# 0810NH CTD Processing Summary

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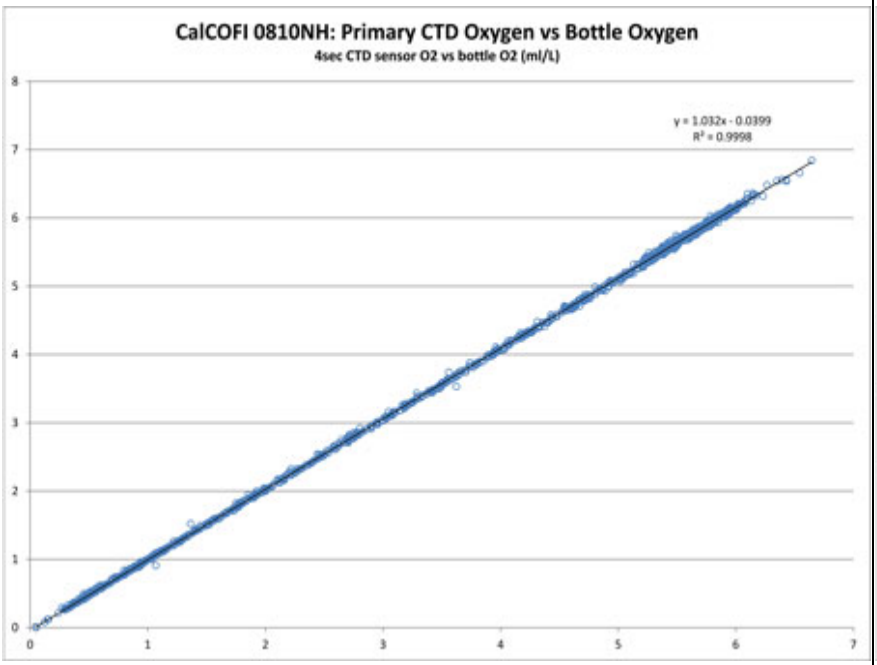
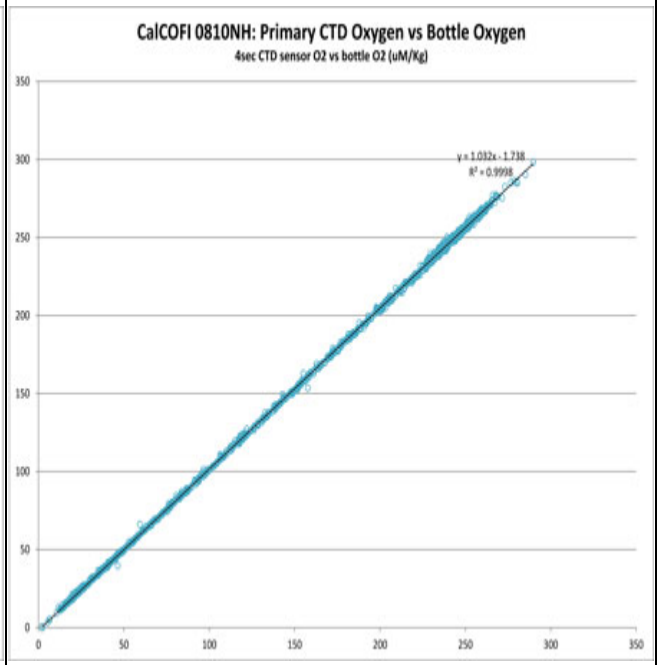
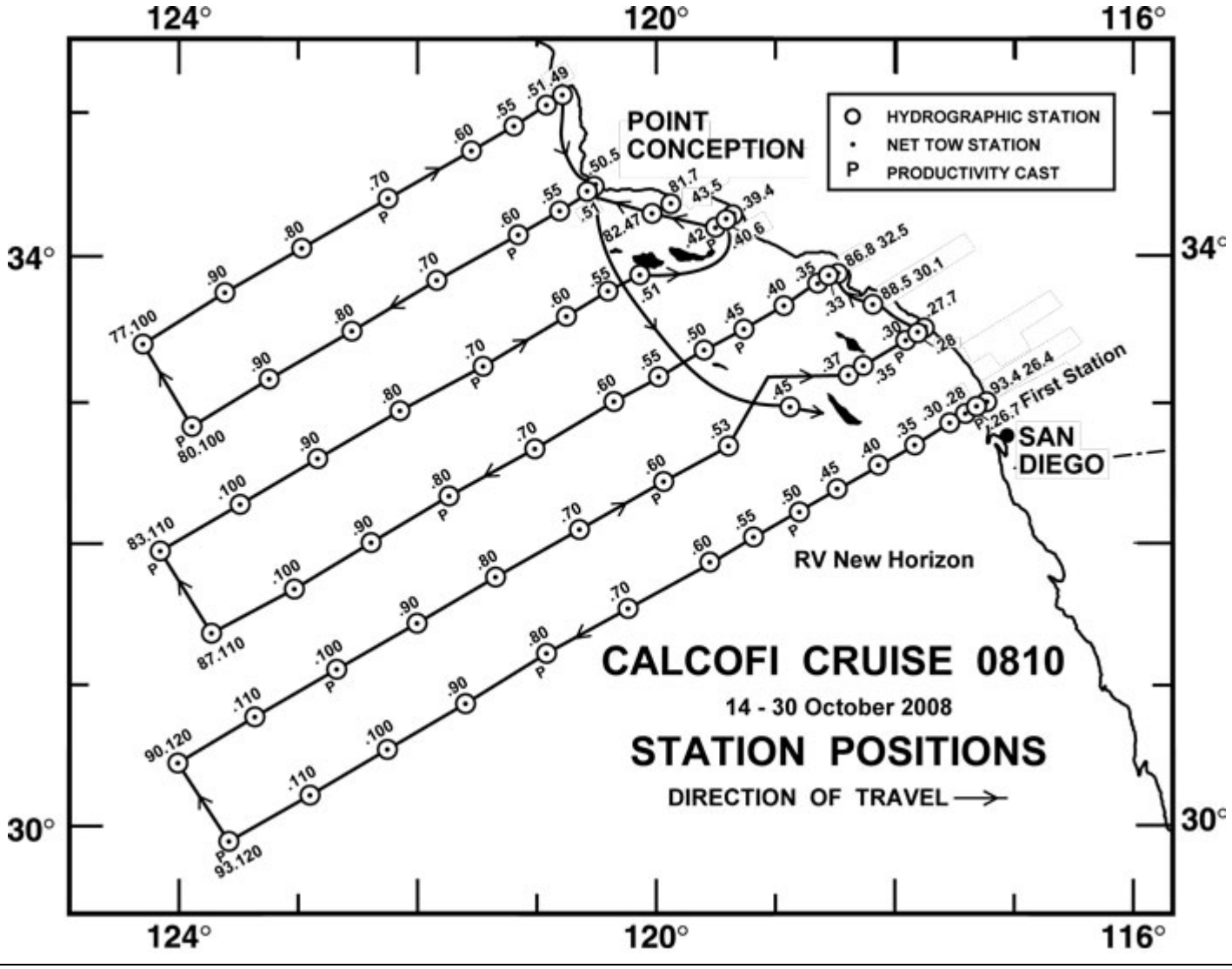
Last Updated: 22 August 2018

| **CTD Processing Summary CalCOFI 0810NH CTD Final Data (reprocessed/reformatted 08/2018)** | | |
|---|---|---|
| Download 0810NH CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2008/20-0810NH_CTDCast.zip) | | Download 0810NH FinalQC CTD + bottle data (http://cappuccino.ucsd.edu/downloads/2008/20-0810NH_CTDFinalQC.zip) |
| **General CTD Notes** - data acquisition cast notes, logistics, processing notes are listed below | | |
| CTD sensor corrections derived by comparing 4 secs of CTD sensor data (prior to bottle closure) to bottle samples | | |
| Dual T & S | Primary Sensor | Secondary Sensor |
| Temperature, dual SBE3 | No offset or correction | No offset or correction |
| Salinity offset (bottle - CTD salinity; > 350m only; Seabird SBE4; fliers excluded) | 0.0003 | -0.0188 |
| Single sensors - note only one CTD O2 sensor | ml/L | uM/Kg |
| Oxygen (ml/L & uM/Kg; single Seabird SBE43) | y = 1.032x - 0.0399<br>$R^2$ = 0.9998 | y = 1.032x - 1.738<br>$R^2$ = 0.9998 |
| Nitrate - Satlantic MBARI-ISUS NOT DEPLOYED | | |
| Seapoint Fluorometer - linear & polynomial regressions | y = 2.8838x - 0.0324<br>$R^2$ = 0.6624 | y = -1.1389$x^2$ + 3.5839x - 0.0805<br>$R^2$ = 0.6712 |
|  (http://cappuccino.ucsd.edu/downloads/2008/0810NH/0810NH_Ox1MLvsOxBML.jpg) | |  (http://cappuccino.ucsd.edu/downloads/2008/0810NH/0810NH_Ox1UMvsOxBUM.jpg) |

| | |
|---|---|
| | (http://cappuccino.ucsd.edu/downloads/2008/0810NH/0810NH_FlVvsChla.jpg) |

General notes: Station Pattern & Cruise Track



## CalCOFI 00810NH • 14 - 30 Oct 2008 • SIO RV New Horizon • San Diego to San Diego

Cruise and CTD Data Processing Notes

CalCOFI 0810NH on SIO RV New Horizon successfully occupied 73 of 75 scheduled stations. Two SCCOOS stations, 91.7 26.4 (Camp Pendleton) & 88.5 30.1 (Pt. Dume), were missed so sta 90.0 45.0 could be occupied on the way home to San Diego. Naval operations earlier in the cruise prohibited occupying the station in scheduled order.

Seabird 911+ configuration:
Primary Temperature (#1324), Conductivity (#042206), and O2 sensor (#430680), pumped (#55060); Secondary Temperature (#2533), Conductivity (#357) pumped (#52236); Wetlabs (CST-479DR) 25cm transmissometer (mislabeled Chelsea/Seatech in con); Seapoint chlorophyll fluorometer (SCF2483 @10x); Benthos/Datasonics Altimeter (#46604); MBARI-ISUS v2 (#111); no surface PAR was installed.
(Freq0=T0; Freq1=C0; Freq2=Pr; Freq3=T1; Freq4=C1; V0=Trans; V1=Fl; V2=Alt; V3=PAR; V4=O21; V5=open; V6=open; V7-open)

JRW experimented with pre-soaking the CTD oxygen sensor on deck using the uncontaminated seawater hose. Seabird had recommended that soaking the CTD at surface for ~10mins would improve the oxygen sensor data which has been overestimating oxygen at the start of the cast. This soak is supposed to balance the membrane equilibrium which can be a problem when stored in DI water between casts.

Cast 006 - flushed the O2 sensor for ~6mins pre-cast, deck unit off for 5 of those minutes.
Cast 007 - ~10min seawater flush pre-cast for O2 surface data. Note: the standard deployment to 10m for 2mins then return to surface before starting data archiving is still being practiced. This is only an on-deck sensor flushing meant to simulate a 10min soak at surface. Since shiptime is so precious, we cannot soak the CTD for 10mins each station.
Cast 011 - ~15min seawater hose flush of CTD O2 sensor on deck pre-launch
Cast 015 - 14min seawater soak + 6min deck test
Cast 022 - 15min pre-cast soak, deck seawater hose connected to CTD plumbing

| Voltage | Sensor |
|---|---|
| V0 | Trans |
| V1 | Fluor |
| V2 | Alt |
| V3 | PAR |
| V4 | O2 |
| V5 | |
| V6 | |
| V7 | |

Logistics:
We completed (all) 66 standard stations and 7 of 9 SCCOOS stations before transiting home to offload in San Diego.

CalCOFI 0810NH CTD Data Processing & Console Ops Notes

Removed salt fliers on both primary & secondary comparisons.

**No deep CTD casts (>515m) were performed this cruise**

Only one O2 sensor was deployed, no ISUS, no Surface PAR, no pH. These were purchased in mid-2009 and first deployed on CalCOFI 0907M2 when a new 911+ system was bought.
V2 Deck unit was also purchased at that time so this cruise was on v1 Deck Unit - requiring Align-CTD offset of secondary conductivity (0.073sec).

Cast notes:

Original hdr files requiring correction - all listed issues have been corrected in processed data and raw cast files:

Casts 008, 012, 016, 019 : cast type labeled "PROTO" instead of "PRODO"

Cast 014: mislabeled cast 13, sta 93.3 10 instead of 93.3 100.0

Cast 018: mislabeled cast 017

Cast 019: missed 45m bottle so went back down to get it, bottles reversed; CTD yo-yo'd on upcast 55m>33m>21m>45m>12m

Cast 032: missed tripping the surface bottle, surface samples taken from underway seawater effluent

Cast 034: Santa Monica Basin station, cast to 750m

Cast 042: mislabeled cast 041

Cast 049: sta 83.3 60.0 slightly off station (~0.5nm) due to fishing vessel on station

Cast 060: mislabeled sta 80.0 760.0, should be 80.0 70.0

Cast 062: overflow light came on the deck unit, cast restarted from surface

Cast 065 upcast: Oxygen data from 68-74m look pretty questionable, flagged "8"

Cast 067 upcast: the upcast data acquisition was stopped at 100m because deck unit overflow light came on. Restarted, 100m to surface upcast, labeled cast 067A, resulting in two cast files (067, 067A). These were processed separately then asc files were combined before merging with bottle data.

Cast 072: SCCOOS sta 80.0 50.5 missed earlier picked up on the transit south; overflow light on deck unit noticed at the end of the cast, data file appears okay

Cast 073: sta 90.0 45.0 missed earlier on the cruise, picked up on the way home

JRW 08/06/2018