

"Yellow submarine" Sails Beneath the Waves

Taking a page from Benjamin Franklin's description of the Gulf Stream and a color scheme out of a classic Beatles song, a robotic ocean glider rode the currents to complete a historic voyage from the coast of New Jersey to Halifax, Nova Scotia, silently collecting gigabytes of ocean data along the way.

The glider — a two-meter "yellow submarine" — was launched on March 7, 2008 and traveled more than 2600 km before being recovered off Halifax on April 28.

Named after Joshua Slocum, a Nova Scotian who was the first person to sail solo around the world, the robot adjusted its buoyancy and center of gravity to glide up and down through the ocean depths without active propulsion.

As it was gliding, it collected three-dimensional data of the ocean environment with an unprecedented level of resolution.

The glider was steered to take advantage of the northward flow of the Gulf Stream, and then was able to catch a ring of water spinning off the Gulf Stream to position the device onto the Canadian continental shelf.

The robot was controlled by a pilot located at Rutgers University in New Brunswick, New Jersey, using satellite communication links to the robot when it surfaced at the top of each dive.

"This is an amazing accomplishment," said Scott Glenn, physical oceanography professor at Rutgers and member of the Coastal Ocean Observation Lab.

