# Polar Atmospheric Weather Station(PAWS) on Meereisportal.de

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Photo: AWI

## Description of autonomous platform

The Polar Area Weather Station (PAWS) is designed to be installed on an ice floe, measuring air and surface temperature, barometric pressure, relative humidity, as well as wind speed and direction at approx. 2 m height. The platform reports GPS position and atmospheric data via iridium.

| Property name | Property value |
|---|---|
| Manufacturer | MetOcean, Halifax, Canada |
| Manufacturer name | PAWS |
| Data provider | JouBeh Technologies, Halifax, Canada |
| Height of mast | height of sensors: 2 m |
| Weight | approx. 65 kg |
| Deployment type | Installation on sea ice (into 25cm diameter hole) |
| Power supply | Lithium batteries (life time >1 year) |
| Data transmission interval | 1 hour |

## Parameters and accuracy

| Parameter | Sensor | Accuracy |
|---|---|---|
| Wind speed (m/s) | RM Young #05103AP anemometer | ±0.3 m/s |
| Wind direction (deg) | RM Young #05103AP anemometer and PNI TCM2.5 compass | ±3 deg |
| Air temperature (°C) at ? m | YSI 44032 | ±0.1 °C |
| Surface temperature (°C) | YSI 44032 | ±0.1 °C |
| Relative humidity (%) | HMP155 (Vaisala) | ±3 % |
| Barometric pressure (hPa) | PTB110 (Vaisala) or equivalent | ±1.0 hPa |
| Position (from GPS) | Jupiter 32xLP (Navman Wireless) | ± 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.