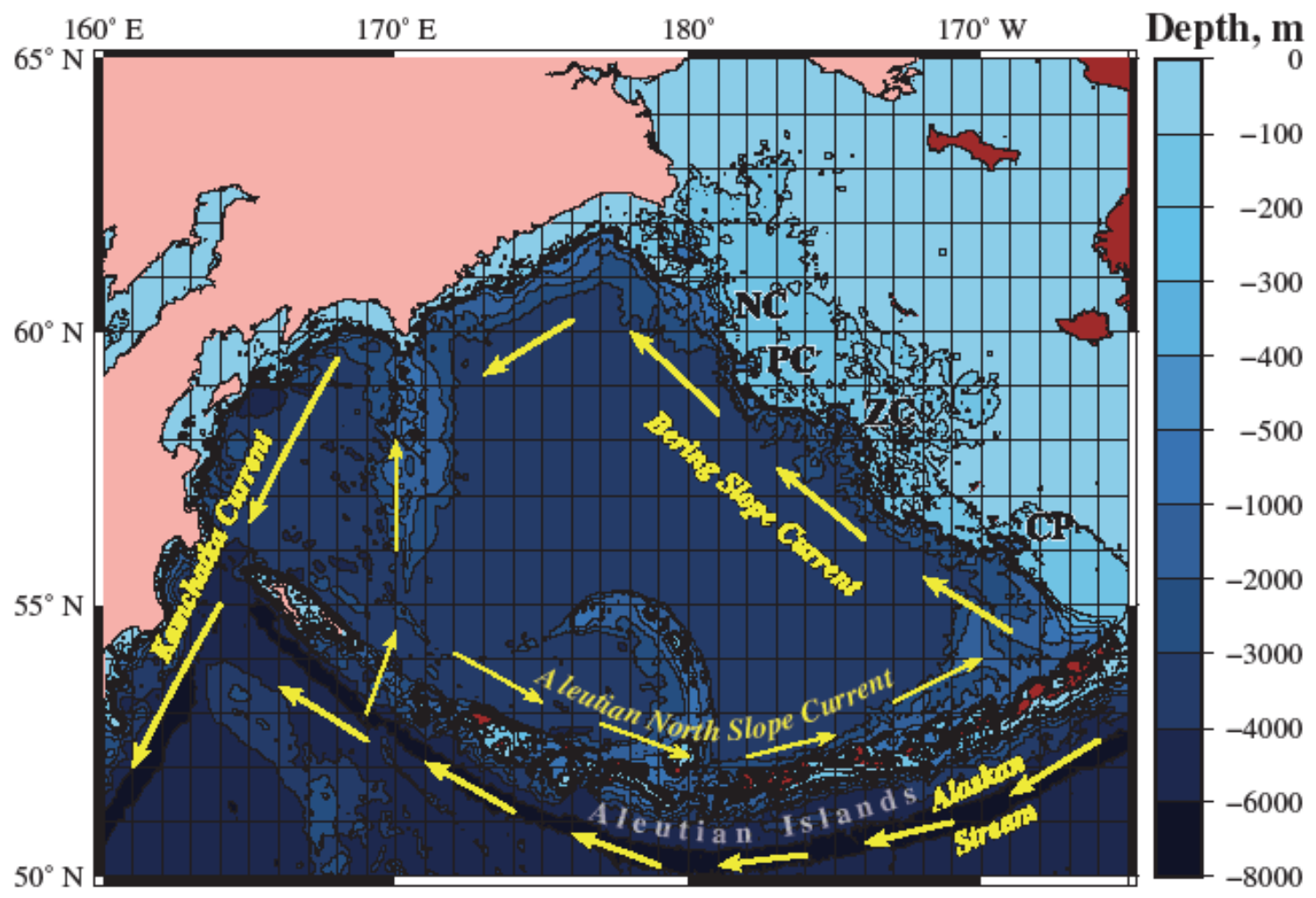


Mesoscale dynamics and walleye pollock catches in the Navarin Canyon area of the Bering Sea

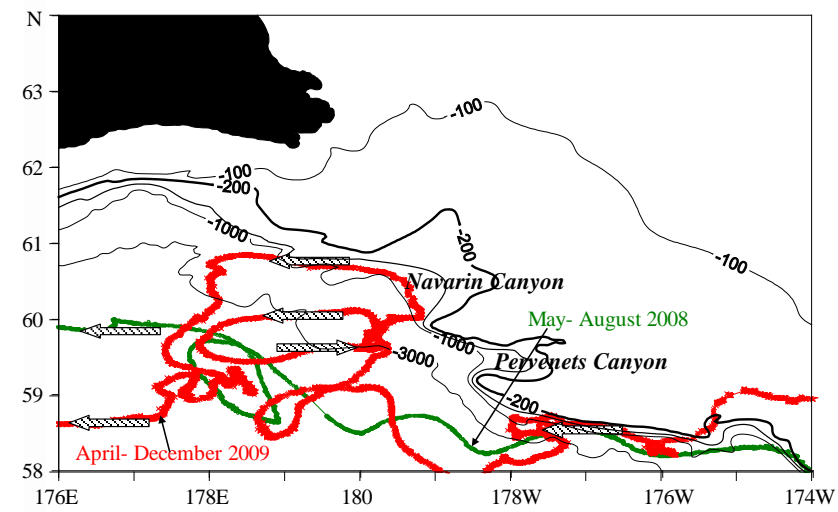
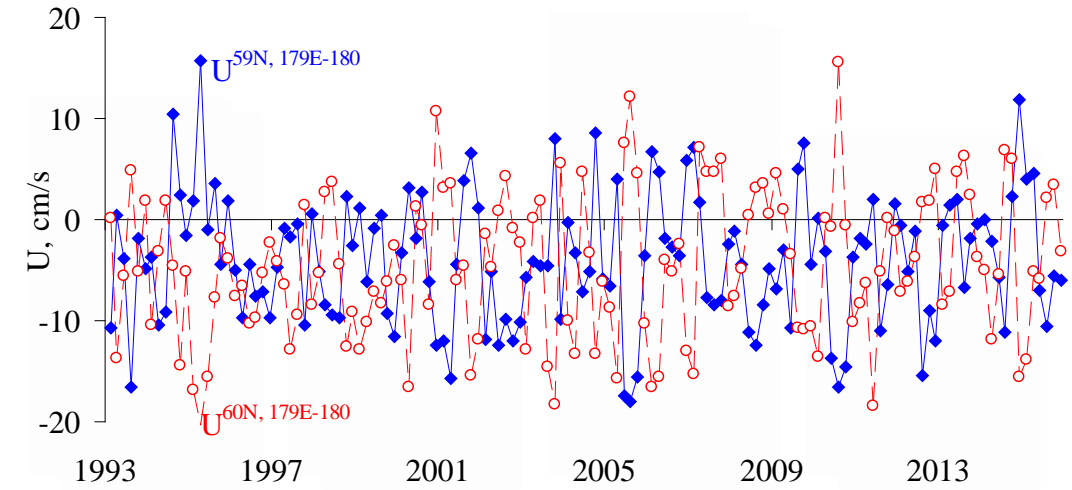
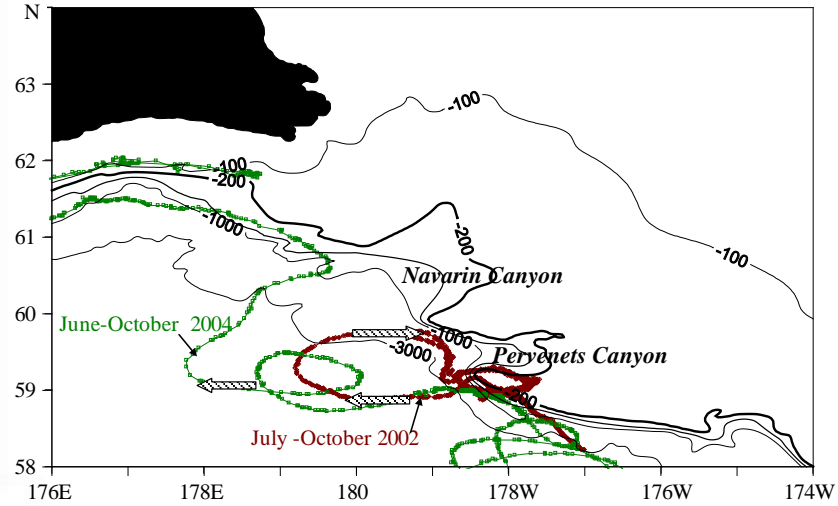
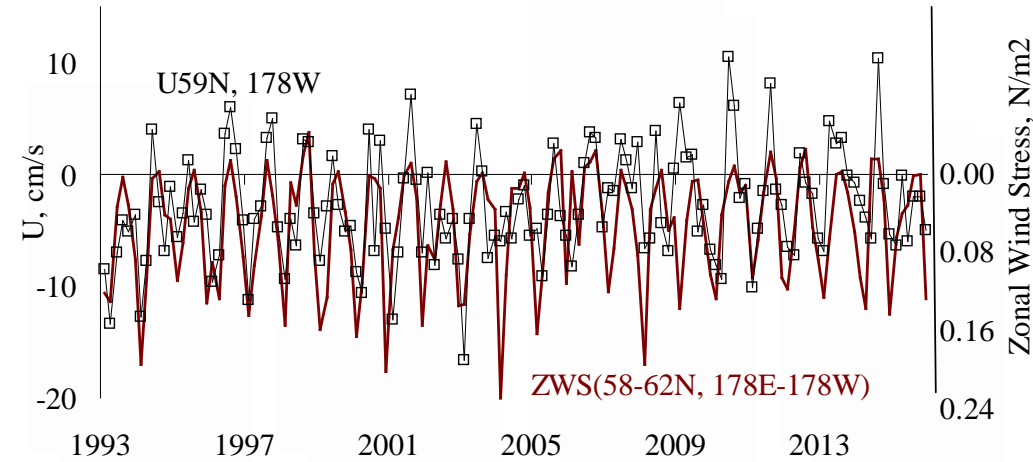
*Andrey G. Andreev, Maxim V. Budyansky, Michael Yu. Uleysky, Sergey V. Prants
POI, Vladivostok*

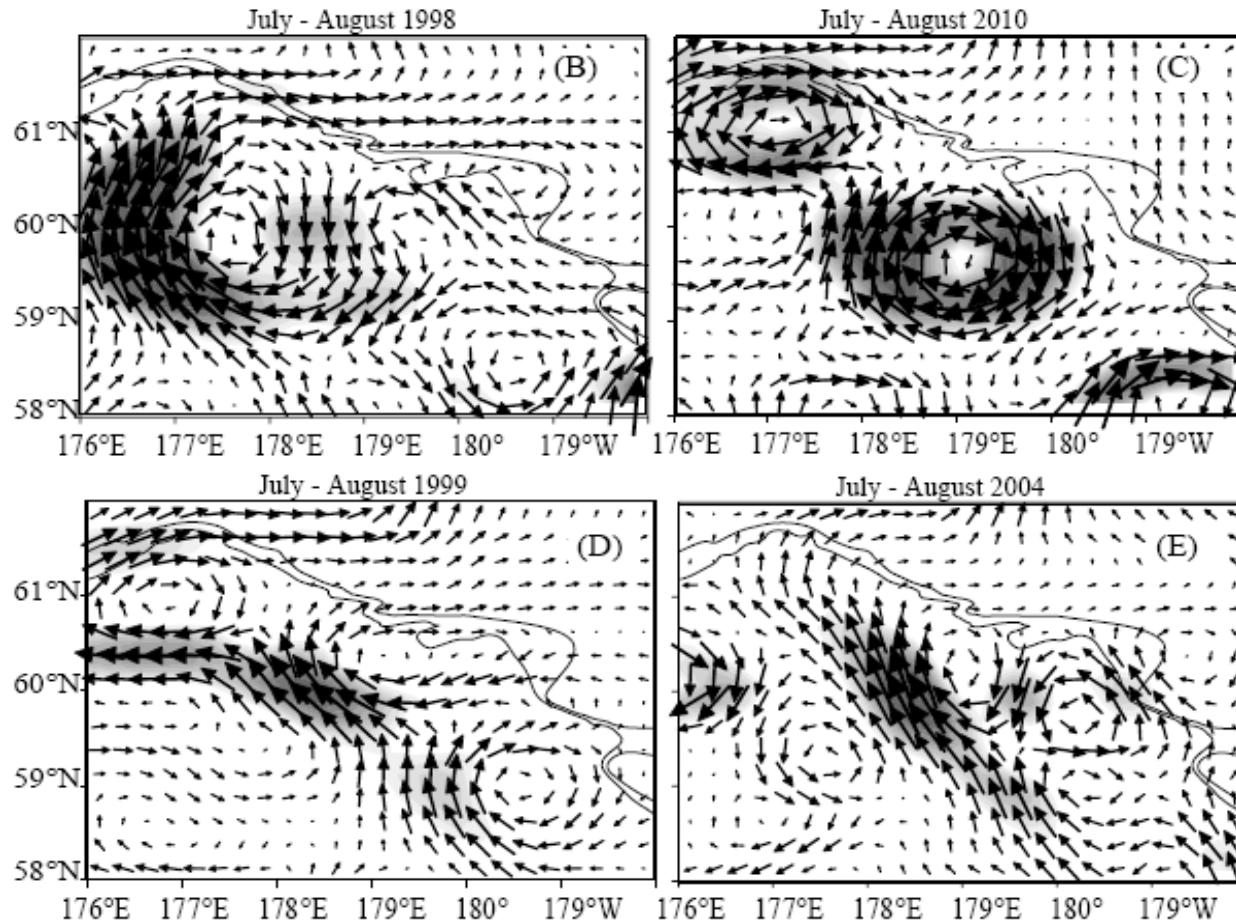


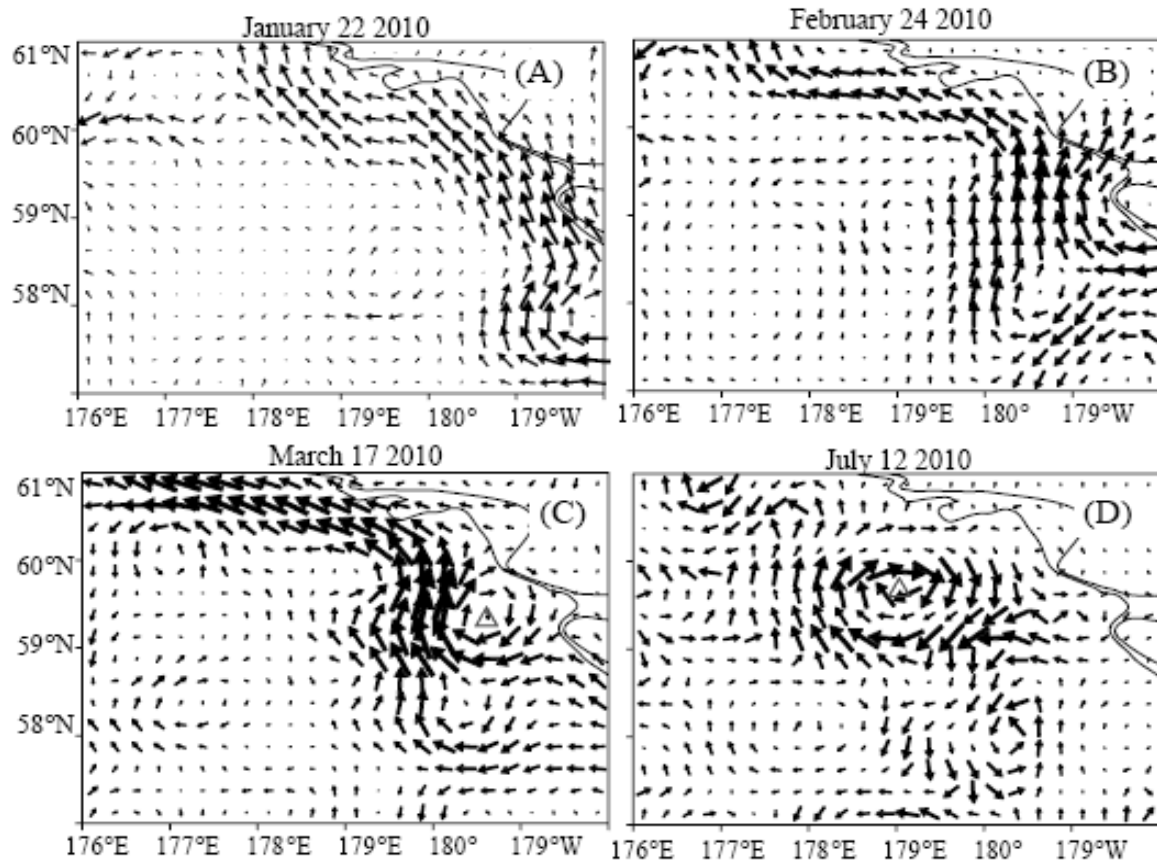


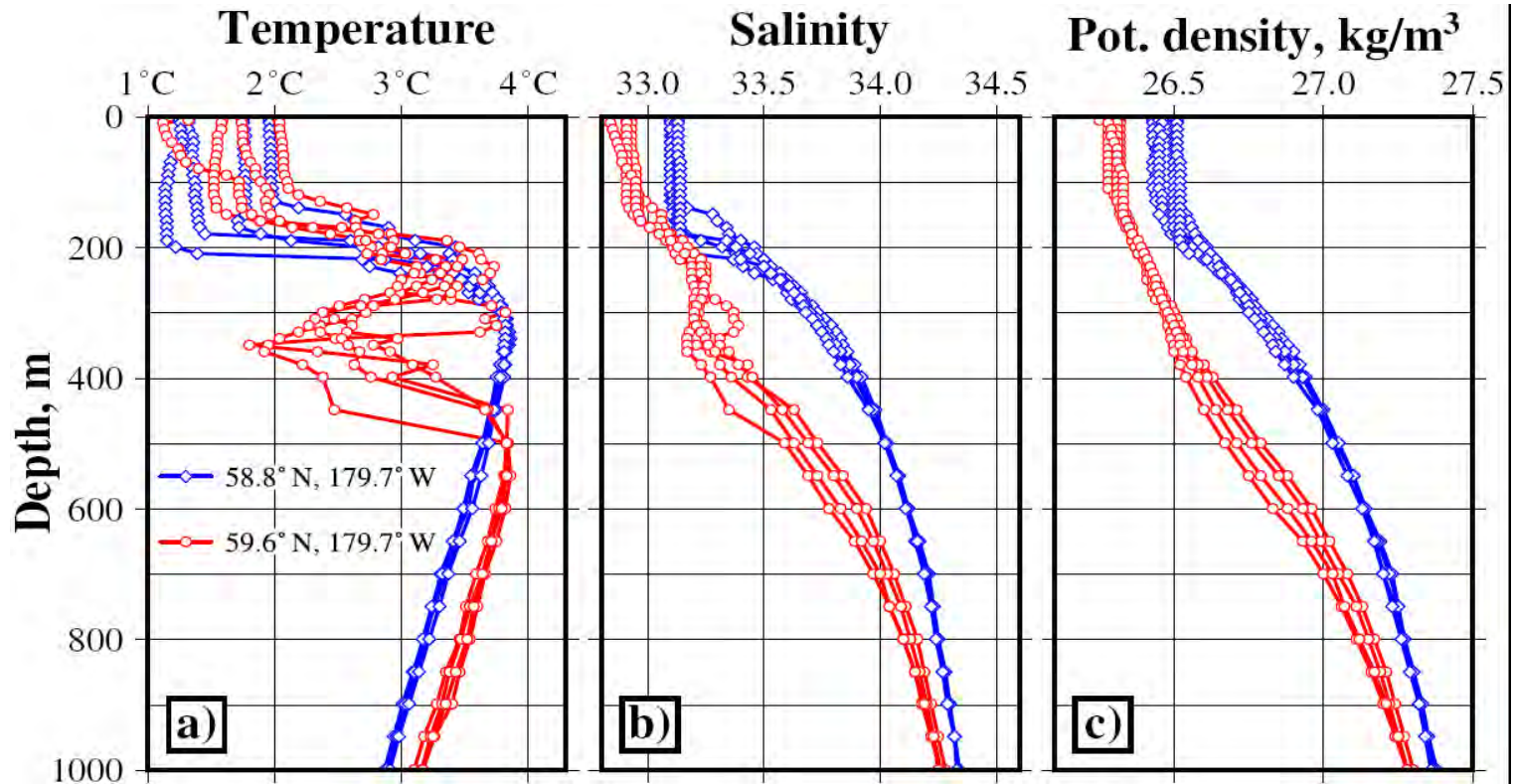
Sea surface velocities, AVISO database

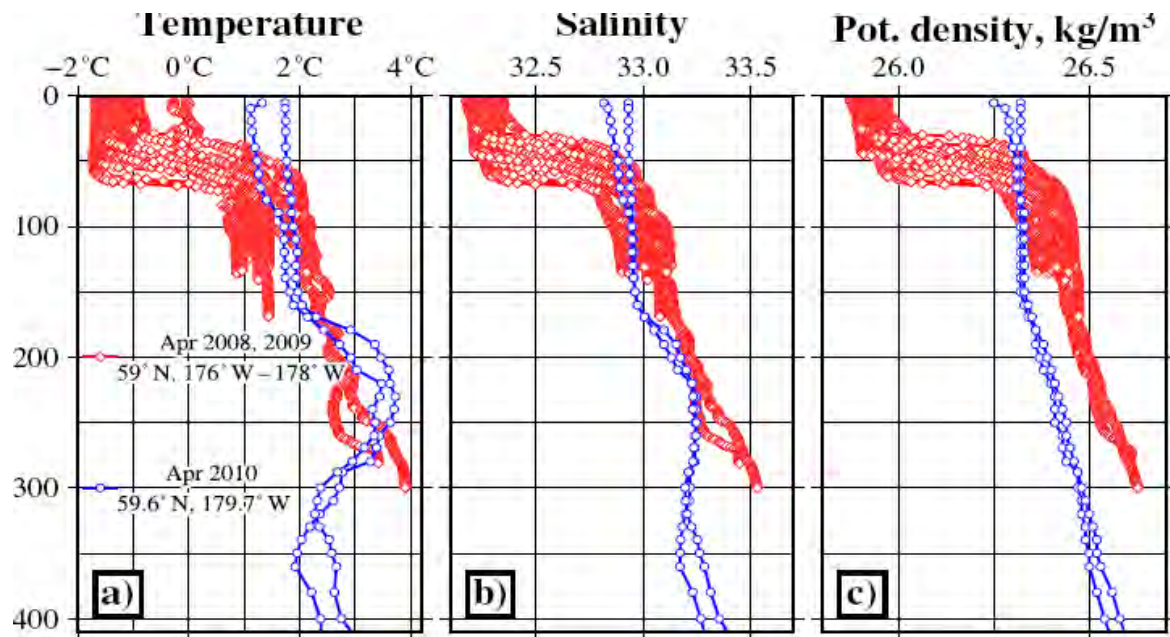
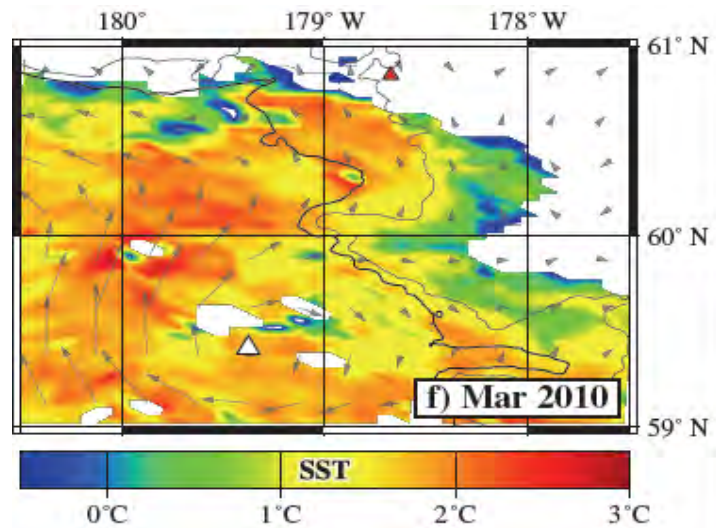
ARGOS drifter tracks

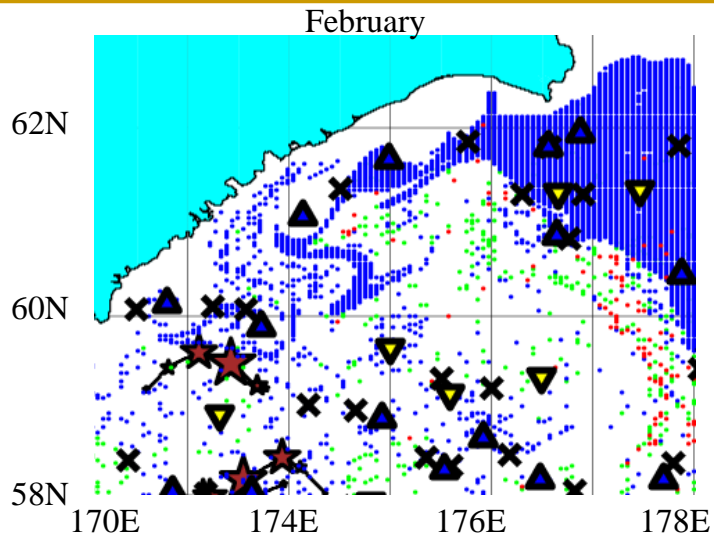




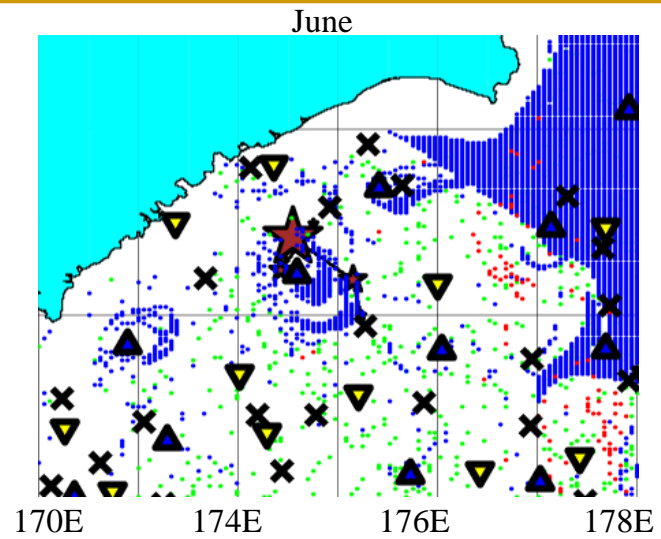
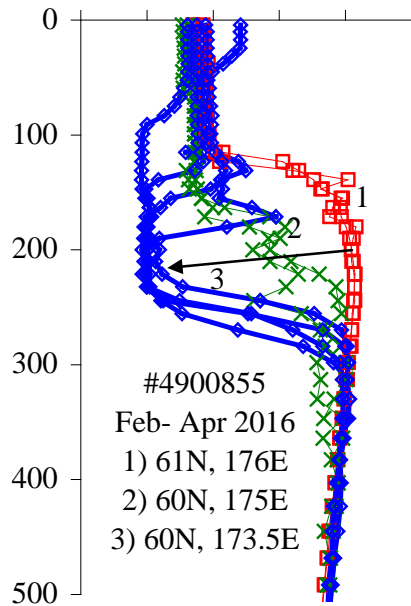




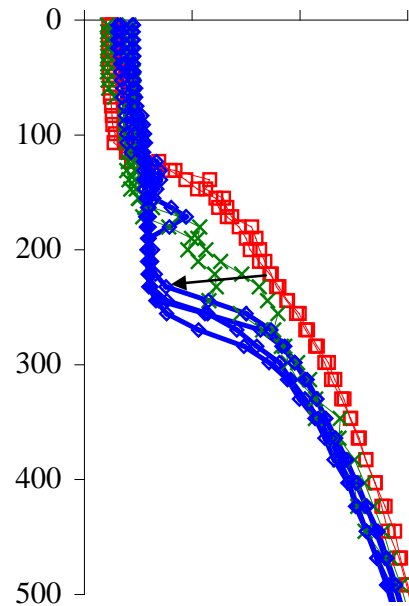


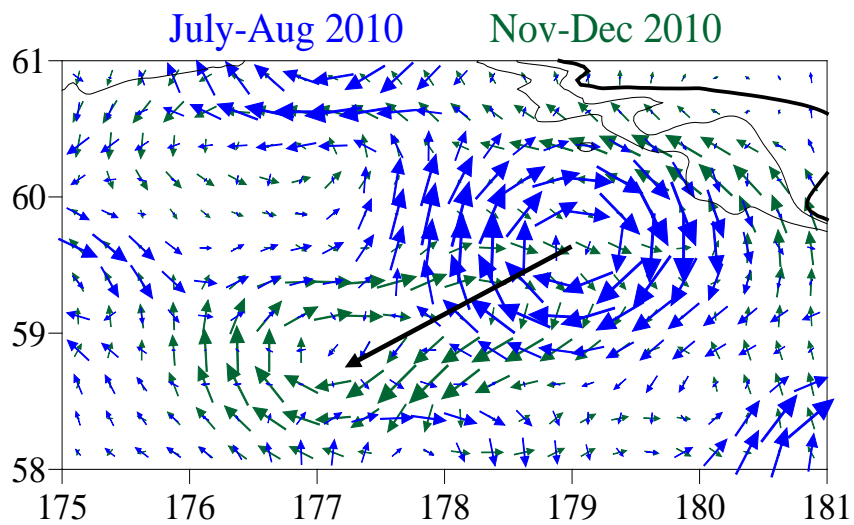
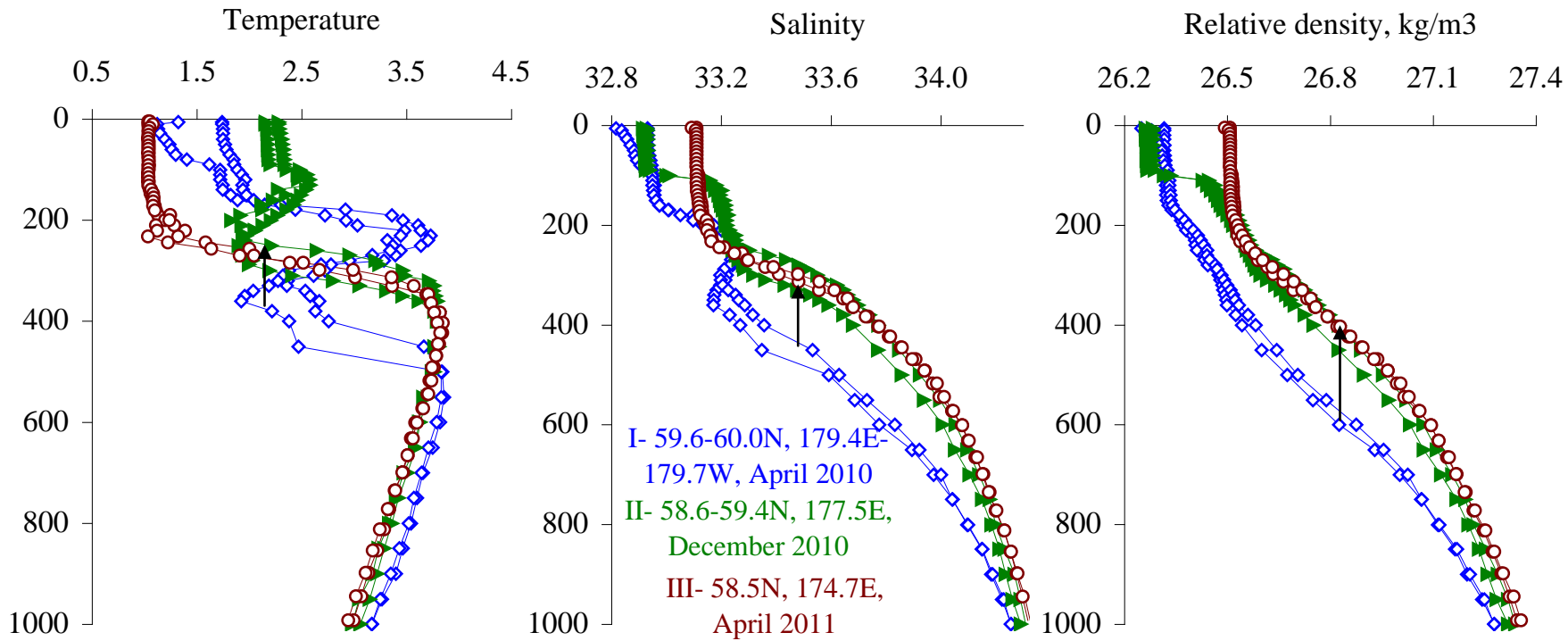


Temperature, C
0.0 1.0 2.0 3.0 4.0 5.0

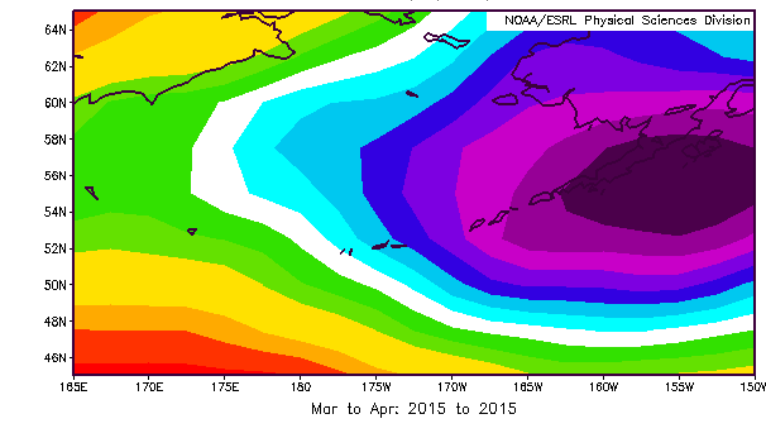
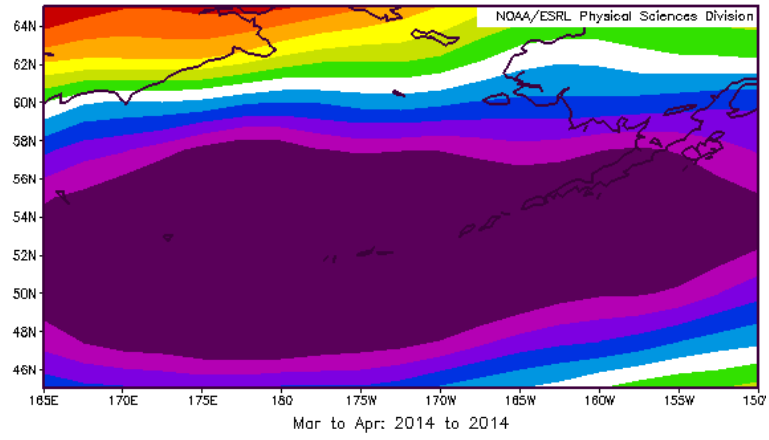


Salinity
32.8 33.2 33.6 34.0

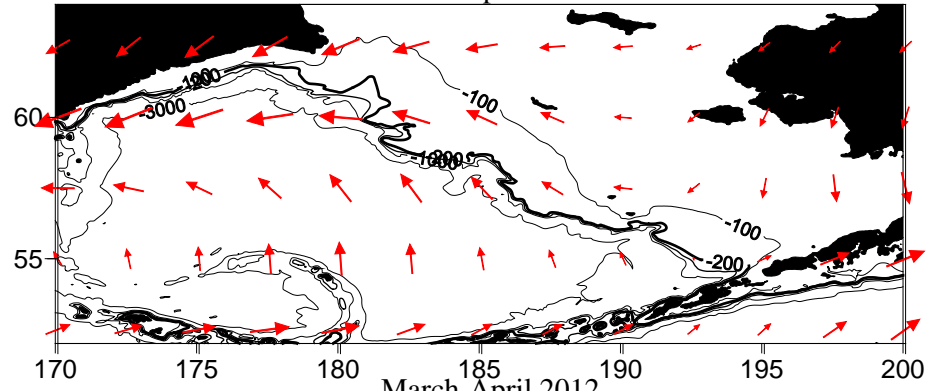




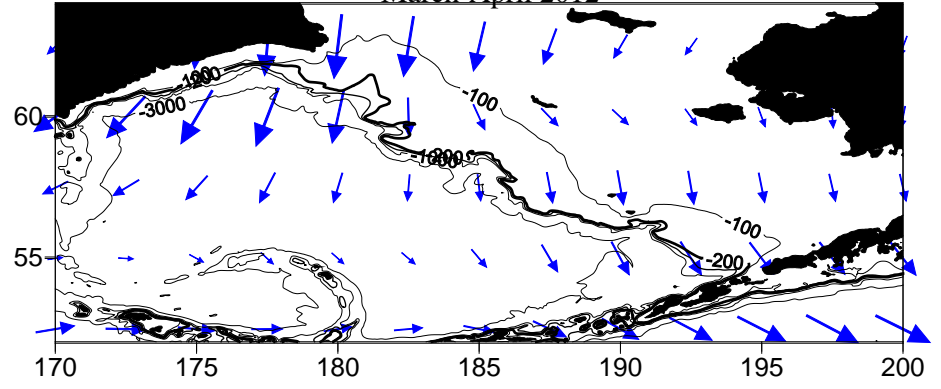
NCEP/NCAR Reanalysis
Sea Level Pressure (mb) Composite Mean

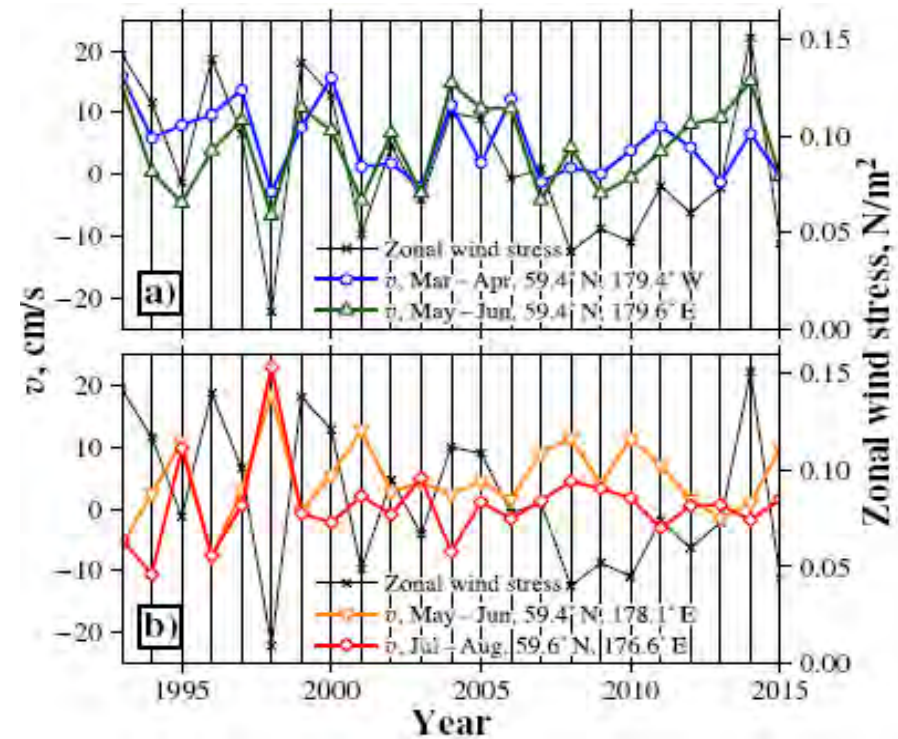
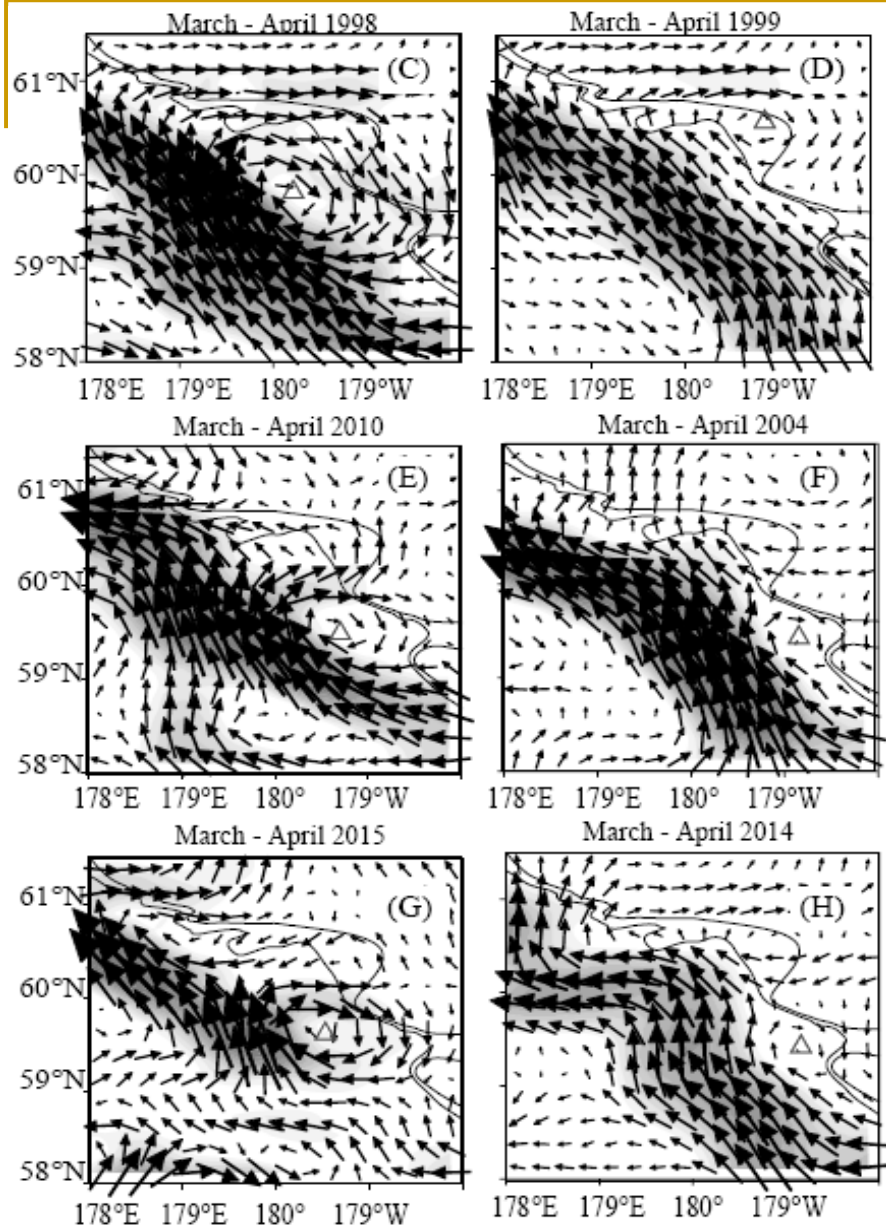


March-April 2003

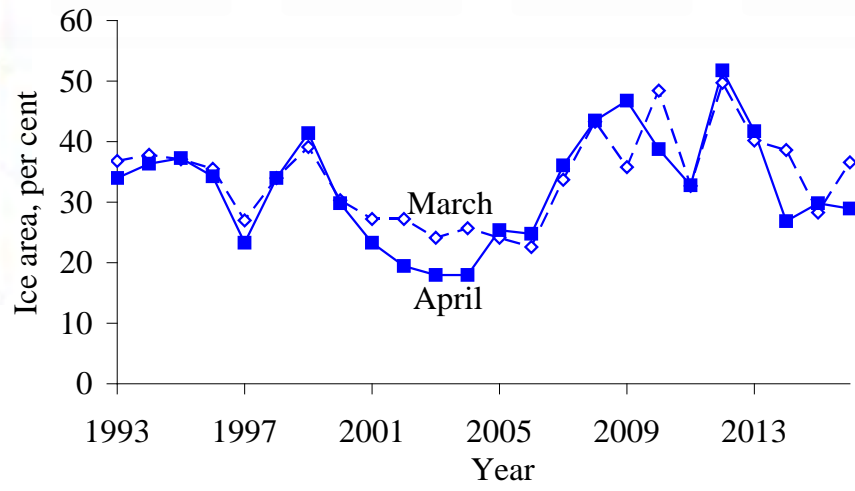
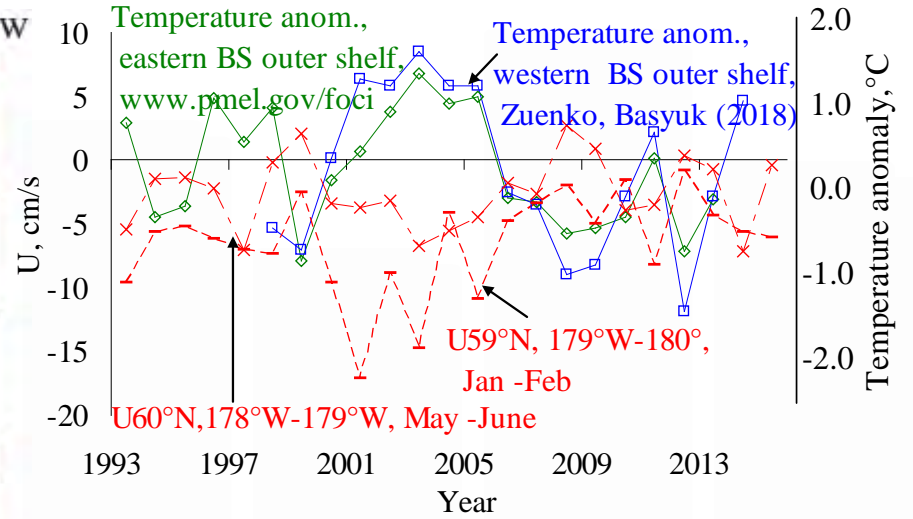
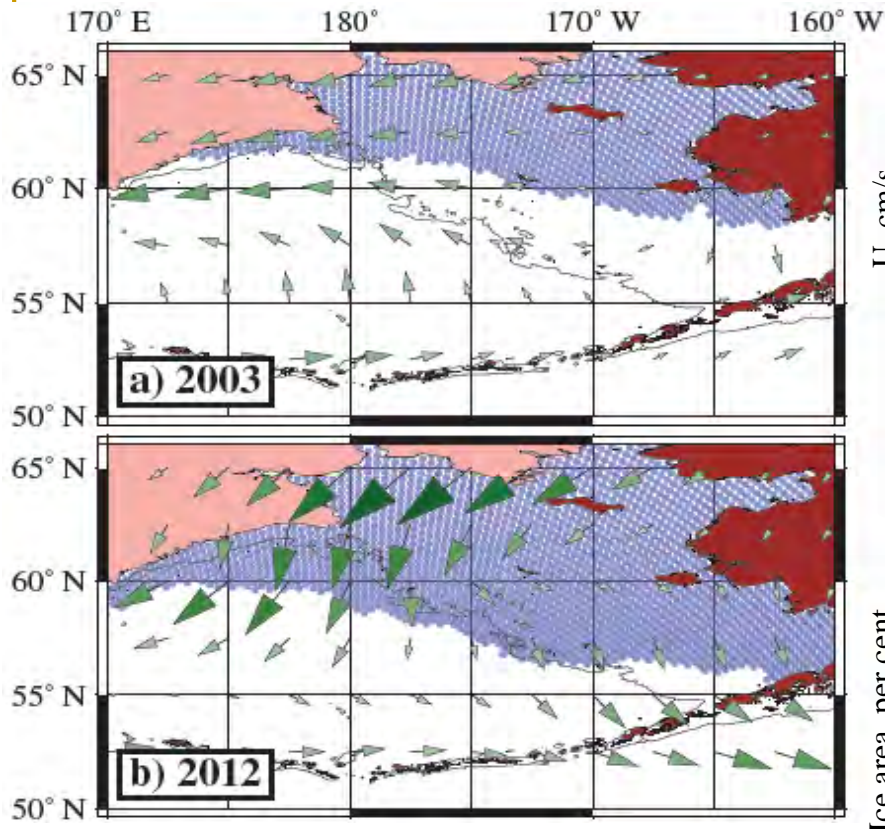


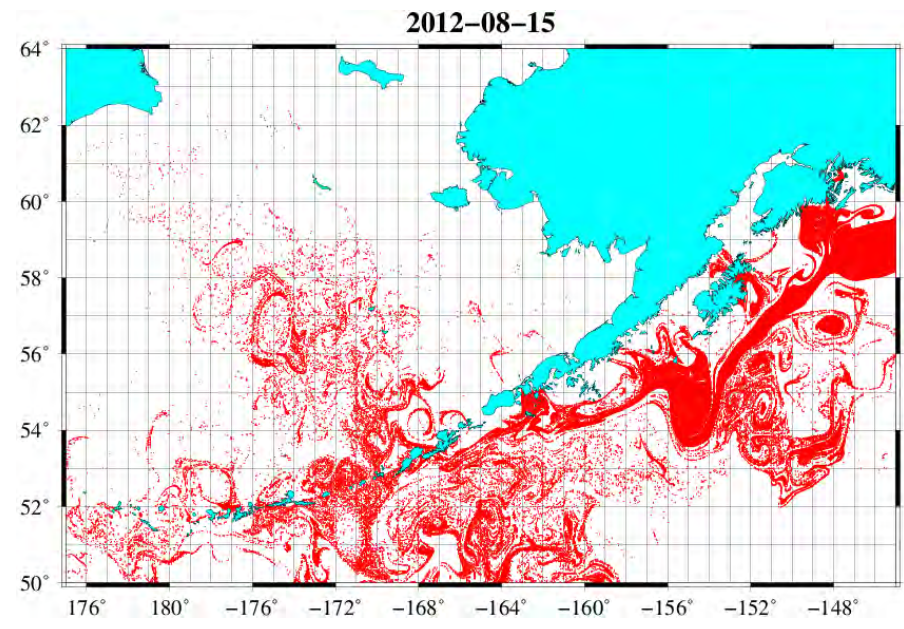
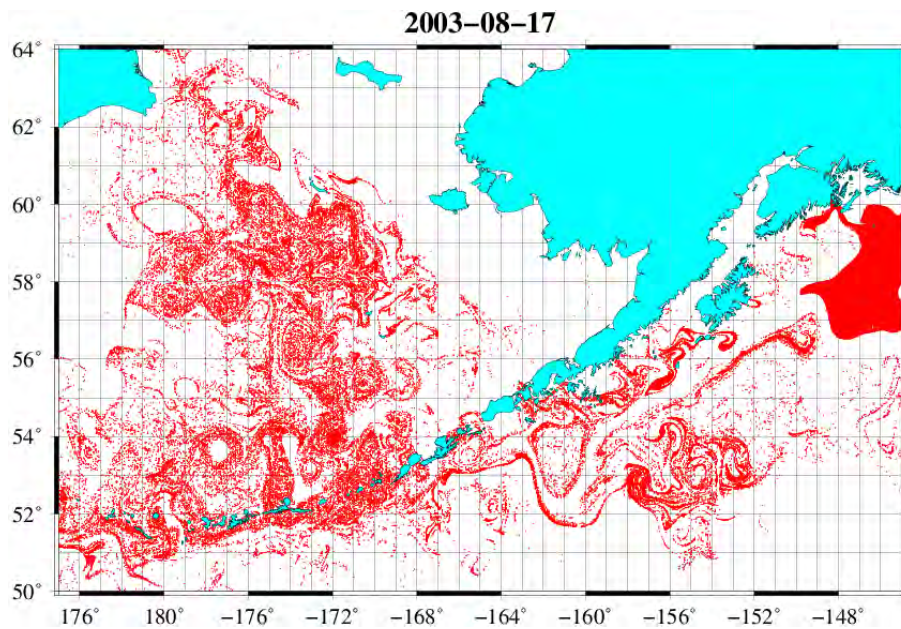
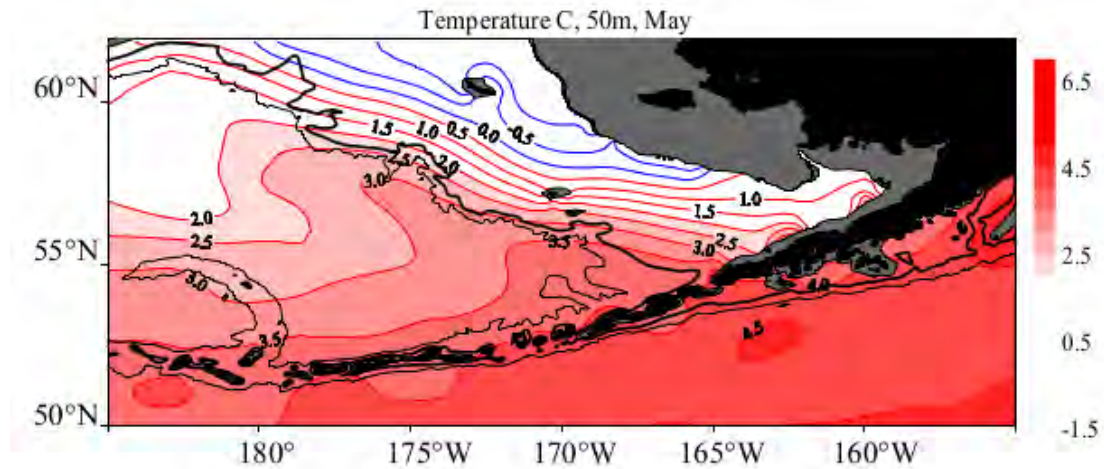
March-April 2012





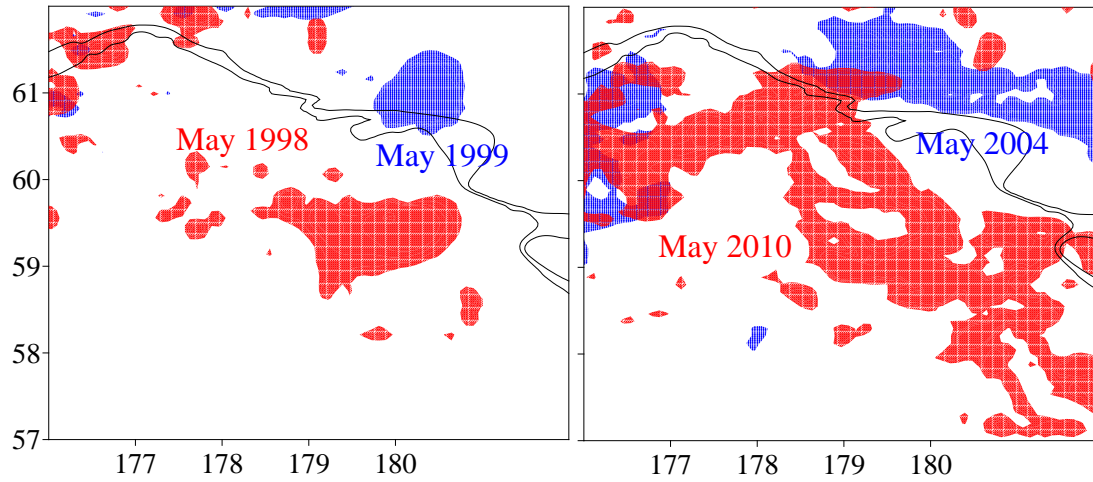
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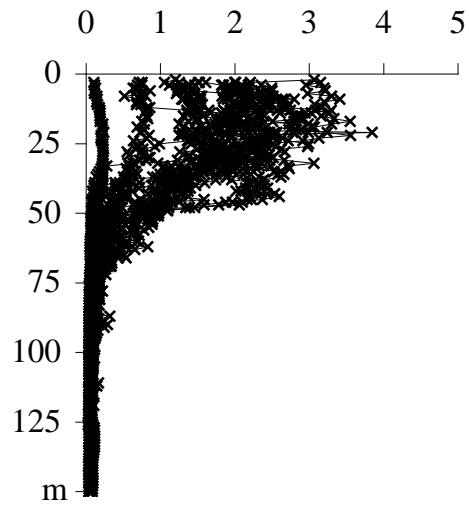


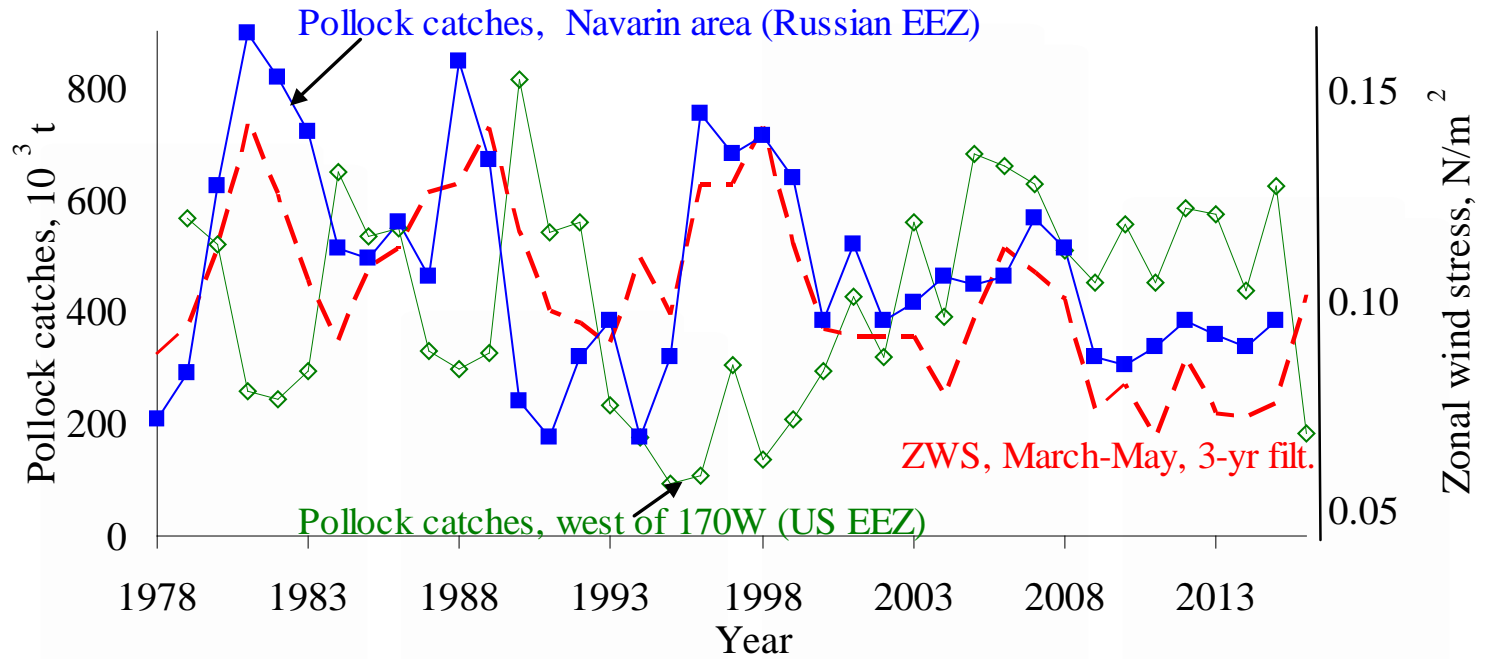
Lagrangian maps show transport pathways of the Alaskan Stream waters (red) in the northern Pacific and Bering Sea.

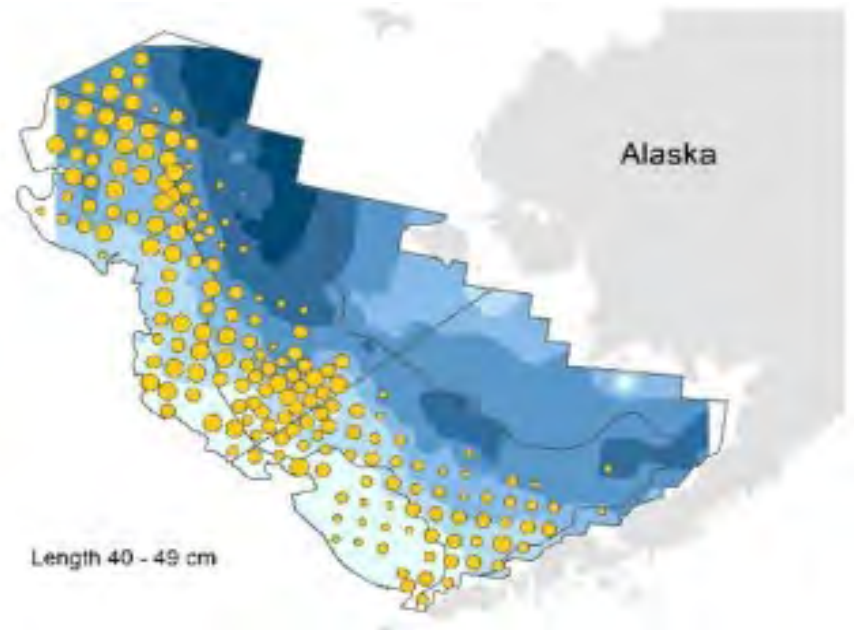
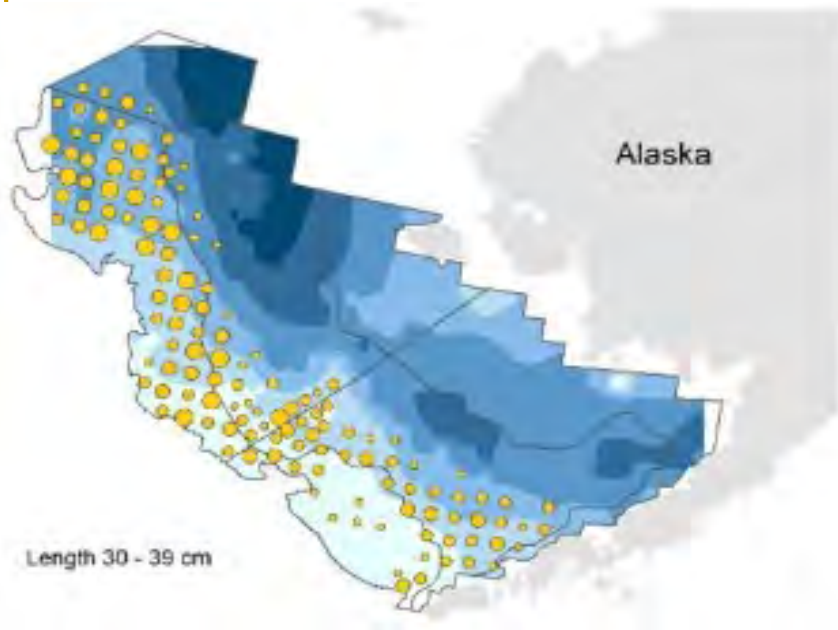
Chlorophyll a, 5- 8 ug/l



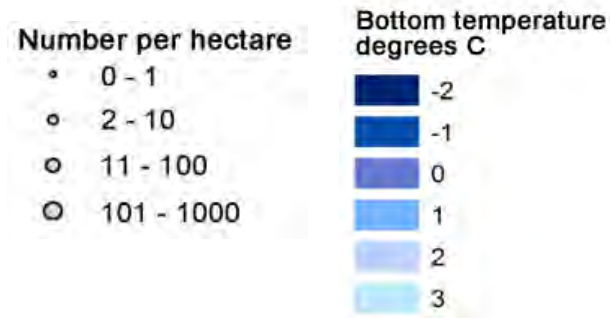
Chlorophyll, ug/l

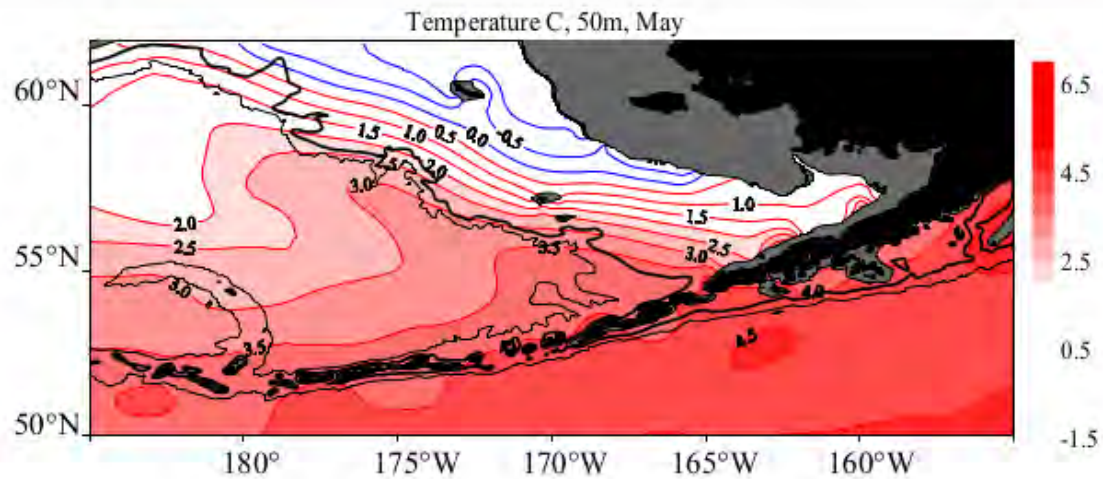
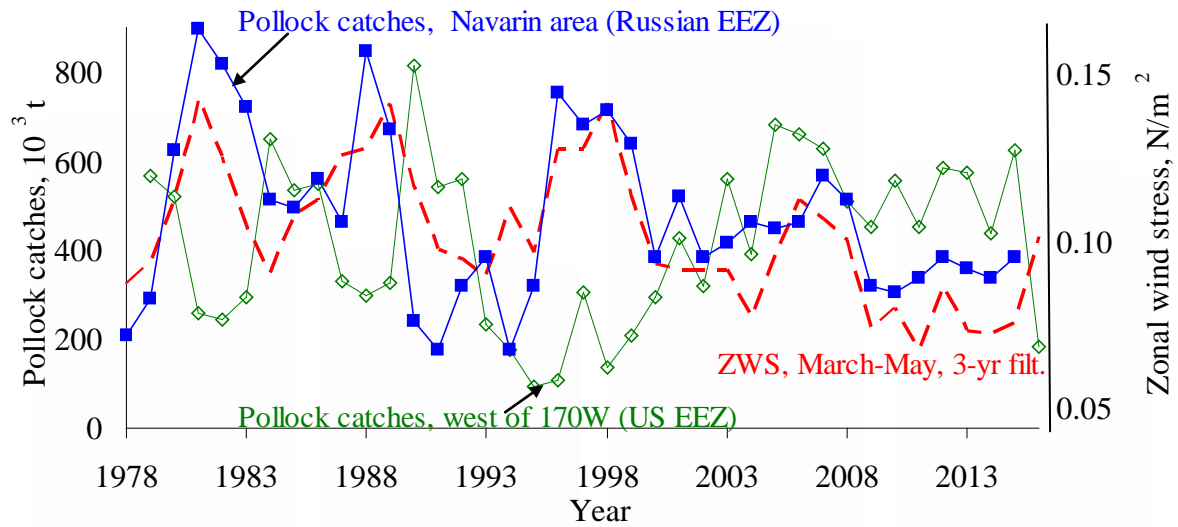






Buckley et al., 2016





Summary

The mesoscale dynamics in the Navarin Canyon area of the Bering Sea are studied with the help of the AVISO satellite altimetry, drifters, Argo buoys and shipborne data. We demonstrate that the strength of anticyclonic eddies along the shelf slope in spring and summer is determined by the wind stress in March – April. The increased southward wind stress in the central Bering Sea forced a supply of low temperature and low salinity outer shelf water to the deep basin and formation of the anticyclonic mesoscale circulation seaward of the Navarin Canyon. Enhanced northwestward advection of the Bering Slope Current water leads to increase in an ice-free area in March and April and increased bottom layer temperature at the outer shelf. The strong (weak) northwestward advection of the eastern Bering Sea waters, determined by eastern winds in spring, creates favorable (unfavorable) conditions for the pollock abundance in the western Navarin Canyon area in summer.
