

REAL-TIME WAVES, SIMPLIFIED

The **OBS**-BUOY ⁴⁰⁰ is a lightweight, easy-to-deploy wave measurement buoy. Effortless deployment: 1) simply power it on, 2) place it in the water, and 3) start logging data. Powered by replaceable lithium batteries, it minimizes downtime and maintenance. Data are transmitted instantly to the **Obscape Data Portal** via low-cost cellular communication for easy access and analysis. The **OBS**-BUOY ⁴⁰⁰ provides a cost-effective and reliable solution for real-time wave measurement and sea surface data collection.

PURCHASE INCLUDES

- Free access to the Obscape Data Portal
- Global SIM card with €100 of data (Avg, 6-12 years data usage
- 8 x Lithium metal batteries subject to county regulations

Optional: Mooring

Incl. s/s chain, line, s/s in-line weights & floats Excl. anchor.

Alternatively: Mooring can be constructed using the Obscape Mooring Guideline



KEY FEATURES

- Data: Accurate, reliable bulk wave parameters, directional wave spectrum & sea surface temperature
- **02 Reliable Connectivity:** Data transfer via 4G networks with 2G fallback
- **13 Easy Deployment:** Lightweight, easy to handle and transport, quick start-up
- **104** Long Battery Life: Lithium batteries offer up to 10 months of operation
- **Global SIM Included:** Global SIM ensures seamless data transmission
- **106 Integrated Data Portal:** User-friendly portal for efficient data management and analysis

OBS-BUOY 400 TECHNICAL SPECIFICATIONS

SPECS		
BUOY DIAMETER	400 mm diameter x 225 mm height	
WEIGHT	6,5 kg (without batteries)	
FLOAT VOLUME	15.4 litres	
PRIMARY POWER SOURCE	Replaceable battery	
CONNECTIVITY	Cellular (4G with 2G fallback)	
CELLULAR DATA LOAD	~8 kB per message (Bulk parameters) / ~14 kB per message (Bulk parameters & spectra)	
REAL-TIME DATA INTERVAL	30 minutes – 24 hours (User selectable)	
BATTERY TYPE	8 x Lithium metal batteries or 8 x alkaline	
BATTERY LIFE	Lithium metal (5 – 10 months) or alkaline (2 – 3 months)	

PARAMETERS		
SAMPLE FREQUENCY	6.25 Hz	
FILTERED FREQUENCY RANGE	0.05 Hz - 1.00 Hz (20 sec - 1 sec)	
BURST DURATION	30 minutes	
TELEMETRY DATA QUEUE	In the event of temporary connection outages, a data queue ensures data is sent	
DATA	Full directional wave spectrum and sea surface temperature	
DIAGNOSTIC PARAMETERS	Battery voltage, internal temperature and atmospheric pressure, signal strength	

DATA STORAGE	
CLOUD STORAGE	Free access to the Obscape Data Portal for real-time and historical data, OBS -BUOY 400 configuration, alerts
ON-BOARD SD CARD	Data stored to the on-board SD card as a backup - or for cases where data connection is absent

DATA OUTPUTS





	CELL	SD CARD
Significant Wave Height (Hm0 [m])	Ø	Ø
Maximum Wave Height (Hmax [m])	Ø	Ø
Peak Wave Period (Tp [s])	Ø	Ø
Mean Wave Period Tm0,1[s]		Ø
Mean Wave Period Tm0,2[s]	Ø	Ø
Mean Wave Period Tm-1,0[s]	Ø	Ø
Mean Wave Period (Tavg[s])		Ø
Maximum Wave Period (Tmax [s])	Ø	Ø
Peak Wave Direction (Dirp [deg N])	Ø	Ø
Mean Wave Direction (Dirm [deg N])	Ø	Ø
Peak Directional Spreading (Sigp [deg])	Ø	Ø
Mean Directional Spreading (Sigm [deg])	Ø	Ø
Sea Surface Temperature	Ø	Ø
Swell Wave Height (Hsw [m])		Ø
Swell Wave Period (Tsw [s])		Ø
Swell Wave Direction (Dirsw [deg N])	Ø	Ø
Variance Density Specturm (Puu [m2/Hz])	*	Ø
Directional Coefficients (a1, b1, a2, b2 [-])	*	Ø
GPS Coordinates (Lat, Lon)		Ø
Estimated Wind Speed		
Estimated Wind Direction		
Buoy Displacement (3D Timeseries)	#	Ø
*Only in real-time spectrum mode		

#Only in real-time displacement mode

DATA ACCESS

SEAMLESSLY CONNECT FIELD DATA & OFFICE OPERATIONS

- **11 Real-time data:** Bulk wave parameters, SST, diagnostic parameters
- **12 Download:** CSV file, graphs, PDF report
- **13** Forwarding: JSON API or HTTP post
- **1)4 Notifications:** GPS watch circle, wave height threshold

FACTORY ADVISORY

- Breaking waves reduce accuracy
- Small buoys can experience mooring line tension in strong currents > 1m/s use Obscape's mooring design to reduce this disturbance
- Reduced accuracy and increased risk of mooring wear in depths < 4 m