Australian Government
Bureau of Meteorology

Severe Tropical Cyclone *Jacob*

15 – 28 February 1985

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

Early on I5 February, satellite and synoptic data indicated a weak low off the eastern tip of Timor. A day later the convective activity became more vigorous and extended over most of the Timor Sea. The low moved steadily in a west-south-westerly direction along the monsoon trough and slowly intensified to reach tropical cyclone intensity by 1800 UTC 16 February. *Jacob* became the fifth tropical cyclone active in a monsoon trough which stretched from the north- west coast of Australia to the east coast of Africa. The tropical cyclones outside the Australian region were *Feliska* near 12.0°S, 47.0°E and *Gerimena* near 16.S°S, 56.0°E.

After attaining tropical cyclone intensity the rate of development of *Jacob* changed from slow to nor- mal according to the Dvorak satellite analysis scheme. Peak intensity of 950 hPa was estimated to have been reached at about 0600 UTC 20 February. An unusual feature of the time variation of intensity of *Jacob* was the long duration of near peak intensity. Estimated central pressure was below 960 hPa from 0600 UTC 19 February to 0001 UTC 24 February (4.75 days). During this period the surface circulation extended 800 km from the centre and gales were reported up to about 550 km from the centre. The highest wind speed reported was 93 km/h from a ship located 190 km from the centre at 0600 UTC 21 February. At 2300 UTC 23 February a buoy about 25 km south of the centre recorded a pressure of 961.6 hPa and at 0136 UTC 25 February a buoy about 110 km to the northeast of the centre reported a pressure of 988.7 hPa.

Entrainment of cool and relatively drier air from the south intermittently suppressed convection over the southern quadrants of the storm from 22 to 26 February. The inflow of cool air from the south, highlighted by the south to north orientated low stratocumulus cloud- band near 20°S, 101°E, has suppressed convection in the southwest quadrant of *Jacob.* During this period *Jacob* closely (to within about 100 km) paralleled the track of *Isobel* four to five days earlier. The mixing and cooling of the ocean surface in this area by *Isobel* very likely had a weakening effect on *Jacob.*

From 24 to 26 February *Jacob* decayed more rapidly over the cooler waters but maintained a banding structure with convection near the centre, until early on 26 February when the high-level circulation was sheared by upper-level

northwester lies. Over nine days from 1200 UTC 17 February to 1200 UTC 26 February, while above cyclonic intensity, *Jacob* travelled about 4800 km at an average speed of 20 km/h.

There was no known impact associated with TC *Jacob*.

Table 1 Best track summary for Tropical Cyclone *Jacob* 15 – 28 February 1985. 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 Longitude E	Max wind knots	Central Pressure hPa	Rad. of Gales nm
1985	2	15	0000	9.0	127.6	25	1003	
1985	2	15	0600	10.1	127.3	25	1001	
1985	2	15	1200	11.0	127.1	30	1000	
1985	2	15	1800	11.7	126.7	30	1000	
1985	2	16	0000	12.1	126.1	30	999	
1985	2	16	0600	12.3	125.3	35	998	
1985	2	16	1200	12.5	124.4	35	997	
1985	2	16	1800	12.6	123.3	35	995	
1985	2	17	0000	12.7	122.1	40	994	
1985	2	17	0600	13.1	121.2	45	992	
1985	2	17	1200	13.4	120.4	45	990	
1985	2	17	1800	13.8	119.7	50	988	
1985	2	18	0000	14.1	118.9	55	984	
1985	2	18	0600	14.4	118.1	60	980	
1985	2	18	1200	14.7	117.4	65	976	
1985	2	18	1800	14.8	116.7	80	966	
1985	2	19	0000	15.0	116.1	80	963	
1985	2	19	0600	15.1	115.1	85	957	
1985	2	19	1200	15.2	114.7	90	953	
1985	2	19	1800	15.4	113.9	95	952	
1985	2	20	0000	15.5	113.0	95	952	
1985	2	20	0600	15.7	112.2	95	950	
1985	2	20	1200	15.7	111.5	95	951	
1985	2	20	1800	15.8	110.9	95	952	175
1985	2	21	0000	15.9	110.1	95	952	235
1985	2	21	0600	15.9	109.1	95	952	
1985	2	21	1200	16.1	107.9	95	953	235
1985	2	21	1800	16.3	106.5	95	953	
1985	2	22	0000	16.9	105.3	90	954	
1985	2	22	0600	17.5	104.3	90	954	
1985	2	22	1200	18.0	103.4	90	955	
1985	2	22	1800	18.3	102.8	90	955	
1985	2	23	0000	18.7	102.2	90	956	15
1985	2	23	0600	19.3	101.5	85	957	195
1985	2	23	1200	20.1	100.4	85	958	225
1985	2	23	1800	20.8	99.4	70	959	
1985	2	24	0000	21.8	98.7	85	960	
1985	2	24	0600	22.7	97.5		963	

1985	2	24	1200	23.7	96.7	80	966	150
1985	2	24	1800	24.9	96.1	75	970	
1985	2	25	0000	26.1	95.8	65	976	
1985	2	25	0600	27.5	95.5	60	979	
1985	2	25	1200	29.0	95.4	60	982	
1985	2	25	1800	30.7	95.6	55	985	
1985	2	26	0000	32.5	96.1	50	988	
1985	2	26	0600	34.4	97.4	45	992	
1985	2	26	1200	35.5	98.8	40	994	
1985	2	26	1800	36.6	100.2	40	995	
1985	2	27	0000	37.4	101.7	35	996	
1985	2	27	0600	38.2	103.2	35	997	
1985	2	27	1200	38.8	105.6	35	998	
1985	2	27	1800	39.2	108.5	30	999	
1985	2	28	0000	39.2	111.4	25	1002	

Figure 1. Track of Tropical Cyclone *Jacob* 15 – 28 February 1985
All times in WST.