

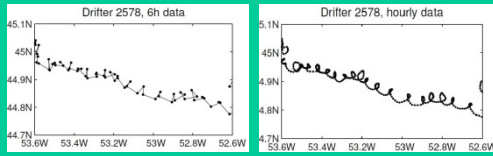


Who is Using Drifter Data?



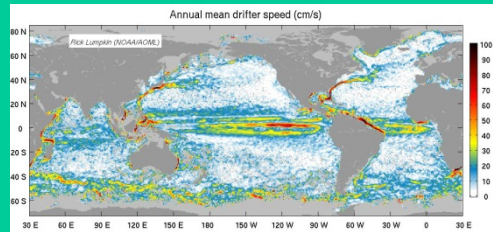
RESEARCHERS

(a few examples...)



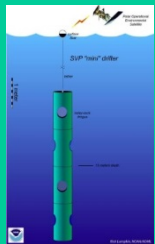
Global hourly location and velocities of Argos and GPS drifters with formal error bars, for resolving tidal, inertial and submesoscale motion worldwide.

Ellpot, S., R. Lumpkin, R. C. Perez, J. M. Lilly, J. J. Early, and A. M. Sykulski (2016), A global surface drifter dataset at hourly resolution, *J. Geophys. Res. Oceans*, 121.

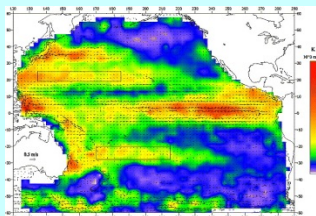


A global climatology of monthly near-surface currents and SST, at half-degree resolution, derived from drifter observations.

Lumpkin, R. and G. C. Johnson, 2013: Global Ocean Surface Velocities from Drifters: Mean, Variance, ENSO Response, and Seasonal Cycle. *J. Geophys. Res.-Oceans*, 118, pp.2992-3006.



Diffusivity is calculated using surface drifter data. It is useful in predicting larval dispersion and oil spills.



Zhang, V. and I.B. Oh, 2004: Drifter-derived maps of lateral diffusivity in the Pacific and Atlantic Oceans in relation to surface circulation patterns. *J. Geophys. Res.* 109 (C05019)

OPERATIONAL CENTERS

| Country | Center | Type | Region of Interest | Parameters Measured |
|--------------|--|--|-----------------------|---------------------|
| Australia | BoM | Ocean Forecast | Australian waters | SST & P |
| Brazil | Instituto Nacional de Meteorology | Climate & Forecast | S. Atl | SST & P |
| Brazil | Fundacao Universidade Federal do Rio Grand | Ocean Analysis, Forecast, Polar Oceanography & Climate Studies | S. Atl | SST & P |
| Brazil | Centro de Hidrografia de Marinha | Climate, Forecast, Ocean Studies, & Marine Meteorology | S. Atl | SST & P |
| Brazil | INPE (National Space Institute) | Ocean Analysis, Forecast, Polar Oceanography & Climate Studies | S. Atl | SST & P |
| Brazil | Brazilian Navy | Research & Operational Activities | S. Atl | SST & P |
| Canada | Environment Canada | Climate & Forecast | N. Pac | SST |
| France | Meteo-France | Climate & Forecast | Indian & N. Atl | SST, P, W, & Sal |
| India | Naval Physical and Oceanographic Laboratory (NPOL) | Heat and Salt Divergence of Tropical Indian Ocean | Indian Ocean | SST & P |
| New Zealand | New Zealand Met. Service | Climate & Forecast | Tasman Sea & S. Pac | SST & P |
| South Africa | South African Weather Service | Climate & Forecast | S. Atl | SST, P, & W |
| UK | UKMET | Ocean Forecast | N. Atl | SST, P, & W |
| US | Coast Guard International Ice Patrol | Ocean Currents & Prediction of Iceberg Drift & Deterioration | Labrador Sea & N. Atl | SST & P |
| US | Navoceano | Ocean Forecast | Global | SST, P, & W |
| US | TPC/NCEP/NWS | Wind Forecasting in Tropical Cyclones | Global | SST, P, & W |
| US | EMC/NCEP/NWS | Surface Analyses & Model Initializations | Global | SST, P, & W |

OTHERS



"We are using historical weather data to assist in routing sailboats in the 2005-2006 Volvo Around the World Ocean Race...I have done some investigating into possible sources for current data and believe your drifter buoy program is the best for our use."

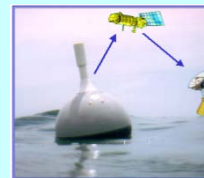
-Ken Davies, Cornell University

"One of our clients is having an argument about how much the current affected the speed of his ship. They have been looking at admiralty current charts but I think these are not based on up to date information and are unlikely to be as accurate as your drift data."

-John Warman, The London Steam-Ship Owners' Mutual Insurance Association Ltd.

"I am trying to download drifter information from the South Pacific (SP). The objective is to compare with a high resolution hydrodynamic model and check validation in regions where no measurement are available from our institution (University of Concepcion) or country (Chile). The information will be used in academic and research purposes."

-Carolina Parada, PhD, Geophysics Department University of Concepcion, Chile



"I use your drifter information (over the course of a month) to predict/find favorable ocean currents for our biannual sailing trip in May from Pensacola, FL to the Yucatan Peninsula of Mexico."

-Capt. L. Scott Harrell, Charlotte, NC



"International Ice Patrol (IIP), which is part of the United States Coast Guard, uses drifter data to determine the ocean and sea surface temperature in its operations area in the western north Atlantic Ocean. The data are used to predict the drift and deterioration of icebergs that threaten the transatlantic shipping lanes."

-Donald Murphy, International Ice Patrol, United States Coast Guard



AOML scientists aboard selected Explorer cruise transects will deploy drifters as well as provide lectures about basic oceanography concepts and the rationale and research goals of NOAA's Global Ocean Observing System.

-Semester at Sea



The Explorer

TEACHERS

"The kids are now plotting their buoys on the world map and have some questions for you about why their buoys are doing what they are doing...the kids are possessed with this project. They live, eat, and sleep buoys!"

-James Boyd Intermediate School, Huntington, NY



Teacher At Sea

NOAA's Teacher at Sea's Program has enabled more than 430 teachers to gain first hand experience of science at sea. They have deployed drifters and used their data to teach oceanography in their classrooms



NOAA's Ocean Climate Observation (OCO) Program established the Adopt a Drifter Program in December 2004 for K-16 teachers and students from the United States and abroad. The Program's mission is to establish scientific partnerships between schools around the world to engage students in activities and communication about ocean climate science. Teachers have the opportunity to include near-real-time ocean observing system data in their curriculum.