1411NH CTD Processing Summary (/cruises/2014-cruises/calcofi-1411nh/552-1411nh-ctd-processing-summary.html)

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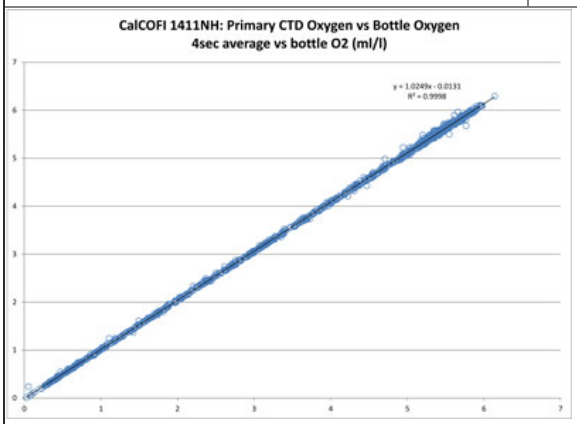
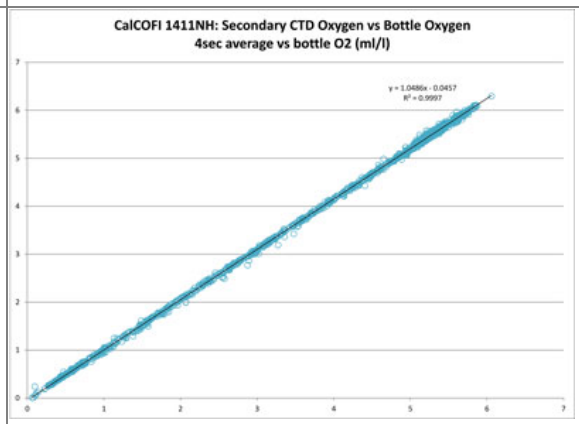
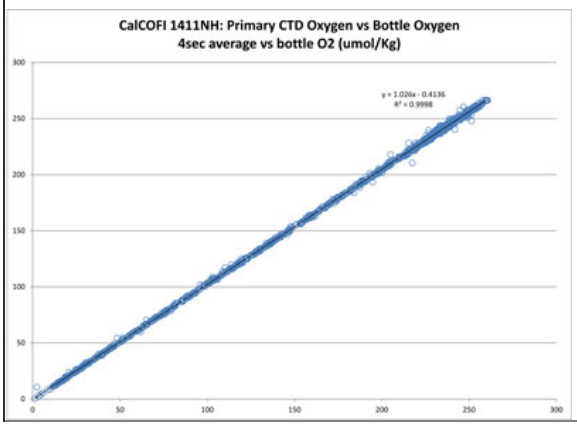
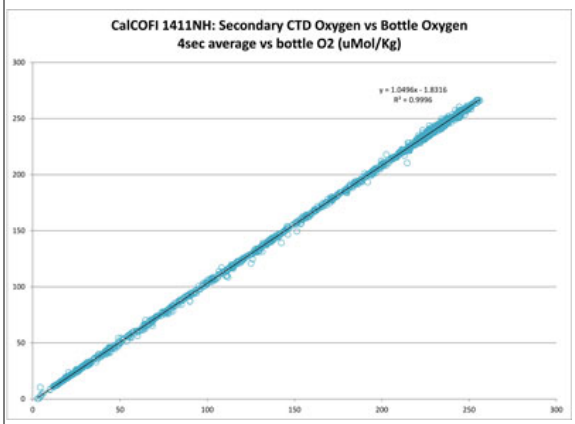
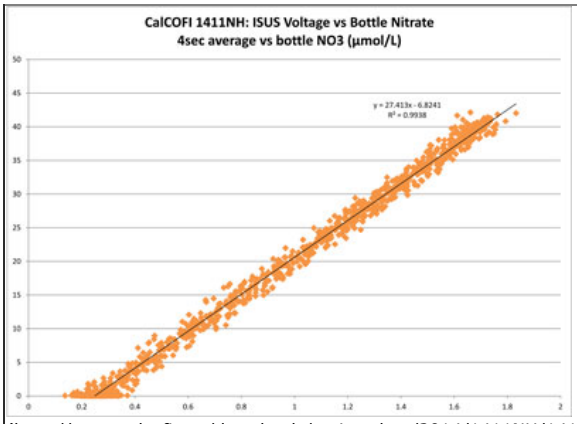
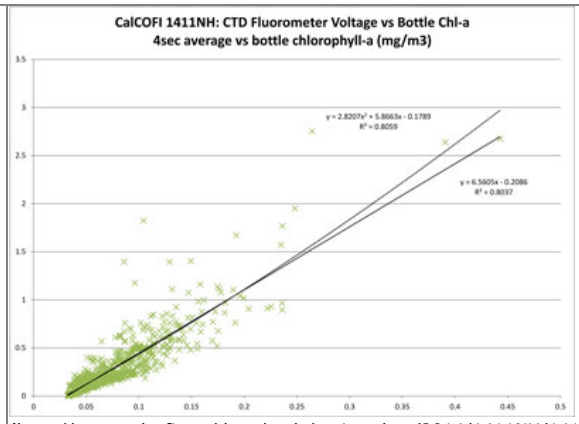
Last Updated: 10 March 2017

CTD Processing Summary CalCOFI 1411NH CTD Final Data		
Download 1411NH CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2014/20-1411NH_CTDCast.zip)		Download 1411NH FinalQC CTD + bottle data & plots (http://cappuccino.ucsd.edu/downloads/2014/20-1411NH_CTDFinalQC.zip)
General CTD Notes - data acquisition notes, logistics, processing - see below		
CTD sensor corrections derived by comparing 4 secs of CTD sensor data (prior to bottle closure) to bottle samples		
Dual T, S, & O2	Primary Sensor	Secondary Sensor
Salinity offset (bottle - CTD salinity; > 350m only; Seabird SBE4)	-0.0042	-0.0019
Oxygen ml/L (dual Seabird SBE43)	y = 1.0249x - 0.0131 R^2 = 0.9998	y = 1.0486x - 0.0457 R^2 = 0.9997
Oxygen umoles/Kg (dual Seabird SBE43)	y = 1.026x - 0.4136 R^2 = 0.9998	y = 1.0496x -1.8316 R^2 = 0.9996
Single sensors	Linear	Polynomial
Nitrate - ISUS 4sec ave voltage vs Bottle Nitrate (Satlantic MBARI-ISUS v2)	y = 27.413x - 6.8241 R^2 = 0.9938	
Fluorometer - linear & polynomial regressions	y = 6.5605x - 0.2086 R^2 = 0.8037	y = 2.8207x^2+5.8663x-0.1789 R^2 = 0.8059
 (http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_Ox1MLvsOxB.jpg)		 (http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_Ox2MLvsOxB.jpg)
(http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_Ox1UMvsOxB.jpg) 		 (http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_Ox2UMvsOxB.jpg)

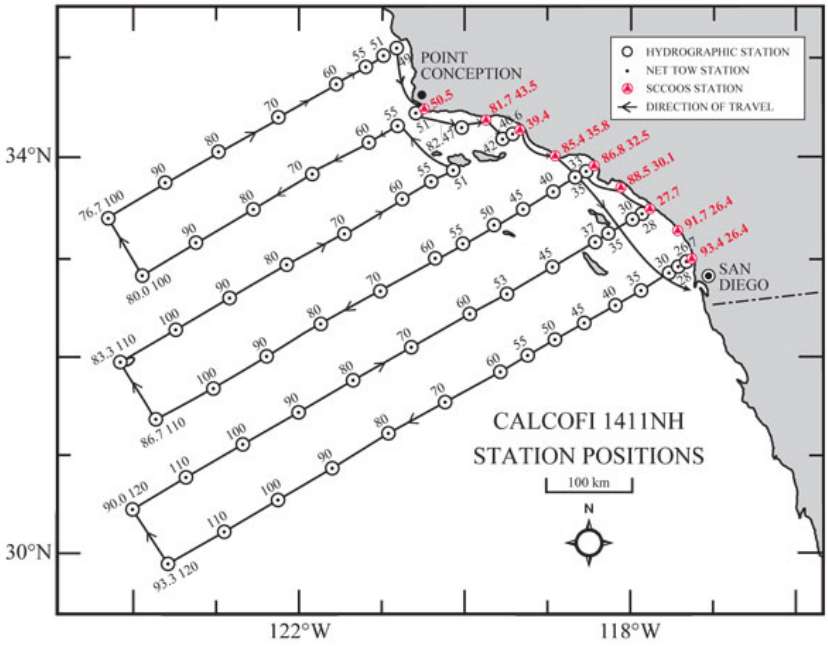


(http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_ISUSVvsNO3.jpg)



(http://www.calcofi.org/downloads/cruise_data/2014/1411NH/1411NH_FlVvsChla.jpg)

General notes: These are cast & final CTD Processing Notes from 1411NH cruise



CalCOFI 1411NH General Cast Notes: This cruise occupied 75 stations: 66 standard, & 9 SCCOOS. The station schedule was modified due to naval operations on lines 83 & 80 plus bad weather forecast. Refer to the map for the station order and cruise track. Coastal stations on line 83 & 80 (51, 50.5) & Santa Barbara Basin were done after lines 80 & 77 were completed.
CalCOFI 1411NH was on SIO RV New Horizon. Termination of the three conductor conductive wire was done by JRW using the 4-pin pigtail. Only the white conductor and shield were used for signal & ground.

CTD configuration was standard: Seabird 911+ with dual T, C, O2, & pumps; Wetlabs C-Star 25cm transmissometer; Biospherical QSP200L PAR; Datasonics/Benthos Altimeter; WET Labs ECO-AFL/FL; Seabird pH; Satlantic ISUS v2 & battery. Please refer to the xmlcon files or cruise prospectus for additional info.

Cast Notes:

Cast 01 - sat at depth while prodo bottle depths were calculated

Cast 03 - pressure offset of -0.05 was added pre-cast

Cast 05 - bottle #8 was replaced after cast - bottom cap problem; #18 bottom valve replaced - leaky

Cast 10 - ISUS not powered, no data; winch speed was over 60m/min for a brief time

Cast 11 - upcast different than downcast between 350-300m

Cast 12 - new ISUS battery installed - terminal was loose

Cast 17 - bottle #17 did not close, used #16 for prodo

Cast 22 - deep 3500m cast; PAR, ISUS + battery, pH sensors removed; O2 minimum at ~670m

Cast 23 - upcast different than downcast, especially O2; transmissometer zeroed on downcast @~375m, worked on upcast

Cast 26 - transmissometer dropped out below 400m, connector cleaned post-cast.

Cast 27 - ~2.5hr delay to sta 90.45, Naval ops; transmissometer dropped @415m on downcast

Cast 30 - transmissometer cut out @418m downcast

Cast 31 - personnel exchange before prodo station 90.28

Cast 35 - CTD landed on bottom due to misread of Knudsen, seems fine but terminal data may be influenced by suspended materials

Cast 36 - transmissometer outage at 453m downcast, upcast looks okay

Cast 37 - bottle #10 no closure, lanyard hung up

Cast 40 - transmissometer jumpy between 410-440m; rough weather, no net tows

Cast 41 - rough weather; PAR and pH caps left on, both caps came back, pH buffer replaced post-cast

Cast 42 - really rough weather, use loopedit to de-loop the slow ~27m/min downcast

Cast 44 - transmissometer voltage zeroed @~460m on downcast but back at 515m

Cast 45 - pressure offset -0.05 applied

Cast 46 - pressure offset -0.05 applied again, deck pressure often increases when CTD lands hard

Cast 48 - transmissometer out @~450m downcast

Cast 49 - 54 - transmissometer out below ~400m downcast, really need a backup

Cast 55 - calm night; transmissometer dropped after 450m

Cast 56 - 57 - transmissometer worked all the way!

Cast 58 - light rain during sample drawing; transmissometer good till ~470m downcast

Cast 59 - big rolls, ship rocking; primary oxygen bio-fouled on upcast from ~125m; sensor replaced post-cast

Cast 59 -61 - some deep noise in transmissometer

Cast 62 - transmissometer worked full cast

Cast 64 - ISUS battery not plugged in, no ISUS data; battery replaced after cast

Cast 65-66 - transmissometer outage @380m and again @465m

Cast 67 - 230m station; some strangeness on CTD acquisition PC, main plot went blank at 40m on upcast, data look fine but worth noting

Cast 68 - 60m shallow sta, big rolls

Cast 69 - SCCOOS sta 80.0 50.5, green water but not fluorescing much

Cast 71 - Santa Barbara Basin, wind causing wire angle; transmissometer noisy

File notes:
Seasoft-generated asc-hdr files were not renamed to YY-YYLLLLSSSS_###d or u.asc & .hdr. Voltages were not relabled. This practice makes it difficult to reprocess the CTD if necessary.
Mislabels found and corrected:

12Mar2015