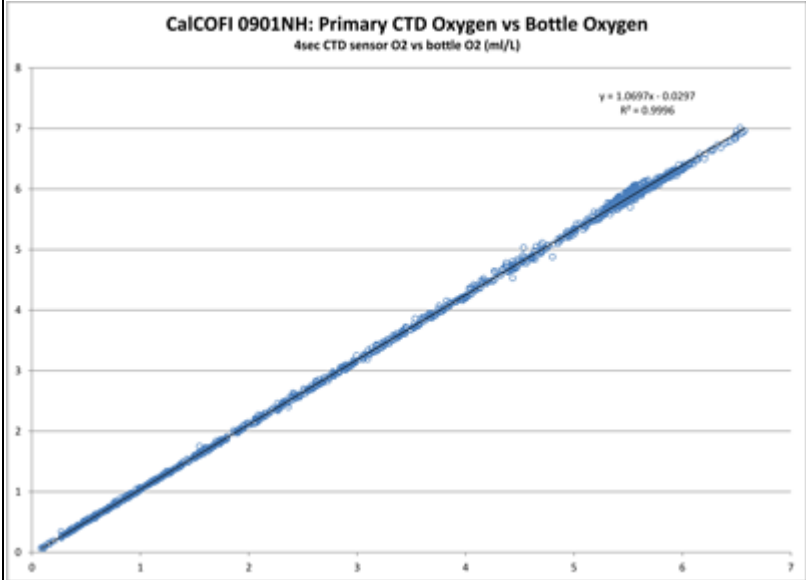
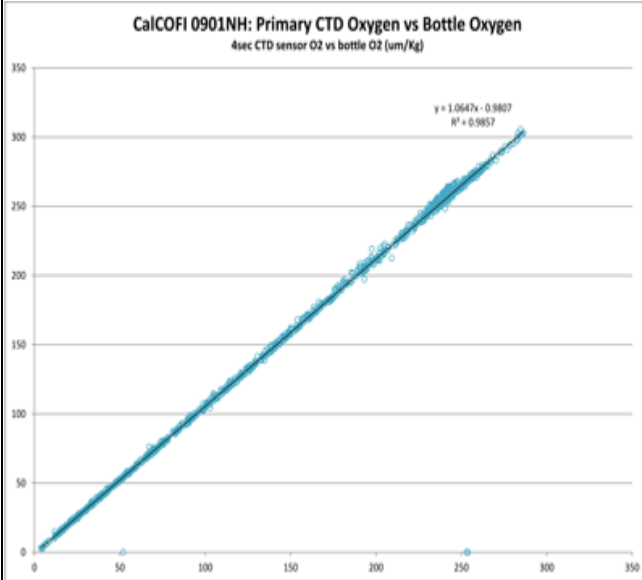


0901NH CTD Processing Summary

Parent Category: 2009 Cruises (/cruises/older-cruises/2009.html)

Category: CalCOFI 0901NH (/cruises/older-cruises/2009/calcofi-0901nh.html)

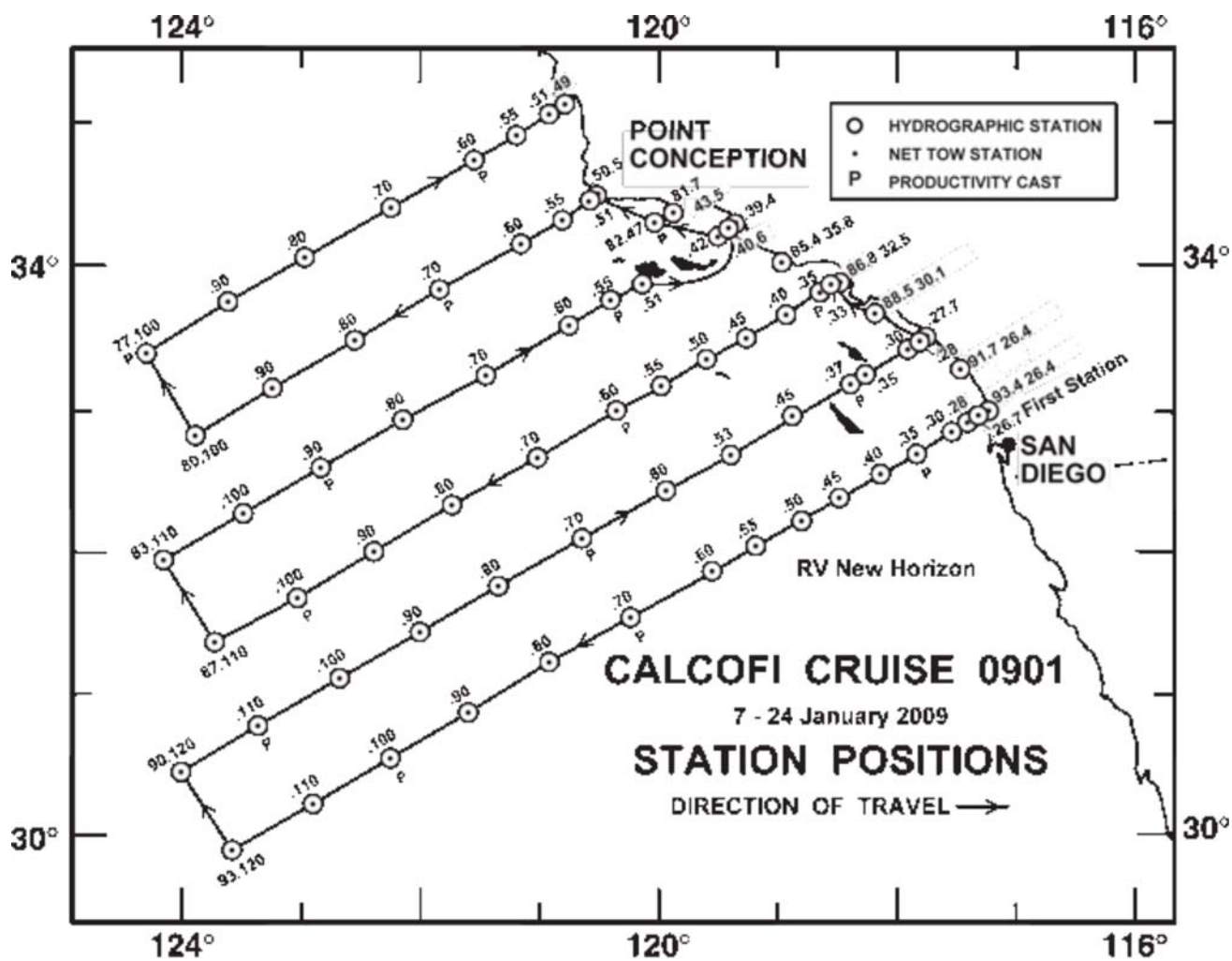
Last Updated: 10 August 2018

CTD Processing Summary CalCOFI 0901NH CTD Final Data (reprocessed/reformatted 08/2018)		
Download 0901NH CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2009/20-0901NH_CTDCast.zip)		Download 0901NH FinalQC CTD + bottle data (http://cappuccino.ucsd.edu/downloads/2009/20-0901NH_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)	0.0011	-0.0272
Single sensors - note CalCOFI Cruise 0901NH deployed one CTD O2 sensor		
Oxygen (ml/L; single Seabird SBE43)	$y = 1.0697x - 0.0297$ $R^2 = 0.9996$	$y = 1.0647x - 0.9807$ $R^2 = 0.9857$
Nitrate - ISUS 4sec ave voltage vs Bottle Nitrate (Satlantic MBARI-ISUS v2)	$y = 27.961x - 13.118$ $R^2 = 0.9963$	
Fluorometer - linear & polynomial regressions	$y = 2.4468x - 0.0202$ $R^2 = 0.6922$	$y = -1.8933x^2 + 3.4857x - 0.0879$ $R^2 = 0.7132$
		
(http://cappuccino.ucsd.edu/downloads/2009/0901NH/0901NH_Ox1MLvsOxBML.png)		(http://cappuccino.ucsd.edu/downloads/2009/0901NH/0901NH_Ox1UMvsOxBUM.png)

(http://cappuccino.ucsd.edu/downloads/2009/0901NH/0901NH_ISUSVvsNO3.png)

(http://cappuccino.ucsd.edu/downloads/2009/0901NH/0901NH_FIVvsChla.png)

General notes: Station Pattern & Cruise Track



CalCOFI 0901NH • 7 - 25 Jan 2009 • SIO RV New Horizon • San Diego to San Diego

Cruise and CTD Data Processing Notes

Excerpt from scientific report - CalCOFI cruise 0901NH, the winter 2009 cruise encountered relatively calm conditions due to the persistent high pressure and off shore winds. Once our calibration of Tony Koslow's new EK-60 sonar was completed inside San Diego Bay, hydrographic data collection could begin. Preliminary hydrographic data revealed the California Current to be strongest well off shore in the range of stations 90 and 100 and beyond. Salinity, 10m & 100m salinity anomalies plus 100m temperature revealed the current flowing in this region and then jetting in to the coast towards Dana Point. Both 10 and 100 meter temperature anomalies showed a preponderance of negative values, this was consistent with our casual observation of cooler than average sea surface temperatures and air temperatures. Windy, stormy conditions were known to have preceded this cruise but the mild conditions may have given way to higher phytoplankton production as seen in higher-than-usual offshore near-surface chlorophyll values. In addition to these observations, nutrients were assayed to be high in some of the same offshore regions, further bolstering the observed productivity of the region. Upon processing data for this cruise, a peculiar down-welling event was evident at Station 83.3 100.0. Higher temperatures and lower nitrate were evident down to 500m. Oxygen was elevated compared to depths at other stations in the region. Density was low enough to be anomalous, but not impossible. This feature will likely be evident in the deep flow field of the California Current (as seen post cruise).

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 (misabeled 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=ISUS; V4=O21; V5=open; V6=open; V7-open)

Voltage	Sensor
V0	Trans
V1	Fluor
V2	Alt
V3	ISUS
V4	O2
V5	
V6	
V7	

Seabird 911+ configuration:

Pressure (#26277), Primary Temperature (#1324), Conductivity (#042206), and O2 sensor (#431075), pumped (#55060); Secondary Temperature (#2533), Conductivity (#357) pumped (#52236); Wetlabs (CST-479DR) 25cm transmissometer (misabeled Chelsea/Seatech in con); Seapoint chlorophyll fluorometer (SCF2483 @10x); Benthos/Datasonics Altimeter (#46604); MBARI-ISUS v1 (#111); no surface PAR was installed.

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

Logistics:

We completed all stations scheduled - 66 standard stations and 9 SCCOOS stations before transiting home to offload in San Diego.

CalCOFI 0901NH CTD Data Processing & Console Ops Notes

Removed salt fliers on both primary & secondary comparisons.

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

CalCOFI 0901NH CTD Data Processing Notes

Only one O2 sensor was deployed, no PAR or 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).

Console ops sheet had pressure instead of depth even though I believe the depth was still targeted.

Cast 001 Sta 93.3 26.7: 8 bottle cast to 60m, 66m bottom; 12m chl max; calm night; acoustics calibration on San Diego Bay before 1st sta

Cast 002 SCCOOS Sta 93.4 26.4: 5 bottle (6 tripped*) cast to 18m, 25m bottom; 7m chl max; No ISUS data, battery not plugged-in; *bottle #3 was fired but did not confirm or increment so redone - only one bottle closed so 1st didn't take - .bl file jumps 1,2,4,5,6

Cast 003 SCCOOS Sta 91.7 26.4: 5 bottle cast to 16m, 22m bottom; chl max 14m

Cast 004 Sta 93.3 28.0: 20 bottle cast to 515m (523m of db/wire)

Cast 005 Sta 93.3 30.0: 20 bottle cast to 515m (521m of db/wire)

Cast 006 Sta 93.3 35.0: 22 bottle prodo cast to 515m (522m of db/wire); 28m chl max, 19m secchi

Cast 007 Sta 93.3 40.0: 21 bottle cast to 515m, extra 10m LTER bottle; 38m chl max, 38m mixed layer; nav file created late (created at depth but didn't take so (re)created at bottle 18)

Cast 008 Sta 93.3 45.0: 20 bottle cast to 515m; "stopping on desired depth not pressure" noted; 23m chl max, 19m mixed layer

Cast 009 Sta 93.3 50.0: 20 bottle cast to 515m; 24m chl max; 135m downcast salinity spike, filtered out; #19 hit by hooker, no samples drawn (although they should have been)

Cast 010 Sta 93.3 55.0: 21 bottle cast to 515m; lots of rolls, hard to hit target depths

Cast 011 Sta 93.3 60.0: 20 bottle cast to 515m

Cast 012 Sta 93.3 70.0: 23 bottle prodo cast to 515m; 44m chl max, 37m mixed layer, 18m secchi; bad trigger noted on #19 so duplicate bottle #20 closed at 24m (prodo depth)

Cast 013 Sta 93.3 80.0: 21 bottle cast to 515m; 32m chl max, 50m mixed layer; rough seas, big rolls, going down slow 30 then 40m/min

Cast 014 Sta 93.3 90.0: 20 bottle cast to 515m

Cast 015 Sta 93.3 100.0: 22 bottle prodo cast to 515m; 45m chl max, 56m mixed layer, 24m secchi; bottle #19 mistripped, no sample - 22m not a prodo depth

Cast 016 Sta 93.3 110.0: 21 bottle cast to 515m; ~50m chl max, 70m mixed layer; bottle #19 didn't close at 10m but #20 was tripped for 10m bottle samples

Cast 017 Sta 93.3 120.0: 20 bottle cast to 515m; 60m chl max, 70m mixed layer; precast - bottle #19 lanyard shortened & carousel serviced & rebuilt by MGS/JRW; on downcast, the winch stopped @300m for no particular reason, winch operator "spaced out" momentarily

Cast 018 Sta 90.0 120.0: 20 bottle cast to 515m;

Cast 019 Sta 90.0 110.0: 22 bottle prodo cast to 515m; chl max 60m, 78m mixed layer, 26m secchi; bottle #13 bottom valve hit the boat on deployment and opened

Cast 020 Sta 90.0 100.0: 20 bottle cast to 515m; 68m mixed layer

Cast 021 Sta 90.0 90.0: 20 bottle cast to 515m; 29m chl max; unusual salinity layer ~30-100m, O2 depressed ~100-200m

Cast 022 Sta 90.0 80.0: 21 bottle cast to 515m; went to 20m instead of 30m after 40m, yo-yo'd - went back down 30m for #17; bottle #20 didn't trip, tripped #21 for surface samples, pylon stuck

Cast 023 Sta 90.0 70.0: 22 bottle prodo cast to 515m; 38m chl max, 40m mixed layer, 21m secchi; no mistrips noted

Cast 024 Sta 90.0 60.0: 20 bottle cast to 515m; 25m chl max; no mistrips noted

Cast 025 Sta 90.0 53.0: 20 bottle cast to 515m; 27m chl max; no mistrips noted

Cast 026 Sta 90.0 45.0: 21 bottle cast to 515m; went from 515 to 335 then back to 432m for bottle #2, yo-yo'd; bottle #9 O2 draw temp off, similar to #12, most likely a mistrip

Cast 027 Sta 90.0 37.0: 20 bottle prodo cast to 515m; #9 mistripped again, no samples; entire carousel crown replaced post-cast

Cast 028 SCCOOS Sta 90.0 27.7: 5 bottle cast to 20m, 25m bottom; 18m chl max

Cast 029 Sta 90.0 28.0: 8 bottle cast to 60m, 68m bottom; bottle #9 closed to test trigger -worked fine, no sample taken

Cast 030 Sta 90.0 30.0: 20 bottle cast to 515m; 17m chl max; 1st full test of new carousel crown, appears good; very calm evening

Cast 031 Sta 90.0 35.0: 19 bottle cast to 365m, 336-367m bottom; 38m chl max

Cast 032 SCCOOS Sta 88.5 30.1: 4 bottle cast to 15m, 22m bottom;

Cast 033 SCCOOS Sta 86.8 32.5: 5 bottle cast to 20m, 28m bottom;

Cast 034 Sta 86.7 33.0: 8 bottle cast to 51m, 59-55m bottom; 15m chl max

Cast 035 Sta 86.7 35.0: 22 bottle prodo cast to 515m; 22m chl max, 17m secchi;

Cast 036 Sta 86.7 40.0: Santa Monica Basin 24 bottle cast to 757m, 773-759m bottom; 23m chl max; station misnamed in header (.hdr) 86.7 36.0, should be 86.7 40.0

Cast 037 Sta 86.7 45.0: 21 bottle cast to 515m; 24m chl max; DIC station; high wire angle at depth

Cast 038 Sta 86.7 50.0: San Nicolas Is shallow station 10 bottle cast to 72m, 82m bottom; 3m chl max

Cast 039 Sta 86.7 55.0: 21 bottle cast to 515m;

Cast 040 Sta 86.7 60.0: 24 bottle prodo cast to 515m; 10m chl max, 10m secchi

Cast 041 Sta 86.7 70.0: 22 bottle cast to 515m; 16m chl max

Cast 042 Sta 86.7 80.0: 22 bottle cast to 515m; flat calm, wind <1kt; 34m chl max

Cast 043 Sta 86.7 90.0: 21 bottle cast to 515m; DIC station; unsupported modem error message: FF FC F8 from SBE carousel @end of cast noted

Cast 044 Sta 86.7 100.0: 21 bottle prodo cast to 515m; nav create on bottle #2; 30m chl max, 15m secchi

Cast 045 Sta 86.7 110.0: 21 bottle cast to 515m; 57m chl max, 68m mixed layer

Cast 046 Sta 83.3 110.0: 22 bottle cast to 515m; high chl, 15m max; interesting features noted from ~100-175m, checkout O2 & ISUS downcast profiles

Cast 047 Sta 83.3 100.0: 21 bottle cast to 515m;

Cast 048 Sta 83.3 90.0: 21 bottle prodo cast to 515m; 29m chl max, 16m secchi

Cast 049 Sta 83.3 80.0: 22 bottle cast to 515m; 16m chl max

Cast 050 Sta 83.3 70.0: 23 bottle cast to 515m; onscreen "bottle firing sequence" says "9, 2, 3...", so an extra bottle at 140m #10 was closed in case #9 closed with #1 - looked fine after case so #10 was not sampled

Cast 051 Sta 83.3 60.0: 21 bottle cast to 515m;

Cast 052 Sta 83.3 55.0: 23 bottle prodo cast to 515m; 15m chl max, 9m secchi

Cast 053 Sta 83.3 51.0: 11 bottle cast to 87m, 98m bottom; 20m chl max

Cast 054 SCCOOS Sta 85.4 35.8: 5 bottle cast to 17m, 23m bottom

Cast 055 SCCOOS Sta 83.3 39.4: 5 bottle cast to 15m, 22m bottom

Cast 056 Sta 83.3 40.6: 6 bottle cast to 29m, 36m bottom, alt read 5m

Cast 057 Sta 83.3 42.0: 12 bottle cast to 112m, 122-116m bottom

Cast 058 Sta 81.8 46.9: Santa Barbara Basin 24 bottle prodo cast to 568m, bottom 587m but alt read 9.5m; DIC station; 8m chl max, 11m secchi

Cast 059 SCCOOS Sta 81.7 43.5: 5 bottle cast to 14m, 20m bottom; 13m chl max; nav created on bottle 2; phyto sample in SBB jar #58

Cast 060 SCCOOS Sta 80.0 50.5: 5 bottle cast to 16m, bottom read 18m but alt says 7.8m

Cast 061 Sta 80.0 51.0: 9 bottle cast to 70m, 76m bottom; chl max ~17-23m

Cast 062 Sta 80.0 55.0: 21 bottle cast to 515m; 12m chl max; DIC station; power blackout as CTD went over the rail, cleated off and suspended for ~5mins before continuing

Cast 063 Sta 80.0 60.0: 21 bottle cast to 515m; 15 & 25m chl max; no mixed layer, instant gradient; Nets - hydro wire snapped, Bongo/LOPC lost @0148

Cast 064 Sta 80.0 70.0: 20 bottle prodo cast to 515m; 18m chl max, 15m secchi

Cast 065 Sta 80.0 80.0: 20 bottle cast to 515m; 14m chl max; unsupported modem error message noted at bottle 4 ~320m

Cast 066 Sta 80.0 90.0: 20 bottle cast to 515m; 40m chl max; some ship roll but mild; high wire angle at depth

Cast 067 Sta 80.0 100.0: 20 bottle cast to 515m;

Cast 068 Sta 76.7 100.0: 20 bottle prodo cast to 515m; 18m chl max, 14m secchi; modem error FF F8 FF @200m

Cast 069 Sta 76.7 90.0: 20 bottle cast to 515m; 68m chl max, 62m mixed layer

Cast 070 Sta 76.7 80.0: 20 bottle cast to 515m; 0-60m chl max; 64m mixed layer; upcast different than downcast O2 & salts; called type II because of 65m mixed layer & stratification around 100m; O2 depressed ~175-270m; very large Humboldt squid around CTD wire, a few smaller ones caught by MGS

Cast 071 Sta 76.7 70.0: 21 bottle cast to 515m; transmissometer noisy ~420-515m downcast

Cast 072 Sta 76.7 60.0: 23 bottle prodo cast to 515m; 2m chl max, 11m secchi

Cast 073 Sta 76.7 55.0: 21 bottle cast to 515m; 15m chl max

Cast 074 Sta 76.7 51.0: 16 bottle cast to 238m, bottom 242m; 22m chl max

Cast 075 Sta 76.7 49.0: 9 bottle cast to 62m; 25m chl max; lots of large moon jellies around the ship during CTD deployment; jellies on Pairovet & in Bongo; last sta

JRW 08/06/2018