



Australian Government
Bureau of Meteorology

Tropical Cyclone *Selwyn*

26 December 1997 – 3 January 1998

Perth Tropical Cyclone Warning Centre
Bureau of Meteorology

A. Summary

TC *Selwyn* formed about 650 km east southeast of Christmas Island from an area of convection within the monsoon trough, this was the first case of cross equatorial flow into the southern hemisphere for the 1997/98 season. During the same period TC *Sid* developed near the NT coast and moved into the Gulf of Carpentaria. *Selwyn* intensified rapidly to cyclone status early on the morning of 27 December and peaked at category three intensity during 28 December before weakening over open waters as it moved west. Apart from increasing swell along the NW coast the cyclone had no direct impact on the mainland or Island communities.

B. Meteorological Description

Intensity Analysis

Selwyn formed during the first active phase of the northwest monsoon in Australian longitudes for the 97/98 cyclone season. It formed in a low shear area beneath the axis of the upper ridge. There was moderate low-level cross equatorial northwest flow to the north of both *Selwyn* and *Sid*. *Selwyn* weakened under increasing shear on 29 December.

Motion

After *Selwyn*'s initial development when movement was slow, *Selwyn* was steered southwest as it moved around the shoulder of the dominant high to its southeast. The high had the shape of the anticyclone in the High Amplitude (H) Pattern, with the cyclone being in the Ridge Poleward (RP) region of this pattern. During the night of 28 December *Selwyn* moved south of the upper ridge axis and encountered strengthening NW winds. These winds combined with increasing low level SE winds on its southern side caused *Selwyn* to shear early on the morning of 29 December. It then began a west to west northwest track as it came under the influence of the lower level ridge to the south. By 1 January it had moved onto the western shoulder of the lower level ridge to the south and then maintained a west southwest track as it moved past 90 degrees east. Once *Selwyn* had sheared it moved in the Standard (S) pattern, Dominant Ridge (DR) region of the lower level (around 850hPa) ridge to its south.

Structure

Selwyn was a reasonably small cyclone during its lifetime and thus was able to intensify rapidly in its development stage but was also susceptible to vertical wind shear. It formed a well developed eye during 28 December but during that night the cloud field around the cyclone became elongated along a NW-SE axis. A low level centre becoming exposed on the northern flank of the cloud mass overnight on 29 December.

C. Impact

Apart from an increase in the swell along the NW coast, there was no reported impact or damaged caused by *Selwyn*.

Table 1. Best track summary for *Selwyn*, 25 December 1997 - 2 January 1998. 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 10min knots	Central Pressure hPa	Rad. of Gales nm
1997	12	25	1600	11.9	110.9	20	1006	
1997	12	25	2200	11.9	111.2	20	1004	
1997	12	26	0400	12.0	111.8	25	1002	
1997	12	26	1000	12.7	111.8	25	1000	
1997	12	26	1600	13.4	111.5	35	995	
1997	12	26	2200	14.0	111.0	40	990	55
1997	12	27	0400	14.5	110.6	50	985	80
1997	12	27	1000	15.0	110.0	60	975	80
1997	12	27	1600	15.1	109.4	70	965	80
1997	12	27	2200	15.5	109.0	75	960	80
1997	12	28	0400	15.9	108.4	75	960	80
1997	12	28	1000	16.3	108.0	75	960	80
1997	12	28	1600	16.4	107.3	70	965	80
1997	12	28	2200	17.0	106.5	70	965	80
1997	12	29	0400	17.3	105.7	65	970	80
1997	12	29	1000	17.2	104.8	65	970	80
1997	12	29	1600	17.1	104.0	60	975	80
1997	12	29	2200	17.1	103.2	55	980	80
1997	12	30	0400	17.0	102.2	50	985	80
1997	12	30	1000	16.7	101.4	40	990	55
1997	12	30	1600	16.5	100.7	35	995	55
1997	12	30	2200	16.4	99.9	30	998	
1997	12	31	0400	16.4	99.1	30	998	
1997	12	31	1000	16.5	98.3	25	1000	
1997	12	31	1600	16.5	97.3	25	1000	
1997	12	31	2200	16.6	96.3	25	1000	
1998	01	1	0400	16.9	95.3	30	998	
1998	01	1	1000	17.2	94.4	30	998	
1998	01	1	1600	17.6	93.5	25	1000	
1998	01	1	2200	18.0	92.2	25	1000	
1998	01	2	0400	18.3	90.8	25	1000	
1998	01	2	1000	18.8	89.6	25	1000	
1998	01	2	1600	19.3	89.0	25	1000	
1998	01	2	2200	19.7	88.3	25	1000	

Figure 1. Track of Tropical Cyclone Selwyn 26 December – 3 January 1997.
All times in WST.

