



High frequency radar stations and moorings to monitor currents and circulation

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The preliminary results of the problem of how to optimize coastal radar observations and moored observations in Alaska are discussed. We analyze dynamically induced correlations in the Kotzebue Sound and conduct their sensitivity analysis to optimize positions of a limited number of radars and moorings. Optimization of the sampling strategy is performed with respect to robustness of the reconstruction of the Kotzebue Sound with a particular emphasis on the accurate monitoring of the currents in several regions.

We also present some results of the reconstruction of the circulation during the fall 2008 in the Kotzebue Sound through the variational data assimilation of a SeaSonde high frequency radar, sea surface temperature, sea surface altimetry and atmospheric data into the Semi-Implicit Ocean model (SIOM). Climatological T/S data are used as background fields.