

### CASE STUDY: Tropical Cyclone *Colin*, 1976

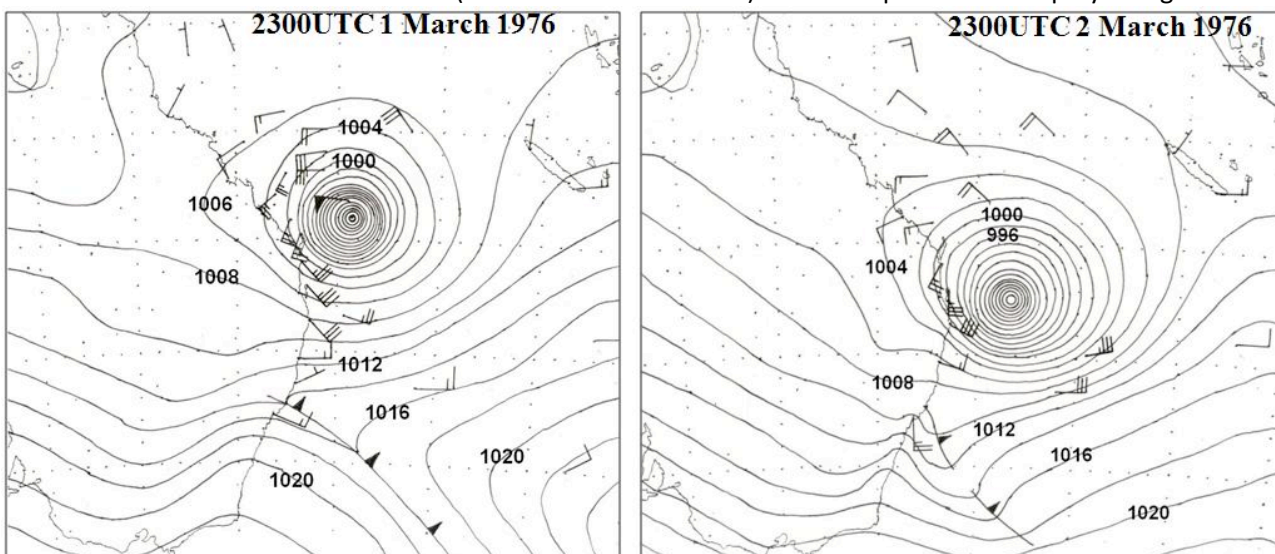
Tropical cyclone *Colin* formed in the Solomon Sea on 26 February 1976 and then moved south and intensified to a category 3 cyclone while in the Northern Coral Sea. It interacted with a series of upper troughs and the first produced very heavy rain in the Lismore area while *Colin* was in the northern Coral Sea. The interaction between the upper trough and *Colin* brought humid tropical NE flow and flood rains into the Lismore area.

Wilson's River at Lismore reached 10.14metres 9am 29th February 1976. The village of Teven was devastated. The highest ever known flood peaks occurred at Nashua, Eltham and Tatham. Federal recorded 290mm of rain in just 4 hours. The cyclone then continued to move south until it made its closest approach to the Queensland coast on 2 March 1976 when still a category 3 cyclone. At this stage it was about 250km ENE of Sandy Cape on Fraser Island and had a central Pressure of 955hPa. After leaving the tropics the cyclone moved parallel to the South Queensland coast and was 220 km east of Fraser Island at one point (Figure 1).

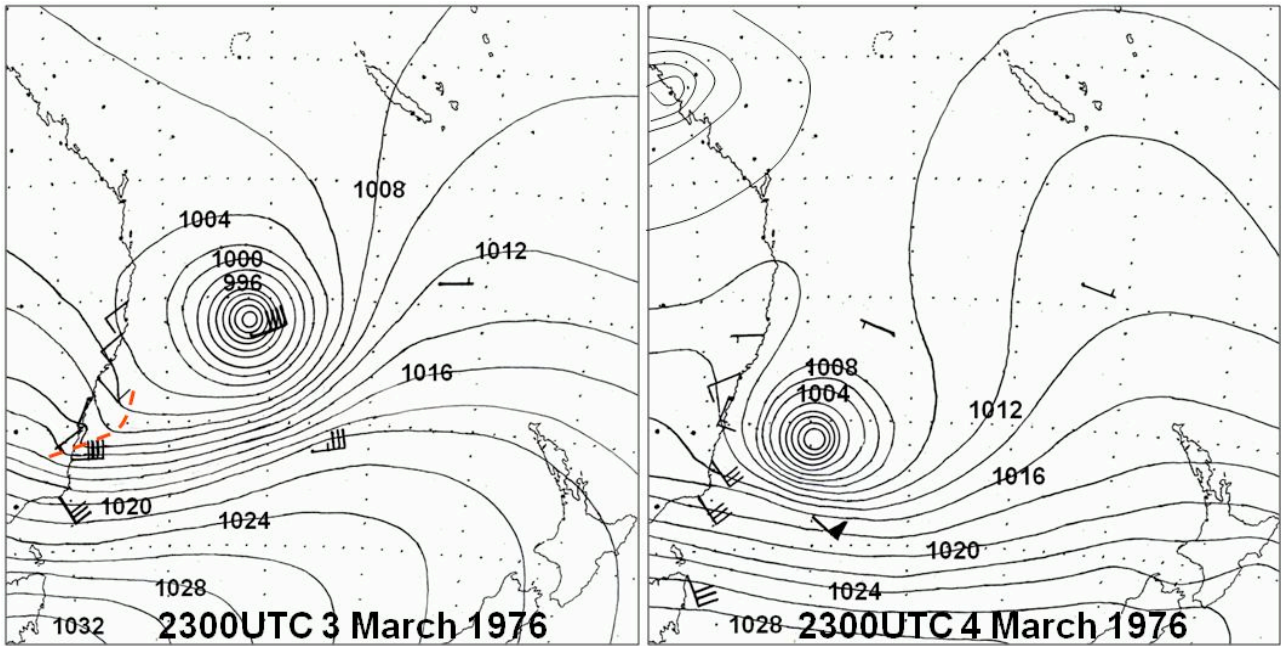
In Southern Queensland by far the greatest impact was from the large waves it generated and extensive beach erosion occurred along South Queensland Beaches. The wave recording station at Double Island Pt recorded a significant wave (peak) height of **6.4 m (9.6 m)**.

*Colin* was still an intense system when it passed near Lord Howe Island (Figure 2). The report from there at 7am 4 March was:-

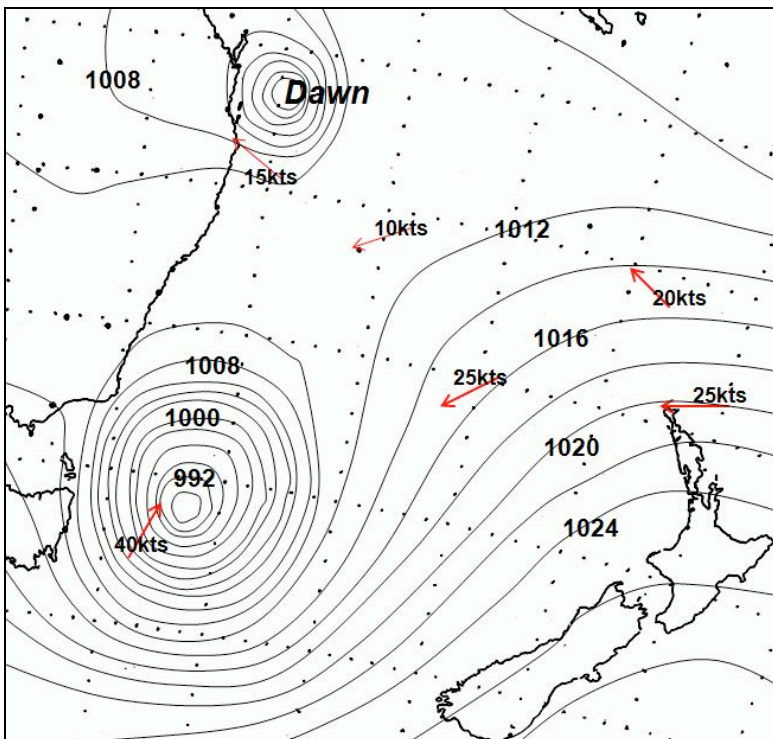
- Mean winds 090/48knots mean sea level pressure MSLP 990.2hPa max gust 69 knots
- Around this time it began extra tropical transition (Figures 2,3 and 4).
- Scores of houses were unroofed at Swansea near Newcastle
- Waves off Sydney Heads were estimated at 12 metres in height
- Several launches were destroyed when 2 metre waves penetrated into Botany Bay.
- A woman was killed at Tathra (Far South Coast of NSW) when swept off a cliff top by a large wave.



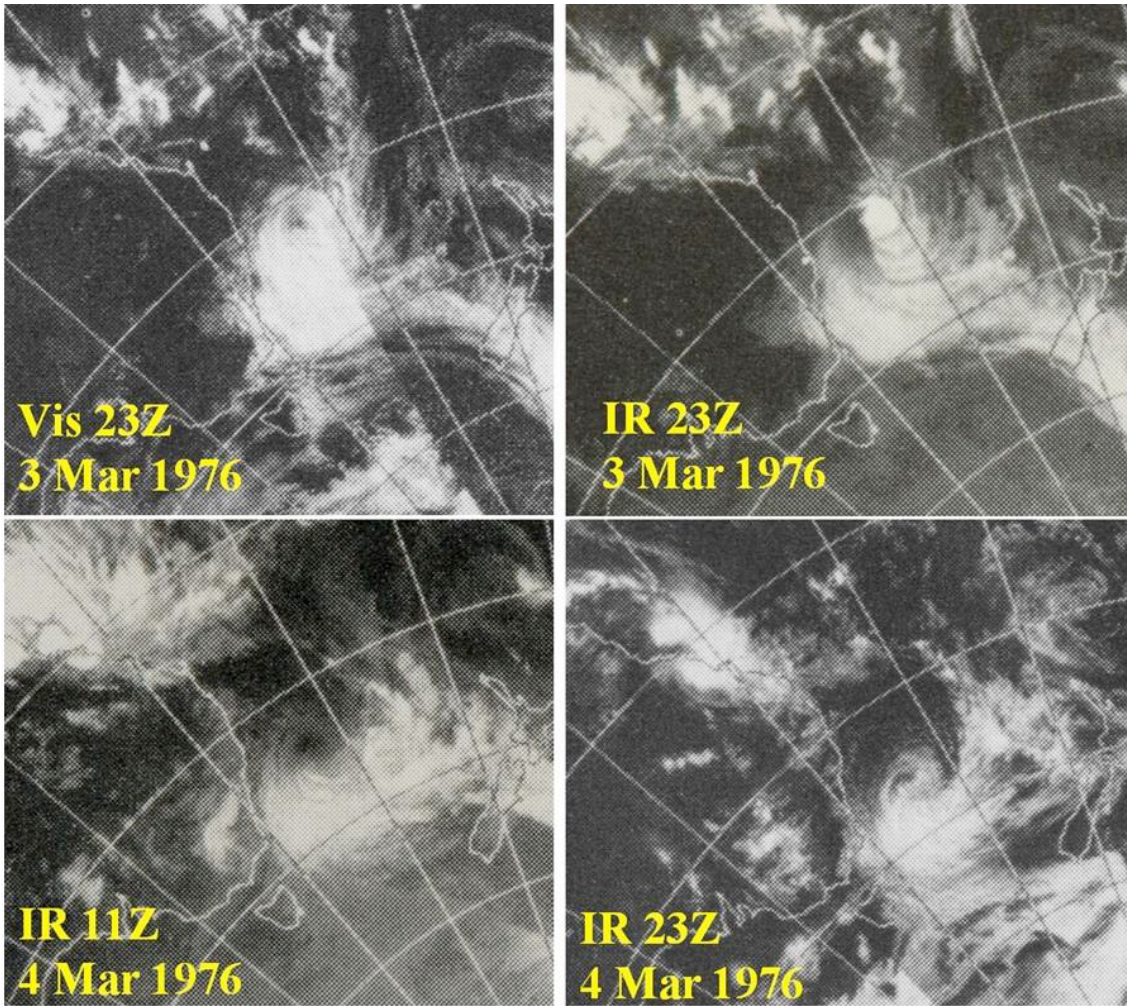
**Figure 1** Mean sea level pressure analyses and wind observations for 2300UTC 1 March 1976 (9am 2 March local time) and 2300UTC 2 March 1976 (9am 3 March local time).



**Figure 2** Mean sea level pressure analyses and wind observations for 2300UTC 3 March 1976 (9am 4 March local time) and 2300UTC 4 March 1976 (9am 5 March local time).



**Figure 3** Mean sea level pressure analyses and wind observations for 2300UTC 5 March 1976 (9am 5 March local time).



**Figure 4** Satellite imagery of reintensification of Colin as a deep Tasman Sea low from 2300UTC 3 March 1976 to 2300UTC 4 March 1976.