**About Dataset :-**

**CTD stands for conductivity, temperature, and depth**

* **The Cast table contains metadata. This table includes date, time, latitude, longitude, weather, etc. for each CTD cast ever completed on a CalCOFI cruise. Each row is a unique cast, numbered sequentially/indexed by the “Cst\_Cnt” column.**
* **The Bottle table contains oceanographic data. This table includes oceanographic measurements for each bottle/sampling depth ever completed on a CalCOFI cruise. There are additional *data code* and *precision* columns describing the quality of each oceanographic measurement. Each row is a unique bottle/sampling depth, numbered sequentially/indexed by the “Btl\_Cnt” column.**
  + **This table is much larger than the Cast table because each cast can have up to 24 bottles/sampling depths.**
  + **The Bottle table also has a “Cst\_Cnt” column, which can be used as a unifier between the two tables.**

**Red:- useless, Blue:- Useful,Green:- May or may not be useful**

| **Field Name** | **Units** | **Description** |
| --- | --- | --- |
| **Cst\_Cnt** | **n.a.** | **Cast Count - All CalCOFI casts ever conducted, consecutively numbered** |
| **Btl\_Cnt** | **n.a.** | **Bottle Count - All CalCOFI bottles ever sampled, consecutively numbered** |
| **Sta\_ID** | **n.a.** | **Line and Station [Line] [Station]** |
| **Depth\_ID** | **n.a.** | **Uses the Cast\_ID prefix ([Century]-[Year][Month][ShipCode]-[CastType][Julian Day]-[CastTime]-[Line][Sta]) but adds three additional variables: [Depth][Bottle]-[Rec\_Ind]** |
| **Depthm** | **meters** | **Bottle depth in meters** |
| **T\_degC(O/P)** | **degrees Celsius** | **Water temperature in degrees Celsius** |
| **Salnty** | **Practical Salinity Scale** | **Salinity (Practical Salinity Scale 1978)** |
| **O2ml\_L(O2sat is used)** | **milliliters per liter** | **Milliliters oxygen per liter of seawater** |
| **STheta** | **kilograms per cubic meter** | **Potential Density (Sigma Theta), Kg/M³** |
| **O2Sat** | **percent saturation** | **Oxygen percent saturation** |
| Oxy\_µmol/Kg | **micromoles per kilogram** | **Oxygen micromoles per kilogram seawater** |
| **BtlNum** | **n.a.** | **Niskin bottle sample was collected from** |
| **RecInd** | **n.a.** | **Record Indicator (quality code that applies to the whole bottle, instead of just to a specific parameter)** |
| **T\_prec** | **n.a.** | **Temperature Precision** |
| **T\_qual** | **n.a.** | **Quality Code** |
| **S\_prec** | **n.a.** | **Salinity Precision** |
| **S\_qual** | **n.a.** | **Quality Code** |
| **P\_qual** | **n.a.** | **Quality Code** |
| **O\_qual** | **n.a.** | **Quality Code** |
| **SThtaq** | **n.a.** | **Quality Code** |
| **O2Satq** | **n.a.** | **Quality Code** |
| **ChlorA(Corr check)** | **micrograms per liter** | **Migrograms Chlorophyll-a per liter seawater, measured fluorometrically** |
| **Chlqua** | **n.a.** | **Quality Code** |
| **Phaeop** | **micrograms per liter** | **Micrograms Phaeopigment per liter seawater, measured fluormetrically** |
| **Phaqua** | **n.a.** | **Quality Code** |
| **PO4uM** | **micromoles per liter** | **Micromoles Phosphate per liter of seawater** |
| **PO4q** | **n.a.** | **Quality Code** |
| **SiO3uM** | **micromoles per liter** | **Micromoles Silicate per liter of seawater** |
| **SiO3qu** | **n.a.** | **Quality Code** |
| **NO2uM** | **micromoles per liter** | **Micromoles Nitrite per liter of seawater** |
| **NO2q** | **n.a.** | **Quality Code** |
| **NO3uM** | **micromoles per liter** | **Micromoles Nitrate per liter of seawater** |
| **NO3q** | **n.a.** | **Quality Code** |
| **NH3uM** | **micromoles per liter** | **Micromoles Ammonia per liter of seawater** |
| **NH3q** | **n.a.** | **Quality Code** |
| **C14As1** | **milligrams C per cubic meter per half light day** | **14C Assimilation of Replicate 1 (milligrams carbon per cubic meter of seawater per half light day)** |
| **C14A1p** | **n.a.** | **Precision of 14C Assimilation of Replicate 1** |
| **C14A1q** | **n.a.** | **Quality Code** |
| **C14As2** | **milligrams C per cubic meter per half light day** | **14C Assimilation of Replicate 2 (milligrams carbon per cubic meter of seawater per half light day)** |
| **C14A2p** | **n.a.** | **Precision of 14C Assimilation of Replicate 2** |
| **C14A2q** | **n.a.** | **Quality Code** |
| **DarkAs** | **milligrams C per cubic meter per half light day** | **14C Assimilation of Dark/Control Bottle (milligrams carbon per cubic meter of seawater per half light day)** |
| **DarkAp** | **n.a.** | **Precision of 14C Assimilationof Dark/Control Bottle** |
| **Darkaq** | **n.a.** | **Quality Code** |
| **MeanAs** | **milligrams C per cubic meter per half light day** | **Mean 14C Assimilation of Replicates 1 and 2 (milligrams carbon per cubic meter of seawater per half light day)** |
| **MeanAp** | **n.a.** | **Precision of Mean 14C Assimilation of Replicates 1 and 2** |
| **MeanAq** | **n.a.** | **Quality Code** |
| **IncTim** | **time** | **Elapsed incubation time of the primary productivity experiment** |
| **LightP** | **percent** | **Light intensities of the incubation tubes in the primary productivity experiment, expressed as percentages** |
| **R\_Depth** | **meters** | **Reported Depth (from pressure) in meters** |
| **R\_Temp** | **degrees Celsius** | **Reported (Potential) Temperature in degrees Celsius** |
| **R\_Sal** | **Practical Salinity Scale** | **Reported Salinity (from Specific Volume Anomoly, M³/Kg)** |
| **R\_DYNHT** | **dynamic meters** | **Reported Dynamic Height in units of dynamic meters (work per unit mass)** |
| **R\_Nuts** | **micromoles per liter** | **Reported Ammonium concentration** |
| **R\_Oxy\_µmol/Kg** | **micromoles per kilogram** | **Reported Oxygen micromoles/kilogram** |
| **DIC1** | **micromoles per kilogram** | **Dissolved Inorganic Carbon micromoles per kilogram solution** |
| **DIC2** | **micromoles per kilogram** | **Dissolved Inorganic Carbon micromoles per kilogram solution (on a replicate sample)** |
| **TA1** | **micromoles per kilogram** | **Total Alkalinity micromoles per kilogram solution** |
| **TA2** | **micromoles per kilogram** | **Total Alkalinity micromoles per kilogram solution (on a replicate sample)** |
| **pH1** | **pH scale** | **pH (the degree of acidity/alkalinity of a solution)** |
| **pH2­­­­­­­­­­­­** | **pH scale** | **pH (the degree of acidity/alkalinity of a solution) on a replicate sample** |
| **DIC Quality Comment** | **n.a.** | **Quality Comment** |

**­­­**