

## EarthComm Earth's Fluid Spheres: Oceans and Your Community Activity 3

### This investigation will help you to:

- Surface Currents
- Upwelling
- To learn more about the relationship between surface currents and climate, visit the following web sites:
- To learn more seasonal upwelling along the west coast of North America, visit the following web site:

#### Surface Currents

- Using flotsam to study ocean currents - NASA  
This article contains information regarding the spill of shoes and rubber duckies in the Pacific that students investigate in Activity 3, specifically how the spill led to a greater understanding of ocean circulation patterns.
- Ocean Currents and Climate - USC  
Topics covered include the effect of wind stress on the water surface, the impact of the Coriolis effect on surface current patterns, and continent interference. Includes text and images to explain the major ocean gyres, transverse currents, western and eastern boundary, and the effect of plate tectonics on surface circulation.

[Back to Top](#)

#### Upwelling

- "Underwater Observatory Captures Coastal Upwelling Off New Jersey" - Glenn et al., 1996, *Earth in Space*, v. 9, no. 2, pp. 9-11, AGU  
Online article illustrates how scientists study upwelling by presenting findings on upwelling along the East coast of the United States (New Jersey). Includes images and a glossary for unfamiliar terms.
- Pacific Fisheries Environmental Laboratory

[Back to Top](#)

To learn more about the relationship between surface currents and climate, visit the following web sites:

- "What is Climate?" - TOPEX/Poseidon, Jet Propulsion Lab, NASA  
First window defines climate. After reading text, click on link at bottom of screen to cover topics that include the connection between the oceans and atmosphere, what ocean circulation is and why it is important, and the seasons of the oceans. Several of the windows have color images.
- Gulf Stream Temperatures - NASA's Visible Earth  
Explains this ocean current, which plays an extremely important role in regulating global climate. Includes a high-resolution satellite image.

[Back to Top](#)

To learn more seasonal upwelling along the west coast of North America, visit the following web site:

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[Back to Top](#)

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