Ocean CTD Buoys on Meereisportal.de

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Description of autonomous platform

Ocean CTD (Conductivity, Temperature, Depth) buoys are ice-tethered systems, consisting of five Seabird SBE37IMP Microcat CTDs mounted along an inductive modem tether at depths of 10, 20, 50, 75 and 100 m. In addition, ocean CTDs measure GPS position and temperature at the surface. All data are transmitted via Iridium.

Property name	**Property value**
Data provider	Pacific Gyre, California, USA
Deployment type	Installation on sea ice
Power supply	battery (life time >2 year)
Data transmission interval	10 minutes (user defined)

Parameters and accuracy

Parameter	**Sensor**	**Accuracy**
Water temperature (°C)	Seabird SBE37IMP Microcat CTD	±0.002 °C
Water pressure (dbar)	Seabird SBE37IMP Microcat CTD	± 0.1% of full scale range
Conductivity (S/m)	Seabird SBE37IMP Microcat CTD	± 0.0003 S/m
Position (from GPS)		

Data Processing

The data set has been processed and contains quality flags for different kinds for erroneous data. Flag values are the sum of individual error codes. The value of 0 refers to no error.

Quality flag, position: The geographic position is flagged +1 if the drift velocity, as derived from the GPS longitude and latitude, exceeds a threshold of 10 deg latitude or 50 deg longitude per time step; +2 if the position exceeds extreme values, such as longitude > 360 deg; +4 if the position is exactly 0.0.

How to cite

1. The reference for the (data portal of) Meereisportal.de is:

Grosfeld, K.; Treffeisen, R.; Asseng, J.; Bartsch, A.; Bräuer, B.; Fritzsch, B.; Gerdes, R.; Hendricks, S.; Hiller, W.; Heygster, G.; Krumpen, T.; Lemke, P.; Melsheimer, C.; Nicolaus, M.; Ricker, R. and Weigelt, M. (2016), Online sea-ice knowledge and data platform <www.meereisportal.de>, Polarforschung, Bremerhaven, Alfred Wegener Institute for Polar and Marine Research & German Society of Polar Research, 85 (2), 143-155, doi:10.2312/polfor.2016.011.

2. Please include the following phrase into the acknowledgment, substituting PARAMETER and DATE according to your usage:

Autonomous sea ice measurements (PARAMETER) from DATE to DATE were obtained from https://www.meereisportal.de (grant: REKLIM-2013-04).

3. Buoy data is archived at PANGAEA, a Data Publisher for Earth & Environmental Science, after the buoy has stopped sending data. Please refer to the buoys DOI.