

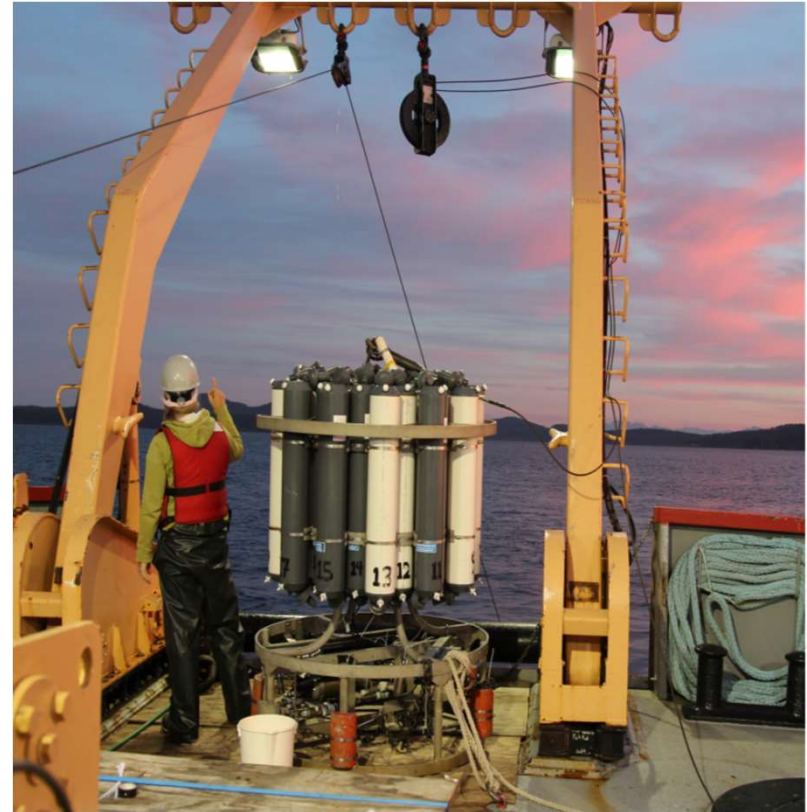
DFO Science Vessel Charters

Pacific Region Ocean
Sciences

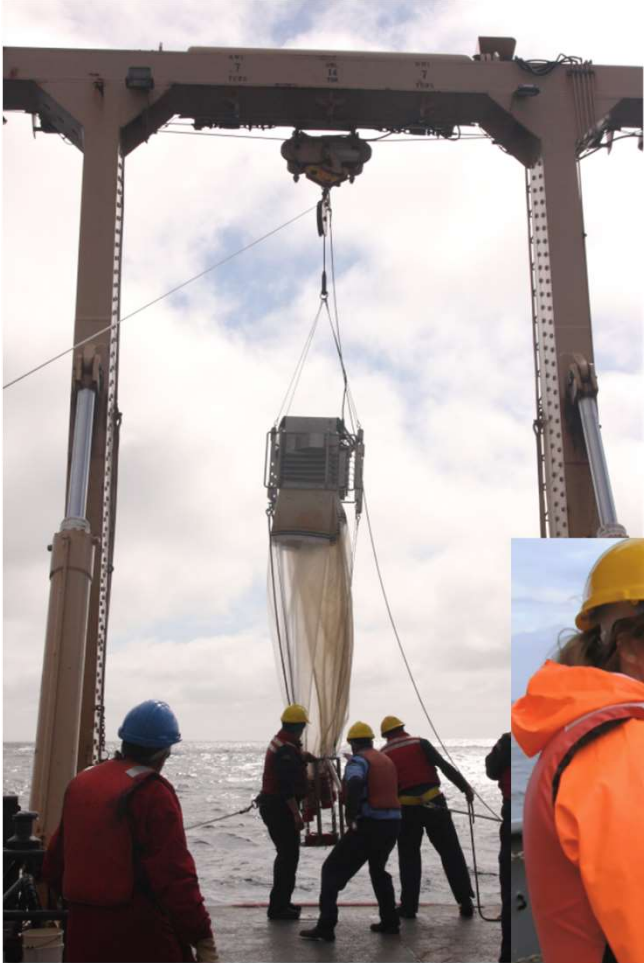


Ocean Science Projects

- Ocean Monitoring Programs
 - Collection of water at various depths for chemistry, physical, biological properties
 - Collection of small animals (plankton) using small nets
 - Deployment and recovery of sub-surface moorings
 - Deployment of gliders, floats, ROV's, other automated monitoring equipment
 - Collection of sea floor bottom samples using grabs



Water Sampling Rosette



Multi Plankton Net



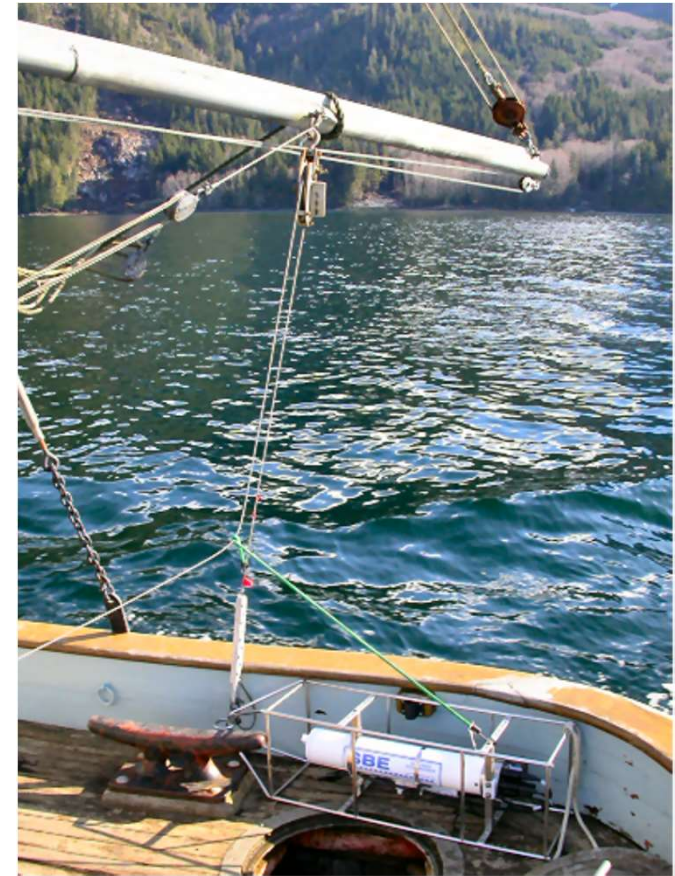
Top: Single Plankton Net
Right: Mooring Deployment
Left: Glider



Vessels Required

Commercial vessels that have or be fitted with:

- A-frame or boom support for water sampling, net, and grab equipment
- Cranes for deployment and recovery of moorings and gliders/floats/ROV's
- Winches for equipment with up to 4500m (max) of cable (offshore)
- Laboratory or other dedicated space for processing samples



Small CTD unit

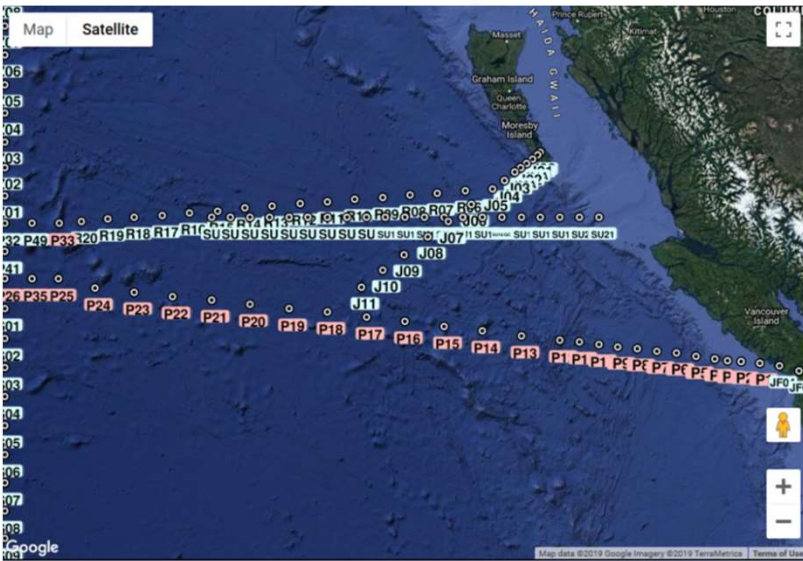
Areas of Operation

- Salish Sea (Strait of Georgia) and inlets, Johnstone Strait
- West Coast Vancouver Island (WA state to Cape Scott)
- Cape Scott to Alaska, including Haida Gwaii, inlets
- Up to 1500NM offshore



Overview of all of our stations off British Columbia (not all are occupied; typical locations shown next slide)

Areas of Operation



Line P



Salish Sea



West Coast Vancouver Island

Personnel Onboard

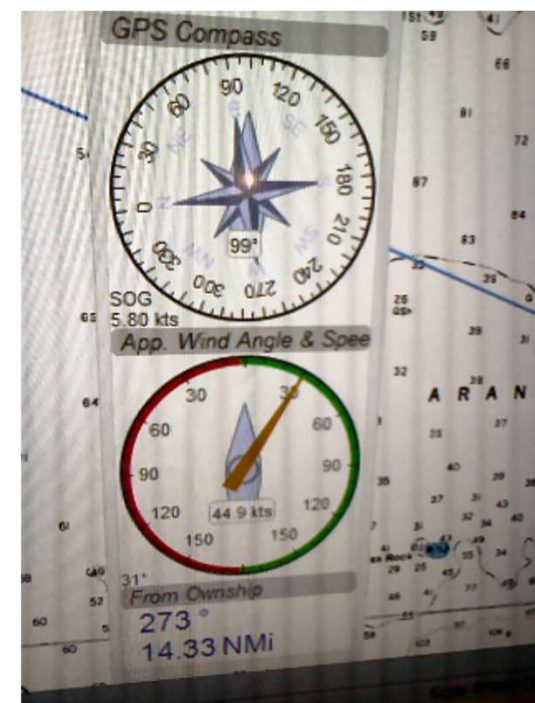
- Small surveys with limited sampling locations and tasks (e.g., Salish Sea), 1+ persons, up to 7 days, 12 hour operations
- Medium-sized surveys (Salish Sea, Inlets, Sheltered Waters), 6+ persons, up to 14 days, 24 hour operations
- Coastal and offshore surveys, 12+ persons, up to 28 days, 24 hour operations



Box Core Mud Sampler

Timing

- Time series programs are repeated annually with at least one survey per year. Time series could happen up to 12x per year (e.g., Salish Sea plankton survey)
- Mooring programs usually once per year, summer months more ideal for deployment and recovery of equipment
- Sheltered water programs can be conducted at time during the year with smaller vessels. Winter months are less successful.
- Offshore programs typically April to October, but we do run our Line P offshore survey in February and look for other intense weather periods to conduct some research programs



Offshore surveys work are often done up to ~30 kts and Sea State 5