



Abstract View

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The Tasman Front: A Study Using Satellite Infrared Imagery

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ABSTRACT

Monthly charts of the approximately zonal Tasman Front between the Australian coast, (near 152°E) and 164°E, and between latitudes, 31° to 37°S have been constructed from infrared satellite imagery for 29 months from March 1982 to April 1985. From these it was found that one to three meanders, but usually two, are present between 152° and 164°E, and that the second meander pinches off at times to form a warm-core ring in the same manner as is known to occur for the first meander. Both second meander and ring tend to propagate westwards. The mean zonal widths of the first and second meander are similar and are 3.6° to 3.7° longitude (330–345 km). The average and the most likely (modal) positions of the Tasman Front were determined and the two positions are most different when the Front meanders northward. The zonal length scale of frontal perturbations increases eastward from 140 near 155°E to 300 km near 161°E, and perturbations propagate westward at approximately 0.1 m s⁻¹.

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