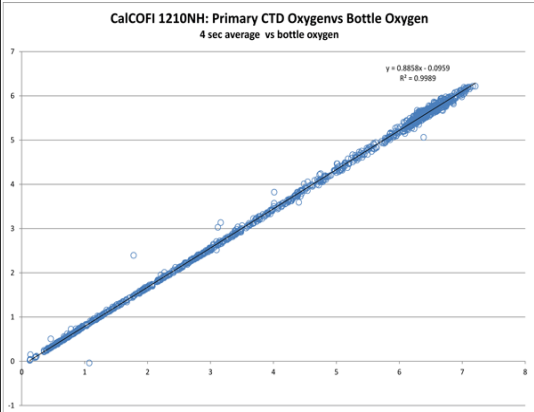


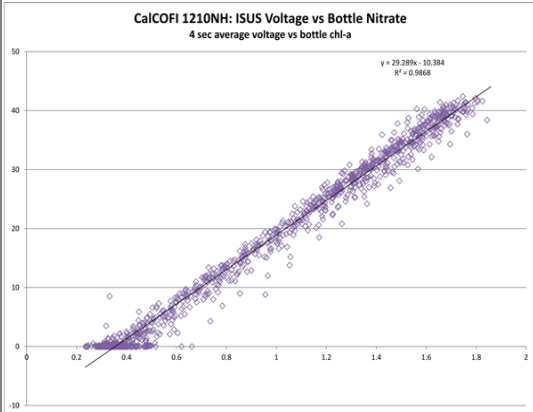
1210NH CTD Processing Summary (/cruises/2012-cruises/calcofi-1210nh/328-1210nh-ctd-processing-summary.html)

Written by Webmaster
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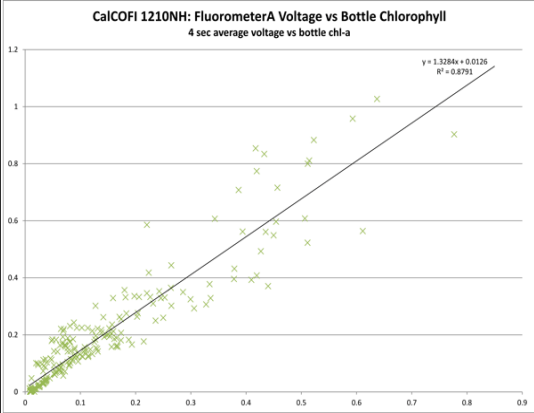
General Processing Notes for CalCOFI 1210NH CTD Data		
Download 1210 CTD raw cast files zipped (http://cappuccino.ucsd.edu/downloads/2012/20-1210NH_CTDcast.zip)	Download 1210 Final CTD + bottle data with data quality codes (http://cappuccino.ucsd.edu/downloads/2012/20-1210NH_CTDFinalQC.zip)	
CTD sensor 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)	0.00010	0.00482
Oxygen (Seabird SBE43 as Primary; RINKO (voltage 6 & 7) as 2nd O2 on casts 5 - 24, 26, 36 - 52, 62 - 72 Altimeter on voltage 6 on casts 1 - 4, 25, 27 - 35, 53 - 61, 73 - 75	y = 0.8858x - 0.0959 R² = 0.9989	No RINKO regression available, data were pre-processed
Single sensors		
Nitrate - ISUS 4sec ave voltage vs Bottle Nitrate (Satlantic MBARI-ISUS v2)	y = 29.289x - 10.384 R² = 0.9868	
Fluorometer - Seapoint #3069 used casts 001 - 021 (failed cast 021, 3600m) Seapoint #2483 used casts 022 - 075	y = 1.3284x + 0.0126 R² = 0.8791	y = 8.9123x² + 2.1153x + 0.01 R² = 0.8878



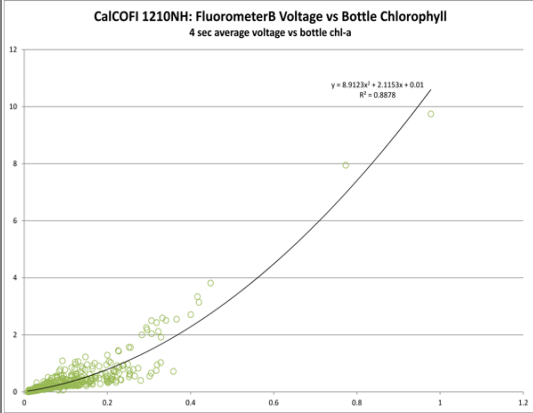
(http://calcofi.org/downloads/cruise_data/2012/1210/CTD_metadata/1210_CTDox1vsBtlO2.pdf)



(http://www.calcofi.org/downloads/cruise_data/2012/1210/CTD_metadata/1210_ISUSvsNO3)



(http://calcofi.org/downloads/cruise_data/2012/1210/CTD_metadata/1210_FIVAvsChla.pdf)



(http://calcofi.org/downloads/cruise_data/2012/1210/CTD_metadata/1210_FIVBvsChla.pdf)

General CTD Notes

RINKO oxygen sensor run as secondary O2 mounted vertically for casts 001-067, then mounted horizonatally. CTD files only contain Seabird 43 oxygen data as primary O2. RINKO data are available and may be imported into the CTD csvs (programming required- stayed tuned).

CalCOFI 1210NH had problems with bottle tripping and closure confirmations. Solutions attempted after using the deck unit only to trip bottles: switching to the backup CTD computer, from primary Windows XP CTD PC to backup Windows 7 CTD PC - still no confirmations; new CTD to Carousel cable installed after cast 6 appeared to solve the problem. But the problem reappeared what finally solved the issue was rewiring the termination - 4-individual-wire termination resulted in the solution. Only used the black & white wires only; red & green were not used. One wire for signal and shield for ground.

Casts affected - 004 93.3 28.0; 005 93.3 30.0; 006 93.3 35.0

2017 note on RINKO data: it was discovered during the 2017 reprocessing, that casts 005, 007, & 026 had pressure-to-depth calculation errors in the downcast RINKO data provided by ODF. These data have been corrected in the 'finalQC' CTD.csvs.

Cast 005: the miscalculation occurs at 260m; Cast 007: miscalculations at 42-43m; Cast 026: miscalculations at 246-247m.

08Mar2017 other than the RINKO error mentioned above, the reprocessing adds data-quality code columns and data codes on bad or missing data ("9"), or questionable data ("8"). Data values should not have changed from the previously published final CTD data. But the column number on updated CTD.csvs has changed from 65 to 82.

Refer to the CTD.csv data format webpage: 65-column index (<http://calcofi.org/data/data-formats/607-ctd-csv-format-65cols.html>); 82-column index (<http://calcofi.org/data/data-formats/577-ctd-csv-format-qc.html>)

Cast notes - (unusually) **significant issues this cruise with non-confirmation** of bottle closures:

Cast 004 93.3 28.0 - downcast & upcast in two files; upcast restarted after 3 bottles tripped; 4 - 24 used for 515 to surface, duplicate 100m was non-confirm re-trip.

Cast 005 93.3 30.0 - first real issue with non-confirmations; deck unit to trip bottles; bottle #12 (85m) no response at all - hit 2x. ISUS data loss ~440-450m upcast, estNO3_StaCorr data edit

Cast 006 93.3 35.0 - bottle #1 (515m) no confirm

Cast 007 93.3 40.0 - new carousel to ctd cable installed, no apparent problems

Cast 009 93.3 50.0 - ISUS failed on downcast @195m-515m, estNO3_StaCorr data edited; possible battery not charged issue; extra mrk at #5 - edited

Cast 012 93.3 70.0 - bottle #1 no closure mistrip; carousel cleaned post-cast

Cast 013 93.3 80.0 - two bottles tripped at 515 - #1 & #2, #2 lid not closed properly - bottle #2 switched out; new ISUS battery cable installed

Cast 014 93.3 90.0 - big rolls, CTD wire tension spiking to 2500+, error lights flashed on deck unit between 170-125m upcast

Cast 016 93.3 110 - no confirm on bottle #6 (230m), #7 tripped at 230m, mrk edited

Cast 017 93.3 120.0 - calm night; upcast profiles different from downcast

Cast 021 90.0 90.0 - deep cast - Seapoint fluorometer flakey post-cast, switched back to old reliable Seapoint; non-confirm bottle #12 so #13 tripped at 170m; other depth spacing adjusted for the loss of one bottle ie 140, 125, 112 = 140, 120

Cast 022 90.0 80.0 - non-confirm back! #5 (270m) & #6 (230m) but no extras tripped - bottles were closed

Cast 024 90.0 60.0 - non-confirm bottle #4, #5 tripped too; salt run offset by 1 bottle starting at #7; -0.2 added to Pr offset; bad 515m bottle O2

Cast 026 86.7 45.0 - non-confirms #8 (170m), #10 (100m), #13 (70m) but bottles seemed to close at appropriate depths

Cast 027 86.7 40.0 - #14 (100m), #15 (85m), #16(75m), #18 (50m) non-confirms; #8 (270) bottom lid ajar - bad water samples; ISUS V bad 120m-190m downcast, estNO3_StaCorr data edit

Cast 028 86.7 35.0 - rebooted PC, 100% confirmations; another -0.2 added to Pr offset

Cast 034 90.0 30.0 - catastrophic failure of bottle closure - prodo cast aborted; restarted after nets, bottle #9 (140m) non-confirm

Cast 035 90.0 35.0 - bottle #1 (440m) non-confirm but closed at the right depth (O2 draw temp indicates)

Cast 037 - ISUS bad V 110-120m upcast, estNO3_StaCorr data edited

Cast 039 86.7 55.0 - bottle #11 (100m) non-confirm

Cast 041 86.7 70.0 - extra bottle tripped accidentally at 60m (#15)

Cast 044 - ISUS bad V 500-515m downcast, estNO3_StaCorr data edited

Cast 045 - ISUS bad V 450-475m upcast, estNO3_StaCorr data edited

Cast 047 - ISUS 515m voltage bad on up & downcast, estNO3_StaCorr data edited

Cast 048 - ISUS V bad 115-130m & 380-400m upcast, estNO3_StaCorr data edited

Cast 050 83.3 70.0 - #1 bottle not closed

Cast 065 80.0 90.0 - #12 = #11 data so #12 (85m) mistripped

Cast 066 80.0 100.0 - extra bottles tripped at #12 & #16 (for some unknown reason RAJ)

Cast 068 76.7 90.0 - RINKO oxygen sensor mounted horizontally (vertical up till now); ISUS dropout at 470m downcast, estNO3_StaCorr data edited

Cast 069 - ISUS V Bad 80-110m downcast

Cast 071 - bottle !3 515m salt looks bad

Cast 073 76.7 51.0 - O2 primary sensor bio-fouling on upcast; #16 surface bottle non-confirm, extra tripped to be safe

Cast 074 76.7 49.0 - #4 (30m) top not closed properly

2017 Updates - Re-merged the CTD asc files with sta.csvs to generate new CTD.csvs with data quality code columns.

The original cruise-corrected coefficients from comparison to final data were not changed so CTD data from the older zip archive (20-1210NH_CTDFinal.zip May 2015) and this updated archive should be the same.

Station-corrected are calculated dynamically and with the use of data codes to exclude bad or questionable data.

The "stacorr" oxygen, chlorophyll, and nitrate may have changed slightly. Please review the cast-specifics outlined below for details on quality codes. The combined upcast and downcast db-csvs have been updated as well. All primary and secondary plots were redone using the new csvs for quality-control.

The data problems listed in the original notes have not been corrected except bad data have been removed or data coded as questionable or bad. Most issues were with the ISUS nitrate sensor but there were a few casts with other problems.

Specific cast notes 2017:

Cast 004: during the upcast, the cast had to be restarted so the two separate CTD upcast asc files were merged. The downcast also had significant ISUS sensor drop-outs that were edited out of the downcast csv and data coded.

Cast 005: The upcast had ISUS sensor drop-outs from 458-437m, these data were edited out of the upcast csv and data coded.

Casts 009-012: ISUS battery was not powering the sensor so there are no data; data codes have been added.

Cast 037: ISUS signal loss 133-118m on upcast; bad data removed and missing depths data coded.

Cast 044: very slight hiccup in ISUS data at depth in both downcast and upcast files. 502-516m downcast ISUS data removed and data coded; 516-515m upcast ISUS data removed and data coded.

Cast 045: ISUS signal loss 482-437m on upcast; bad data removed and missing depths data coded. Recommend cruise-corrected NO3 estimate instead of station-corrected NO3 estimate. Csv plots display cruise-corrected NO3 estimates.

Cast 047: mild problem in ISUS data at depth in both downcast and upcast files. 514-515m downcast ISUS data removed and data coded; 515-513m upcast ISUS data removed and data coded.

Cast 048: upcast-only ISUS signal loss from 393-378m & 134-119m; bad data removed and missing depths data coded.

Cast 065: data look like they may improve if loopedit was used. SIO-CalCOFI does not typically apply loopedit to our CTD data since we use bottles to correct the CTD data. Bottle samples are collected when the CTD is stopped at specific depths. Loopedit would filter these data out since the CTD is not moving (relatively speaking).

Cast 069: downcast ISUS data dropouts between 75-111m; data removed and data codes added.

Cast 073: downcast looks fine but upcast may have had a bio-fouling problem. Upcast salinity, and oxygen data do not agree with bottle samples very well. Cast 074 primary & secondary sensor data look normal.

JRW 03/07/2017
