

The material presented & discussed is in the file AUV_CTD_8June2007.pdf. From the discussions, a number of areas for action emerged:

1) Salinity hysteresis

This is relevant to understanding hysteresis in O₂, nitrate; salinity is just the first, presumably easiest, one to tackle. The salinity hysteresis appears consistent from a representative sample of surveys, with salinity lower on the upcast. It can be corrected well at the stage of CTD data processing by aligning temperature with conductivity, as long as the plumbing lag is not too long. There are a few important questions to answer from the full archive:

- a) Is the hysteresis consistently lower on the upcast in all surveys?
- b) Is the hysteresis consistently worse for ctd1 (longer plumbing path for which plumbing alignment is more critical)?

John will follow up on this.

2) Flow sensors

These are not informing sensor alignment, seemingly cannot be used currently because of improper functioning, and may be causing variable problems for flow. We need to nail this down. This may require an evaluation of the historical flow data (When was it consistent? When did it begin recording 0?) Should we run some missions without the flow sensors to see if hysteresis is decreased?

3) Inconsistency between two HS-2 sensors

A large offset was found in optical backscattering magnitude between the two HS-2 sensors that have flown on the AUV. A "baseline jump" occurred after one of the sensors was serviced (new LED, etc.) following failure. A constant offset was a reasonable first effort at correcting the offset for consistent time series analysis. However, Brandon raised the question of whether differences in the reading of cal files or application of cal info could be the basis.

John will give Brandon a couple of raw data files and their cal files to test this.

4) New Sensors

- a) LOPC: Ready to start using data (Sackmann); let's start logging!
- b) CDOM: A puck would be easiest to integrate. The WetLabs puck sensors may allow CDOM, Chlorophyll fluorescence, and optical backscatter all-in-one:
<http://www.wetlabs.com/products/pub/specsheets/puckssc.pdf>. We need to determine configuration and cost of a custom combo meter, and whether AUV CTD has funds to purchase this.
- c) Light: We can make room for one of the two multi-spectral sensors that we already have (from Kudela), which have been previously integrated with Dorado. Francisco chose the downwelling sensor.

5) Time series analysis

There is one primary gap in our observations. The southern bay has only been surveyed once during spring in the 4 year time-series. Covering spring should be a high priority for the time series.

6) 2008 Proposal

The original 900300 ends in 2007 (3-year project begun in 2005). We need input from science users: what do you want to do same/differently?