

# STOKES DRIFTER



2025-04 v2

## Revolutionize Ocean Monitoring with the MetOcean Stokes Drifter

The MetOcean Stokes Drifter is a compact, low-profile drifting buoy designed to track ocean surface currents with unparalleled precision. Equipped with GNSS positioning, a sea surface temperature sensor, and Iridium satellite telemetry, the drifter transmits vital sensor and geo-positional data in real-time, making it an essential tool for environmental monitoring, oil spill response, plastic tracking, and debris mapping. Developed in collaboration with Dr. Nico Wienders of Florida State University, the Stokes Drifter is engineered to mimic the Stokes drift—the primary factor influencing floating pollutants in open waters.

With bi-directional communication capabilities, users can remotely adjust reporting intervals or request time-sensitive data via MetOcean's LiNC platform. The drifter's robust design ensures easy deployment and reliable performance in harsh marine environments, providing critical data to scientists and agencies for protecting ecosystems and validating predictive models.



# STOKES

- **Real-Time Data Transmission:** Iridium satellite telemetry for accurate updates
- **Bi-Directional Communication:** Remote configuration via Over-The-Air commands
- **GNSS & Temperature Sensors:** Precise tracking and environmental monitoring
- **Compact Design:** Minimizes windage and wave interference for accurate data
- **Versatile Applications:** Ideal for oil spill monitoring, plastic tracking, and more

Empowering Data Connectivity, Everywhere.

# STOKES TECHNICAL SPECIFICATIONS

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MECHANICAL DESIGN		
Outer Diameter	24 cm	9.4"
Height	4.1 cm	1.6"
Weight	905 g	31.9 oz
POWER CONSUMPTION		
Shelf Life	5-year shelf life (before battery replacement required)	
Deployment Life	Typical +4 months (1-hour sample interval and 2-hour reporting interval)	
Battery	10 AA batteries (comes installed and replaceable)	
INTERFACES		
Bluetooth	BLE 5.0	
Satellite	Iridium SBD	
GNSS	+/- 2 meter accuracy. Cold start fix < 45s	+/- 6.6' accuracy. Cold start fix < 45s
INTERNAL SENSORS		
Temperature Sensor	0.25°C accuracy (-5°C to 40°C)	0.45°F accuracy (23°F to 104°F)
ENVIRONMENTAL		
Operating Temperature	-18°C to 55°C	0°F to 131°F
Storage Temperature	-40°C to 50°C	-40°F to 122°F
Ingress	IP68	
Test Approvals	IEC 60945 Section 8.5 (Thermal Shock), SAE J1455 Thermal Cycling, SAE J1455 Section 4.9.3 (Low Pressure), SAE J1455 Temperature Cycling	
REGULATORY APPROVALS		
IC (ISED)		
EC		
FCC		



*"By having the ability to track the ocean surface circulation, the Stokes Drifters can provide accurate information to state, federal and environmental agencies regarding the speed, location, and predicted course of harmful pollutants such as oil spills, plastic patches, or contaminated river plumes to better protect ecosystems, aquatic life and mankind. The drifters also provide precious and unique data to help scientists validate their numerical predictions and forecasts, satellite current observations or coastal high frequency radar current observations."*

– Dr. Nico Wienders, FSU – Inventor of the Stokes Drifter

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