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## The deep expression of the Indonesian Throughflow jet

### Details

<b>Meeting</b>	<a href="#">2002 Fall Meeting</a>
<b>Section</b>	<a href="#">Ocean Sciences</a>
<b>Session</b>	<a href="#">Ocean Gateways and Interocean Transports: Their Role in Ocean Circulation and Climate Variability, Present and Past I Posters</a>
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<b>Index Terms</b>	<a href="#">Descriptive and regional oceanography [4223]</a> <a href="#">Marginal and semi-enclosed seas [4243]</a>

### Abstract

In the Indian Ocean, a narrow westward jet (South Equatorial Current) carrying freshened water is centered at 14S. The jet's properties, origin and transport are explored using WOCE data in the Indian and Pacific, and the Arlindo data supplemented with historical data within the Indonesian seas. The jet is remarkable for its zonality, with almost no deviation in its central latitude from the eastern Indian Ocean to just east of Madagascar. It is well known that the fresh surface waters in this jet originate as Pacific waters flowing through the Indonesian archipelago. At intermediate depths (about 1200 m), the jet also carries water from the Indonesian seas, with a source in the Pacific, traced by lower salinity and higher silica than the ambient Indian Ocean waters. The depth of these waters in the eastern Indian Ocean corresponds to the maximum passage depth through the Indonesian seas. The core of this deeper Indonesian throughflow jet is marked by a vertical salinity minimum, referred to as Banda Sea Intermediate Water or Indonesian Intermediate Water. The jet separates higher oxygen and lower nutrient waters of the subtropical gyre from the oxygen-depleted waters of the tropics. The water in the jet is formed within the internal Indonesian seas, through mixing of the Pacific Ocean water masses, and also upwelling and mixing with the deeper saltier water masses of Indian Ocean origin.

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