

Downstream Impacts of South Pacific Tropical Water

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Abstract—The on-going collection of Argo data has revealed a large-scale variability in the South Pacific Tropical Water. The downstream impacts of this variability are examined using results from an ocean general circulation model. It is clearly demonstrated that, once subducted, the high salinity South Pacific Tropical Water is advected northwestward as part of the subtropical gyre. A significant portion of this water enters the equatorial Pacific, where it resurfaces and eventually affects the thermocline/halocline structure and sea surface temperature.