This is the final report from me on this field expedition for testing WISSARD instrumentation. Another sunny day that started nicely with a crisp still morning, ended in the afternoon at about 3pm with us being driven from the lake by winds…to be followed by packing-up of instruments at the dock.

We had a mixed day again with great data coming in from IPSIEs, but a “so close, yet so far” scenario for recovering the UCSC piston corer; however for that, there is a tomorrow.

Early in the morning starting at 6am on the dock, there was a media event with the following reporters:

1. KGO-TV, San Francisco (ABC) – Reporter Cheryl Jennings used footage from the FTP site to do advance reports which aired Tuesday on two KGO evening newscasts.
2. SF Chronicle – Paul Chinn took photographs for a story being written by David Perlman.
3. KTVN-TV, Reno (CBS) – Videographer Gene Vance shot video and conducted on-camera interviews to air in an evening newscast.
4. KCRA-TV, Sacramento (NBC) – Videographer Marciilino Navarro shot video and conducted on-camera interviews to air in an evening newscast.
5. KXTV-TV, Sacramento (ABC) – Reporter Jeff Maher and his videographer did three live remote interviews from the marina this morning and a reporter package will air in an evening newscast.

We headed out at 7am to the “Tahoe Triangle” again with the prime objective to do one final and thorough test of the IPSIEs and at the same time attempt to use the SCRIPPS ROV to recover the UCSC piston corer. Our testing of the IPSIEs was very successful with good data coming in during profiling and mooring modes. We refined the timing of water distribution within WADs and the best profiling speed to match instrumentation measurement speed. We fully established the capability of our custom software (new code that does not require use of the manufacturers’ “canned” programs) to fault tolerance like power cycling, and to provide us with ease and uniformity of real-time displaying, analyzing and archiving data.
The piston corer was a slightly different story although not all hope of recovery is lost. When we arrived at the “Triangle” we observed that one of the buoys, the one marking the piston corer, was missing! The support boat went in yesterday’s down wind direction looking for the buoy and sure enough found it and most of the corer wire to which the buoy was attached. The bottom end of the wire was badly frayed indicating the motion of the buoy bobbing up-and-down with yesterday’s waves caused chaffing and finally severing of the wire right at the core barrel.

The ROV made several valiant attempts at recovery, but the barrel that was bent and lying over on the bottom, was still firmly stuck in the stiff sediment on the lake floor. After being so close and working hard at it for several hours, we were again thwarted by the wind increasing. DOER and UCSC will attempt another recovery early tomorrow before the entire operation needs to be demobilized and most equipment heads back to DOER for refinement and modifications before shipping to Antarctica in early October.

Once we returned to the dock we packed-up all of the scientific instrumentation in preparation for tomorrow’s demob because our NIU contingent starts its return home in the morning.

All in all it has been a very success test despite the difficulties nature threw at us. We now have shown the percussion, piston and multi-corers all work well and should recover the intended samples for us in Antarctica in spite of some Murphy’s Law mishaps along the way. After getting the piston corer stuck in the bottom and concerns that the same may happen for the geothermal probe, it will be tested near DOER facilities in the near future. IPSIEs will be all set to provide the water column analyses, and operationally we now have a strong understanding about how the drill and science operations can be handled and integrated at our Antarctic field sites and work efficiently and cleanly.
A series of pictures showing the ROV preparing and trying to pull-out the corer.
#3

#4

#5 with barrel almost vertical as is the ROV!
Another attempt – this time by grabbling a wire

ROV lifting the corer almost vertically after having twisted the wire around its manipulator arm
Image of a variety of data coming in from the IPSIE
The POP IPSIE after its deployment with bottom unit with an altimeter, Fluorometer and turbidity meter, a current meter and a cameras

The almost-full blue moon rose as we were packing instrumentation away