Temperature-Profiling Drifting Buoys on Meereisportal.de

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Description of autonomous platform

Temperature-Profiling Drifting Buoys measure temperature-profiles below the sea ice with profiling depth down to 2 m (iceBTC2) or 60 m (iceBTC60). In addition, air pressure and GPS position are measured.

Property name	Property value
Manufacturer	Marlin-Yug Ltd ,Rostovskaya obl.,346970, Russian Federation
Data provider	Pacific Gyre, California, USA
Weight	12 or 30kg
Deployment type	Installation on sea ice and below
Power supply	Alkaline batteries (life time >2 year)
Data transmission interval	1 hour (user defined)

Parameters and accuracy

Parameter	Sensor	Accuracy
Barometric pressure (hPa)		±1 hPa
Water temperature (°C)		±0.1 °C
Position (from GPS)	GlobalTop Titan3	

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.