

Snow Buoy

Snow Buoys (or snow height beacons) measure relative changes in snow height around the platform by means of 4 ultra-sonic snow depth sensors. Calibrated against the initial snow depths during deployment, these relative changes translate into absolute values. In addition, standard meteorological parameters are recorded, and the MET data along with the GPS position is sent via Iridium at hourly intervals.

Buoy description

Manufacturer:	MetOcean, Halifax, Canada
Manufacturer's name:	Snow Beacon
Data provider	JouBeh Technologies, Halifax, Canada
Height of mast	1.75 m, total height: 2.55m, height of sensors: 1.5m
Weight	approx. 30 kg
Deployment type	Installation on sea ice (into 25cm diameter hole)



Technical Details

Measured parameters	Sensor
- Snow depth (m)	4x HRXL-MaxSonar-WR3 (MaxBotix) (accuracy: ± 0.001 m)
- 1.5m Air temperature ($^{\circ}\text{C}$)	YSI 44032 (accuracy $\pm 0.5^{\circ}\text{C}$)
- Body temperature ($^{\circ}\text{C}$)	YSI 44032 (accuracy $\pm 0.5^{\circ}\text{C}$)
- Barometric pressure (hPa)	PTB110 (Vaisala) (accuracy: ± 1.0 hPa) or equivalent
- GPS position	Jupiter 32xLP (Navman Wireless) (accuracy: ± 3 m)
Measurement interval	Hourly acquisition
Data transmission	Transmits hourly
Data transmitter	Iridium 9602 SBD Transceiver
Power supply	Lithium or alkaline batteries (life time >1 year)