Australian Government
Bureau of Meteorology

Tropical Cyclone *Nicky*

8 – 10 March 2004

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

TC *Nicky* developed west of the Cocos Islands and reached category 2 intensity before moving west of 90°E and being renamed *Helma* by La Reunion RSMC.

Nicky remained over open waters throughout its lifetime and there were no known impacts.

B. Meteorological Description

A low developed near 15°S 90°E west of Cocos Islands on 8 March in the vicinity of deep convection along the monsoon trough. The sea surface temperature in this area was about 27-28°C. There had been a persistent area of convection for several days previously yet a discrete low was not discernible. The low was identified on satellite imagery at 0000 UTC 8 March. At that time a Quickscat image showed a band of westerly gales to the north. Visible imagery showed an exposed low-level circulation that initially moved to the northwest then northeast during 8 March. At this time the low was experiencing about 20 knots of shear. The system then tracked to the southwest then south developing further on the 9th when the shear dropped to about 10 knots. Cyclone intensity was estimated at 0600 UTC 9 March when deep convection appeared to be wrapped around the low level circulation.

Despite being in an environment of low shear further development was not immediately apparent for the next 18 hours. Indeed the Quickscat image at 1200 UTC 9 March still suggested that gales remained only in the north and banding features were relatively weak.

More rapid development was apparent during 10 March as *Nicky* moved to the south southwest near the 'shear ridge' as shown on the visible image at 0930 UTC. *Nicky* eventually crossed 90°E at approximately 1200 UTC when Quickscat suggested winds of 50 knots near the centre.

Nicky was then renamed *Helma* by La Reunion RSMC and developed further reaching category 3 intensity before weakening.

C. Impact

Nicky remained over open waters throughout its lifetime and there were no known impacts.

D. Observations

Nil.

Table 1. Best track summary for *Nicky*, 8 – 10 March 2004.
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 Long. E	Central Pressure hPa	Max Wind 10-min knots	Max Gust Winds nm	Rad. Gale nm	Rad. Storm nm	RMW nm
2004	3	8	0	90.8	13.4	1004	30	45			
2004	3	8	6	90.7	13.1	1002	30	45			
2004	3	8	12	91.0	12.8	1000	30	45			
2004	3	8	18	91.2	12.8	1000	30	45			
2004	3	9	0	90.9	13.0	998	30	45			
2004	3	9	6	90.6	13.3	995	35	50	80		20
2004	3	9	12	90.7	13.8	995	35	50	80		20
2004	3	9	18	90.9	14.0	995	35	50	80		20
2004	3	10	0	90.7	14.1	992	40	60	80		20
2004	3	10	6	90.3	14.9	990	45	65	80		20
2004	3	10	12	90.0	15.6	985	50	70	80	20	15

Figure 1. Track of Tropical Cyclone *Nicky 8 – 10 March 2004*
All times in WST.