Australian Government
Bureau of Meteorology

Tropical Cyclone *Durga*

20 – 26 April 2008

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A. Summary

A low which formed in an active monsoon trough during 20 April moved southeast and reached cyclone intensity on 22 April. This was the first tropical low named by the newly established Jakarta Tropical Cyclone Warning Centre (TCWC). It crossed into Australia's area of responsibility late on 23 April and weakened below cyclone strength by the morning of 25 April.

B. Meteorological Description

Intensity analysis

Convection about the monsoon trough was very active on 18 and 19 April with vigorous NW winds to the north. Quickscat showed an elongated trough during this period. During 20 April a circulation became evident in the western portion of the trough however moderate northerly shear hampered the development of the system. Microwave imagery showed the convection located to the south of the LLCC.

During 22 April shear over the system weakened which allowed convection to wrap around the LLCC and the system attained a DT/CI of 3.0. *Durga* continued to intensify over the next 6 hours reaching category 2 by 2100 WDST (1200 UTC) 22 April (Refer Fig. 2).

From 23 April northerly wind shear increased and the convection became located mainly on the southern side of the system. *Durga* maintained a FT/CI of 3.5 for another 12 hours before beginning to weaken. Despite this convection continued to be sustained in the southern quadrants and it wasn't until early on 25 April that the LLCC became totally separated from the cold cloud and *Durga* weakened below cyclone strength.

Motion

A low formed within an active monsoon trough on 20 April well to the north west of Cocos Island and moved in a general east southeast direction in the following days reaching tropical cyclone intensity. The 500 hPa flow shows a vigorous NW flow associated with a deep mid-latitude low and the monsoon. During 23 April a mid-latitude trough approached from the west and *Durga* began to move in a south easterly direction before turning south on 25 April and weakening to below cyclone strength.

Structure

Durga was a small TC with gales being only on the order of 60 nm from the centre in most quadrants. However gale and storm force winds extended much further south (at times gales up to 120 nm and storm force winds up to 70 nm) in the south western quadrant where most of the convection persisted during its lifetime.

Radius to maximum winds was difficult to estimate and at times was large due to the separation of the convection from the LLCC.

C. Impact

Durga had no impact on any communities.

E. Forecast Performance

There were no watch/warnings issued for any island communities.

Table 1. Best track summary for Tropical Cyclone *Durga,* 20 – 26 April 2008*.* Add 8 hours to convert to WST.

Year	Month	Day	Hour (UTC)	Position Latitude S	Position Longitude E	Position Accuracy nm	Max wind 10-min knots	Max gust knots	Central Pressure hPa	Rad. of Gales nm	Rad. of storm force winds	Radius Max. Wind (RMW)
2008	4	20	00	5.7	82.2	30	20	45	1004			
2008	4	20	06	5.7	82.6	30	20	45	1004			
2008	4	20	12	6.4	83.5	30	20	45	1002			
2008	4	20	18	6.5	83.9	30	20	45	1002			
2008	4	21	00	7.4	85.4	30	25	45	1000			
2008	4	21	06	8.1	85.7	30	25	45	1000			
2008	4	21	12	7.9	86.5	30	25	45	998			
2008	4	21	18	8.0	87.7	20	30	45	996			
2008	4	22	00	8.1	88.9	20	30	45	996			
2008	4	22	06	8.2	90.3	10	40	55	990	75		15
2008	4	22	12	8.1	92.6	10	50	70	984	75	40	15
2008	4	22	18	8.1	93.4	15	50	70	984	75	40	20
2008	4	23	00	8.6	94.8	20	50	70	984	70	35	40
2008	4	23	06	9.2	95.9	20	50	70	984	70	35	20
2008	4	23	12	9.4	97.2	20	50	70	984	60	25	30
2008	4	23	18	9.9	97.5	20	50	70	984	55	25	20
2008	4	24	00	10.0	98.3	10	50	70	984	55	25	30
2008	4	24	06	10.8	99.2	10	50	70	984	55	25	30
2008	4	24	12	11.4	99.7	30	35	50	990	55		80
2008	4	24	18	11.8	99.8	30	35	50	990	45		30
2008	4	25	00	12.7	100.1	20	35	50	990			15
2008	4	25	06	13.9	100.2	30	30	45	996			
2008	4	25	12	14.7	100.0	30	30	45	996			
2008	4	25	18	15.4	99.6	30	25	45	1000			
2008	4	26	00	16.4	99.6	30	25	45	1000			
2008	4	26	06	17.1	99.3	30	20	45	1000			

Figure 1. Track of Tropical Cyclone *Durga* 20 -26 April 2008. All times in WST.

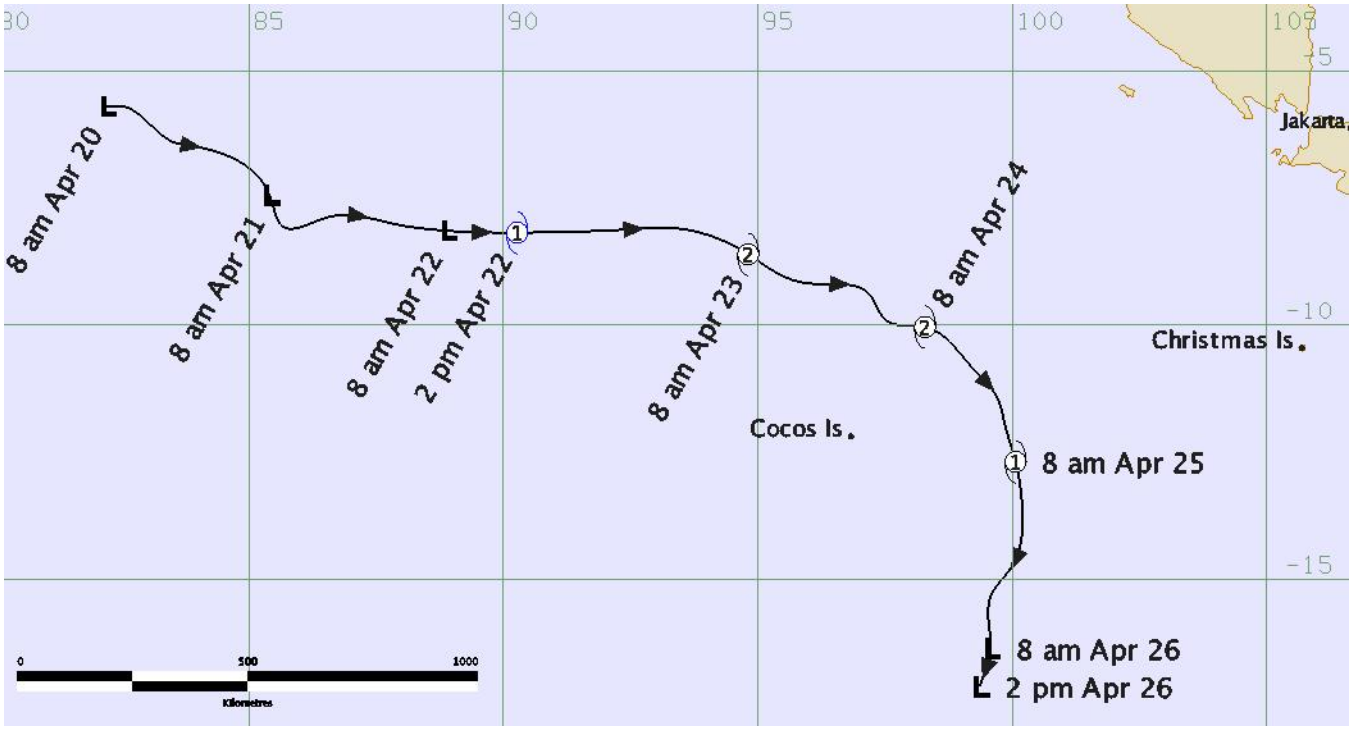

Figure 2. SSMI 91GHz microwave image at 22/1151 UTC.
(image courtesy of US NRL: http://www.nrlmry.navy.mil/)