

## AFSC/ABL: Eastern Bering Sea (BASIS) Coastal Research on Juvenile Salmon (Oceanography data)

**Theme keywords:** 014, Oceans, CTD, Salinity, Temperature, Chlorophyll, Jellyfish, Nutrients, Phytoplankton

**Abstract:** Pacific salmon (*Oncorhynchus* spp.) runs in rivers that flow into the eastern Bering Sea have been inconsistent and at times very weak. Low returns of chinook (*O. tshawytscha*) and chum (*O. keta*) salmon to the Yukon River, Kuskokwim River, and Norton Sound areas of Alaska prompted the state of Alaska to restrict commercial and subsistence fisheries during 2000 and declare the region a fisheries disaster area. Weak salmon returns to these river systems follow several years of low sockeye (*O. nerka*) salmon returns to Bristol Bay, which was declared a fisheries disaster region during 1998 by both the State of Alaska and the U.S. Department of Commerce. Causes of the poor salmon returns to these river systems are not known however, the regional-scale decline of these stocks indicates that the marine environment may play a critical role. Ocean conditions, particularly in the first few months after the salmon leave fresh water, are known to significantly affect salmon survival (Holtby et al. 1990; Friedland et al. 1996; Beamish and Mahnken 2001). Mechanisms affecting marine survival of the eastern Bering Sea salmon stocks are unknown, principally due to the lack of marine life history information on western Alaska salmon. To improve understanding of the marine life-history stage of salmon in the Bering Sea, the North Pacific Anadromous Fish Commission (NPAFC) began an internationally coordinated research program on salmon in the Bering Sea called the Bering-Aleutian Salmon International Survey (BASIS) (NPAFC 2001). As part of BASIS, scientists from the National Marine Fisheries Service (NMFS), Ocean Carrying Capacity (OCC) program conducted a fall survey on the eastern Bering Sea shelf to provide key ecological data for eastern Bering Sea salmon stocks during their juvenile life-history stage. The goal of the OCC/BASIS salmon research cruise was to understand mechanisms underlying the effects of environment on distribution, migration, and growth of juvenile salmon on the eastern Bering Sea shelf. Primary objectives of BASIS include: 1) to determine the extent of offshore migrations of juvenile salmon from rivers draining into the eastern Bering Sea, 2) to describe the physical environment of the eastern and northeastern Bering Sea shelf occupied by juvenile salmon, and 3) to collect biological information on other ecologically important species. Summaries of previous Bering Sea juvenile salmon research cruises can be found in Farley et al. (1999, 2000, 2001, 2002, 2004, 2005).

### FGDC, ESRI, and Biological Profile Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

Metadata elements shown with **blue** text are defined in the Federal Geographic Data Committee's (FGDC) [Content Standard for Digital Geospatial Metadata \(CSDGM\)](#). Elements shown with **green** text are defined in the [ESRI Profile of the CSDGM](#). Elements shown with **brown** text are defined in the [NBII Biological Profile of the CSDGM](#). Elements shown with a green asterisk (\*) will be automatically updated by ArcCatalog. ArcCatalog adds hints indicating which FGDC

elements are mandatory; these are shown with gray text.

---

## Identification Information:

### Citation:

#### Citation information:

**Originators:** Edward V. Farley, Lisa Eisner, AFSC

#### Title:

AFSC/ABL: Eastern Bering Sea (BASIS) Coastal Research on Juvenile Salmon (Oceanography data)

**Publication date:** Unknown

**Geospatial data presentation form:** maps and data

#### Series information:

**Series name:** North Pacific Anadromous Fish Commission

**Issue identification:** 2006

#### Publication information:

**Publication place:** Juneau, AK

**Publisher:** Auke Bay Laboratory, Alaska Fisheries Science Center, NMFS, NOAA

### Description:

#### Abstract:

Pacific salmon (*Oncorhynchus* spp.) runs in rivers that flow into the eastern Bering Sea have been inconsistent and at times very weak. Low returns of chinook (*O. tshawytscha*) and chum (*O. keta*) salmon to the Yukon River, Kuskokwim River, and Norton Sound areas of Alaska prompted the state of Alaska to restrict commercial and subsistence fisheries during 2000 and declare the region a fisheries disaster area. Weak salmon returns to these river systems follow several years of low sockeye (*O. nerka*) salmon returns to Bristol Bay, which was declared a fisheries disaster region during 1998 by both the State of Alaska and the U.S. Department of Commerce. Causes of the poor salmon returns to these river systems are not known however, the regional-scale decline of these stocks indicates that the marine environment may play a critical role. Ocean conditions, particularly in the first few months after the salmon leave fresh water, are known to

significantly affect salmon survival (Holtby et al. 1990; Friedland et al. 1996; Beamish and Mahnken 2001). Mechanisms affecting marine survival of the eastern Bering Sea salmon stocks are unknown, principally due to the lack of marine life history information on western Alaska salmon. To improve understanding of the marine life-history stage of salmon in the Bering Sea, the North Pacific Anadromous Fish Commission (NPAFC)

began an internationally coordinated research program on salmon in the Bering Sea called the Bering-Aleutian Salmon International Survey (BASIS) (NPAFC 2001). As part of BASIS, scientists from the National Marine

Fisheries Service (NMFS), Ocean Carrying Capacity (OCC) program conducted a fall survey on the eastern Bering Sea shelf to provide key ecological data for eastern Bering Sea salmon stocks during their juvenile life-history stage. The goal of the OCC/BASIS salmon research cruise was to understand mechanisms underlying the effects of environment on distribution, migration, and growth of juvenile salmon on the eastern Bering Sea shelf. Primary objectives of BASIS include:

1) to determine the extent of offshore migrations of juvenile salmon from rivers draining into the eastern Bering Sea, 2) to describe the physical environment of the eastern and northeastern Bering Sea shelf occupied by juvenile salmon, and 3) to collect biological information on other ecologically important species. Summaries of previous Bering Sea juvenile salmon research cruises can be found in Farley et al. (1999, 2000, 2001, 2002, 2004, 2005).

**Purpose:**

This data base provides the oceanography information collected during the BASIS cruises.

**Time period of content:**

**Time period information:**

**Range of dates/times:**

**Beginning date:** 1999

**Ending date:** 2009

**Currentness reference:**

ground condition

**Status:**

**Progress:** In work

**Maintenance and update frequency:** Annually

**Spatial domain:**

**Description of geographic extent:**

Bering Sea

**Bounding coordinates:**

**West bounding coordinate:** -179.73

**East bounding coordinate:** -157.814

**North bounding coordinate:** 68.05217

**South bounding coordinate:** 51.31983

**Keywords:**

**Theme:**

**Theme keywords:** 014, Oceans

**Theme keyword thesaurus:** ISO 19115 Topic Categories

**Theme:**

**Theme keywords:** CTD, Salinity, Temperature, Chlorophyll, Jellyfish, Nutrients, Phytoplankton

**Theme keyword thesaurus:** none

**Place:**

**Place keywords:** Alaska, Bering Sea

**Place keyword thesaurus:** Geographic Names Information System

**Place:**

**Place keywords:** AK

**Place keyword thesaurus:** none

**Access constraints:** Applicant must sign a Statement of Nondisclosure prior to receiving access to confidential information. Contact the Point of Contact for this Statement of Nondisclosure. The Data set is still being analyzed and will not be available for distribution until it has been finalized and all QA/QC practices have been performed. Contact the Data Point of Contact for estimated time of release.

**Use constraints:**

User must read and fully comprehend the metadata prior to use. Data should not be used beyond the limits of the source scale. Acknowledgement of NOAA, as the source from which these data were obtained, in any publications and/or other representations of these data is suggested.

**Point of contact:****Contact information:****Contact person primary:**

**Contact person:** Lisa Eisner

**Contact organization:** National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)

**Contact address:**

**Address type:** mailing and physical

**Address:**

17109 Point Lena Loop Road

**City:** Juneau

**State or province:** AK

**Postal code:** 99801

**Country:** USA

**Contact voice telephone:** 907-789-6000

**Contact facsimile telephone:** 907-789-6094

**Contact electronic mail address:** lisa.eisner@noaa.gov

**Contact instructions:**

The e-mail address directs you to the person most knowledgeable about this data. If an alternative contact person becomes necessary, use the voice phone number for referral.

**Data set credit:**

Pacific Scientific Research Fisheries Centre (TINRO)  
North Pacific Anadromous Fish Commission  
University of Alaska, Fairbanks

**Native data set environment:**

Microsoft Access Database

[Back to Top](#)

---

## Data Quality Information:

**Logical consistency report:**

No logical consistency test were run.

**Completeness report:**

All data are QCd against original copies after entry into database. Data are checked for duplicate entries. Data are run through equations to check for coefficient variation and size fraction outliers.

**Lineage:**

**Process step:**

**Process description:**

No process steps have been described for this data set

**Process date:** Unknown

[Back to Top](#)

---

## Entity and Attribute Information:

**Detailed description:**

**Entity type:**

**Entity type label:** 2008\_CTDchlla

**Entity type definition:**

-no description-

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD ID

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Temperature 1

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Temperature 2

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll A**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Attenuation**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmisison**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC



**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** PAR/Irradiance  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Oxygen ml/l  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Oxygen % Sat  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Oxygen umol/kg  
**Attribute definition:**  
-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-theta**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Flag**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity1

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity2

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 0

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 1

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 3

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 4

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 5

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Voltage 6  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Voltage 7  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** pH  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Density  
**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NTU Turbidity**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** User poly 0**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** User poly 1**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Julian Day**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Dynamic Meters**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Chlorophyll**Entity type definition:**

Discrete chlorophyll samples taken at survey stations from CTD Niskin bottles

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**



**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Station**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** SizeFrac\_Code**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Size Fraction**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Replicate

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fb Conc

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fa Conc

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fb Raw Fluor

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fa Raw Fluor

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sample

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Dilution

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Volume Filtered**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Volume Extracted**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chl a Extracted**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chl a sea water**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Phaeo a Extracted  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Phaeo a sea water  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Phaeo pigment ratio  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** AVG chl a  
**Attribute definition:**  
-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Average Fluor Ratio**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** type**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Quality**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Comments

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** Chlorophyll\_Calibrations

**Entity type definition:**

Shows yearly TD-700 (or other instrument) calibration data for chlorophyll analysis

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** YearAnalyzed

**Attribute definition:**

Indicates which year's worth of samples were analyzed

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** CalibrationDate

**Attribute definition:**

Date of calibration

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fluormeter

**Attribute definition:**

Instrument used for calibration and analysis

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Fs

**Attribute definition:**

slope of the concentration (y) / raw fluorescence (x)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** r

**Attribute definition:**

Fb/fa - this value is the average Fb/fa for the whole calibration...all the dilutions

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**



No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** CTD Error Codes

**Entity type definition:**

Explains errors that occurred during CTD casts by their assigned numbers

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** Error code number

**Attribute definition:**

number assigned to specific error

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error Description

**Attribute definition:**

explains error type

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** CTD\_1999

**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 19-2212 was used on the GP.Binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

Strain Gauge (db), internal pressure sensor in 19 2212 calibrated 1/98

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

Depth (m), lat=58, salt water

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

ITS-90, deg C, internal temp sensor in 19 calibrated 1/98

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-e00**Attribute definition:**Csigma-theta, kg/m<sup>3</sup>, density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value,

binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Delta-D

**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data, Jeanette Binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity

**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, internal conductivity sensor in 19 calibrated 1-98, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 0

**Attribute definition:**

oxygen, current, 230601, 02-Feb-98, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 1

**Attribute definition:**

oxygen, temperature, 230601, 02-Feb-98, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

WET Labs, mini-fluorometer, WS3S-142, 04-30-96, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density

**Attribute definition:**

kg/m<sup>3</sup>, derived value, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent Rate

**Attribute definition:**

m/s, WS=2, derived value, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential Temperature

**Attribute definition:**

ITS-90, deg C, derived value, binned by Jeanette

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2000**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data, Oxygen sensor data all bad removed from table. A SBE 19 2212 was used on GP.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

Strain Gauge (db), internal pressure sensor in 19 2212 calibrated 5/00

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

Depth (m), lat=58, salt water

**Attribute definition source:**

AFSC

**Attribute domain values:**



**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

ITS-90, deg C, internal temp sensor in 19 calibrated 5/00

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-e00**Attribute definition:**sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta-D**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity

**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, internal conductivity sensor in 19 calibrated 5/00, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

Wetlabs mini-fluorometer WS3S-142 calibrated 5/26/00, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density

**Attribute definition:**

kg/m<sup>3</sup>, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent Rate

**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential Temperature

**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** nbin**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2001**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data, Oxygen sensor data all bad removed from table. A SBE 19-2212 was used on the SS.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

Strain Gauge (db), internal pressure sensor in 19 2212 calibrated 5/00

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth  
**Attribute definition:**  
Depth (m), lat=58, salt water  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Temperature  
**Attribute definition:**  
ITS-90, deg C, internal temp sensor in 19 calibrated 5/00  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Salinity  
**Attribute definition:**  
PSU, derived value  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Sigma-e00  
**Attribute definition:**  
sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value, Jeanette binned  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Delta-D  
**Attribute definition:**  
Ignore  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** flag  
**Attribute definition:**  
internal coding system not for data interpretation  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data  
**Attribute definition:**  
1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Conductivity  
**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, internal conductivity sensor in 19 calibrated 5/00, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

Wetlabs mini-fluorometer WS3S-142 calibrated 5/26/00, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density

**Attribute definition:**

kg/m<sup>3</sup>, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent Rate

**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.



**Attribute:****Attribute label:** Potential Temperature**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** nbin**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2002**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ERROR

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data, Oxygen sensor data all bad removed from table. A SBE 19 2212 was used on the SS. A SBE 19+ 4257 was used on NWE.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

Strain Gauge (db), internal pressure sensor in 19 2212 calibrated 2/02

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

Depth (m), lat=58, salt water

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Temperature

**Attribute definition:**

ITS-90, deg C, internal temp sensor in 19 calibrated 2/02

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sigma-e00

**Attribute definition:**

sigma-theta, kg/m<sup>3</sup>, density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Delta-D

**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, internal conductivity sensor in 19 calibrated 2/02, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 2**Attribute definition:**

Wetlabs mini-fluorometer WS3S-142 calibrated 5/26/00, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**kg/m<sup>3</sup>, derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Descent Rate

**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential Temperature

**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID

**Attribute definition:**

Primary key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** CTD\_2003

**Entity type definition:**

Data taken from CTD casts at each station binned in 1 m increments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast ( digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 25 0354 was used on the SS.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

Strain Gauge (db), 0516 calibrated 2/27/03

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

Depth (m), lat=58, salt water

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Temperature

**Attribute definition:**

ITS-90, deg C, 4354 calibrated 4/18/03

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC



**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll a**Attribute definition:**

Units=micro-g/L, Equation used [Chl a=4.1813\* (Voltage 1-0.0506)], Field Scale Factor = 4.1813, Clean Water Offset = 0.0506, for SBE 25

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam attenuation**Attribute definition:**

1/m, WET Labs, BASIS transmissometer CST-676PR, 7/28/03

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmission**Attribute definition:**

%, WET Labs, BASIS transmissometer, CST-676PR, 7/28/03

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PAR/Irradiance

**Attribute definition:**

LiCor SPQA-3352 calibrated in 2003

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sigma-e00

**Attribute definition:**

sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Delta-D

**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, 2879 calibrated 5/8/2003, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 0**Attribute definition:**

Wetlabs transmissometer, CST-676PR, 7/28/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 1**Attribute definition:**

WET Labs, WETStar fluorometer, WS3S-934P, 3/5/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

Licor irradiance (PAR), SPOA-3352, 5/22/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density

**Attribute definition:**

kg/m<sup>3</sup>, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent Rate

**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Potential Temperature**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** nbin**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2004**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Error**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 25 0356 on carousel was used on the SS.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Station**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pressure**Attribute definition:**

(db) 25= 0520 calibrated 5/03

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), lat=58, saltwater

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

ITS-90, deg C,2851 calibrated 8/03

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll a**Attribute definition:**

Units=mircro-g/L, Equation used [Chl a=5.6333\* (Voltage 1-0.0506)], Field Scale Factor = 5.6333, Clean Water Offset = 0.0506 for SBE 25

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Attenuation

**Attribute definition:**

1/m, WET Labs, BASIS transmissometer CST-690PR, 7/25/03-Align value .5m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Transmission

**Attribute definition:**

%, WET Labs, BASIS transmissometer, CST-690PR, 7/25/03-Align value .5m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PAR/Irradiance

**Attribute definition:**

LiCor SPQA-3377 calibrated in 2003-Align value 1m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.



**Attribute:****Attribute label:** Oxygen ml/l**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** oxygen % saturation**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen umol/kg**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-e00**Attribute definition:**sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure, derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Delta-D

**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity

**Attribute definition:**

S/m, corrected using cell thermal mass module is Seabird processing, salinity calculated from conductivity, 2729 calibrated 8/15/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 0

**Attribute definition:**

Oxygen, SBE, primary, 0497, 8/13/03, Align value 5 sec, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 1

**Attribute definition:**

WET Labs, WETStar fluorometer, WS3S-994P, 7/24/03, Align value 2.5sec, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

Wetlabs transmissometer, CST-690PR, 7/25/03, Align value 0.5m, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 3**Attribute definition:**

Licor irradiance (PAR), SPQA-3377, 7/25/03, Align value 1m, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**kg/m<sup>3</sup>, derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Descent rate**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Potential Temperature**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID

**Attribute definition:**

primary key

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** CTD\_2005

**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ERROR**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 917 0775 &amp; SBE 25 0354 was used on SS.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Station**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pressure**Attribute definition:**

(db) SS 917=93700 calibrated 3/04, 25= 0516 calibrated 2/05

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), lat=58, saltwater

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

ITS-90, deg C, 917= 4394 calibrated 5/05, 25= 2851 calibrated 2/05

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll a**Attribute definition:**

Units=micro-g/L, Equation used [Chl a=5.6124\*(V3-0.0506) for SBE 917], FSF =5.6124 &amp; [Chl a=8.1593\*(V1-0.0506) for SBE 25], FSF =8.1593, FOR BOTH CWO=0.0506

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Attenuation**Attribute definition:**1/m, WET Labs, BASIS transmissometer 917= CST-690PR calibrated in 2003, 25=-676PR calibrated in 2005-  
Align value 917=0.75m, 25=0.5m**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmission**Attribute definition:**%, WET Labs, BASIS transmissometer 917= CST-690PR calibrated in 2003, 25=-676PR calibrated in 2005-  
Align value 917=0.75m, 25= 0.5m**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PAR/Irradiance**Attribute definition:**

917=LiCor SPQA-3377 , 25=LiCor SPQA-3352 all calibrated in 2005-Align value 917=1m, 25=0.75m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen ml/l



**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** oxygen % saturation

**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen umol/kg

**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sigma-e00

**Attribute definition:**

sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure), derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta-D**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Flag**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, 5=upcast data has replace T, S, D, PoT, Con., -999=no data/bad data, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, 917=3072 calibrated 5/05, 25=2729 calibrated 2/05, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 0

**Attribute definition:**

SBE25, transmissometer, primary, CST-676PR, 3/05---SBE917, Oxygen, SBE, primary, 0804, 6/05, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 1

**Attribute definition:**

SBE25, WET Labs, WET-star fluorometer 934-P, 2/05---Align value 2.5sec, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

SBE25, irradiance (PAR), primary, SPQA-3352, 2/05---SBE917, transmissometer, primary, CST-690PR, 7/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 3**Attribute definition:**

SBE917, WET Labs, WETStar fluorometer, WS3S-994P, 7/03--Align value 0, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 4**Attribute definition:**

SBE917 backscatterance, 2615, 02/05, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 6**Attribute definition:**

SBE917, LiCor irradiance (PAR), primary, SPQA-3377, 7/03, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**kg/m<sup>3</sup>, derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Backscatter

**Attribute definition:**

OBS, Backscatterance (D + A) [NTU], derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

m/s, WS=2, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

primary key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2006**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ERROR

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 911+ 0775 was used on SS, a 25 0354 was used on NWE.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

(db) SS 0775 calibrated 2/06, NWE 0516 calibrated 4/06

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

(m), lat=58, saltwater

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

ITS-90, deg C,SS 4394 calibrated 3/06, NWE 4354 calibrated 3/06

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll\_A**Attribute definition:**Units=micro-g/L, Equations [Chla=5.3228\*(V 3-0.0506) w/ Field Scale Factor = 5.3228 w/ Instrument = 9]  
AND [Chla=7.1058\*(V1-0.0506) w/ FSF = 7.1058 w/ Instrument = 25], CWO= 0.0506, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Attenuation**Attribute definition:**

1/m, WET Labs, BASIS transmissometer SS CST-690PR, NWE-676PR all calibrated in 2006-Align value 0.75m



SS, 0.25m NWE

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Transmission

**Attribute definition:**

%, WET Labs, BASIS transmissometer SS CST-690PR, NWE-676PR all calibrated in 2006-Align value 0.75m  
SS, 0.25m NWE

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PAR/Irradiance

**Attribute definition:**

LiCor SPQA-3377 SS, LiCor SPQA-3352 NWE all calibrated in 2006-Align value SS 1m, NWE 0.5m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen ml/l

**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** oxygen % saturation**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen umol/kg**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-e00**Attribute definition:**sigma-theta, kg/m<sup>3</sup>, derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta-D**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Flag**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, -999=no data/bad data, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, SS 3072 calibrated 3/06, NWE 2879 calibrated 3/06, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 0

**Attribute definition:**

SS=911 Oxygen SBE 43, 0804 calibrated 2/06, NWE=25 Wetlabs transmissometer CST-676PR calibrated 4/06-Align value SS=3.5 sec, NWE=1m, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 1

**Attribute definition:**

SS=free, NWE Wetlabs Wetstar Fluorometer 934-P calibrated 3/06- Align value 2.5 sec, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 2

**Attribute definition:**

SS=911 Wetlabs Wetstar transmissometer 690-PR calibrated 3/06, NWE=25 Licor SPOA-3352 PAR calibrated 4/06-Align value SS=0.75m, NWE=0.5m, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 3

**Attribute definition:**

SS=911 Wetlabs Wetstar Fluorometer 994-P calibrated 4/06-Align value 0, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 4**Attribute definition:**

SS=911 backscatterance, 2615, calibrated 3/06-no align, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 6**Attribute definition:**

SS=911 Licor SPQA-3377 PAR calibrated 2/06- Align vlaue 1m, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**Kg/m<sup>3</sup>, derived value, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Backscatter**Attribute definition:**

OBS, Backscatterance (D + A) [NTU], derived value only on SS, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

m/s, WS=2, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

ITS-90, deg C, derived value, Jeanette binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID  
**Attribute definition:**  
primary key  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** CTD\_2007  
**Entity type definition:**  
Data taken from CTD casts at each station binned in 1m increments  
**Entity type definition source:**  
AFSC

**Attribute:**

**Attribute label:** CTD\_ID  
**Attribute definition:**  
Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** ERROR  
**Attribute definition:**  
See CTD Error Codes table for more detail, 0=no errors in data. A SBE 911+ was used on OD, a 911/917 & 25 were used on SS.  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:****Attribute label:** Station**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pressure**Attribute definition:**

(db), Dyson 0772 calibrated 2006, BASIS 0775, 0516 calibrated 2007

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), lat=58, saltwater

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

(db), Dyson 2376 calibrated 2006, BASIS 4394 &amp; 4354 calibrated 2007

**Attribute definition source:**

AFSC

**Attribute domain values:**



**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Salinity**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll a**Attribute definition:**

Units=micro-g/L, Equation used [Chl a=8.0023\* (V6-0.0710), FSF=0.0710 for SBE 911 OD &amp; [Chla=3.9171\* (V3-0.0506), FSF =0.0710 for SBE 911/917 SS] &amp; [Chla=0.2414\*(V1-0.0506), FSF =0.2414 for SBE 25 SS] FOR SS CWO=0.0506, FOR OD CWO=0.071

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Attenuation**Attribute definition:**

1/m, WET Labs, BASIS transmissometer CST-1066PR, -690PR, 676PR all calibrated in 2007--Align value 0.75m SS only

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmission

**Attribute definition:**

%, WET Labs, BASIS transmissometer CST-1066PR (OD), -690PR, 676PR all calibrated in 2007--Align value 0.75m SS only

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PAR/Irradiance

**Attribute definition:**

BASIS Biospherical QSP2300-70131 (OD), LiCor SPQA-3377, -3352 all calibrated in 2007-Align value 1m SS only, 2007 PAR coeff: M = 1, B = 0, cal constant = 10256410256, multiplier = 1, Cw = 0.00000975, offset = -0.098108044

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen ml/l

**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** oxygen % Sat

**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen umol/kg**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-theta**Attribute definition:**sigma-theta, kg/m<sup>3</sup>, derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta-D**Attribute definition:**

Ignore

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Flag**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, Dyson SBE 4-2985 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 0**Attribute definition:**

SS=SBE911/917 Oxygen SBE 43 0804 &amp; SBE 25 Cstar transmissometer 676PR both calibrated 4/07, OD= SBE 911 Oxygen SBE 43 1301 calibrated 7/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 1**Attribute definition:**SS=SBE911/917 free channel & SBE 25 Wetstar Fluorometer 934P calibrated 4/07, OD= SBE 911 SBE 18-I  
0606 calibrated 7/07, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 2**Attribute definition:**SS=SBE911/917 Cstar transmissometer 690PR & SBE 25 Licor SPQA PAR 3352 calibrated 4/07, OD= SBE 911  
Biospherical PAR QSP2300 70131 calibrated 7/07**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 3**Attribute definition:**SS=911/917 Wetstar Fluorometer 994-P calibrated 4/06, OD= 911 Cstar transmissometer 1066PR calibrated  
6/07, Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 4**Attribute definition:**

SS=911/917 SBE OBS-3 2615 calibrated 4/07, OD= free channel

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 6**Attribute definition:**SS=911/917 Licor PAR SPQA 3377 calibrated 4/07, OD= Wetlabs FLNTU 759 fluorometer calibrated 6/07,  
Jeanette binned**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 7**Attribute definition:**

SS=911/917 free channel, OD= Wetlabs FLNTU 759 turbidity calibrated 6/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** pH**Attribute definition:**

BASIS SBE 18-I pH 0606 calibrated 7/07 only on OD

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**Kg/m<sup>3</sup>, derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Backscatter**Attribute definition:**

OBS, Backscatterance (D + A) [NTU], derived value only on SS

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Descent rate**Attribute definition:**

m/s, WS=2, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Potential temperature**Attribute definition:**

ITS-90, deg C, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** nbin**Attribute definition:**

number of scans per bin, Data binned by Seth Danielson method (matlab) unless otherwise indicated (ex Jeanette binned).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NTU-Turbidity**Attribute definition:**

Nephelometric Turbidity Units (NTUs)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2008**Entity type definition:**



Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Error

**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 911+ was used on the OD.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Pressure

**Attribute definition:**

(db), Dyson 0772 calibrated 12/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), lat=58, saltwater, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature 1**Attribute definition:**

ITS-90, deg C, Dyson SBE 3- 2376 calibrated 12/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature 2**Attribute definition:**

ITS-90, deg C, Dyson SBE 3- 4379 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Chlorophyll A

**Attribute definition:**

Units=micro-g/L, Equation used [Chl a=12.5276\* (Voltage 6 -0.071)], Field Scale Factor =12.5276 , Clean Water Offset = 0.071

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Attenuation

**Attribute definition:**

1/m, WET Labs, BASIS transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Transmisison

**Attribute definition:**

%, WET Labs, BASIS transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PAR/Irradiance**Attribute definition:**

BASIS Biospherical QSP2300-70131 calibrated 6/08-Align value 1m, PAR coeff: M =1.00000000, B = 0.00000000, Calibration constant =10570824524, Multiplier =1.00000000, Offset =-0.09518996

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen ml/l**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen % Sat**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen umol/kg**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-theta**Attribute definition:**sigma-theta,  $\text{Kg/m}^3$ , derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Flag**Attribute definition:**

Produced by SBE processing software, not used for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** up\_down\_sal\_data**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity1**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, Dyson SBE 4-2985 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Conductivity2**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, Dyson SBE 4-3127 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 0**Attribute definition:**

BASIS SBE 43 oxygen 1301 calibrated 4/08-Align value 3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 1**Attribute definition:**

BASIS SBE 18-I pH 0606 calibrated 3/08-Align value 0.3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 2**Attribute definition:**

BASIS Biospherical QSP2300-70131 calibrated 6/08-Align value 1m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 3**Attribute definition:**

BASIS Wetlabs transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 4**Attribute definition:**

BASIS Satlantic ISUS V3-141 calibrated on 3/08-not aligned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 5**Attribute definition:**

BASIS Satlantic ISUS V3-141 calibrated on 3/08-not aligned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 6

**Attribute definition:**

BASIS Wetlabs FLNTURT-Flurometer 759 calibrated on 6/08-Align value 0.8 sec

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Voltage 7

**Attribute definition:**

BASIS Wetlabs FLNTURT-Nephelometric Turbidity Unit 759 calibrated on 6/08-Align value 0.8 sec

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** pH

**Attribute definition:**

BASIS SBE 18-I pH 0606 calibrated 3/08-Align value 0.3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density



**Attribute definition:**

kg/m<sup>3</sup>, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

m/s, WS=2, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

ITS-90, deg C, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per 1m bin, All data binned by seabird software.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NTU Turbidity**Attribute definition:**

Nephelometric Turbidity Units (NTUs)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** User poly 0**Attribute definition:**

ISUS, \_\_\_\_\_, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** User poly 1**Attribute definition:**

ISUS, \_\_\_\_\_, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Dynamic Meters**Attribute definition:**

10J/Kg, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_2009**Entity type definition:**

Data taken from CTD casts at each station binned in 1m increments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Error**Attribute definition:**

See CTD Error Codes table for more detail, 0=no errors in data. A SBE 911+ was used the only CTD on the Oscar Dyson.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Station**Attribute definition:**

Station number given every time vessel is stopped and an instrument is put over the side.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pressure**Attribute definition:**

(db), Dyson 0772 calibrated 12/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), lat=58, saltwater, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature 1**Attribute definition:**

ITS-90, deg C, Dyson SBE 3- 2376 calibrated 12/07

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Temperature 2

**Attribute definition:**

ITS-90, deg C, Dyson SBE 3- 4379 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Chlorophyll A

**Attribute definition:**

Units=micro-g/L, Equation used [Chl a=\_\_\_\_\_ \* (Voltage \_\_\_-\_\_\_\_\_)], Field Scale Factor = , Clean Water  
Offset = , Range = , Instrument = 911+

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Attenuation**Attribute definition:**

1/m, WET Labs, BASIS transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmisison**Attribute definition:**

%, WET Labs, BASIS transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PAR/Irradiance**Attribute definition:**

BASIS Biospherical QSP2300-70131 calibrated 6/08-Align value 1m (PAR data is upcast data) PAR coeffs: M=1, B= 0, cal constant = 10121457489.88, offset = -0.099416151

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen ml/l**Attribute definition:**

Oxygen, SBE 43 [ml/l], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen % Sat**Attribute definition:**

Oxygen, SBE 43 [% saturation], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Oxygen umol/kg**Attribute definition:**

Oxygen, SBE 43 [umol/Kg], derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sigma-theta**Attribute definition:**sigma-theta, Kg/m<sup>3</sup>, derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta\_D**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Flag

**Attribute definition:**

internal coding system not for data interpretation

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, -999=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity1

**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, Dyson SBE 4-2985 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.



**Attribute:****Attribute label:** Conductivity2**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, Dyson SBE 4-3127 calibrated 10/07

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 0**Attribute definition:**

BASIS SBE 43 oxygen 1301 calibrated 4/08-Align value 3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 1**Attribute definition:**

BASIS SBE 18-I pH 0606 calibrated 3/08-Align value 0.3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 2**Attribute definition:**

BASIS Biospherical QSP2300-70131 calibrated 6/08-Align value 1m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 3**Attribute definition:**

BASIS Wetlabs transmissometer CST-1066PR calibrated 6/08--Align value 0m

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 4**Attribute definition:**

BASIS Satlantic ISUS V3-141 calibrated on 3/08-not aligned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 5**Attribute definition:**

BASIS Satlantic ISUS V3-141 calibrated on 3/08-not aligned

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 6**Attribute definition:**

BASIS Wetlabs FLNTURT-Fluometer 759 calibrated on 6/08-Align value 0.8 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltage 7**Attribute definition:**

BASIS Wetlabs FLNTURT-Nephelometric Turbidity Unit 759 calibrated on 6/08-Align value 0.8 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** pH**Attribute definition:**

BASIS SBE 18-I pH 0606 calibrated 3/08-ALign value 0.3 sec

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Density**Attribute definition:**kg/m<sup>3</sup>, derived value**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

m/s, WS=2, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

ITS-90, deg C, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** nbin

**Attribute definition:**

number of scans per 1m bin, All data binned by seabird software.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** NTU Turbidity

**Attribute definition:**

Nephelometric Turbidity Units (NTUs)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Backscatter

**Attribute definition:**

OBS, Backscatterance (D + A) [NTU], derived value only on SS, Kris binned

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** User poly 0

**Attribute definition:**

ISUS, \_\_\_\_\_, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** User poly 1

**Attribute definition:**

ISUS, \_\_\_\_\_, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Dynamic Meters

**Attribute definition:**

10J/Kg, derived value

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** CTD\_AllYears\_ArchivedDataAvailable**Entity type definition:**

Shows CTD data available in archived database

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ERROR**Attribute definition:**

0=no errors in data, 1= Pressure sensor-error incorrect bottom depth-bad data removed, 2=Bad PAR values-data removed, 3=Bad Pressure sensor and PAR sensor values-data removed, 4=Bad data all sensors, seacable/ instrument error-data removed, 5=2 &amp; 4 combo.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pressure**Attribute definition:**

(db)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), saltwater

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Temperature**Attribute definition:**

deg C

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity-raw

**Attribute definition:**

S/m, raw data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Conductivity

**Attribute definition:**

S/m, corrected using cell thermal mass module in Seabird processing, salinity calculated from conductivity-calibrated 3/3/06

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Beam Attenuation

**Attribute definition:**

Chelsea/Seatech/Wetla

**Attribute definition source:**

AFSC

**Attribute domain values:**



**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Beam Transmission**Attribute definition:**

Chelsea/Seatech/We

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chlorophyll a**Attribute definition:**mg/m<sup>3</sup>, based on regression with discrete samples**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PAR/Irradiance**Attribute definition:**

Biopspherical/Licor

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Voltages**Attribute definition:**

ranging from Voltage 0 - 7 - check database for voltage assignments

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** pH

**Attribute definition:**

pH of water

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Scan Count

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sigma-e00

**Attribute definition:**

sigma-theta,  $\text{kg/m}^3$ , density - 1000, or the density a seawater sample would have if raised adiabatically and without change of salinity to the surface (i.e. the conditions of atmospheric pressure)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Density

**Attribute definition:**

kg/m<sup>3</sup>

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Backscatter

**Attribute definition:**

OBS, Backscatterance (D + A) [NTU]

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Descent rate

**Attribute definition:**

m/s, WS=2

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Potential temperature

**Attribute definition:**

ITS-90, deg C

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen voltage

**Attribute definition:**

oxygen

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen ml/l

**Attribute definition:**

Oxygen, [ml/l]

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** oxygen % saturation

**Attribute definition:**

Oxygen, [% saturation]

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Oxygen umol/kg

**Attribute definition:**

Oxygen, [umol/Kg]

**Attribute definition source:**

AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** nbin  
**Attribute definition:**  
number of scans per bin  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Dynamic meters  
**Attribute definition:**  
10J/kg  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** NTU-Turbidity  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Flag  
**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** up\_down\_sal\_data

**Attribute definition:**

1=downcast data is used for all parameters, 2=upcast data is used for Con, Sal, Den parameters, 3=Upcast data is used for all parameters, -99=no data/bad data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** Key\_DepthDomain

**Entity type definition:**

Depth values assigned to Inner, Middle, Outer domains

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** DepthDomain

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Description

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:**

**Entity type label:** Key\_Domain

**Entity type definition:**

Discription of Domain codes, assigned by L. Eisner

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** Domain

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Description

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:**

**Entity type label:** Key\_VesselCode

**Entity type definition:**

Research vessel name and code (alpha & numeric)

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** VesselCode

**Attribute definition:**

Vessel code is located in 5th digit position in StationID column, which is a concatenation of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD (3 digits) + Cast (0 or 1 digits).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Vessel

**Attribute definition:**

Shorthand name for vessel used in Station\_Information table.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** VesselName

**Attribute definition:**

Full name of vessel used for research cruise.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**



**Entity type:****Entity type label:** Nutrient\_Calibrations**Entity type definition:**

Nutrient calibration data from UW lab, 2003-06

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** CalibrationID**Attribute definition:**

Each year starts with the number 100 added to the year, i.e. 1002003 = the ID for the beginning set at .1m chk, .2m swblk, and .3 actual. Ssecond set at .4 chk, .5 swblk, and .6 actual = 1012003, etc..

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Year Collected**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Depth**Attribute definition:**

(m), 0.1=chk, 0.2=swblk, 0.3=actual- first set controls: 0.4=chk, 0.5=swblk, 0.6=actual-second set controls (FIX THIS TO REFLECT: chk, swblk, controls, etc.)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Dilution Factor**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PO4**Attribute definition:**

micromole/L-P, its the concentration of the primary element (N, P, Si) that is shown

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** SiO4**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NO3**Attribute definition:**

micromole/L-N

**Attribute definition source:**

AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** NO2  
**Attribute definition:**  
micromole/L-N  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** NH4  
**Attribute definition:**  
micromole/L-N  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** ID  
**Attribute definition:**  
Primary key  
**Attribute definition source:**  
AFSC

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Detailed description:**  
**Entity type:**  
**Entity type label:** NutrientInformation  
**Entity type definition:**

Refractive indexes, blanks, and factor adjustments from UW lab analyses

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** Process Group

**Attribute definition:**

Processed by University of Washington Marine Chemistry Lab. 206-543-9235

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Year Collected

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Type

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Status

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Factor**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Refractive Index**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Synch Time**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Initial Blank

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Final Blank

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Factor Adjustment

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Total Samples

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Date Analyzed

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Analyst

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** Nutrients

**Entity type definition:**

Discrete Nutrient samples taken from CTD, includes analysis lab location

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Year

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

(m), 0.1=chlk, 0.2=swblk, 0.3=actual- first set controls: 0.4=chlk, 0.5=swblk, 0.6=actual-second set controls

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Dilution Factor

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC



**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** PO4**Attribute definition:**

micromole/L-P, its the concentration of the primary element (N, P, Si) that is shown

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** SiO4**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NO3**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** NO2**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** NH4

**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** DIN

**Attribute definition:**

micromole/L-Si

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Lab

**Attribute definition:**

Laboratory where analysis took place. UW = Kathy Kroglund, PMEL = Calvin Mordy

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Quality**Attribute definition:**

Indicates if there is a problem with the data (G=good, Q=questionable, F=fail)...please indicate note in Comments for Q or F rating!

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Comments**Attribute definition:**

Notes on analysis or any other descriptor of data or sampling

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

Primary Key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Primary Production**Entity type definition:**

Discrete samples used in primary production experiments

**Entity type definition source:**

AFSC

**Attribute:****Attribute label:** Date\_local**Attribute definition:**

Date sample was taken

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** CTD\_ID**Attribute definition:**

Concatenation of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** filter\_fraction**Attribute definition:**

corresponds to filter size

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Mass\_N\_(ug)**Attribute definition:**

Mass of Nitrogen from sample in micrograms

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Mass\_C\_(ug)**Attribute definition:**

Mass of Carbon from sample in micrograms

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta\_15N\_At\_air\_(o/oo)**Attribute definition:**

Ratio of 15N/14N in sample compared to 15n/14N in international standard(Air)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Delta\_13C\_PDB\_(o/oo)**Attribute definition:**

Ratio of 13C/12C in sample compared to 13C/12C in international standard (PDB)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** depth\_(m)**Attribute definition:**

depth in meters

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** light\_level\_(%)**Attribute definition:**

percent of light filtered through screens in production samples, based on depth of sample

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** volume\_filtered\_(ml)**Attribute definition:**

volume of sample filtered for experiment

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** addition**Attribute definition:**

nutrient species added to sample

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** incubation\_time\_(h)

**Attribute definition:**

amount of time experiment ran

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** sunrise

**Attribute definition:**

sunrise at location according to lat/long data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** sunset

**Attribute definition:**

sunset at location according to lat/long data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** day\_length\_(sunrise\_to\_sunset)

**Attribute definition:**

length of day from sunrise to sunset

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** day\_length\_adj\_(1/2h\_after\_sunrise\_to\_1/2h\_before\_sunset)

**Attribute definition:**

length of day minus 1 hour, (half hour after sunrise until half hour before sunset)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** NO3\_NH4\_NO2\_(uM-N)

**Attribute definition:**

Background concentration of all Nitrogen species

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NO3\_addition

**Attribute definition:**

Nitrate Addition (concentration of addition to sample)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15N\_atom\_percent

**Attribute definition:**

absolute measurement of the number of atoms of 15N isotope present in 100 atoms of that element (ratio),  
percent of 15N atoms in sample

**Attribute definition source:**



AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NO3\_xs

**Attribute definition:**

refers to the atom percent 15N above the natural background reading from the sample with the same phytoplankton population.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NO3\_enr

**Attribute definition:**

amount of enrichment in sample due to 15N isotope

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** VNO3\_(h-1)

**Attribute definition:**

Uptake rate of Nitrogen per hour

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PNT\_ug\_L-1(NO3)

**Attribute definition:**

Amount of particulate nitrogen in micrograms per liter

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PNT\_umol\_L-1(NO3)

**Attribute definition:**

Amount of particulate nitrogen in micromoles per liter

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** absolute \_uptake\_rate\_for\_N\_ug\_L-1\_h-1(NO3)

**Attribute definition:**

Uptake rate of Nitrogen in micrograms per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** absolute\_N\_uptake\_rate\_umol\_L-1\_h-1(NO3)

**Attribute definition:**

uptake rate of Nitrogen in micromoles per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** mgN\_m-3\_d-1(NO3)

**Attribute definition:**

amount of nitrogen uptake in mg per m3 per day (using the adjusted day length)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Replicate\_Average(NO3))

**Attribute definition:**

Averages of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** SD\_N\_fix(NO3)

**Attribute definition:**

Standard Deviation of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** CV\_N\_fix(NO3)

**Attribute definition:**

Coefficient of variation for replicates

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Discrete\_Depth\_Sections(NO3)**Attribute definition:**

Depth section corresponding to sample integration

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mg\_N\_m-2\_d-1\_for\_discrete\_sections\_of\_water\_column(NO3)**Attribute definition:**

integrated sum of Nitrogen per square meter per day for the discrete depth section

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mg\_N\_m-2\_d-1\_sum\_over\_all\_discrete\_sections(NO3)**Attribute definition:**

sum of integrated samples over all depth sections per species per station in milligrams

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** millimols\_N\_m-2\_d-1\_sum\_over\_all\_sample+depths(NO3)**Attribute definition:**

sum of integrated samples over all depth sections per species per station in millimols

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NH4\_addition

**Attribute definition:**

Ammonia Addition (concentration of isotopic addition to sample)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NH4\_atom\_percent

**Attribute definition:**

absolute measurement of the number of atoms of 15N isotope present in 100 atoms of that element (ratio), percent of 15N atoms in sample

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NH4\_xs

**Attribute definition:**

refers to the atom percent 15N above the natural background reading from the sample with the same phytoplankton population.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 15NH4\_enr

**Attribute definition:**

amount of enrichment in sample due to 15N isotope

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** VNH4\_(h-1)

**Attribute definition:**

Uptake rate of Nitrogen per hour

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PNT\_ug L-1(NH4)

**Attribute definition:**

Amount of particulate nitrogen in micrograms per liter

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PNT\_umol L-1(NH4)

**Attribute definition:**

Amount of particulate nitrogen in micromoles per liter

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** absolute\_N\_uptake\_rate\_ug L-1 h-1(NH4)**Attribute definition:**

Uptake rate of Nitrogen in micrograms per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** absolute\_N\_uptake\_rate\_umol\_L-1\_h-1(NH4)**Attribute definition:**

uptake rate of Nitrogen in micromoles per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mg\_N\_per\_m3\_d-1(NH4)**Attribute definition:**

amount of nitrogen uptake in mg per m3 per day (using the adjusted day length)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Replicate\_average(NH4)**Attribute definition:**

Averages of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** SD\_N\_fix(NH4)

**Attribute definition:**

Standard Deviation of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** CV\_N\_fix

**Attribute definition:**

Coefficient of variation for replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Discrete\_Depth\_sections

**Attribute definition:**

Depth section corresponding to sample integration

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.



**Attribute:****Attribute label:** mg\_N\_m-2\_d-1\_integration(NH4)**Attribute definition:**

integrated use of NH4 m-2 d-1 for discrete depth sections

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mg\_N\_m-2\_d-1\_sum\_all(NH4)**Attribute definition:**

sum of integrated NH4 over all depths at station

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** millimols\_N\_m-2\_d-1\_sum(NH4)**Attribute definition:**

sum of integrated NH4 over all depths at station in millimoles

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** total\_CO2\_(millimol/L)**Attribute definition:**

Total concentration of CO2 in millimoles/Liter calculated from alkalinity measurements

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 13C\_addtion\_(millimol/L)

**Attribute definition:**

Carbon addition (concentration of isotopic addition to sample)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 13C\_atom\_percent

**Attribute definition:**

absolute measurement of the number of atoms of 13C isotope present in 100 atoms of that element (ratio), percent of 13C atoms in sample

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 13C\_xs

**Attribute definition:**

refers to the atom percent 13C above the natural background reading from the sample with the same phytoplankton population.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** 13C\_enr

**Attribute definition:**

amount of enrichment in sample due to <sup>13</sup>C isotope

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** VC\_(h-1)

**Attribute definition:**

Uptake rate of Carbon per hour

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PCT\_(ug\_L-1)

**Attribute definition:**

Amount of particulate carbon in micrograms per liter

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PCT\_(umol\_L-1)

**Attribute definition:**

Amount of particulate carbon in micromoles per liter

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** absolute\_C\_uptake\_rate\_(ug\_L-1\_h-1)**Attribute definition:**

Uptake rate of carbon in micrograms per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** absolute\_C\_uptake\_rate\_(umol\_L-1\_h-1)**Attribute definition:**

uptake rate of carbon in micromoles per liter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mgC\_m-3\_d-1**Attribute definition:**amount of carbon uptake in mg per m<sup>3</sup> per day (using the adjusted day length)**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Replicate\_Average C**Attribute definition:**

Averages of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** SD\_C\_fix**Attribute definition:**

Standard Deviation of sample replicates

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** CV\_C\_fix**Attribute definition:**

Coefficient of variation for replicates

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Discrete\_Depth\_sections C**Attribute definition:**

Depth section corresponding to sample integration

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** mg\_C\_m-2\_d-1\_(integrated\_for\_discrete\_sections\_of\_water\_column)**Attribute definition:**

integrated use of C m-2 d-1 for discrete depth sections

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** mg\_C\_m-2\_d-1\_(sum\_over\_all\_sample\_depths)

**Attribute definition:**

sum of integrated C over all depths at station in millimoles

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** millimols\_C\_m-2\_d-1\_(sum\_over\_discrete\_depth\_sections)

**Attribute definition:**

sum of integrated C over all depths at station in millimoles

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** chl\_a\_(mg/m3)

**Attribute definition:**

average Chla (from chlorophyll table)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** mg\_C\_m-3 /mg\_chla\_m-3\_h-1

**Attribute definition:**

milligrams of Carbon per cubic meter divided by mg of chl a per cubic meter per hour

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** comments

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** ID

**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:**

**Entity type label:** Salinity

**Entity type definition:**

Salinity taken from discrete water samples

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatination of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit).

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Depth

**Attribute definition:**

sample depth (m)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity Bottle

**Attribute definition:**

salinity bottle number used for sampling

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Salinity

**Attribute definition:**

PSU,Processed by: Marine Chemistry Laboratory, Katherine A. Kroglund, Manager, Phone: 206-543-9235

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.



**Attribute:****Attribute label:** Quality**Attribute definition:**

Indicates if there is a problem with the data (G=good, Q=questionable, F=fail)...please indicate note in Comments for Q or F rating!

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Comments**Attribute definition:**

-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** ID**Attribute definition:**

primary key

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Station\_Information**Entity type definition:**

CENTRAL TABLE linked to most others: year, vessel, station #, date/time, location, depth, comments

**Entity type definition source:**

AFSC

**Attribute:**

**Attribute label:** CTD\_ID

**Attribute definition:**

Concatenation of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) + CTD cast (1 digit)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station\_ID

**Attribute definition:**

Concatenation of Year (4 digits) + VesselCode (1 digit) + Station (3 digits) - shared search term between Fish, Zooplankton, Oceanography, and Thermosalinograph databases

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Year

**Attribute definition:**

Year of sampling

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Vessel

**Attribute definition:**

GP = Great Pacific, OD = Oscar Dyson, NWE = Northwest Explorer, SS = Sea Storm

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Station

**Attribute definition:**

analogous to Haul in previous naming system (2006 and earlier)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Date\_AKDT

**Attribute definition:**

Local sampling date - Alaska Daylight date

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** StartTime\_AKDT

**Attribute definition:**

Alaska Daylight sampling start time (local). Blanks indicate no data available. Note: 2007 start time data came from time stamp on CTD hex files. If blank, no data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Date\_AKDT\_Julian

**Attribute definition:**

Alaska Daylight date and time in Julian (i.e. 365 days per year) format

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Date.UTC

**Attribute definition:**

UTC (= GMT) sampling date. Note that UTC is +8 hours from AKDT.

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** StartTime.UTC

**Attribute definition:**

UTC (= GMT) sampling start time. Blanks indicate no data available. If blank no data

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Date.UTC\_Julian

**Attribute definition:**

UTC (=GMT) date and time in Julian (i.e. 365 days per year) format

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Latitude\_DD

**Attribute definition:**

decimal degrees

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Longitude\_DD

**Attribute definition:**

decimal degrees

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** LatDomain

**Attribute definition:**

rounded Latitude\_DD (give parameters for each year)

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** LongDomain

**Attribute definition:**

rounded Longitude\_DD (give parameters for each year)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** DepthDomain**Attribute definition:**

See DepthDomain\_Key table

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** StationDepth**Attribute definition:**

meters, 1001 means &gt;1000m (NOTE: bottom depths for 2003 are incorrect as of 2/5/09 - see Jim Murphy for corrections)

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** SecchiDepth**Attribute definition:**

Secchi disk depth (m). In 2006 the PAR on Sea storm was bad, used secchi disk

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** CTDcast

**Attribute definition:**

Consecutive CTD cast number for each station. Zero (0) means no CTD cast was done at that station. Note: when 2 casts are taken at a station, #2 is usually where water was collected. In general, use row 2 for data sharing.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** CTD\_Type

**Attribute definition:**

type of Seabird CTD used for cast

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Domain

**Attribute definition:**

See Domain\_Key table

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** PycnoclineDepth

**Attribute definition:**

meters

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** FluorMaxDepth**Attribute definition:**

meters

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** OldHaulID**Attribute definition:**

Old format: Year + Haul: 9 before year indicates Hauls on NWE. In '06 a 1 after year indicates Sea Storm and 2 is Northwest Explorer. 1 or 2 after Haul # indicates sequential casts. Note Haul # renamed as Station # in StationID.

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Weather**Attribute definition:**

description of weather during station sampling

**Attribute definition source:**

AFSC

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Comments**Attribute definition:**



-no description-

**Attribute definition source:**

AFSC

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

[Back to Top](#)

---

**Distribution Information:**

**Distributor:**

**Contact information:**

**Contact person primary:**

**Contact person:** Lisa Eisner

**Contact organization:** National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)

**Contact address:**

**Address type:** mailing and physical

**Address:**

17109 Point Lena Loop Road

**City:** Juneau

**State or province:** AK

**Postal code:** 99801

**Country:** USA

**Contact voice telephone:** 907-789-6000

**Contact facsimile telephone:** 907-789-6094

**Contact electronic mail address:** lisa.eisner@noaa.gov

**Contact instructions:**

The e-mail address directs you to the person most knowledgeable about this data. If an alternative contact person becomes necessary, use the voice phone number for referral.

**Resource description:** Offline data

**Distribution liability:**

The user is responsible for the results of any application of this data for other than its intended purpose. NPRB: No warranty expressed or implied is made regarding the accuracy utility of the data, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that careful attention be paid to the contents of the metadata file associated with the data. The NPRB shall not be held liable for improper or incorrect use of the data described or contained herein.

[Back to Top](#)

---

**Metadata Reference Information:**

**Metadata date:** 20080908

**Metadata review date:** 20100126

**Metadata contact:****Contact information:****Contact person primary:**

**Contact person:** Emily Fergusson

**Contact organization:** National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)

**Contact position:** Metadata coordinator

**Contact address:**

**Address type:** mailing and physical

**Address:**

17109 Point Lena Loop Road

**City:** Juneau

**State or province:** AK

**Postal code:** 99801

**Country:** USA

**Contact voice telephone:** Use e-mail to contact the metadata coordinator.

**Contact facsimile telephone:** 907-789-6094

**Contact electronic mail address:** AFSC.metadata@noaa.gov

**Metadata standard name:** FGDC Biological Data Profile of the Content Standard for Digital Geospatial Metadata

**Metadata standard version:** FGDC-STD-001.1-1999

[Back to Top](#)