

CC1611SR Underway Data Processing Notes

The raw data files are the files *.MET. The files come in two versions. Files 1-3 have 72 columns and files 4 to 17 have 62 columns. The UW data collected on the Sally Ride on CalCOFI cruise 2016-11 are complete for the period 11-06 to 11-08 (i.e. files 1-3). As of 11-09 until the end of the cruise key data are missing, e.g. TSG flow, oxygen, etc. (i.e. files 4-17).

The available variables from these files are:

COG – course over ground (deg)

SOG – ship speed over ground (knots)

USWFlow – measure of water flow through the UW system (varying units).

PARSurf – photosynthetically available radiation measured aboard the ship ($\mu\text{E}/\text{Sec}/\text{Meter}^2$).

LongWaveRad – Long Wave Radiation (W/M^2 , Pyranometer)

ShortWaveRad - Short Wave Radiation (W/M^2 , Pyranometer)

WindSpeed – wind speed (m/sec)

WindDir – wind direction (deg)

AirTemp – air temperature (deg C)

AtmPres – atmospheric pressure (mb)

RelHum – relative humidity (% saturation)

SSTemp - Hull Temperature measurement with SBE48 in Transducer Void (degC)

TSG_Temp – water temperature measured by the Sally Ride's TSG75 unit (deg C).

TSG_Cond – water conductivity measured by the Sally Ride's TSG75 unit (mS/cm).

TSG_Sal – water salinity calculated by the Sally Ride's TSG75 unit (PSU).

TSG_Dens – water density as sigma-t calculated by the Sally Ride's TSG75 unit (PSU).

SoundVel – sound velocity calculated by the Sally Ride's TSG75 unit (m/sec)

TSG_Temp_2 – water temperature measured by the Sally Ride's TSG xxx unit (deg C).

TSG_Cond_2 – water conductivity measured by the Sally Ride's TSG xxx unit (mS/cm).

TSG_Sal_2 – water salinity calculated by the Sally Ride's TSG xxx unit (PSU).

TSG_Dens_2 – water density as sigma-t calculated by the Sally Ride's TSG xxx unit (PSU).

SoundVel_2 – sound velocity calculated by the Sally Ride's TSG xxx unit (m/sec)

Oxygen – oxygen concentrations measured by the Sally Ride's TSG xxx unit (mL/L).

OxygenTemp – temperature of the water oxygen measurements were made on (deg C)

ChlFluor – chlorophyll fluorescence (volt). The instrument must have malfunctioned. No meaningful correlation between ChlFluor and CalCOFI bottle Chl values was observed.

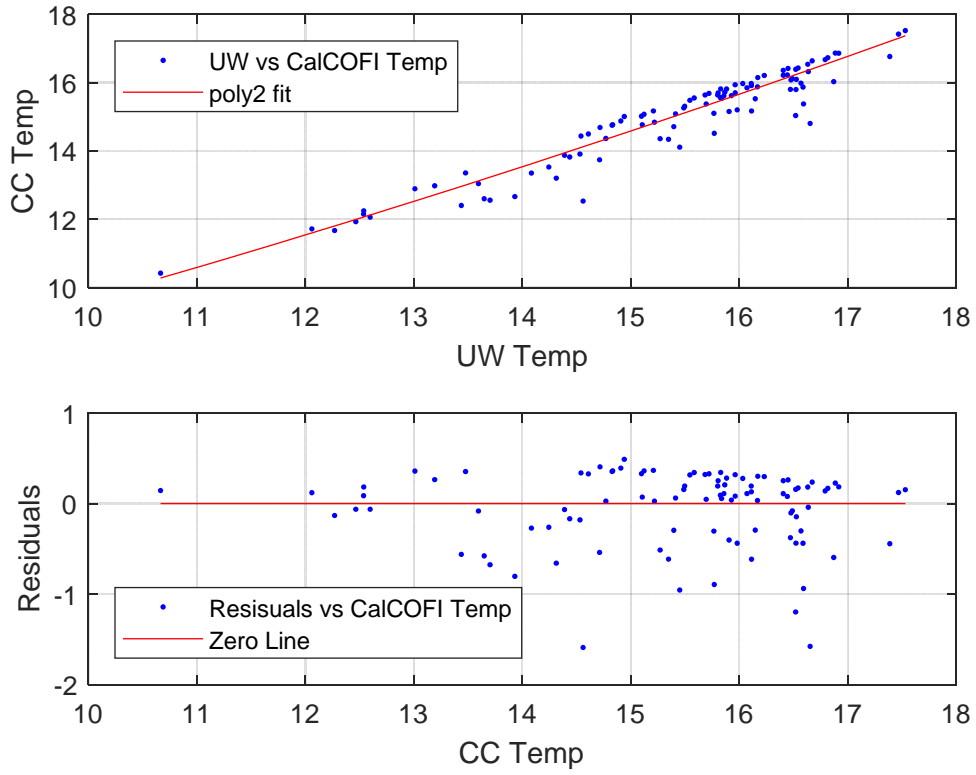
Derived variables are:

Pred_Temp – temperature derived from calibrations of TSG_Temp vs. CalCOFI 0 to 12 m bottle temperatures (deg C)

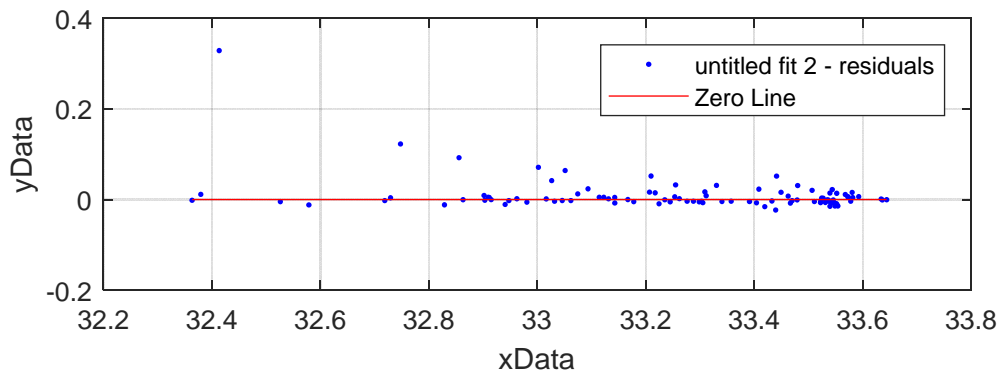
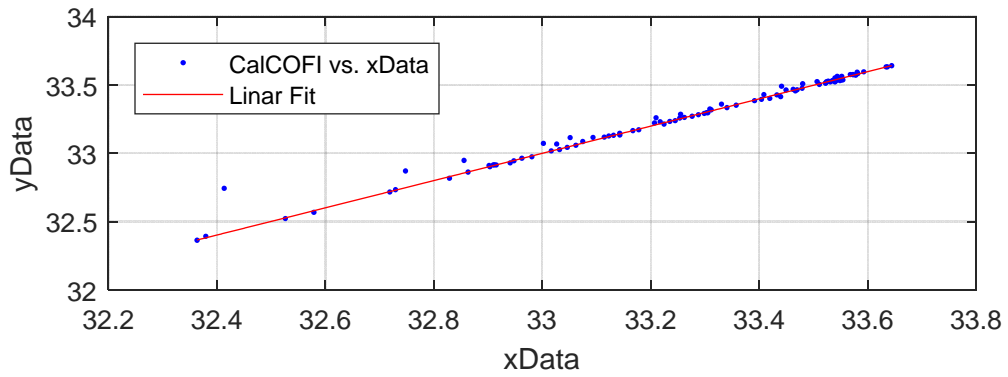
Pred_Sal – salinity derived from calibrations of TSG_Sal vs. CalCOFI 0 to 12 m bottle salinity (PSU)

Pred_ChI – chlorophyll derived from calibrations of ChlFluor vs. CalCOFI 0 to 12 m bottle Chl a (ug-Chl/L).
All values are set to NaN.

TSG_Temp Calibration: Looks like there is a problem with the flow. About 50% of the samples have ok correspondence and the other 50% of the UW samples are too warm.



TSG_Sal Calibration: The calibration very good. Sample matching was successful.



ChlFluor Calibration: The calibration was not possible. The sensor malfunctioned.

