Compact Air-Launched Ice Beacons(CALIB) on Meereisportal.de

Content

Description of autonomous platform

Parameters and accuracy

Data Processing

How to cite



Photo: AWI

Description of autonomous platform

CALIBs (Compact Air-Launched Ice Beacons) are designed to observe sea ice drift through GPS position measurements. Different from SVPs, they may be air-dropped from aircraft. This can be planes or copters. All data plus the GPS position are sent via Iridium at hourly intervals.

Property name	Property value
Manufacturer	MetOcean, Halifax, Canada
Manufacturer name	CALIB
Data provider	JouBeh Technologies, Halifax, Canada
Weight	approx. 10 kg
Deployment type	Placement or air-dropped on sea ice
Power supply	Lithium or alkaline batteries (life time >1 year)
Data transmission interval	Typically 1 hour, can be as quickly as 15 min

Parameters and accuracy

Parameter	Sensor	Accuracy
Body temperature (°C)	YSI 44032	±0.1 °C
Barometric pressure (hPa)	SETRA or equivalent	±1.0 hPa
Position (from GPS)	Jupiter JF2 (Telit)	± 2.5 m

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.