

SOME FEATURES OF THE NOVEMBER 1969 AND JUNE 1970 SOUTHERN HEMISPHERE ANALYSES

1. TROPICAL DEPRESSION "CORINNE"

F.A. Lajoie

The only Southern Hemisphere Tropical Depression observed during November 1969, occurred over the west of the Indian Ocean between 16 and 20 November. The track of this depression is shown in Fig 1.1. Although this tropical disturbance evolved off the northern coast of Malagasy and in the vicinity of the Comoro Islands ($11^{\circ} 42'S$, $43^{\circ} 14'E$), very few surface observations were available as this area was outside Melbourne's region of analysis. The development however, was followed from the daily digitised satellite cloud mosaics of ESSA 9 as well as the Automatic Picture Transmission (AFT) cloud photographs received in Mauritius from ESSA 8.

The cloud system associated with the initial stage of development of the tropical disturbance was photographed at 0542 GMT on 16 November 1969 by ESSA 8, in its 4212th orbit. There was an almost circular dense cloud mass about six degrees latitude diameter at the western extremity of the Intertropical Confluence (ITC) cloudband (Anderson *et al*, 1969). This cloud mass was partially separated by breaks from the ITC cloudiness, and was a "stage A" tropical disturbance, according to the general classification of tropical storms by Anderson. By about 1200 GMT on 17 November, a semi-circular "stage C" vortex had developed.

By 0533 GMT on 18 November (orbit 4237, ESSA 8), the cloud system associated with the disturbance was a bright circular cloud mass of about four degrees diameter centred near $10.5^{\circ}S$ $49^{\circ}E$. A few poorly organised peripheral cloudbands crossed the eastern and the southern overcast area at a relatively large angle, and the disturbance was classified as "stage X category 1", with an estimated maximum wind speed of 40 kt (75 km/hr). It was then named "Corinne" by the responsible meteorological services in this area.

The ESSA 9 digital mosaics indicated that by about 1200 GMT on 19 November, "Corinne" was completely divorced from the ITC cloudiness, and had reached an "X category 3" stage with an estimated maximum wind speed of 57 kt (105 km/hr). Through a thin cirrus shield, which was almost circular with a diameter of five degrees latitude, were clearly visible a few thin, but bright, spiral cloud bands around a very small central bright core, the diameter of which was about one degree latitude. An irregularly shaped eye was clearly visible near $12.5^{\circ}S$ $43.5^{\circ}E$. By 1200 GMT on 20 November, "Corinne", centred near $14^{\circ}S$ $39^{\circ}E$, was no doubt filling over land. The cirrus shield appeared thinner than before and no spiral cloud bands were visible.

It appears therefore that "Corinne" was a Tropical Depression of moderate intensity with a relatively small diameter. It moved in a general west-southwesterly direction at an average speed of 11 kt (20 km/hr).

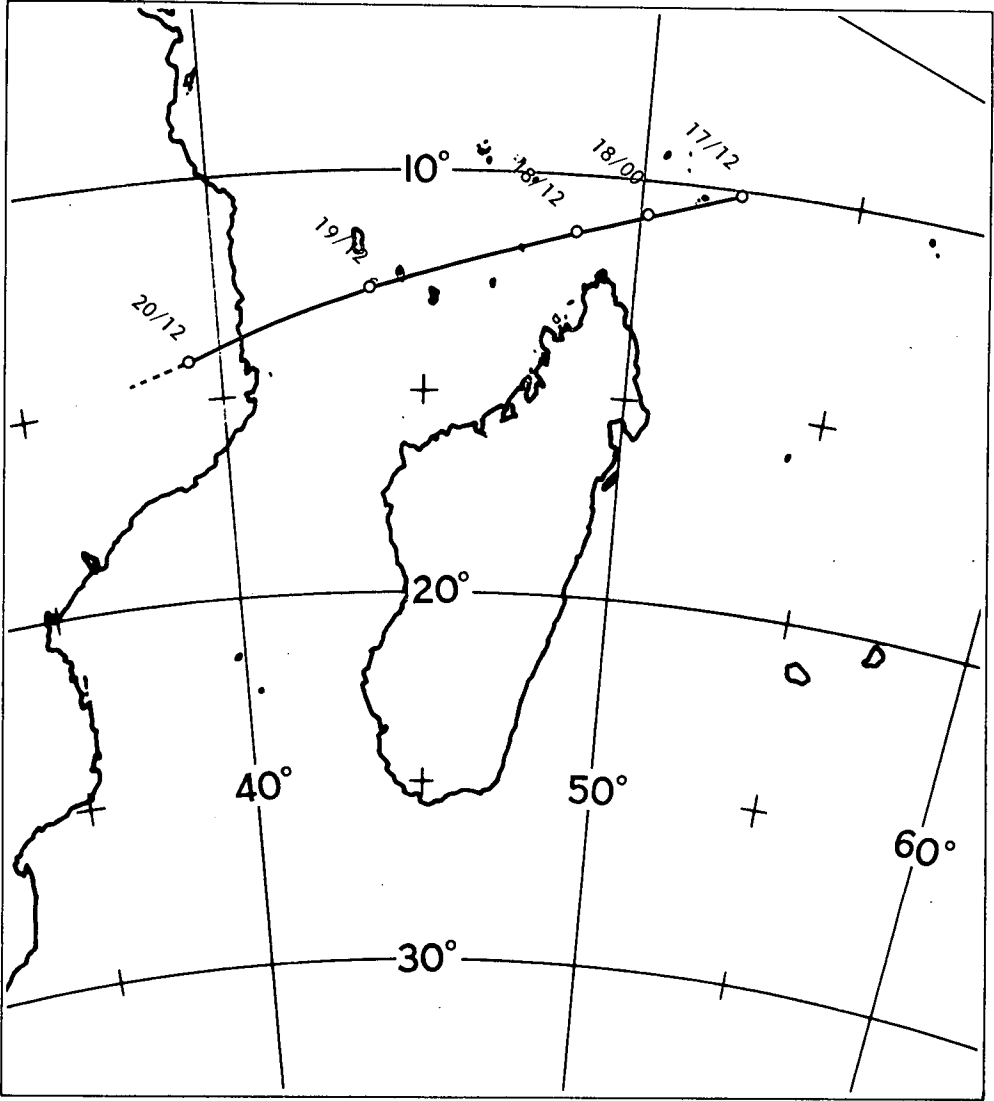


Fig 1.1 The track of cyclone "CORINNE" between 12 GMT 17 November and 12 GMT 20 November 1969.