

# NOAA's Adopt A Drifter Program: Schoolchildren's Oceanographic Experiments

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## WHO?

NOAA Adopt A Drifter Program (ADP) has deployed 11 drifters in the western South Indian Ocean over the past 2 years in partnership with schools in South Africa, Mauritius and the USA.

2 Drifters deployed August 2, 2012 in Agulhas Current offshore of Port Elizabeth, South Africa  
 Masiphimelele High School, Cape Town, South Africa  
 Hout Bay High, Cape Town, South Africa  
 Sophumelela High, Cape Town, South Africa  
 Usasazo High, Cape Town, South Africa  
 Roosevelt High School, Seattle, WA USA

4 Drifters deployed May 2011 offshore of Mauritius  
 Okemos High School, Michigan, USA  
 Quatre Bornes State Secondary School, Mauritius  
 Belle Village State Secondary School, Mauritius  
 University of Mauritius, Mauritius

1 Drifter deployed December 2010 east of Madagascar  
 Bridge House College, Franschhoek, South Africa

2 Drifters deployed November 2010 in Agulhas Current offshore of Port Elizabeth, South Africa  
 Bryant Elementary School, Seattle, WA USA

2 Drifters deployed September 2010 in Agulhas Current offshore of Durban, South Africa  
 Bradley Hills Elementary School, Bethesda, MD USA  
 Indwe Secondary School, Mossel Bay, South Africa  
 Heidedal Primary School, George, Western Cape, South Africa  
 Parkdene Primary School, George, Western Cape, South Africa



The following organizations have helped coordinate and implement this project:



## WHAT?

The Oceanographic Experiment: Deploy a pair of drifters in the Agulhas Current offshore of Port Elizabeth, SA. Where do they go? Do both drifters take the same path?

Drifters measure sea surface temperature and air pressure as they float with a patch of surface water. Their data and position are telemetered to shore every 6 hours.



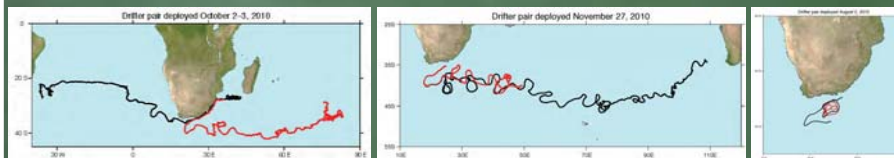
A drifter is being prepared for deployment in the left photo. The recently deployed drifter is shown in the right. Its drogue hasn't sunk yet. The drogue helps the drifter move with the surface water patch.

Hypothesis #1: The drifters are carried by the Agulhas Current. After the current separates from the coast at the tip of Africa, the current retroflects and the water begins to drift eastward. Eventually the drifters end up in the South Indian Ocean.

Hypothesis #2: The drifters are carried by the Agulhas Current to the tip of Africa, where eddies are formed that carry the drifters into the Atlantic Ocean.

Hypothesis #3: Random forces act on the water patch so that two drifters deployed right next to each other will eventually separate. One drifter may even end up in the Indian Ocean and while the other ends up in the Atlantic.

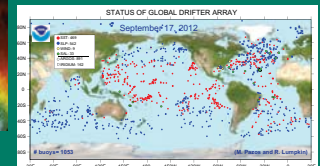
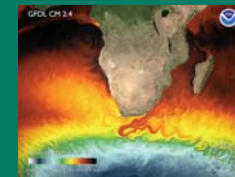
## RESULTS



Three drifter pairs were deployed. Most drifters stay in the Agulhas Current as it retroflects (hypothesis #1). However all drifter pairs eventually separate. In one pair, one drifter ended up in the Atlantic and the other in the Indian Ocean (hypothesis #3).

## WHY?

The Agulhas Current transports heat and thus can be clearly seen in the sea surface temperature south of Africa. This experiment is helping scientists understand the Agulhas Current's role on climate.



All NOAA ADP Drifters contribute to the global ocean observing system and their data are assimilated into weather forecasts and ocean analyses.



NOAA ADP Mission: To establish scientific partnerships between schools around the world and to engage students in activities and communication about ocean climate science.

<http://www.adp.noaa.gov/>