



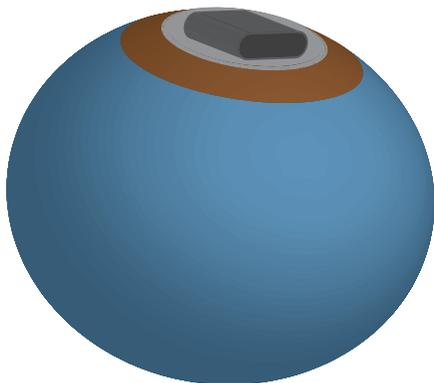
Marine Emergency Response Surface Circulation Tracking (MER-SCT) Buoy

The MER-SCT buoy is a low cost, expendable tracking device ideally suitable for untended, launch-and-forget deployments. It provides time-stamped GPS position measurements via SPOT Trace® satellite transmitter in near real-time for tracking the movement of surface currents.

All components, with the exception of the SPOT Trace®, are made of bio-degradable materials. SCT buoys generally sink, or break apart, in the span of 2-3 months, and do not contribute to plastic debris on the beaches. They exhibit low wind drag due to minimal presence of buoy components above the water line.

The wood cellulose sponge is composed of ~95% voids when moist and fully expanded. These voids become filled with the water in which the buoy is floating, whether it is fresh, or salty, or oily, and therefore the SCT buoy is more similar in density to the water it is following than conventional buoys. The cellulose sponge tends to inhibit biofouling, which might otherwise affect the drift characteristics.

The MER-SCT buoy is simple to operate, transport and store. It can be kept moist in a storage bucket without deterioration for up to a year.



SCT buoy hull

Height	25 cm
Beam	25 cm
Draft	25 cm
Dry Weight	1.8 kg
Saturated Weight	~7.5 kg
Freeboard	~0.3 cm
Ratio of Cross-section Area	~1 : 20 (above water : below water)
Materials	cellulose sponge, cork, aluminum, zinc, steel
Deployment	by hand from ship (air deployment in development)

SPOT Trace® transmitter

Waterproofing	IPX7, 1 m for up to 30 minutes, if USB port sealed with manufacturer supplied cover.
Temperature range	-30 C to +60 C
Dimensions	L= 8.7 cm x W= 5.1 cm x H= 2.1 cm
Weight	0.1 kg (negatively buoyant)
Batteries	4 x standard L92 batteries
Tracking interval	5, 10, 30, 60 minutes (option for 2.5 minutes)
Operating lifetime	10-11 days typical with 5 minute rate, under ideal conditions
Position accuracy	7.8 m with 95% confidence level

Oceanetic Measurement (2011) Ltd. designs & manufactures robust scientific monitoring equipment & provides services for worldwide research into changing oceans, ice caps & fresh water systems.

Oceanetic instruments report position and movement in near real-time, and include internal sensors to provide instrument status and battery condition. Sample rates and device reporting intervals can be remotely programmed to vary operating performance. Oceanetic offers data aggregation services for client data, including logging, processing and hosting. All Oceanetic instruments are designed to endure long deployments in harsh arctic, antarctic, and pelagic conditions.

Oceanetic instruments: economical, reliable, robust.