



Australian Government
Bureau of Meteorology

Tropical Cyclone *Graham*

27 February - 1 March 2003

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

A low developed into a tropical cyclone about 300 km west northwest of Broome on 27 February. After initially moving east southeast and intensifying slowly the system then turned south on 28 February, crossing the 80 Mile Beach 115 kilometres northeast of Wallal at about 0400 WST 1 March. *Graham* dissipated over land by 2100 WST 1 March. Significant rainfall was recorded in some communities as *Graham* crossed the coast. A man was killed when he attempted to cross a flooded creek near Fitzroy Crossing.

B. Meteorological Description

Intensity Analysis

The low formed in a deep and persistent monsoon trough to the north of the Pilbara coast. A northward movement of the ridge and a strengthening of the low level monsoon flow contributed to cyclogenesis. *Graham* exhibited monsoonal low characteristics in the early stages with maximum winds located about 100 to 200 kilometres from the centre. Microwave imagery showed cold cloud wrapped partially around the centre of the system about 12 hours prior to becoming a cyclone. Under light to moderate wind shear, the system reached a peak intensity of 40 knots near the coast at 1900 WST 28 February.

Motion

Initially a mid-level ridge existed to the south of *Graham* with strong westerlies to the north of the system. During 26 and 27 February the system moved very slowly in an east southeast direction. During 27 February a deep trough moved into the Bight and eroded the mid-level ridge. *Graham* was subsequently steered in a more southerly direction on 28 February under the stronger influence of a northerly flow.

C. Impact

A man was killed when he attempted to cross the flooded Blue Bush Creek near Fitzroy Crossing.

D. Observations

Wind/Pressure

The minimum pressure was recorded as *Graham* crossed the coast at Mandora, with a pressure of 986.8 hPa. No winds were recorded.

Rainfall

Significant rainfall was recorded as *Graham* crossed the coast, with many stations recording in excess of 100 mm. The highest daily rainfall recorded was 175 mm at Telfer Aerodrome for the 24 hours to 0900 WST on 1 March.

Table 1. Best track summary for *Graham*, 26 February - 1 March 2003.

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
2003	02	26	0000	17.0	119.5	30	998	2003
2003	02	27	0000	17.3	120.2	35	994	2003
2003	02	27	0600	17.3	120.3	40	992	2003
2003	02	27	1200	17.3	120.4	40	990	2003
2003	02	27	1800	17.4	120.5	45	988	2003
2003	02	28	0000	17.7	121.2	50	985	2003
2003	02	28	0600	18.4	121.2	50	985	2003
2003	02	28	1200	18.8	121.3	50	985	2003
2003	02	28	1800	19.4	121.6	50	985	2003
2003	03	1	0000	20.1	121.7	50	985	2003
2003	03	1	0600	20.4	121.9	40	990	2003
2003	03	1	1200	22.1	122.0	35	995	2003

Figure 1. Track of Tropical Cyclone *Graham* 26 February – 2 March 2003
All times in WST.

