DRIFTER DEPLOYMENT INSTRUCTIONS

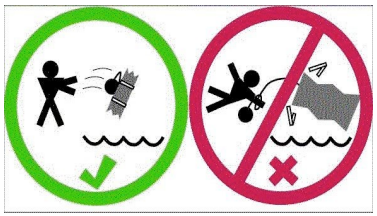
SVP AND SVP-BAROMETER DRIFTERS

Before deployment, remove **ONLY** the plastic shrink-wrap.

DO NOT REMOVE the paper tape securing the drogue and/or tether. Likewise, **DO NOT REMOVE** the cardboard surrounding the float.

***WARNING*: *DO NOT REMOVE** the paper tape securing the tether and drogue. If you do, the drogue and/or tether can unfurl during deployment and may cause injury!*

1. Record the ID number listed on the drifter. This number can be found on the shipping container, the plastic shrink-wrap, or the protective cardboard box. It is also listed on the surface float itself.
2. Deploy the buoy from the stern, at lowest possible deck (preferably less than 10 meters, including heave), into the sea. The ship may be traveling between 1 and 20 knots. The tether and drogue are secured with paper tape that will dissolve in the water.
3. Record the date, time (GMT), coordinates at deployment, and deployment details, then email this information to the Global Drifter Program.



Thank you kindly for your assistance!

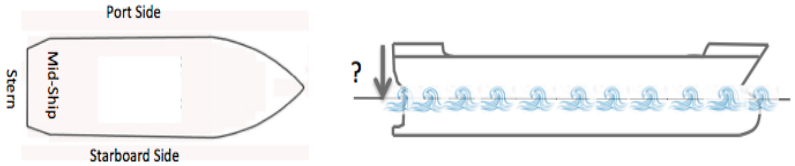
Sample Log Sheet

Ship Name: _____

Drifter ID #	Date	Time (GMT)	Latitude			Longitude		
xxxxxxxxxx	mm/dd/yyyy	hh:mm	DD	mm.mm	N/S	DDD	mm.mm	E/W
_____	___/___/___	___:___	___ _____ __			___ _____ __		

Deployed From: Starboard / Port Ship Speed: _____knots

Mid-Ship / Stern Height Above Mean Sea Level: ____meters



Submit deployment information to:

Shaun Dolk

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Tel: 305-361-4546

E-mail: Shaun.Dolk@noaa.gov

Web Submission:

http://www.aoml.noaa.gov/phod/dac/dep_form.html

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National Oceanic and Atmospheric Administration

NOAA

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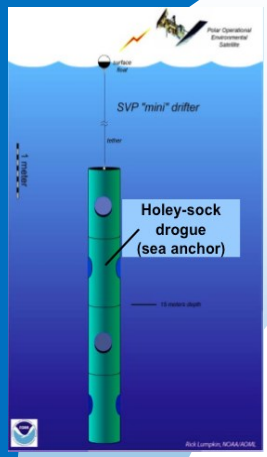
Global Impact

The Global Drifter Program (GDP) is an integral component of the Global Ocean Observing System (GOOS), which maintains a global 5x5 degree array of 1250 drifters. Drifter data is acquired from satellites, and then processed and inserted onto the Global Telecommunications System (GTS) for distribution and use, including weather forecasting.

Drifter data support short-term (seasonal to inter-annual) climate predictions as well as climate research and monitoring.

What is a Drifter?



The modern drifter is a high-tech version of the “message in a bottle.” It consists of a surface float and a drogue (sea anchor), which are connected by a long tether.

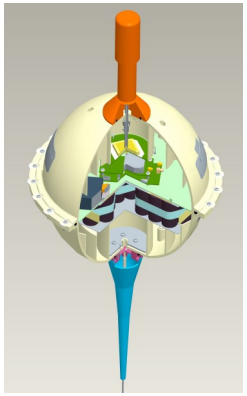
Drifters average their data over a window (typically 90 seconds), and transmit ocean data to an orbiting satellite.

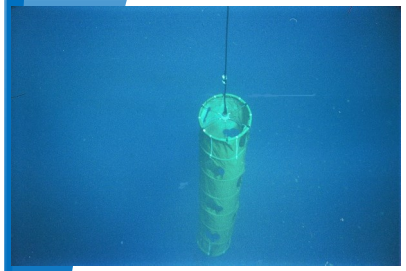
Each drifter transmitter is assigned a unique code, referred to as the drifter ID, which make the identification of each drifter possible.

The position of a drifter is not always determined using GPS. Instead, the position can be inferred from the Doppler shift of its transmissions.

Surface Float

The surface float ranges from 30.5 to 40 cm in diameter and contains 4-5 battery packs (each with 7-9 alkaline D-cells), a satellite transmitter, a thermistor to measure sea surface temperature, a tether strain to verify the presence of the drogue; and other possible sensors to measure barometric pressure, salinity, and/ or wind speed and direction .





Drogue

The drogue (also called a sea anchor) is centered at a depth of 15 meters beneath the sea surface to measure currents in the upper ocean.

The drogue is designed to minimize the effect of the wind and waves on the surface float, by anchoring the drifter in the upper ocean layer.

Drifter History

Beginning in 1979, as part of the Surface Velocity Program (SVP) within the World Ocean Circulation Experiment (WOCE), the scientific community sought a design for the drifters that were standardized, low-cost, lightweight, and easily deployable. Driven by these requirements, field tests led to the evolution of a uniform design for a spherical surface float with a semi-rigid drogue: to the modern SVP drifter.

The first large-scale deployments of these drifters took place in 1988, with the goal of mapping the tropical Pacific Ocean’s surface circulation. This effort was expanded to global scale as part of WOCE.

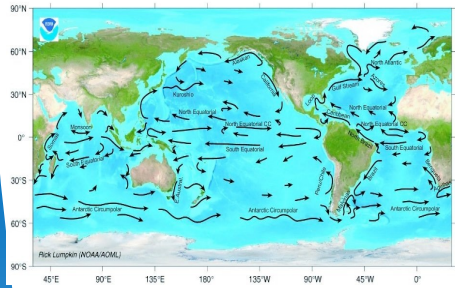
The modern data set of SVP drifters includes all drifters deployed from 1979 to present that include a semi-rigid holey-sock drogue centered at 15m depth.

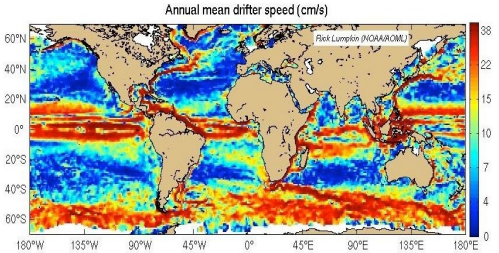
Research with Drifters

Surface Ocean Currents

The global array of drifting buoys is invaluable for oceanographic and climate research, as these instruments follow the two-dimensional surface flow, which provides essential information for climate predictions, climate research, emergency response activities, and nautical navigation.

By averaging over all the drogued drifters in the data set, a map of time-mean speed can be derived that shows where currents are strong (bottom right). This analysis can be used to create an accurate representation of surface current structures and directional flow (bottom left).





Disaster Relief

During the devastating events of the Fukashima earthquake and the Deep Water Horizon oil spill (bottom right), drifters were used to track surface current speed and direction to improve forecasts of debris and oil dispersion. Furthermore, nearby currents were mapped to identify additional potential transport pathways of drifting materials.

Hurricanes pose yet another important use for drifters, as air-deployed drifters in front of storms help monitor changes in ocean structure during storm passage and improve forecast models. Additionally, hurricane drifters provide a unique insight into the ocean dynamics and feedbacks from interactions between the ocean and atmosphere that fuel these storms. The image at the bottom left shows an array of drifters deployed in front of Hurricane Ike in 2008.