

CTD summary data version 01 May 2014

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The contents of this file do not include data from full CTD casts, but rather parameters that are representative characteristics of each cast. These data are from the period 1970-2013 and from the northern Bering Sea, Chukchi Sea, and southern Beaufort Sea (between latitudes 63°N and 74°N).

Constituent data sets from which the CTD summary data have been extracted are:

BASIS, Comida, Mirai, UAF-Institute of Marine Science, JODC, NODC/WOD, Rusalca, SBI, Shell, SNACS/BOWFEST, Hly1104, Louis S. St. Laurent

Column Heading =====	Parameter/variable description =====
Cruise ID	Cruise name/number, Project name, or other identifier
Stn #	Station/cast number; -999 if none provided
Stn Name	Station name; -9999 if none provided
YYYYMMDD	Year, month, and day of cast
YYYY	Year of cast
hhmm	hour and minute of cast; 24 hour clock; UTC; -999 if none provided
Time	UTC
Toff	offset (hours) from UTC
Latitude	Decimal latitude of cast
Longitude	Decimal longitude of cast; negative (-) for West Longitude

Depth	Bottom depth/pressure (m or dbar); -9999 if missing. In some cases where no bottom depth was provided, the bottom depth was determined to be the sum of deepest depth of the CTD cast and the altimeter reading. Integer value.
Nobs	Number of samples in the cast. If this value is small compared to the Depth and the cast year is during the 1970s or 1980s, the cast data may be bottle data.
Tsfc	Temperature (°C) at shallowest valid depth (pressure) of CTD cast
Tdeep	Temperature at the shallower of deepest depth (pressure) of CTD cast or 200 m
Tcast	Temperature at the bottom of the cast.
Tmax	Maximum temperature of CTD cast
Zsfc	Shallowest valid depth (m) or pressure (dbar) of CTD cast.
Zdeep	Maximum depth or pressure of CTD cast; limited to 200 m or shallower
Zcast	Maximum depth or pressure of CTD cast
ZTmax	Depth/pressure of maximum temperature
Ssfc	Salinity at shallowest depth or pressure of CTD cast
Sdeep	Salinity at the shallower of deepest depth (pressure) of CTD cast or 200 m
Scast	Salinity at the bottom of the cast
STmax	Salinity at depth/pressure of Tmax
T5-T100	Temperatures at integer depths of 5 m, 10 m, 20 m, 30 m, 40 m, 50 m, and 100 m. 99.999 if no/missing data.
S5-S100	Salinities at integer depths of 5 m, 10 m, 20 m, 30 m, 40 m, 50 m, and 100 m. 99.999 if no/missing data.

Derived parameters

If density (σ_t) data were not provided with the cast data, the density profile was computed from the International Equation of State of Sea Water (1980). Here, σ_t (instead of σ_θ) is used because most casts included in this dataset were acquired at depths of less than 50-60 m. For many casts, if not most casts, the shallowest valid sample was acquired a meter or few meters below the surface and the deepest valid sample was acquired a few meters above the bottom.

The near-surface depths at which no data were acquired were assigned the temperature, salinity, and density values associated with the shallowest valid depth. Similarly, the near-bottom depths at which no data were acquired were assigned the temperature, salinity, and density values associated with the deepest valid depth (for bottom depths less than 200 m). Cast data were interpolated to integer depths and smoothed with a 3-point (3-m) boxcar filter before computation of derivatives or integrals. Derived values were computed from values at depths shallower than 200 m.

BV	maximum Brunt-Vaisala frequency
ZBV	Depth/pressure of maximum Brunt-Vaisala frequency; assumed to be the depth of the pycnocline.
MLD	Depth/pressure at which the second derivative of the density profile is maximum. Assumed to be the depth of the mixed layer.
Strat	Stratification parameter/depth; see Fiedler, P.C., Reilly, S.B., Jewitt, R.P., Demer, D., Philbrick, V.A., Smith, S., Armstrong, W., Croll, D.A., Tershy, B.R., Mate, B.R., 1998. Blue whale habitat and prey in the California channel islands. <i>Deep-Sea Research II</i> 45, 1781–1801.
FWC	Fresh water content (m ³). Computed as the surface-to-bottom integral of the fresh water fraction (relative to S = 34.8) at each sample depth. For casts deeper than 200 m, integration is from the surface to 200 m.
Heat	Heat content (MJ). Computed as the surface-to-bottom integral of the heat content (relative to -1.9°C) at each sample depth. For casts deeper than 200 m, integration is from the surface to 200 m.
Avg S	Average surface-to-bottom salinity. For casts deeper than 200 m, the average is computed from salinities in the upper 200 m.