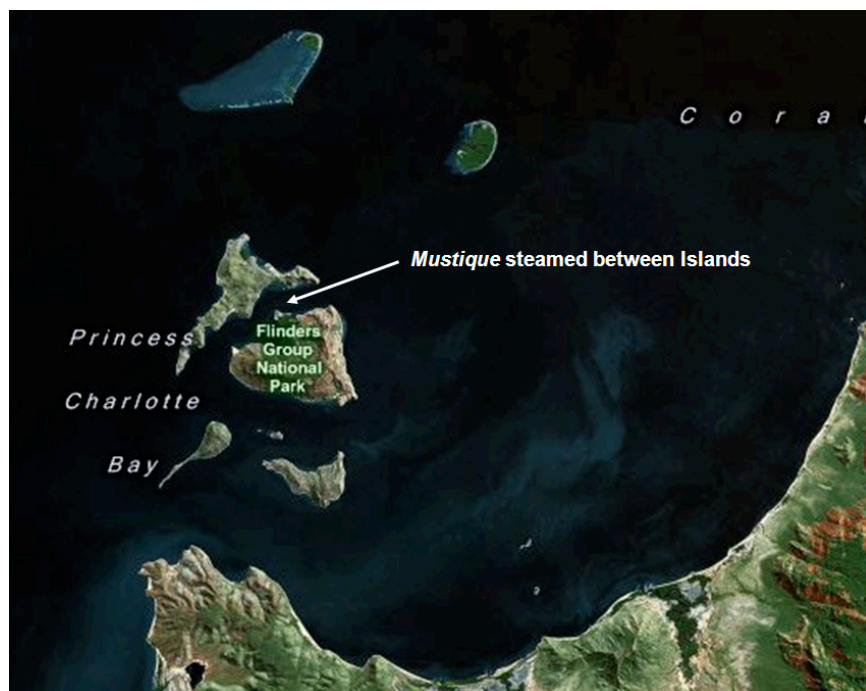


## CASE STUDY: Tropical Cyclone Ivor, March 1990

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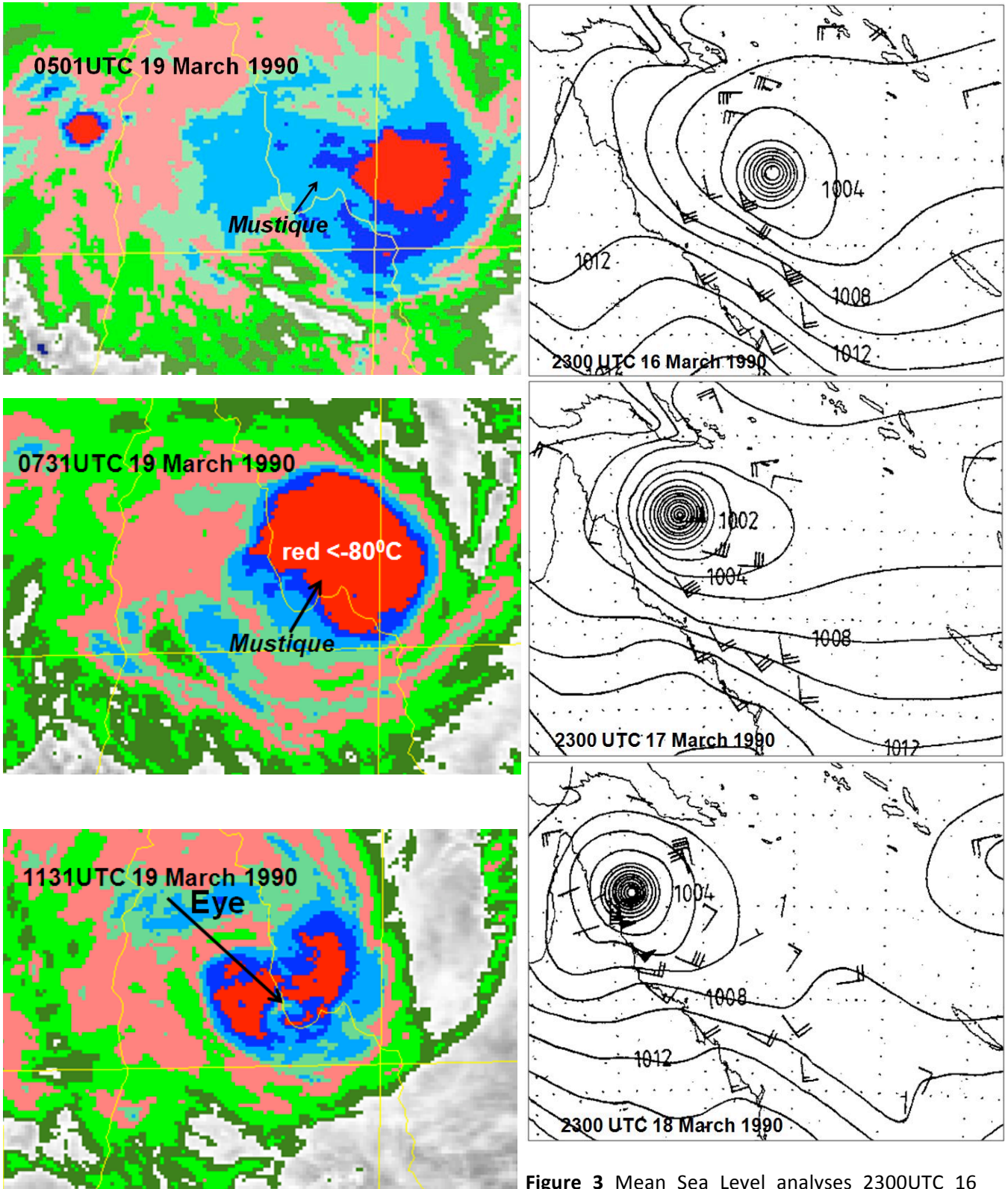
Tropical Cyclone *Ivor* crossed the coast near Princess Charlotte Bay. The analyses as it approached the coast can be seen in Figure 1. There was some structural damage to sheds and light damage to the main buildings in Coen. There was evidence of a tornado track from a swath of damaged trees 100m wide extending as far as the eye could see 40 km south of Coen. David Ambrose (07 38471847) was on board the vessel *Mustique*, which encountered sustained winds of 114.5 knots (maximum reading on the anemometer). They spent the period steaming between Flinders and Stanley Islands in Princess Charlotte Bay (see Figure 1). David Curnock, a dentist in Cairns was one of the crew and he recalled the ship's barometer falling to 928hPa. Bark was stripped off tress and there was extensive damage to Coral along the coast. The cyclone retained its identity as a monsoonal low and moved through the eastern Gulf and back down the east coast with heavy rain south of its centre. As it moved down the Central Coast unofficial 24 hour falls of 1000mm were reported near Yeppoon and this caused flash flooding and extensive damage in the Yeppoon area. There was an official report of 572.4mm in the 24hour to 9am 27 March at Pacific Heights Yeppoon.



**Figure 1** location where the vessel *Mustique* steamed while the eye of severe tropical cyclone *Ivor* passed over it.

From the three images below in Figure 2 between 0501UTC and 0731 UTC 19 March 1990 the red anvil cloud had been expanding east of the *Mustique* following development of deep convection. By 1131UTC 19 March (lowest panel in Figure 2) there was an eye evident on enhanced infrared imagery with the warmest eye

temperature in the range  $-54^{\circ}\text{C}$  to  $-61^{\circ}\text{C}$  surrounded by band  $-70^{\circ}\text{C}$  to  $-75^{\circ}\text{C}$  which yields Dvorak rating T6.0 or Australian Category 4 intensity. This would agree with observations from the *Mustique*.



**Figure 2** Enhanced infrared satellite imagery from 0501UTC to 1131UTC 19 March 1990.

**Figure 3** Mean Sea Level analyses 2300UTC 16 March 1990 (top left), 2300UTC 17 March 1990 (top right) and 2300UTC 18 March 1990 (lower left).