Surface Velocity Profiler (SVP, iSVP) on Meereisportal.de

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Photo: AWI

Description of autonomous platform

Surface Velocity Profilers (SVPs) are designed to observe sea ice drift through position measurements. The term “SVP” is used in various ways for many similar types of sensors utilized in ocean sciences, including a drogue to make the surface unit drift with the ocean currents and less with the wind. Our main application is to place the SVPs on sea ice to track the movement of a floe, but they may continue drifting in the ocean even after the floe has melted in summer.

Property name	**Property value**
Manufacturer	MetOcean, Halifax, Canada
Manufacturer name	iSVP
Data provider	MetOcean, Halifax, Canada
Weight	approx. 11 kg
Deployment type	Placement or dropped on sea ice
Power supply	Alkaline batteries (life time >1 year)
Data transmission interval	Typically 1 hour (user defined)

Parameters and accuracy

Parameter	**Sensor**	**Accuracy**
Body temperature (°C)	Ultra Precision Thermistor (US Sensor)	±0.5 °C
Barometric pressure (hPa)	PTB110 (Vaisala)	±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.