

## Oceanography Surrounding Krakatau Volcano in the Sunda Strait, Indonesia

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<b>Abstract</b>	<p>Seasonal variability of water properties obtained from conductivity-temperature-depth casts from 2008 to 2015 and current velocities obtained from moorings deployed from 2008 to 2009 show that the Sunda Strait plays dual roles in water exchange between the Pacific and Indian Oceans. The Sunda Strait current velocity is strongly affected by seasonal monsoon winds. During the boreal winter monsoon, northwesterly winds to the north and south of Java draw waters from the Indian Ocean into the Java Sea, and at the same time, the Java Sea receives an influx of low-salinity water from the South China Sea. Summation of these waters would reduce the main Indonesian Throughflow transport in the Makassar Strait. Conditions are reversed during the summer monsoon: higher-temperature, lower-salinity, and lower-density waters from the Java Sea are exported to the Indian Ocean through the Sunda Strait, enhancing Indonesian Throughflow transport from the Pacific into the Indian Ocean. Variations in temperature, salinity, and density are greater during the boreal summer than those observed during the winter monsoon. Kelvin-wave-like signals have been observed in the velocity time series data; however, further investigation in this region is needed to confirm the possibility of Kelvin waves entering the Sunda Strait.</p>
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