

## A series of zonal jets in eddy-permitting ocean general circulation models.

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A series of zonal currents in the Pacific is investigated using eddy-permitting ocean general circulation models. The zonal currents in the subsurface

is classified into two parts, one is a series of broad zonal flows that has the meridional pattern slanting poleward with increasing depth, and

the other is fine-scale zonal jets with the meridional scale of 3-5 degrees formed in each broad zonal flow.

The basic pattern for the broad zonal flows is similar between the coarse resolution model and the eddy-permitting model and

is thought to be the response to the wind forcing. A part of the zonal jets embedded in each zonal flow is explained by the anomalous local wind forcing. But most of them seem to be mainly created by the rectification of turbulent processes on a  $\beta$ -plane, the Rhines effect,

and have many common features with the zonally elongated flows obtained in previous modeling studies conducted in idealized basins.