



Australian Government
Bureau of Meteorology

Tropical Cyclone Lee
11-15 November 2008

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology
16 July 2008

A. Summary

On 11 November a weak low developed in the monsoon trough, approximately 800 km to the north of Cocos Islands. Over the next three to four days, the system drifted slowly towards the south southwest, and reached cyclone intensity at 1800 UTC 14 November, when it was about 700 km to the west northwest of Cocos Islands. Tropical Cyclone *Lee* continued to intensify, reaching category two intensity at 0000 UTC 15 November, and crossed 90°E into La Reunion's area of responsibility at 0600 UTC 15 November.

Once west of 90°E, the cyclone was renamed *Ariel*. The cyclone remained at category two intensity for about another two days as it drifted slowly westward, and thereafter rapidly weakened to below cyclone intensity.

B. Meteorological Description

The low developed within an active monsoon trough on 11 November. Early in its life, wind shear imposed an inhibiting factor to its development, and convection was significantly removed from the systems centre. Convection increased near the system centre early on 13 November as shear conditions improved, resulting in gradual intensification over the following two days. By 1800 UTC 14 November, upper level outflow to the southeast had improved, and the IR imagery showed a small system that had just reached tropical cyclone intensity (see Figure 3). The "best track" is shown in Figure 1 and the maximum wind shown in Figure 2. The best track positions and intensities are listed in Table 1.

A strong low-level ridge cradled the newly formed cyclone, increasing the extent of gales in southern quadrants. Gales to the south of the system extended for some 100 nautical miles, and 60 nautical miles on the northern side (see Figure 4). After passing west of 90°E a mid-level ridge developed to the south, steering the cyclone steadily towards the west for the next two days.

C. Impact

There were no known impacts resulting from Tropical Cyclone *Lee*.

D. Observations

Wind/Pressure

There were no reports of gale force winds from island locations.

Rainfall

Being a small system in a remote part of the Indian Ocean, there were no reports of significant rainfall from island locations.

Table 1. Best track summary for Tropical Cyclone *Lee*, 11-15 March 2007

Year	Month	Day	Hour (UTC)	Position Latitude S	Position Longitude E	Position Accuracy nm	Max wind 10min knots	Max gust knots	Central Pressure hPa	Rad. of gales nm	Rad. of storm force winds	Radius Max. Wind (RMW)
2007	11	11	0	5.3	95.2	30	15	35	1004			
2007	11	11	6	4.5	94.5	50	15	35	1004			
2007	11	11	12	3.3	93.7	50	15	35	1004			
2007	11	11	18	3.6	93.5	50	15	35	1004			
2007	11	12	0	3.9	93.3	30	20	45	1004			
2007	11	12	6	4.2	93.4	30	20	45	1002			
2007	11	12	12	4.5	93.5	30	20	45	1002			
2007	11	12	18	5.0	93.3	50	20	45	1002			
2007	11	13	0	5.4	93.0	50	20	45	1002			
2007	11	13	6	5.4	92.7	30	25	45	998			
2007	11	13	12	5.5	92.3	30	25	45	998			
2007	11	13	18	6.5	92.2	50	25	45	998			
2007	11	14	0	7.8	92.3	50	25	45	998			
2007	11	14	6	8.5	92.0	50	25	45	998			
2007	11	14	12	9.2	91.3	30	30	45	996			
2007	11	14	18	9.7	90.8	30	40	55	992	60		15
2007	11	15	0	10.2	90.5	30	50	70	984	100	40	15
2007	11	15	6	10.6	90.0	30	50	70	984	100	40	15

Figure 1. Track of Tropical Cyclone Lee, 11-15 November 2007.

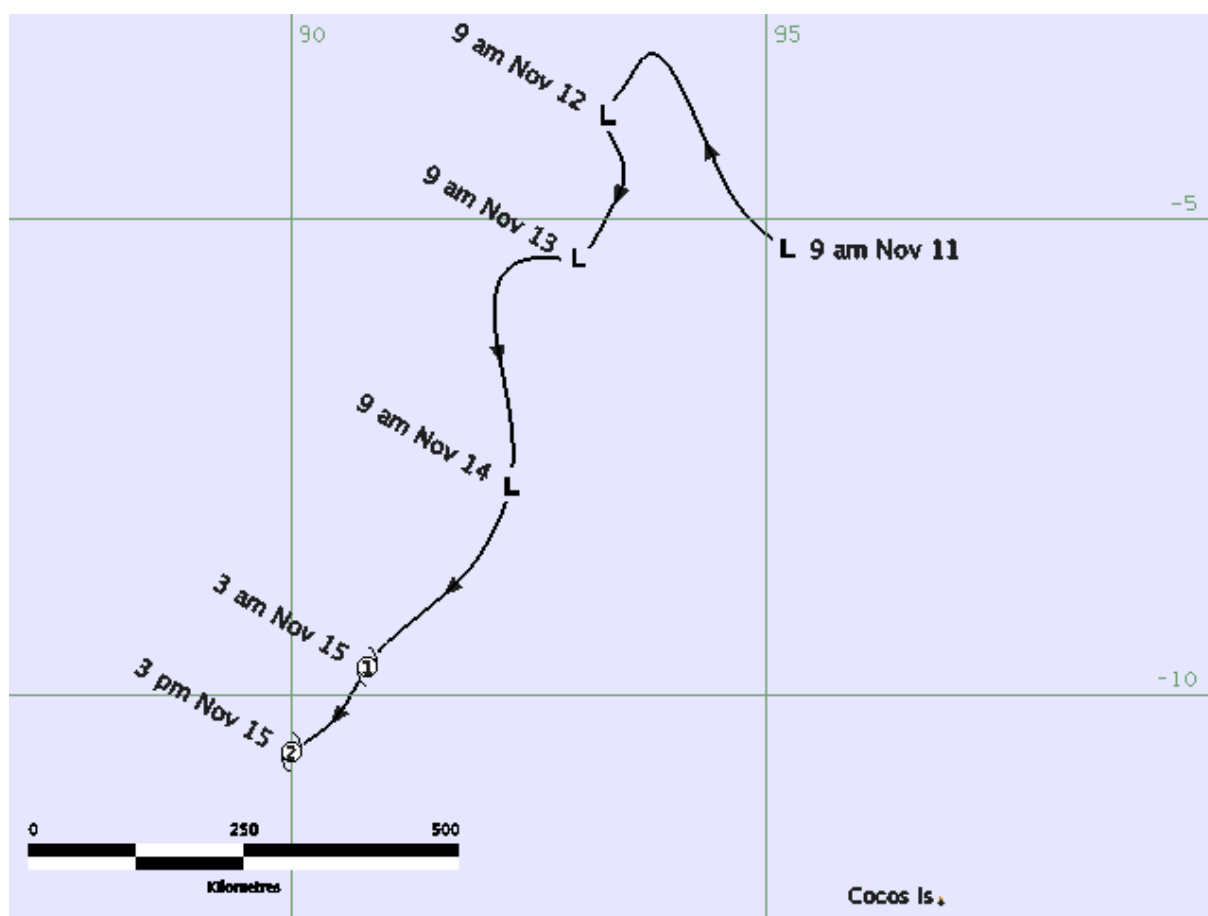


Figure 2. Best Track maximum mean winds (10 minute) for Tropical Cyclone Lee, 11-15 November 2007.

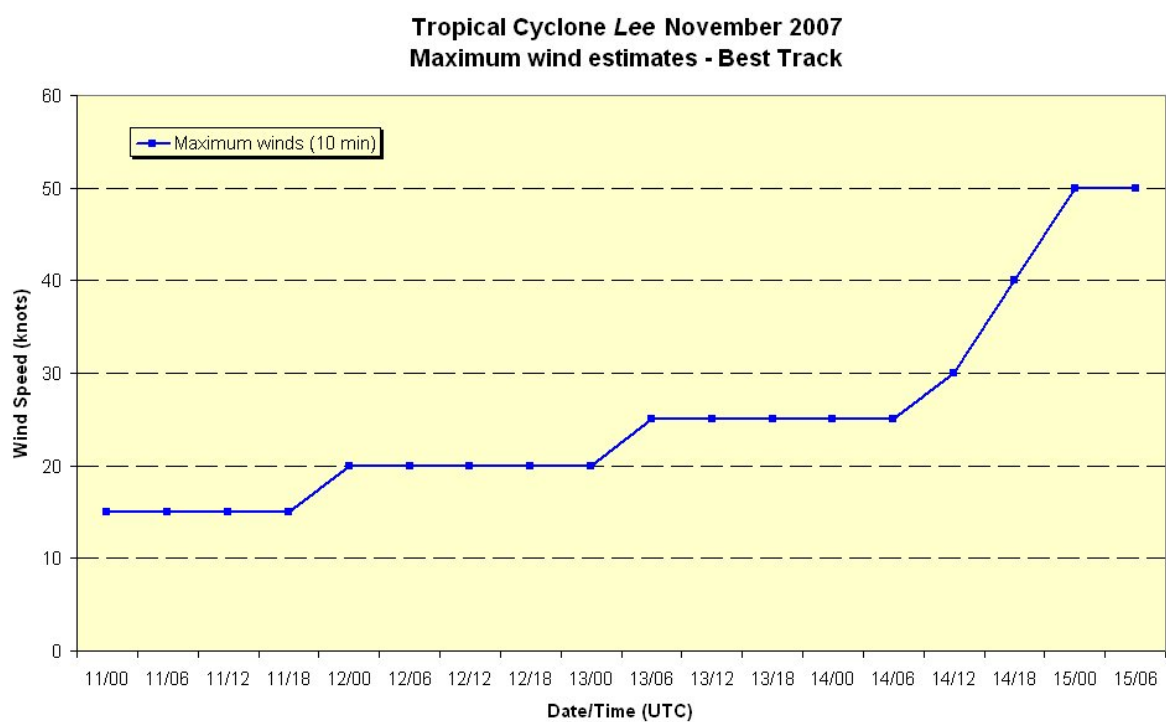


Figure 3. IR satellite image at 14/1733UTC.

(MTSAT-1R : Satellite image originally processed by the Bureau of Meteorology from the geostationary satellite MTSAT-1R operated by the Japan Meteorological Agency.)

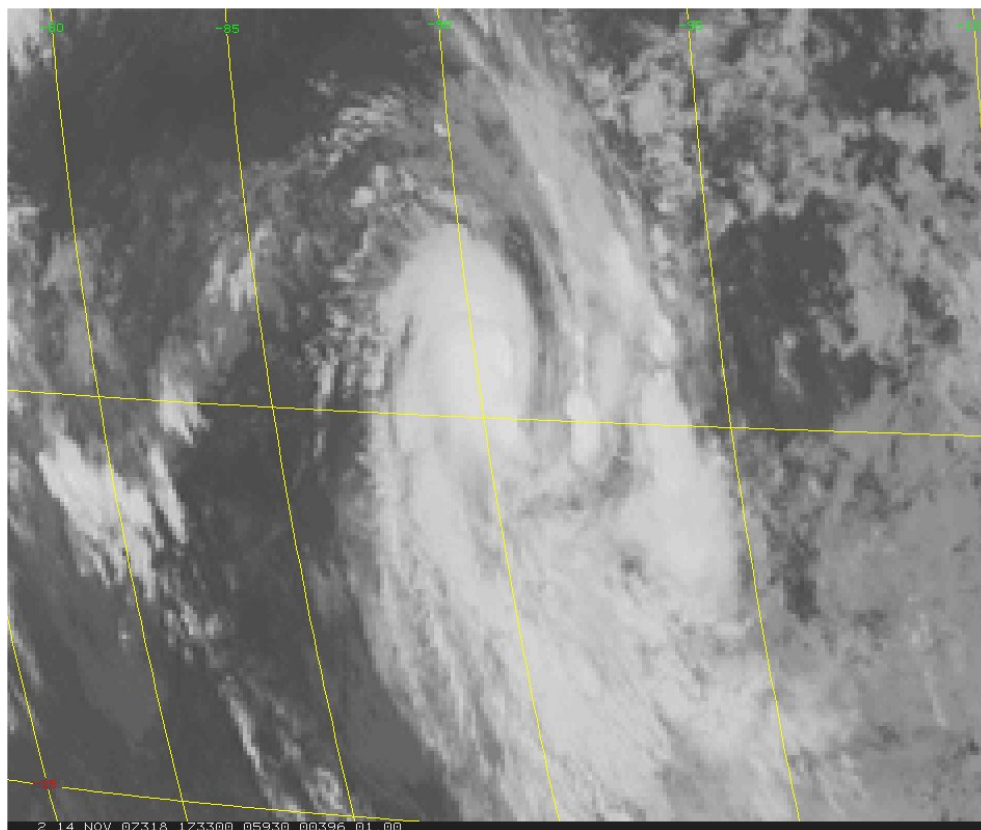


Figure 4. Quikscat at 23:53UTC 14 November 2007.

(image courtesy of NOAA: <http://manati.orbit.nesdis.noaa.gov/quikscat/>)

