

Orinoco

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Projects:

R/V "Sonne" cruise SO164 RASTA (2002)
R/V "Meteor" cruise OPOKA (2009)
OPOKA, MORA, FOCS (DFG, 2011-2014)

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The **Orinoco** flows over 2140 km from the Andes to the Atlantic Ocean and drains a total area of $1.17 \times 10^6 \text{ km}^2$. The Orinoco is the world's third largest non-tributary river by discharge ($36,000 \text{ m}^3 \text{ s}^{-1}$). The discharge of suspended ($90 \times 10^6 \text{ t y}^{-1}$) and dissolved substances is high, and the transport of organic carbon ($6.8 \times 10^6 \text{ t y}^{-1}$) and total nitrogen ($0.54 \times 10^6 \text{ t y}^{-1}$) are about 1.5 % of the global river transport to the oceans. The discharge varies seasonally with a flow maximum in August and a minimum in March.

Orinoco waters can be traced approximately 850 km northward as far as Puerto Rico by salinity, nutrient, and pigment contents. The Orinoco discharge creates an extended low-salinity surface water layer in the southern Caribbean (Fig. 1). This layer affects the habitats of shallow-dwelling planktonic foraminifera and the geochemical and isotopical properties of their carbonate tests.

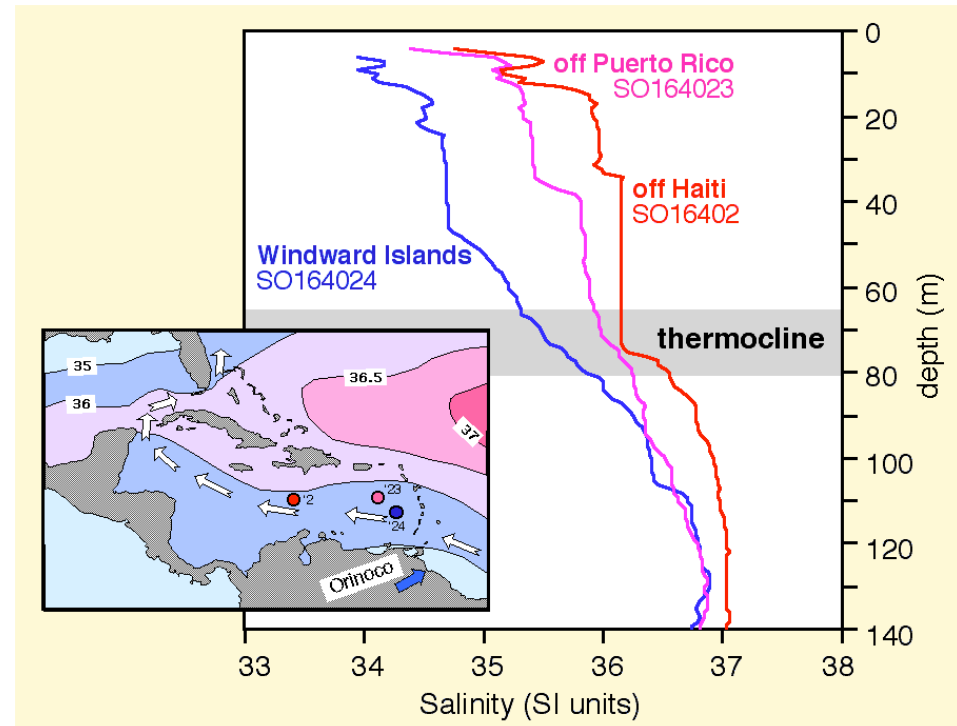


Fig. 1. Surface ocean salinity sections of CTD Stations in the southern Caribbean. The surface salinity may be lowered by three units due to freshwater from the Orinoco.