

## 2008 OBSIP Field Programs

Oregon Cascadia, Pacific Northwest Coast (Trehu et al.). This project involves two one-year deployments of 13 short-period and three long-period instruments on the continental margin offshore central Oregon to document the microseismicity of this portion of the forearc and thus obtain insights into processes loading the megathrust.

During summer 2008 all instruments were retrieved and redeployed during a pair of cruise on the *R/V Wecoma* from Newport, Oregon (July and August). These two cruises were separated by ~6 weeks, during which time data were examined to determine whether any modification of the array configuration was indicated. A new set of 16 instruments was redeployed for a second year.

**Cruise A:** In support of the *R/V Wecoma* Cruise W0807A (July 1-6), we made 14 total recoveries, and six new deployments of ocean bottom seismometers (OBS) off the coast of southern Oregon. The initial complement of seismometers included 11 short period LC4x4s and three long period LC4x4s, all from Scripps. One OBS (OBS03) was recovered with significant damage to the instrument. It appears that a trawl wire, or other fishing equipment, likely struck it at the base, disconnecting the sensor cable and dislodging the run-plug. All data recovered during this cruise were processed after correction for linear clock drift between offsets to GPS time at the start and end of each deployment.

As in the initial deployments in 2007, a significant concern was OBS deployments in heavily fished waters off Newport Oregon's coastal shelf. The OBSs are also at the shallowest depths we've ever deployed for a year-long period. Our main concerns are with possible damage from fishing operations, heavy biofouling inhibiting the burn, fouling the movement of the release, or reducing the floatation margin. Heavy sedimentation witnessed on most shallow-water sites could prevent an OBS from releasing or ascending. Corrosion in the more oxygen rich shallow-water sites was also observed on most OBS units.



(Left) Enhanced corrosion of OBS hardware at OBS site 12. (Right) Excessive sedimentation observed in floatation hardhat at OBS site 03.

**Cruise B:** In support of the *R/V Wecoma* Cruise W0808B (August 15-21), we completed the array with ten deployments of OBS units off the coast of southern Oregon. The complement of

seismometers included seven short period L28s and three long period T240s. This was a relatively straightforward cruise to complete the array of 16 instruments that will be deployed for a year. The recovery cruise will be aboard the *R/V Wecoma* in July 2009.

On August 19<sup>th</sup>, while SIO OBS personnel were aboard the *Wecoma*, an OBS unit washed up on the beach near Seven Devils State Park in Bandon, Oregon. Two individuals (Rick Holmes and Jacquelyn Beauregard Dillman) independently contacted Jeff Babcock indicating that they had spotted the instrument at the beach. As with the unit washed up a year ago, we were very fortunate that this unit washed up on such a "friendly" beach. Oregon State Park Rangers from Coos Bay were notified and Rangers Calum Stevenson, Robin Spears, Ben Fisher, and Pam Steven mounted a successful recovery effort; their assistance is appreciated. When the *Wecoma* reached port Ernie Aaron, Phil Thai and Mark Williams (OSU) retrieved the unit from Park Rangers and included it with the shipment of gear from Oregon back to SIO. This incident once again highlights the added risks encountered in shallow-water areas where fishing activity is high.



OBS unit recovered at Seven Devils State Park by Park Rangers. This unit was from OBS site 12 with a deployment depth of 103 meters and presumed to have been dislodged by a fishing net.