Australian Government
Bureau of Meteorology

Tropical Cyclone *Oscar*

21- 28 March 2004

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

An Indian Ocean low developed between Cocos and Christmas Islands on 21 March initially moving to the south then to the west late the following day. Initially hampered by moderate to strong wind shear, the system reached cyclone intensity at about 0900 UTC 23 March. *Oscar* continued its westward movement until 25 March when it tracked to the southwest and developed reaching category 4 intensity the next day. Increasing wind shear weakened the system markedly on 27 March. Perth TCWC issued the final shipping warning for Oscar at 1600UTC 27 March when it moved west of 90°E being handed to La Reunion RSMC and renamed *Itseng*. The system continued to weaken and was below cyclone intensity late on 28 March. There were no known impacts from this cyclone.

B. Meteorological Description

A low level circulation centre (LLCC) was evident on 21 March initially moving to the south southeast then south southwest but was remained well separated from the area of deep convection to the west.

On 22 March this exposed LLCC took a westward track moving toward the convection during the day. However, continuing strong northeasterly wind shear exceeding 20 knots restricted development and overnight microwave imagery still showed the LLCC east of the main convection.

The shear reduced below 20 knots on 23 March and convection became more centred about the LLCC. TC intensity is estimated at 0900 UTC when banding features had improved, although gales were most prominent on the southern side of the system as indicated by Quickscat (not shown). A transient mid-level ridge to the south steered *Oscar* to the west but a more south southwesterly track ensued in subsequent days as the ridge eroded.

Despite persisting moderate shear, Quickscat imagery suggested maximum winds of 50-60 knots on 24 March. By early on 25 March the shear dropped to less than 10 knots and *Oscar* developed to category 4 intensity. A ragged eye became evident on visible imagery but was more clearly identifiable on microwave imagery. Eye features were very well defined later in the day as shown on the TRMM microwave image at 2010 UTC 25 March in Fig. 2. The peak intensity on IR imagery was at approximately 1830 UTC 25 March when

the Dvorak T number reached 5.5 and hence the peak intensity was estimated at 90 knots at 0000 UTC 26 March.

A well-defined eye persisted on 26 March as shown on the 0735 UTC AQUA visible image in Fig. 3, and Quickscat still suggested winds in excess of 60 knots at 1200 UTC. However with continued southward movement, *Oscar* encountered increasing shear. Initial weakening began after 1200 UTC 26 March with the loss of eye features on IR imagery and then on microwave imagery at 1900 UTC. Possibly dry air intruding from the south associated with a strong high may have contributed to this initial weakening. Wind shear increased from about 10-15 knots at 0000 UTC to more than 20 knots 12 hours later and *Oscar* rapidly weakened on 27 March. The LLCC became exposed as deep convection diminished. The system crossed over 90°E and subsequently weakened below cyclone intensity.

C. Impact

There were no known impacts from this cyclone.

D. Observations

Nil.

Table 1. Best track summary for Tropical Cyclone *Oscar,* 21 – 28 March 2000.
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	Rad. Gales nm	Rad. Storm nm	Rad. Hurr. Winds nm	RMW nm
2004	3	21	0	103.5	12.0	1004	20	30				
2004	3	21	6	103.8	13.3	1004	20	30				
2004	3	21	12	103.4	14.2	1004	20	30				
2004	3	22	18	103.1	14.7	1004	20	30				
2004	3	22	0	102.7	15.2	1004	20	35				
2004	3	22	6	101.5	14.9	1004	20	35				
2004	3	22	12	101.1	14.8	1002	25	40				
2004	3	22	18	100.8	14.6	1000	25	40				
2004	3	23	0	100.1	14.5	998	25	40				
2004	3	23	6	99.2	14.4	996	30	45				
2004	3	23	9	98.9	14.3	995	35	50	50			30
2004	3	23	12	98.6	14.2	992	45	60	60			30
2004	3	23	18	97.8	14.2	988	50	70	70	30		25
2004	3	24	0	96.9	14.3	985	50	70	70	40		25
2004	3	24	6	96.2	14.5	985	50	70	70	40		25
2004	3	24	12	95.5	14.8	980	55	75	70	40		25
2004	3	24	18	94.6	15.0	980	60	80	70	40		25
2004	3	25	0	93.6	15.2	985	60	80	70	40		25
2004	3	25	6	93.0	15.8	970	60	85	70	40	25	20
2004	3	25	12	92.8	16.2	965	70	95	70	50	30	20
2004	3	25	18	92.6	16.6	945	85	115	70	50	30	15
2004	3	26	0	92.4	17.0	940	90	120	70	50	30	15
2004	3	26	6	92.3	17.2	940	90	120	70	50	30	15
2004	3	26	12	92.0	17.7	940	90	120	80	50	30	15
2004	3	26	18	91.6	17.7	945	85	115	80	50	30	15
2004	3	27	0	91.0	17.9	950	80	110	80	50	30	20
2004	3	27	6	90.6	18.5	960	70	100	60	40	20	25
2004	3	27	12	90.3	18.9	970	60	85	50	20	20	25
2004	3	27	18	89.7	19.3	980	50	70	30	20		20
2004	3	28	0	89.3	19.4	990	40	60	30			20
2004	3	28	6	89.0	19.6	1000	30	45				

Figure 1. Track of Tropical Cyclone *Oscar,* 21 – 28 March 2000
All times in WST.

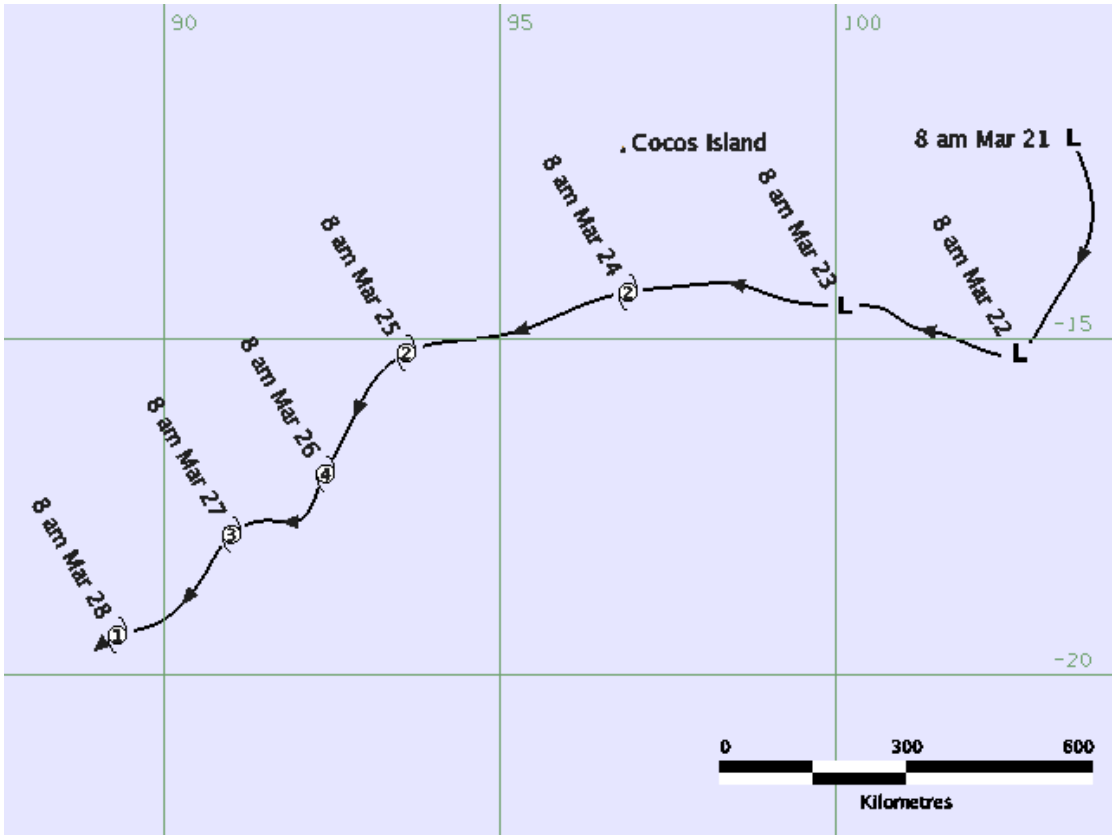

Figure 2.TRMM 85GHz Microwave image of Tropical Cyclone *Oscar* close to maximum intensity, 2010 UTC 25 March.
(image courtesy of US NRL: http://www.nrlmry.navy.mil/)

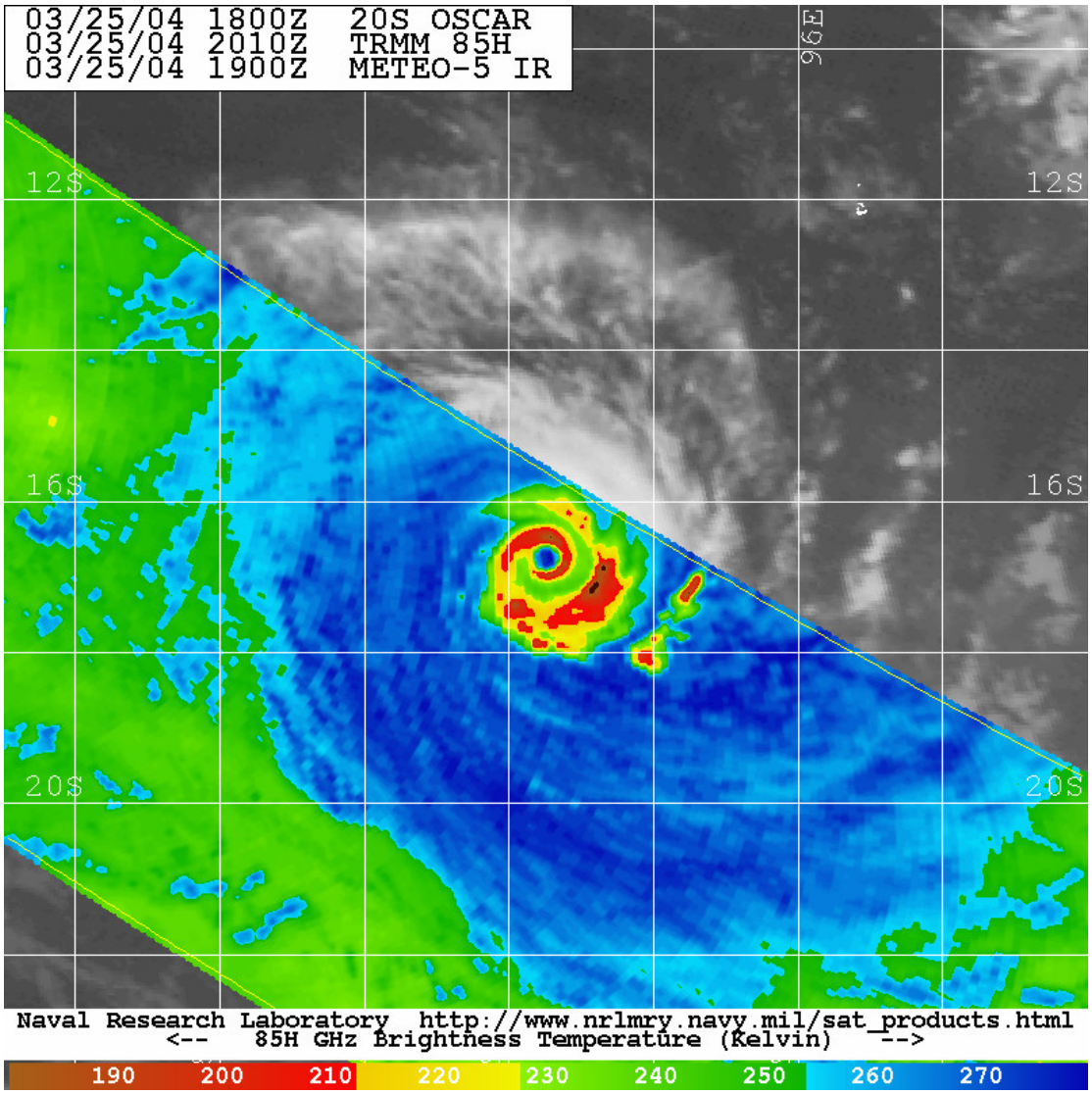

Figure 3. Visible image from the Aqua satellite at 0735 UTC 26 March 2004 (received by Bureau of Meteorology courtesy of NASA).