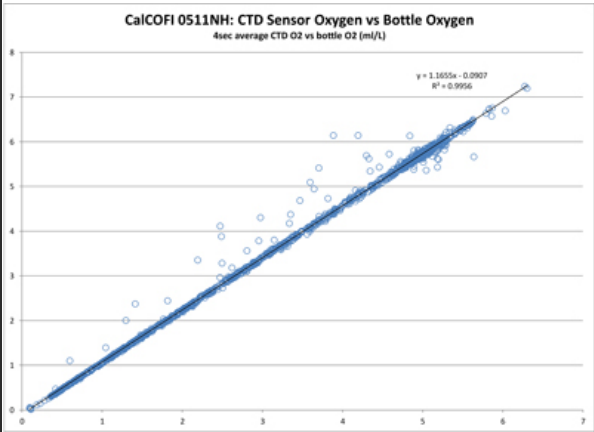
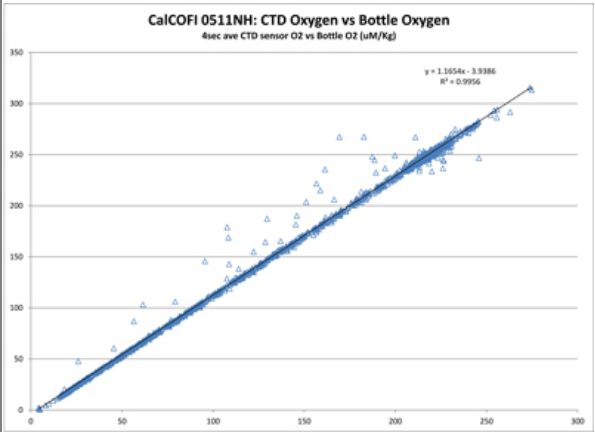
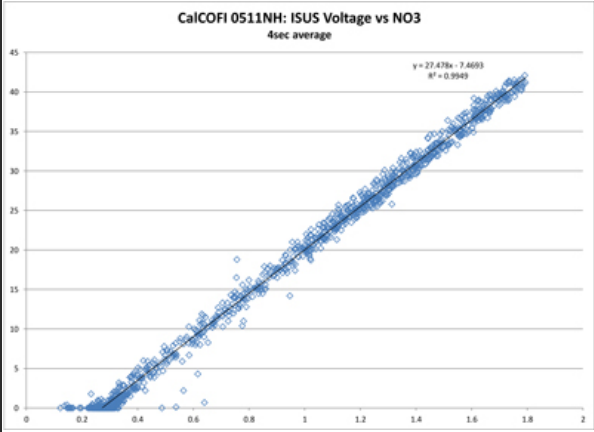
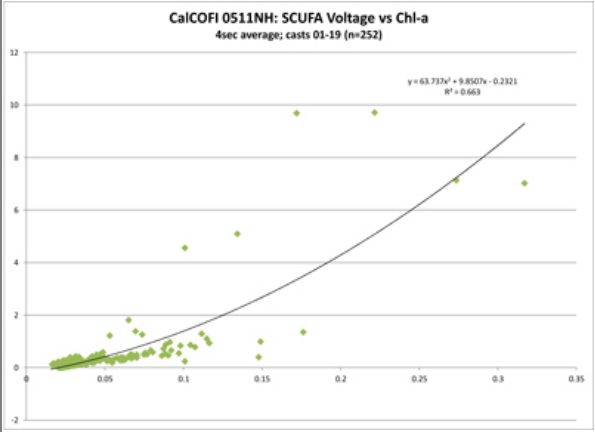
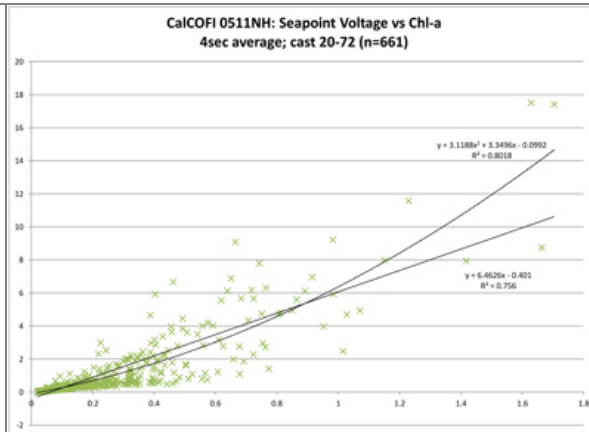


0511NH CTD Processing Summary

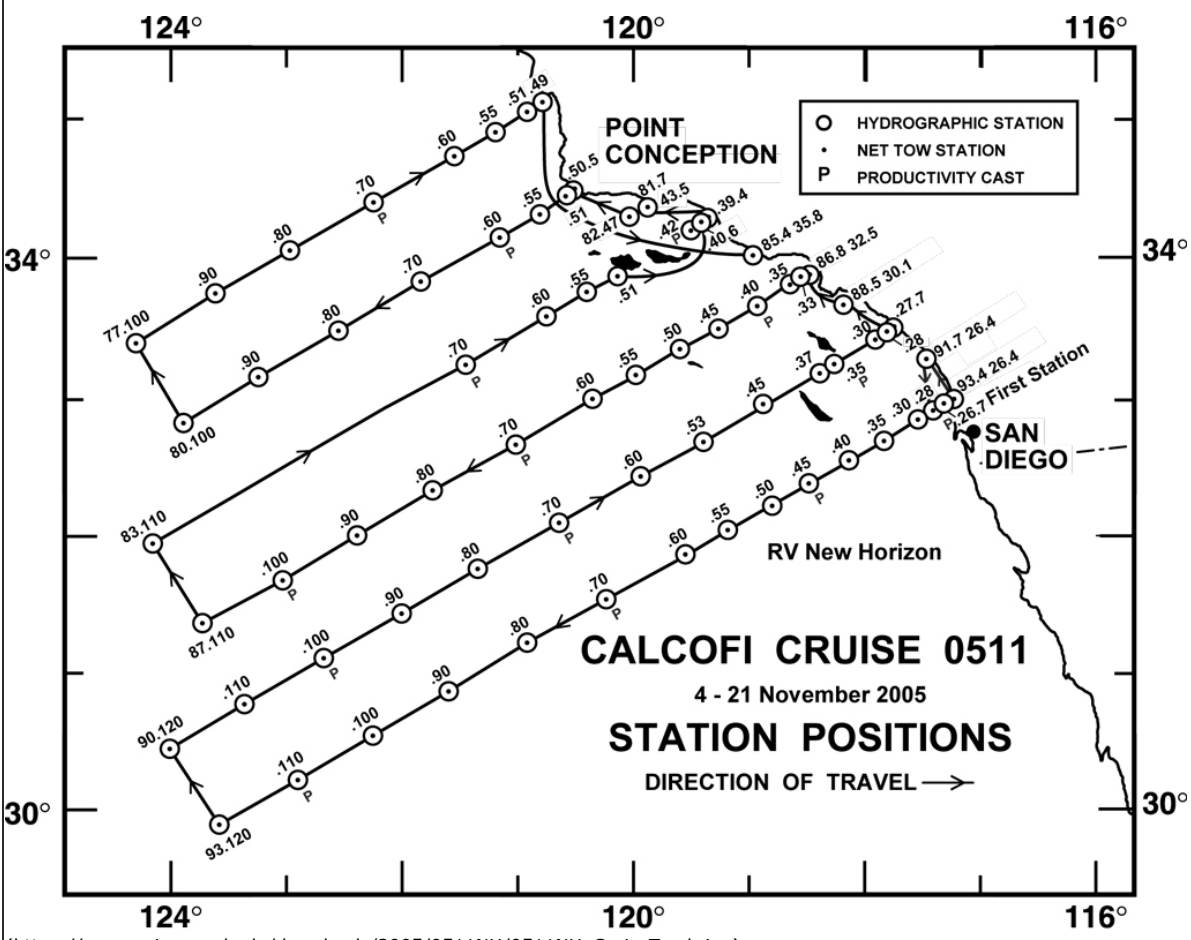
Parent Category: Older Cruises (/cruises/older-cruises.html)
Category: 2005 Cruises (/cruises/older-cruises/186-2005-cruises.html)
Last Updated: 12 March 2019

CTD Processing Summary CalCOFI 0511NH CTD Final Data (reprocessed/reformatted 03/2019)		
Download 0511NH CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2005/20-0511NH_CTDCast.zip)		Download 0511NH FinalQC CTD + bottle data (http://cappuccino.ucsd.edu/downloads/2005/20-0511NH_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)	-0.0040	-0.0063
Single sensors - note only one CTD O2 sensor	ml/L	uM/Kg
Oxygen (ml/L & uM/Kg; single Seabird SBE43)	$y = 1.1655x - 0.0907$ $R^2 = 0.9956$	$y = 1.1654x - 3.9386$ $R^2 = 0.9956$
Satlantic MBARI-ISUS (SN#919) deployed	$y = 27.478x - 7.4693$ $R^2 = 0.9949$	
SCUFA Fluorometer - linear & polynomial regressions, Casts 001 - 019		$y = 63.737x^2 + 9.8507x - 0.2321$ $R^2 = 0.6630$
Seapoint Fluorometer - linear & polynomial regressions, Casts 020 - 072	$y = 6.4626x - 0.401$ $R^2 = 0.756$	$y = 3.1188x^2 + 3.3496x - 0.0992$ $R^2 = 0.8018$
		
http://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_Ox1MLvsOxBML.jpg		http://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_Ox1UMvsOxBUM.jpg
		
http://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_ISUSVvsNO3.jpg		http://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_SCUFAIVvsChla.jpg



(http://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_SeapointFIVvsChla.jpg)

General notes: Station Pattern & Cruise Track



(https://cappuccino.ucsd.edu/downloads/2005/0511NH/0511NH_CruiseTrack.jpg)

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CalCOFI 0511NH occupied 72 of 75 scheduled stations; stas 83.3 100, 83.3 90.0, 83.3 80.0 were missed due to rough weather. So 63 standard stations and 9 SCCOOS stations were done. Sensor data quality was atypically bad especially on the secondary sensors. Many troubleshooting attempts did remedy the problems. Some data were lost on either downcast or upcast but fortunately not both except when powering the ISUS was an issue. Batteries were swapped after every 3 casts since charging the battery on the rosette was not implimented yet. Forgetting to unplug the battery could cause fewer than 3 casts to be powered.

Casts 001 -019 had the SCUFA fluorometer. Casts 020 - 072 had the Seapoint fluorometer. These casts were processed separately so different regression coefficients from the SCUFA vs bottle chla samples & Seapoint vs bottle chla samples could be applied. Due to the noisy nature of the New Horizon seacable, both Loopedit and Wildedit Seabird modules were applied. Please refer to each casts hdr file for specific module settings and order of application. All other CTD sensors were not changed during the cruise. There were configuration (cabling) issues with the T1/C1 & T2/C2 on the first 3 casts. But these were sorted out and the .asc & .csv files should be fine.

Seabird 911+ configuration:
Please refer to text file: FirstThreeCastTCConfig.txt for specific sensor ids.

Primary Temperature (#1324), Conductivity (#2206), and O2 sensor (#680), pumped (#55060); Secondary Temperature (#1049), Conductivity (#722) pumped (#52236); Wetlabs (CST-490DR) 25cm transmissometer (misabeled Chelsea/Seatech in con; used original calculated M & B); SCUFA (fluorometer used on casts 001-019; Seapoint chlorophyll fluorometer (SCF2483 @10x) used on casts 020-072; Benthos/Datasonics Altimeter (#46604); MBARI-ISUS v2 (#111) Nitrate sensor; remote PAR (#4544), surface PAR (SN 6369).

(Freq0=T0; Freq1=C0; Freq2=Pr; Freq3=T1; Freq4=C1; V0=Trans; V1=Fl; V2=ISUS; V3=open; V4=O21; V5=open; V6=Altimeter; V7-Remote PAR)

Voltage	Sensor
V0	Trans
V1	Fluor
V2	ISUS
V3	
V4	O2
V5	
V6	Altimeter
V7	Remote PAR

CalCOFI 0511NH CTD Data Processing & Console Ops Notes

Removed salt fliers on both primary & secondary comparisons. Original data processor (FR) did not removed O2 fliers on regression plots.

Deepest CTD cast was 722m at sta 86.7 40.0 Cast 036, Santa Monica Basin.

Only one O2 sensor was deployed and a SBE11v1 Deck Unit - requiring Align-CTD offset of secondary conductivity (0.073sec) was used.

General Notes: We started data acquisition AFTER deploying and 2 minutes @10m soak. Loopedit & Wildedit were applied to all casts.

CTD Setup:

V0 - Tr (CST490DR), original M & B were used

V1 - SCUFA Fluorometer on casts 001-019; Seapoint Fluorometer set at 10x on casts 020-072

V2 - ISUS Nitrate Sensor, battery powered

V3 - open

V4 - SBE43 Oxygen Sensor (only one deployed pre-2009)

V5 - open

V6 - Benthos/Datasonic Altimeter

V7 - PAR

V15 - SPAR

Sensors: T1 - SN1324; T2 - SN1049; C1 - SN2206; C2 - SN722; O2 - SN680; PAR - 4544; SPAR - SN6369

Reprocessing in 2019 used the original final .asc files to merge with bottle data. Although new .asc files were generated using wfilter applied to ISUS and other data. These specific columns were imported into the CTD.csvs that were generated from the original 2011 merging of final bottle data & CTD data. Additionally, transmissometer data were missing from the 2011 CTD.csvs so these data columns, BAT (beam attenuation coefficient) & XMiss (% transmission) were also imported. The original M & B were used, not recalculated.

Other cast issues noted during processing:

Mislabel line.sta in .hdrs:

Cast 030 Line.Sta was misformatted as 90.27.7; corrected to 90.0 27.7

Cast 052 Line.Sta was misformatted as 83.40.6; corrected to 83.3 40.6

Cast 077 Line.Sta was misformatted as 90.37; corrected to 90.0 37.0

Other casts had integer Line.Sta but these were parsed correctly

Data issues:

Cast 030 downcast salinities ~4-6m were high so data coded "8" (questionable)

Cast 066 downcast temperature 2 and salinity 2 were bad (biofouling) from 44-87m. These data were flagged "9" and nulled. The .bak file is available in the bak subdir if you want to see the original values.

Cast 070 upcast salinity 2 was bad so data coded accordingly; downcast looks fine.

JRW 03/12/2019