COMPARISON OF SURFACE CURRENT DETERMINED FROM SATELLITE-TRACKED BUOY WITH SHIPBOARD WIND DATA DURING THE IV BRAZILIAN ANTARTIC EXPEDITION, 10-14 MARCH, 1986

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ABSTRACT

A drifting buoy developed by INPE was launched on 10 March at $63^{o}07.13'S$, $60^{o}22.90'W$ and tracked by System ARGOS, using NOAA-6 and NOAA-9 satellites until 14 March, when the buoy was recovered by the oceanographic support ship Barão de Teffé. After launch of the buoy, a set of oceanographic stations was occupied at which time wind measurments were made from the ship. Other wind measurements were also made at hourly intervals, and combined with station winds to form a time series for the experiment. Prior to and at the time of buoy launch, the wind was from the SW and parallel to the axis of the Strait. During the following 8 hours, winds were weak or calm. Afterward the wind changed direction and blew from the NE with speeds increasing to more than 30 knots and gusts to 48 knots during the following day. Winds continued strong and generally from the NE and E until the 14th of March when the buoy was recovered. During the experiment about 40 buoy positions were determined by Service ARGOS in Toulouse France. For a number of hours after buoy launch, the buoy moved toward 81.5^{o} at 32.7cm s^{-1}, even though the winds began to change direction and blew in opposition to the buoy movement. Shortly thereafter, the buoy changed direction and began moving westward. Based on all the buoy positions from the experiment, the buoy moved at 5.1cm s^{-1} toward 19.1^{o}. A comparison is made of the wind and buoy trajectories in terms of time lag.