 2). The geometric centre was estimated to be some five kilometres north of the station. At the time of the event, this was the second highest gust reliably recorded on the Australian mainland, being exceeded only by a gust of 248 km/h recorded at Onslow during cyclone *Trixie* in February 1975.

After crossing the coast, the cyclone moved in a more south-easterly

direction, maintaining cyclonic strength until 1200 UTC 26 February at 22.7°S, 122.1°E with a central pressure of 986 hPa. The weakening low moved south-easterly and then easterly before dissipating at 23.8°S, 124.9°E with a central pressure of 998 hPa at 0600 UTC.

C. Impact

Severe damage was sustained at Mandora, and the two main homestead buildings had to be bulldozed away to allow rebuilding to commence. Damage was also sustained at nearby stations. Heavy rain caused moderate flooding.

Table 1 Best track summary for Tropical Cyclone *Elsie*, 22 –27 February 1987

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
1987	02	22	0000	15.0	125.0	35	995	
1987	02	22	0300	15.0	124.5	35	994	
1987	02	22	0600	15.1	123.8	35	993	
1987	02	22	0900	15.3	123.5	40	990	
1987	02	22	1200	15.4	123.2	45	986	
1987	02	22	1500	15.6	123.0	50	981	10
1987	02	22	1800	15.7	122.8	55	980	120
1987	02	22	2100	15.5	122.5	55	979	105
1987	02	23	0000	15.4	122.3	55	978	85
1987	02	23	0300	15.2	122.1	55	977	65
1987	02	23	0600	15.0	122.0	60	976	60
1987	02	23	0900	15.2	121.8	70	966	
1987	02	23	1200	15.4	121.7	70	964	135
1987	02	23	1500	15.5	121.5	75	960	
1987	02	23	1800	15.8	121.5	80	957	110
1987	02	23	2100	16.2	121.5	80	954	130
1987	02	24	0000	16.3	121.5	80	953	185
1987	02	24	0300	16.5	121.5	85	952	
1987	02	24	0600	16.7	121.5	85	951	
1987	02	24	0900	17.1	121.5	85	950	
1987	02	24	1200	17.4	121.5	85	949	
1987	02	24	1500	17.6	121.5	85	948	
1987	02	24	1800	17.9	121.4	85	947	
1987	02	24	2100	18.3	121.1	85	946	
1987	02	25	0000	18.7	121.0	90	945	
1987	02	25	0300	19.0	120.9	90	943	55
1987	02	25	0600	19.3	120.8	90	941	
1987	02	25	0900	19.6	120.8	95	940	
1987	02	25	1200	20.0	120.9	90	941	
1987	02	25	1500	20.3	121.0	90	941	
1987	02	25	1800	20.5	121.0	80	955	
1987	02	25	2100	20.8	121.0	70	965	
1987	02	26	0000	21.1	121.2	65	970	80
1987	02	26	0300	21.5	121.4	60	975	60
1987	02	26	0600	21.7	121.6	55	980	80
1987	02	26	0900	22.4	121.6	55	980	
1987	02	26	1200	22.7	122.1	50	984	
1987	02	26	1500	23.0	122.5	45	986	
1987	02	26	1800	23.3	123.1	45	988	
1987	02	26	2100	23.4	123.3	40	990	
1987	02	27	0000	23.5	123.5	40	992	
1987	02	27	0300	23.6	124.5	30	997	
1987	02	27	0600	23.8	124.9	30	998	

Figure 1. Track of Tropical Cyclone *Elsie*, 22 –27 February 1987
All times in WST.

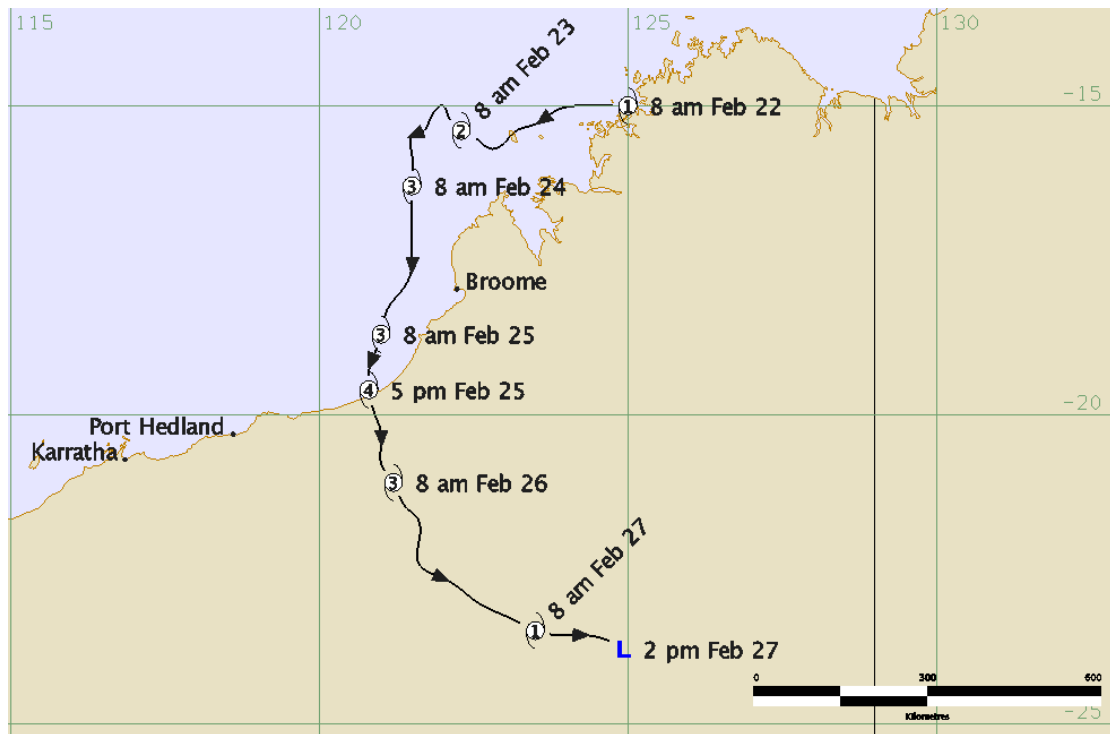


Figure 2. Barograph trace from Mandora during the passage of Tropical Cyclone *Elsie*, 25 February.

