Grant Awards - Fiscal Year 2006

Prince William Sound Observational Oceanography

PI:  
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$135,000

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Read Report

Scope of Work:

Three areas of research are included in this overall project.

1. **Long term monitoring of the water exchange between the Gulf of Alaska and Prince William Sound.** OSRI has funded an observational oceanography program to provide an improved description of the flow through the two major straits connecting PWS and the Gulf of Alaska (GOA). This objective is a necessary step towards a better understanding of the relationship between circulation variability and biological variability in PWS. This mooring program addresses limitations of earlier, more limited mooring programs. Beginning in June 2005 five current meter moorings were deployed: two each in Hinchinbrook Entrance and Montague Straits and one in Prince of Wales Passage. The moorings were instrumented with acoustic Doppler current profilers (ADCP) and three conductivity temperature (CT) recorders. The moorings are recovered and serviced at six month intervals; the instruments are downloaded, cleaned and serviced.

2. **Monitoring of the seasonal variability of the hydrographic properties and circulation in PWS.** This portion of the project aims at acquiring a description of the seasonal evolution of the hydrographic properties and circulation in the central basin of PWS. The work is a continuation of that initiated during the SEA program. Each additional measurement reinforces the usefulness of the observational record since a longer time series should permit better discrimination between typical annual cycle and seasonal anomalies. Vertical profiles of temperature and salinity are acquired using a CTD profiler. The data are acquired via vessel-based instruments, taking two to four seasonal cruises per year. Transect stations cross the central basin of the Sound and traverse the Hinchinbrook and Montague mooring locations at the entrances to the Sound.

3. **Long-term monitoring of sea water temperature, salinity and fluorescence at near shore sites in northern and western PWS.** The third observational program aims to acquire better knowledge of the special and temporal variability of the effects of freshwater runoff in near shore areas of PWS. When fully established, there will be five shallow water moorings able to transmit real-time data. The sites are located near the main sources of fresh water and along the trajectory of freshwater outflow. At each site a CT will be moored at a standard depth and will provide a time series of temperature, salinity and density.