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### Simulated Pycnostads in the Japan/East Sea

A Hybrid Coordinate Ocean Model (HYCOM) has been configured for the Japan/East Sea. Results from several simulations have been used to investigate the formation of Intra-Thermocline Eddies (ITS's). These features, which are lens shaped and characterized by relatively warm saline water are simulated at approximately the same depth and location as those observed by recent Seasoar observations. The model results have been used to elucidate two formation mechanisms for these features which are not mutually exclusive. One is simple restratification of the mixed layer on seasonal time scales. Here, warm saline water gets overridden by colder fresh water, but the water that gets overridden maintains positive vorticity and hence forms pycnostads within the thermocline. The other mechanism for the formation of these features is frontal subduction of more saline water along the subpolar front. With this mechanism, localized pockets of warm saline water on the southern side of the subpolar front are overridden by cooler and fresher water on the northern side of the the front, and the location of the pycnostads is determined by meandering of the subpolar front.