

0801JD CTD Processing Summary

Parent Category: 2008 Cruises (/cruises/older-cruises/2008.html)

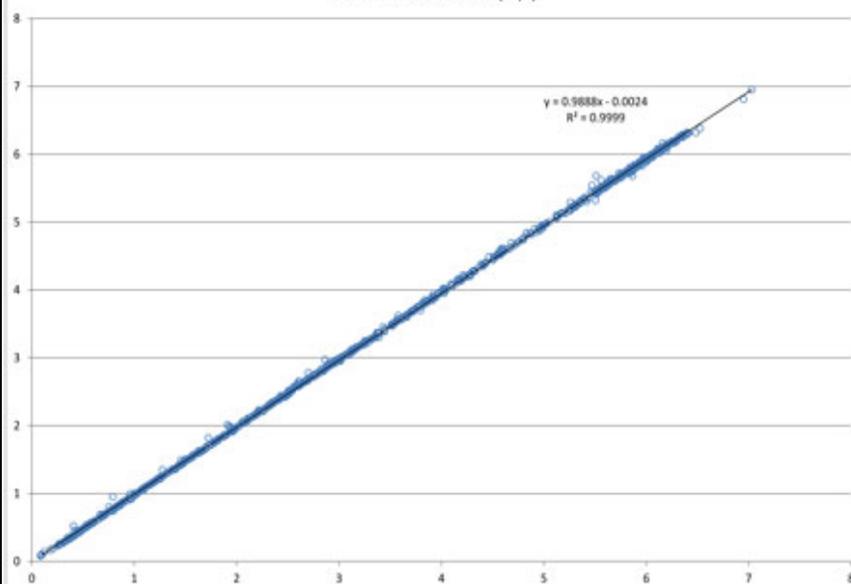
Category: CalCOFI 0801JD (/cruises/older-cruises/2008/210-calcofi-0801jd.html)

Last Updated: 14 September 2018

CTD Processing Summary CalCOFI 0801JD CTD Final Data (reprocessed/reformatted 09/2018)

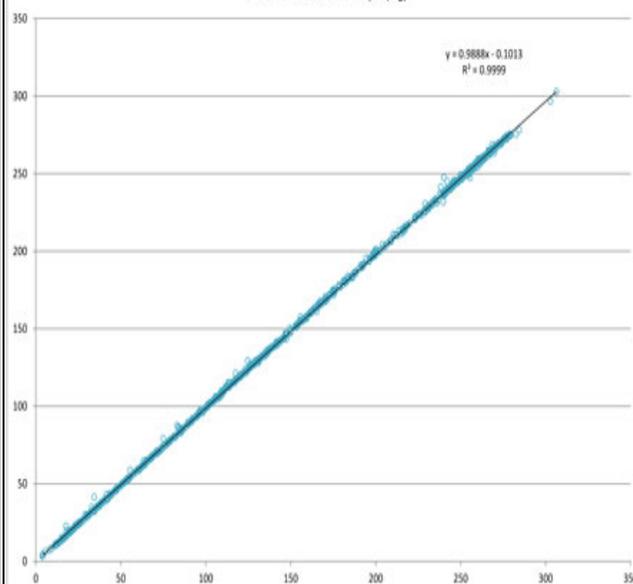
Download 0801JD CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2008/20-0801JD_CTDCast.zip)		Download 0801JD FinalQC CTD + bottle data (http://cappuccino.ucsd.edu/downloads/2008/20-0801JD_CTDFinalQC.zip)
General CTD Notes - data acquisition cast notes, logistics, processing notes are 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)	0.0029	0.0018
Single sensors - note only one CTD O2 sensor	ml/L	uM/Kg
Oxygen (ml/L & uM/Kg; single Seabird SBE43)	$y = 0.9888x - 0.0024$ $R^2 = 0.9999$	$y = 0.9888x - 0.1013$ $R^2 = 0.9999$
Nitrate - Satlantic MBARI-ISUS (SN 111)	$y = 30.658x - 9.2357$ $R^2 = 0.9944$	
Seapoint Fluorometer - linear & polynomial regressions	$y = 3.1681x - 0.076$ $R^2 = 0.7454$	$y = 0.5988x^2 + 2.7592x - 0.0439$ $R^2 = 0.7484$

CalCOFI 0801JD: CTD Oxygen vs Bottle Oxygen
4sec CTD O2 vs bottle O2 (ml/L)



(http://cappuccino.ucsd.edu/downloads/2008/0801JD/0801JD_Ox1MLvsOxBML.jpg)

CalCOFI 0801JD: CTD Oxygen vs Bottle Oxygen
4sec CTD O2 vs bottle O2 (uM/Kg)

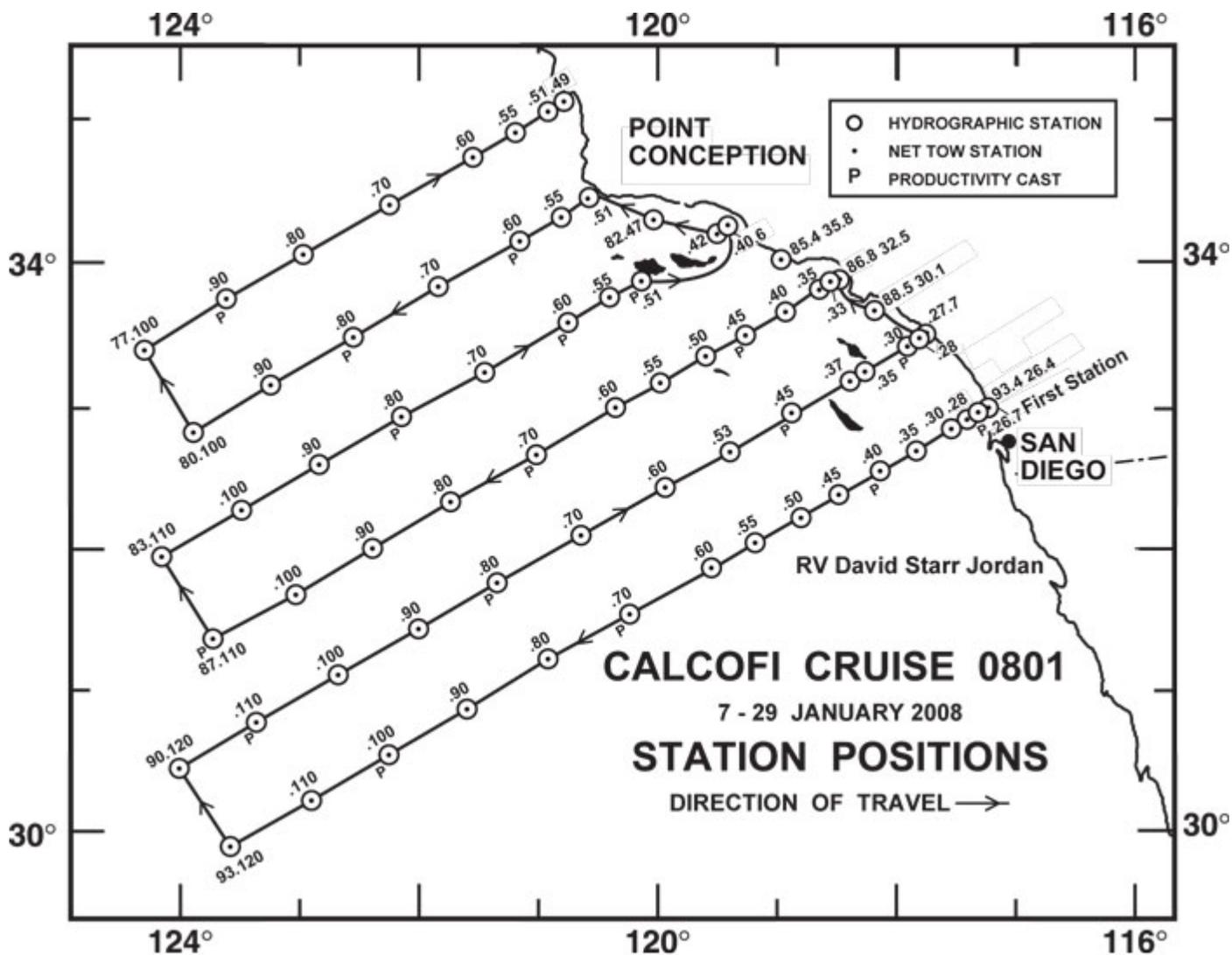


(http://cappuccino.ucsd.edu/downloads/2008/0801JD/0801JD_Ox1UMvsOxBUM.jpg)

(http://cappuccino.ucsd.edu/downloads/2008/0801JD/0801JD_ISUSVsNO3.jpg)

(http://cappuccino.ucsd.edu/downloads/2008/0801JD/0801JD_FIVvsChla.jpg)

General notes: Station Pattern & Cruise Track



CalCOFI 0801JD • 7 - 30 Jan 2008 • NOAA RV David Starr Jordan • San Diego to San Diego

Cruise and CTD Data Processing Notes

CalCOFI 0801JD on NOAA RV David Starr Jordan successfully occupied 73 of 75 CalCOFI stations (66 standard stations, 7 SCCOOS stations - missing 91.7 26.4 & 80.0 50.5). Five additional MBARI stations out to sta 66.7 55.0, some to 1000m were also performed (casts 070-074). The cruise map above shows all the stations occupied but not the actual cruise track which was quite unusual. Refer to the cast notes below for the station order.

Seabird 911+ configuration (#26277):

Primary Temperature (#1049), Conductivity (#0722), and O2 sensor (#1075), pumped (#2236); Secondary Temperature (#031324), Conductivity (#2206) pumped (#68); Wetlabs CStar (CST-490DR) 25cm transmissometer (mislabeled Chelsea/Seatech in con); Seapoint chlorophyll fluorometer (SCF2483 @10x); Benthos/Datasonics Altimeter (#7601); MBARI-ISUS v2 (#111); remote PAR (#4544), no surface PAR was installed. (Freq0=T0; Freq1=C0; Freq2=Pr; Freq3=T1; Freq4=C1; V0=Trans; V1=Fl; V2=ISUS; V3=open; V4=O21; V5=open; V6=Alt; V7-PAR)

Note: continual problems with consistently powering the ISUS resulted in a new protocol after these early cruises where we swapped batteries every third cast. If the ISUS was not unplugged post-cast right away, the battery would not last 3 casts. Starting in 2009, the ISUS battery was charged after every cast without removing it from the rosette. A long charging cable was rigged so it was not necessary to swap the heavy batteries. Occasional venting of charging gases were necessary by unplugging the battery case at least once a day.

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

CalCOFI 0801JD CTD Data Processing & Console Ops Notes

Removed salt fliers on both primary & secondary comparisons.

Five MBARI 1000m casts were performed on Line 67 (66.7) stations.

Only one O2 sensor was deployed, 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).

CalCOFI 0801JD CTD Cast & Data Processing Notes

Data correction and quality codes:

Cast 037 - Santa Monica Basin station

Cast 045 - Santa Barbara Basin station; primary sensor data on upcast looks bad - biofouled, use secondary sensor data and bottle oxygens; data flagged

Cast 058 hdr was mislabeled sta 83.3 9.0 instead of 83.3 90.0 - corrected

Cast 066 upcast has missing ISUS data 173-0m, data flagged

Cast 067 upcast has missing ISUS data 68-50m, data flagged

Cast 068 upcast is missing all ISUS data 515-0m, data flagged

Cast and Console Ops Notes:

Cast 001 sta 93.3 26.7: 9 bottle prodo station; no acoustic calibration delay at the start of the cruise

Cast 002 SCCOOS sta 93.4 26.4: 5 bottle cast to 24m; 30m bottom

Cast 003 sta 93.3 28.0: 20-bottle cast to 515m

Cast 004 sta 93.3 30.0: 20-bottle cast to 515m

Cast 005 sta 93.3 35.0: 20-bottle cast to 515m; chl max 0-30m

Cast 006 sta 93.3 40.0: 23-bottle prodo cast to 515m; chl max 20m

Cast 007 sta 93.3 45.0: 21-bottle cast to 515m

Cast 008 sta 93.3 50.0: 20-bottle cast to 515m

Cast 009 sta 93.3 55.0: 21-bottle cast to 515m; 30m chl max

Cast 010 sta 93.3 60.0: 20-bottle cast to 515m; bottom depth from charts; ~0.5nm from exact station position; wide chl max 0-45m

Cast 011 sta 93.3 70.0: 21-bottle prodo cast to 515m

Cast 012 sta 93.3 80.0: 20-bottle cast to 515m; O2 drops anomalously @30m on upcast

Cast 013 sta 93.3 90.0: 20-bottle cast to 515m; very slight chl max ~55m

Cast 014 sta 93.3 100.0: 22-bottle prodo sample; surface bottle missed, not tripped, so surface bucket seawater was poured into bottle #22 and samples including prodo 1ABC drawn from valve

Cast 015 sta 93.3 110.0: 20-bottle cast to 515m

Cast 016 sta 93.3 120.0: 20-bottle cast to 515m

Cast 017 sta 90.0 120.0: 20-bottle cast to 515m; chl max 30m; bubbly discharge at surface, could affect samples

Cast 018 sta 90.0 110.0: 21-bottle prodo cast to 515m; chl max 30m; bottle #8 mistripped, no samples - bottle raised to increase lanyard angle

Cast 019 sta 90.0 100.0: 20-bottle cast to 515m; bottle #8 mistripped again, no samples - pylon cleaned post-cast

Cast 020 sta 90.0 90.0: 21-bottle cast to 515m; wide chl max 0-70m; extra bottle tripped @170m #8 & #9; #8 closed but skipped, #9 sampled

Cast 021 sta 90.0 80.0: 21-bottle prodo cast to 515m;

Cast 022 sta 90.0 70.0: 20-bottle cast to 515m;

Cast 023 sta 90.0 60.0: 21-bottle cast to 515m;

Cast 024 sta 90.0 53.0: 20-bottle cast to 515m; wide chl max from 0-45m; mixed layer 45m

Cast 025 sta 90.0 45.0: 23-bottle prodo cast to 515m;
Cast 026 sta 90.0 37.0: 21-bottle cast to 515m;
Cast 027 sta 90.0 35.0: 19-bottle cast to 320m;
Cast 028 sta 90.0 30.0: 20-bottle cast to 515m; surface to 10m chl max; 40m mixed layer
Cast 029 sta 90.0 28.0: 8-bottle cast to 56m; 64m bottom; 5m chl max
Cast 030 SCCOOS sta 90.0 27.7: 5 bottle cast to 17m, 21m bottom
Cast 031 sta 90.0 30.0 (again for prodo): 14-bottle prodo cast to 200m
Cast 032 SCCOOS sta 88.5 30.1: 4-bottle cast to 17m; 20m bottom
Cast 033 SCCOOS sta 86.8 32.5: 4-bottle cast to 15m; 22m bottom
Cast 034 sta 86.7 33.0: 56m bottom, 7-bottle cast to 50m, altimeter 5.5m
Cast 035 sta 86.7 35.0: 21-bottle cast to 515m;
Cast 036 SCCOOS sta 85.4 35.8: 7-bottle cast to 31m; 39m bottom, altimeter read 7.3m off bottom
Cast 037 sta 86.7 40.0: Santa Monica Basin station; 24-bottle cast to 723m; bottom changing from 762 to 735m; altimeter not reliable; O2 sensor response looks very slightly stepped; chl max 0-10m, mixed layer 20m
Cast 038 sta 86.7 45.0: 21-bottle cast to 515m; 30m chl max; extra marker @ bottle #8 - edited out before archiving
Navy prohibited us in bombing range so we reoccupied sta 86.7 45.0 for prodo
Cast 039 sta 86.7 45.0: 16-bottle prodo cast to 200m
Cast 040 sta 86.7 50.0: San Nicolas Island station, shallow 79m bottom, 10-bottle cast to 75m
Headed north to the next line
Cast 041 sta 83.3 51.0: 13-bottle prodo cast to 90m; chl max 18m
Cast 042 sta 83.3 55.0: 22-bottle cast to 515m
Cast 043 sta 83.3 40.6: 6-bottle cast to 30m; 34m bottom
Cast 044 sta 83.3 42.0: 12-bottle cast to 120m; 133m bottom
Cast 045 sta 81.8 46.9: Santa Barbara Basin, 24-bottle cast to 575m; salinity on upcast completely different from downcast after 440m - bottle 6
Cast 545 sta 81.8 46.9: Lahini 24-bottle cast to 415m
Cast 046 sta 80.0 51.0: 9-bottle cast to 70m; 74m bottom
Cast 047 sta 80.0 55.0: 20-bottle cast to 515m; chl max 0-10m
Cast 048 sta 80.0 60.0: 22-bottle prodo cast
Headed S to Line 83.3 after 80.60
Cast 049 sta 83.3 60.0: 21-bottle cast to 515m
Headed S to Line 86.7 to pick up sta 60
Cast 050 sta 86.7 60.0: 21-bottle cast to 515m
Cast 051 sta 86.7 70.0: 22 bottle prodo cast to 515m
Cast 052 sta 86.7 80.0: 23-bottle cast to 515m (extra 20m bottle #20 deleted)
Cast 053 sta 86.7 90.0: 21-bottle cast to 515m
Cast 054 sta 86.7 100.0: 21-bottle cast to 515m; chl max 50m, 45m bottom; NMEA longitude string sporatically displaying E not W
Cast 055 sta 86.7 110.0: 22-bottle prodo cast to 515m;
Cast 056 sta 83.3 110.0: 21-bottle cast to 515m
Cast 057 sta 83.3 100.0: 21-bottle cast to 515m
Cast 058 sta 83.3 90.0: 21-bottle cast to 515m; chl max 50m, mixed layer 30m; moderate rain on station; wire-angle varying a lot
Cast 059 sta 83.3 80.0: 22-bottle prodo cast to 515m
Cast 060 sta 83.3 70.0: 22-bottle cast to 515m
Headed N to Line 80
Cast 061 sta 80.0 70.0: 20-bottle cast to 515m; ISUS nitrate signal is stepped (internal memory full or battery low)
Cast 062 sta 80.0 80.0: 22-bottle prodo cast to 515m
Cast 063 sta 80.0 90.0: 20-bottle cast to 515m

Cast 064 sta 80.0 100.0: 20-bottle cast to 515m

Cast 065 sta 76.7 100.0: 20-bottle cast to 515m; chl max 68m, mixed layer 80m; having problems with GPS string; GPS data in CTD data may be wrong

Cast 066 sta 76.7 90.0: 22-bottle prodo cast to 515m

Cast 067 sta 76.7 80.0: 20-bottle cast to 515m

Cast 068 sta 76.7 70.0: 21-bottle cast to 515m

Cast 069 sta 76.7 49.0: 10-bottle cast to 70m; 76m bottom

MBARI Stations

Cast 070 MBARI #1 sta 67.1 47.7: 12-bottle cast to 185m; chl max 25m, 50m mixed layer, 14m secchi depth

ISUS removed for 1000m casts, no ISUS data on casts 071-076

Cast 071 MBARI #2 sta 66.8 48.0: 8-bottle cast to 66m; 75m bottom; chl max 20m

Cast 072 MBARI #3 sta 66.7 50.0: 12-bottle cast to 1026m; chl max 52m, 95m mixed layer

GPS/NMEA disabled on casts 073-076; GPS not working so has to be disabled for Seasave to work

Cast 073 MBARI #4 sta 66.7 52.5: 12-bottle cast to 1020m; NMEA disabled, not working - no GPS data in CTD data; chl max 17m, 60m mixed layer

Cast 074 MBARI #5 sta 66.7 55.0: 12-bottle cast to 1020m; chl max at surface, 40m mixed layer

Back S on Line 76.7 (77)

Cast 075 sta 76.7 55.0: 20-bottle cast to 515m; chl max 0-60m, 60m mixed layer

Cast 076 sta 76.7 60.0: 20-bottle cast to 515m

JRW 09/14/2018