

Jason-1 SWT October '02
Abstract
Topic: Outreach and Databases

Oceanography in the Formal and Informal Classroom

By Annie Richardson¹, Mona Jasnow¹, Margaret Srinivasan¹, Vinca Rosmorduc²,
Frederique Blanc²

¹Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA

²Centre National d'Etudes Spatiales, Toulouse, France

The TOPEX/Poseidon and Jason-1 ocean altimeter missions offer the educator in the middle school or informal education venue a unique opportunity for reinforcing ocean science studies. An educational poster from NASA's Jet Propulsion Laboratory and France's Centre National d'Etudes Spatiales provide teachers and students a tool to examine topics such as the dynamics of ocean circulation, ocean research, and the oceans' role in climate.

This educational poster is being developed as a joint JPL/CNES effort. "Oceans' Music: Climate's Dance" highlights the ocean-climate link and provides educational activities that can be used directly in the classroom. The eye-catching poster is appropriate for display in both the formal and informal education setting. In both venues it should stimulate conversation about the ocean and provide a point of entry into inquiry-based learning about the connections between ocean circulation and global climate. It also seeks to emphasize the role of the ocean in sustaining life on Earth. Activities on the back of the poster can be used as supplemental material in a middle school Earth science curriculum, and are suitable for individual instruction and for classroom or group exercises. This poster will be published in both English and French.

Educational research indicates that an inquiry-based method of student engagement is an appropriate and effective teaching tool. This poster offers a fun and instructive environment to promote student interest in Earth Science in general and particularly in oceanography.

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"Oceans' Music: Climate's Dance" is a joint JPL/CNES effort. It highlights the ocean-climate link and provides educational activities that can be used in the classroom. The eye-catching poster should stimulate conversation about the ocean and provide a point of entry into inquiry-based learning about the connections between ocean circulation and global climate.

Highlights

- Joint product published in French and English
- Ocean-climate-life connection
- Hands-on activities
- Electronic resources



Activity 1 HOW LEVEL IS SEA LEVEL? Part 1

OBJECTIVES:

- Understand the relationship between sea level and ocean circulation.
- Analyze satellite altimetry data to determine sea level changes.
- Compare sea level data from different altimeters.

ACTIVITY:

1. Examine the satellite altimetry data for the TOPEX/Poseidon and Jason-1 missions.
2. Plot the sea level data for a specific location over time.
3. Compare the sea level data from the two altimeters.

RESOURCES:

- Satellite altimetry data from TOPEX/Poseidon and Jason-1.
- Ocean circulation maps.

Activity 2 HOW LEVEL IS SEA LEVEL? Part 2

OBJECTIVES:

- Understand the relationship between sea level and ocean circulation.
- Analyze satellite altimetry data to determine sea level changes.
- Compare sea level data from different altimeters.

ACTIVITY:

1. Examine the satellite altimetry data for the TOPEX/Poseidon and Jason-1 missions.
2. Plot the sea level data for a specific location over time.
3. Compare the sea level data from the two altimeters.

RESOURCES:

- Satellite altimetry data from TOPEX/Poseidon and Jason-1.
- Ocean circulation maps.

Activity 3 SALINITY AND DEEP OCEAN CURRENTS

OBJECTIVES:

- Understand the relationship between salinity and deep ocean currents.
- Analyze satellite altimetry data to determine sea level changes.
- Compare sea level data from different altimeters.

ACTIVITY:

1. Examine the satellite altimetry data for the TOPEX/Poseidon and Jason-1 missions.
2. Plot the sea level data for a specific location over time.
3. Compare the sea level data from the two altimeters.

RESOURCES:

- Satellite altimetry data from TOPEX/Poseidon and Jason-1.
- Ocean circulation maps.