

## <u>AOGS 1st Annual Meeting</u> > <u>Ocean and Atmospheres</u> > A Simulation of Transports of Indonesian Through flow >

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Paper ID:	57-00A-A432
Title:	A Simulation of Transports of Indonesian Through flow
Abstract:	Abstract: Using an Indian-Pacific Ocean Circulation Model (IPOM) a simulation study on the Transports of Indonesian Through flow (ITF) has been done. IPOM covered the area 25E70W, 35S60N. There are 31 levels in the vertical with 22 levels upper 400m in it. The horizontal resolution is 1/3 lat x 1.5 lon between 10S and 10N. The coastline and ocean topography of IPOM is prepared from Scripps topography data on 1x1°grid. Forcing IPOM with monthly observational wind stress in 1990-1999 the interannual variation of sea temperature has been reproduced well, not only on El Nino in the Pacific but also on Indian Ocean Dipole (IOD). Therefore, the oceanic circulations in the tropical ocean are reasonable. The analyses of the oceanic circulations from the simulations suggest that the transport southward through Makassar Strait is the primary route of thermocline water masses from the North Pacific to the Indonesian sea. The transport westward through Bali—Western Australian Transect (BWAT, at 117.5E) can be thought as the final output of ITF through the archipelago to Indian Ocean. The transport westward through BWAT is in 8-12S above 150m, its core centered near surface 10S, which looks like a jet. The westward velocity is more than 50 cm/s. The transport soft transport westward is related with the southeasterly anomaly in the east tropical Indian ocean. The transport variation lags wind anomaly about 3 months. The correlation coefficient is more than 0.6. The transport is strong during IOD, for example in 1994 and 1997. The variations are also related with the northwesterly anomaly in the center equatorial Pacific. The transport is strong in most ENSO events. Oral
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