

EXPERIMENTAL SIMULATION OF BRANSFIELD CURRENT (ANTARCTICA) IN A ROTATING TANK

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Summary

The aim of this work is to simulate the currents system of the Central Basin of Bransfield Strait (Antarctica) to verify the validity of the hypothesis of which this currents system behaves as a system of gravity currents between two types of water, the Transitional Zonal Water with Bellingshausen influence (TBW) and the Transitional Zonal Water with Weddell Sea influence (TWW), that enter in contact in the first 500 meters of the water column.

Bransfield Strait is surrounded by sills shallower than 500m; that restricts the flow of deep water from Drake Passage and Weddell Sea. Nevertheless, the water of Drake Passage enters Bransfield Strait from deep gaps between the islands Brabant and Smith remaining near the South Shetland Islands. The relatively saline and cold water in Bransfield comes from the shelf of the Weddell Sea and flows towards the west about the top of the Antarctic Peninsula. Bransfield Current simulated in this work is an intense current that circulates along the northeastern margin of Bransfield Strait.

In the experimental simulations we have obtained results qualitatively comparables to the information *in situ* obtained by other authors, and the features of Bransfield Current that appear described in the references consulted are also reproduced.