0707NH CTD Processing Summary
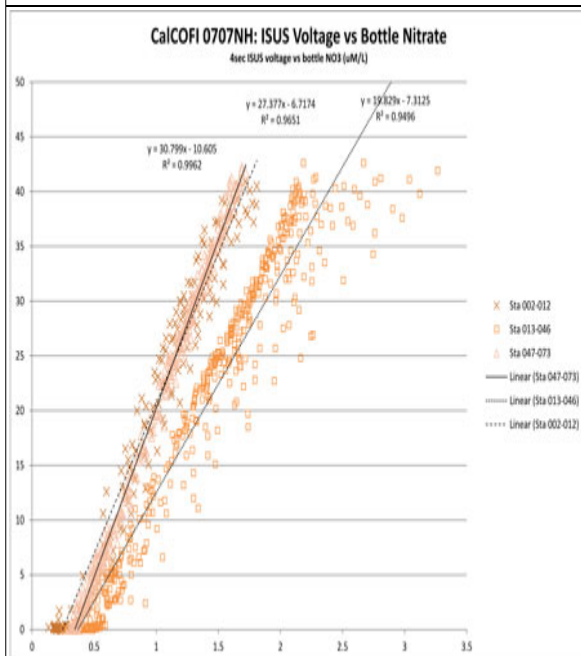
Parent Category: Older Cruises (/cruises/older-cruises.html)

Category: 2007 Cruises (/cruises/older-cruises/183-2007-cruises.html)
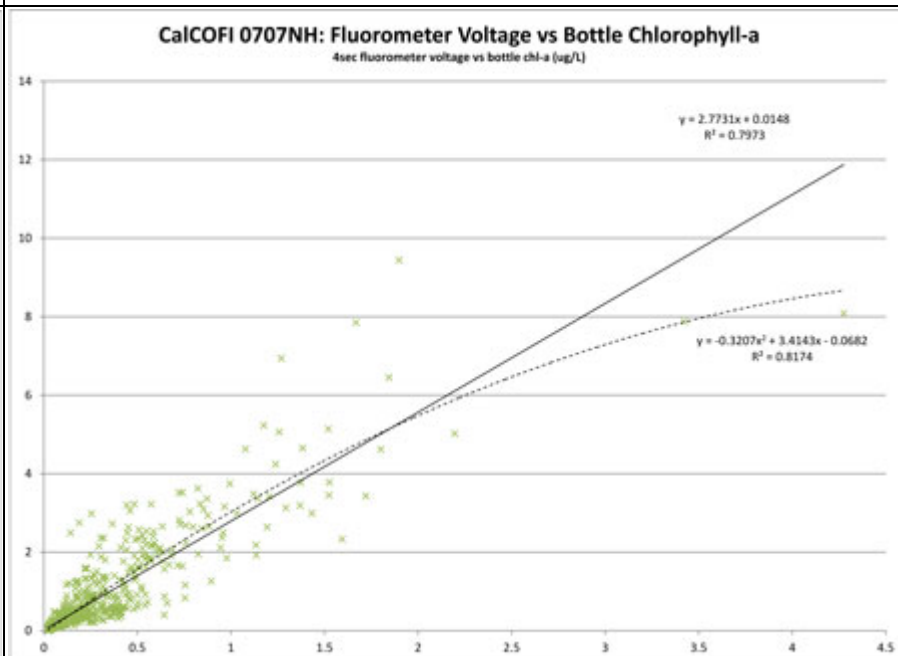
▦ Last Updated: 09 October 2018

CTD Processing Summary CalCOFI 0707NH CTD Final Data (reprocessed/reformatted 10/2018)		
Download 0707NH CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2007/20-0707NH_CTDCast.zip)	Download 0707NH FinalQC CTD + bottle data (http://cappuccino.ucsd.edu/downloads/2007/20-0707NH_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)	0.0014	-0.0023
Single sensors - note only one CTD O2 sensor ml/L uM/Kg		
Oxygen (ml/L & uM/Kg; single Seabird SBE43)	$y = 1.0517x - 0.075$ $R^2 = 0.9995$	$y = 1.0516x - 3.2564$ $R^2 = 0.9995$
Nitrate - Satlantic MBARI-ISUS (SN#111 v2)	Cast 001 - 012 $y = 27.377x - 6.7174$ $R^2 = 0.9651$	Cast 013 - 046 $y = 19.829x - 7.3125$ $R^2 = 0.9496$ Cast 047 - 073 $y = 30.799x - 10.605$ $R^2 = 0.9962$
Seapoint Fluorometer - linear & polynomial regressions	$y = 2.7731x + 0.0148$ $R^2 = 0.7973$	$y = -0.3207x2 + 3.4143x - 0.0682$ $R^2 = 0.8174$

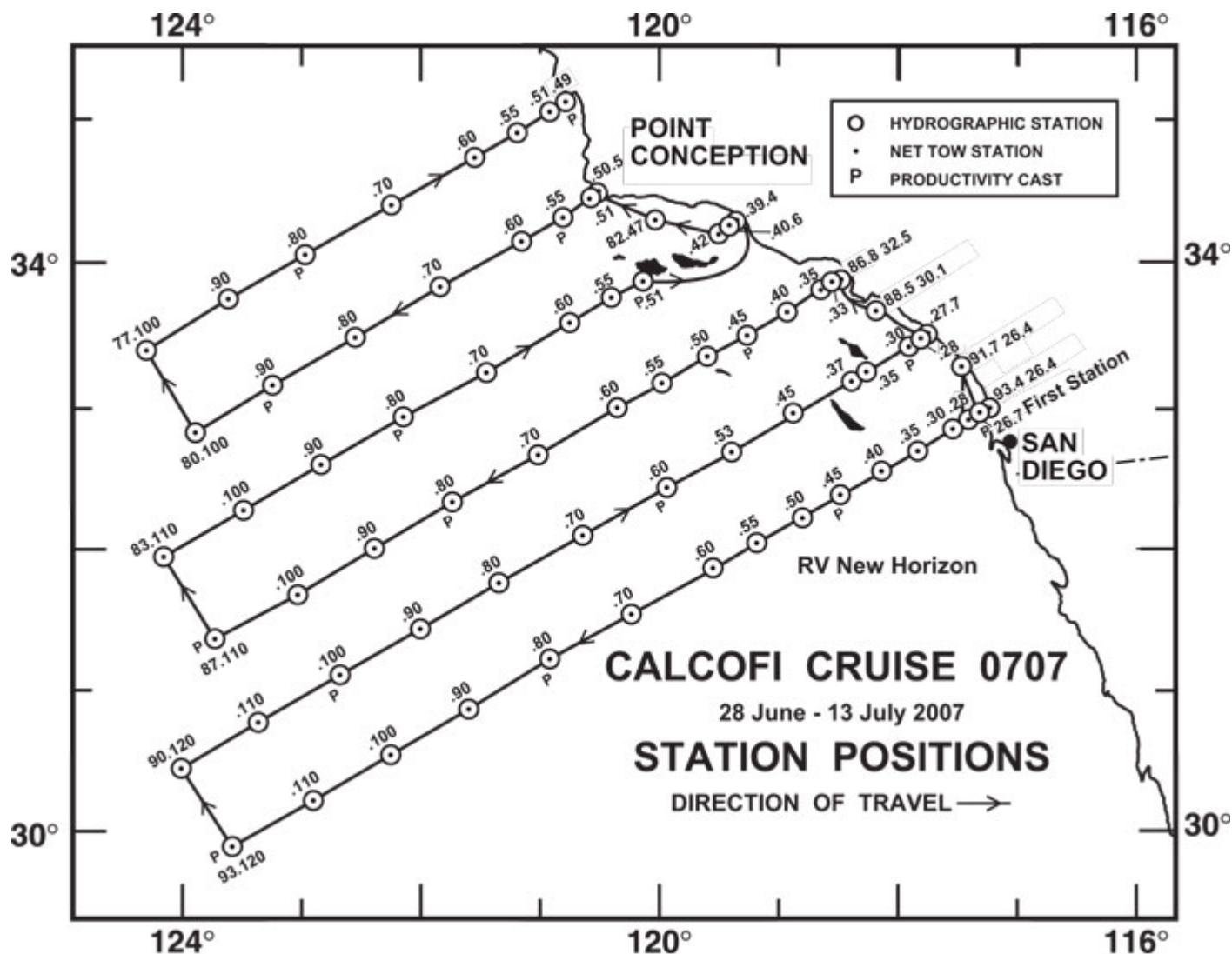| (http://cappuccino.ucsd.edu/downloads /2007/0707NH/0707NH_Ox1MLvsOxBML.jpg)	(http://cappuccino.ucsd.edu/downloads/2007/0707NH /0707NH_Ox1UMvsOxBUM.jpg)
CalCOFI 0707NH: ISUS Voltage vs Bottle Nitrate 4sec ISUS voltage vs bottle NO3 (uM/L)	CalCOFI 0707NH: Fluorometer Voltage vs Bottle Chlorophyll-a 4sec fluorometer voltage vs bottle chl-a (ug/L)
(http://cappuccino.ucsd.edu/downloads /2007/0707NH/0707NH_ISUSVvsNO3.jpg)	(http://cappuccino.ucsd.edu/downloads/2007/0707NH /0707NH_FlVvsChla.jpg)

General notes: Station Pattern & Cruise Track

CALCOFI CRUISE 0707
28 June - 13 July 2007
STATION POSITIONS
DIRECTION OF TRAVEL →

RV New Horizon

CalCOFI 0707NH • 28 Jun - 14 Jul 2007 • SIO RV New Horizon • San Diego to San Diego

Cruise and CTD Data Processing Notes

CalCOFI 0707NH on SIO RV New Horizon successfully occupied 73 of 75 scheduled stations. Two SCCOOS stations were not occupied: 85.4 35.8 & 81.7 43.5. Acoustic calbration was not performed so arrival to the 1st CalCOFI station was ~1000PST Jun 28 in time for prodo station.

Seabird 911+ configuration:
Primary Temperature (#1049), Conductivity (#0722), and O2 sensor (#1075), pumped (#55060); Secondary Temperature (#031324), Conductivity (#2206) pumped (#52236); Wetlabs (CST-490DR) 25cm transmissometer (mislabeled Chelsea/Seatech in con); Seapoint chlorophyll fluorometer (SCF2483 @10x); Benthos/Datasonics Altimeter (#46604); MBARI-ISUS v2 (#111); remote PAR (#4544), RV New Horizon surface PAR was connected.
(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 0707NH CTD Data Processing & Console Ops Notes

Removed salt fliers on both primary & secondary comparisons.

No deep CTD casts (>800m) were performed this cruise

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

CalCOFI 0707NH CTD Data Processing Notes Seabird 911+ CTD with Deck Unit v1 requires AlignCTD of secondary conductivity sensor by 0.73sec. This has been applied along with a 4sec oxygen sensor offset. V0 - Transmissometer V1 - Seapoint Fluorometer V2 - ISUS v2 Nitrate sensor, user-polynomial V3 - open V4 - SBE43 O2 sensor V5 - open V6 - Altimeter V7 - PAR V15 - Surface PAR Please note there is only one oxygen sensor deployed in 2007. Secondary sensor plots will only have O2 bottle data, no secondary O2 profiles. There were some issues with the ISUS this cruise. It turns out the light pipe had become loose which caused a different relationship with nitrate. So this cruise had three (essentially two) regressions - Cast 001-012 & Cast 047-073, although processed in two bins with slightly different regressions, were essentially the same; Cast 013-046 had a loose ISUS light pipe which was discovered then tighten for cast 047. See the ISUSVvsNO3 regression plot for specific coefficients. The sta-corrected estimated ISUS nitrate would not be affected since the relationship is dynamically calculated for each cast. Other issues with the ISUS were primarily the battery providing enough voltage. Batteries were swapped after 3 casts and sometimes did not power the ISUS for the entire cast or at all. CTD operators may have forgotten to plug in the battery as well. Cast 068 hdr Line & Station were misentered as 76.780.0 and corrected to 76.7 80.0. No data codes have been entered into this cruise. Primarily, the ISUS sensor voltage 2 would be the main recipient of data quality codes of 8 or 9. I hope to get back to this, time-permitting.

JRW 09/20/2018