

Tropical Cyclone Brenda 05/04/1978 to 14/04/1978

(i) General

"Brenda" was the sixth and last tropical cyclone of the 1977/78 season to operate in the Northwestern Australian Region. It was a small tropical cyclone. Although gale force winds probably persisted for several days they would not have extended far from the centre. Maximum winds close to the centre are estimated to have reached 90 km/h during its mature stage.

(ii) Development

Most of the information concerning the development of this system was deduced from satellite photographs. "Brenda" was a small tropical cyclone of only moderate intensity which developed from a cloud cluster on the southern side of the ITCZ on 4 April.

The system appeared to deepen to about 990 mb on 8 April. It maintained a similar pressure for over two days before gradually weakening.

Ship data confirm that the effects of the system were very limited in areal extent.

(iii) Features of the Track

The path followed by "Brenda" is shown in Figure 6.1. During its lifetime of nine days "Brenda" travelled about 2000 km. The cyclone travelled at between 5 and 8 km/h during its developing and mature stages but gradually increased its speed to 13 km/h during its weakening phase.

The unusual feature of the track is that two major changes of direction occurred, the first being to the southeast and the second to the west- southwest.

During both periods when the tropical cyclone had a westerly component to its movement a lower and middle level anticyclone was the dominant feature over the western half of Australia. The temporary strengthening of a low pressure trough near the west coast began immediately prior to the first recurvature of the cyclone.

(iv) Rainfall

"Brenda" was a small storm and all rainfall associated with it fell over the ocean.

(v) Winds

It is estimated that winds of about 90 km/h would have been generated close to the centre between 8 and 11 April. No reports of gale force winds were received. At 081200 GMT a ship about 90 km from the centre reported a wind of only 38 km/h.

(vi) Seas and Swells

Rough seas were probably caused by "Brenda" but no reports of such conditions were received.

(vii) Satellite Analysis

"Brenda" was photographed daily by the NOAA 4 orbiting satellite and the Japanese Geostationary Meteorological Satellite (GMS). Data from selected GMS photographs is given in Table 6.1.

On 6 April a small CDO was visible with a wide band surrounding it. The system was designated T 2 at that stage with ongoing development likely. Over the next 48 hours the system developed to T 3.5. It then possessed a small CDO with a broad band of cloud half encircling it. Little change in the cloud features occurred during the next 48 hours. On 10 April the system weakened as it moved into a region of strong unidirectional flow aloft. On 11 April the banding features had largely disappeared although a small CDO was still apparent. Further weakening occurred over the next three days as the dense overcast became smaller and sheared off from the lower level cloud field. At no time did "Brenda" exceed T 3.5.

Table 6.1 Data from Satellite Photographs

Satellite Name	Date/Time (GMT)	Estimated posn. of centre		Final T No.	Min. Sea Level Pressure
		°S	°E		
GMS	050000	11.0	120.4		1007
	060000	11.7	118.4	2	1005
	070300	12.0	116.6	3	995
	080000	12.8	115.0	3.5	990
	090000	14.3	113.7	3.5	990
	100000	14.8	114.5	3.5	990
	110000	15.6	116.2	3	995
	120000	15.9	117.4	2.5	1000
	130000	16.9	116.0	1.5	1004
	140000	17.5	112.0		1006