

Sea Scholars' Log

August 9, 2006



Photo 1: This is a bromeliad from the Waimea Audubon Center.



Photo 2: Here is a cup at sea level.

<u>Time</u>	<u>Latitude</u>	<u>Longitude</u>
7:30	18 ⁰ 51 N	155 ⁰ 45 W
13:30	18 ⁰ 57 N	155 ⁰ 15 W
19:30	19 ⁰ 08 N	155 ⁰ 04 W



Photo 3: The same cup after going to a depth of 2000 meters.

Aloha and ahoy from the Sea Scholars cruising the Hawaiian Islands. Today was spent on the deck and in the labs studying physical oceanography and surveying the growth of the newest Hawaiian island, Lo'ihl. If you are interested in exactly where the Pathfinder was today here are our positions:

The morning session was directed by our resident Oceanographer, A.J. Pearson. We focused on physical oceanography using an oceanographic piece of equipment known as a CTD. The acronym represents what the instrument measures: conductivity, temperature, and depth. We measured conductivity to derive the salinity or saltiness of the ocean water. The CTD measured the water column's temperature at different depths. Connected to the CTD were four Niskin™ bottles which collect water samples at specific depths. The bottles were deployed open at both ends and fired shut from the Pathfinder's Survey Control Room. Sea Scholars also decorated Styrofoam™ cups and wig stands to study the effect of water pressure on open air spaces at 2000 meters below sea level.



Photo 4: A.J. Pearson explains the software that collects data from the CTD to Sea Scholars in the Survey Control Room.



Photo 5: Saralee Lamb helps ready the CTD and secures the cups and heads.



Photos 6-8: Sea Scholars give a new meaning to the words “shrunken heads.”

The afternoon’s focus with our bathymetrist, Tom Best, was surveying the new Hawaiian sea mount, Lo’ihi. Bathymetry surveying uses active sonar to take a “picture” of the topography of the ocean floor. Our instruments sent a soundwave from the ship to the ocean floor and measured it as it was reflected back. As we passed over the sea mount in a series of five sweeps, the reflected soundwaves were used to construct a visual image (picture) of the growing hot spot. This hot spot should surface as a new island in 10,000 to 90,000 years. Lo’ihi’s image started at a depth 4000 meters and its peak currently is approximately 1000 meters below the surface. The data are being processed as we speak, so stay tuned for further developments and possible images of Lo’ihi.



Photo 9: Sea Scholars observing real time data being gathered in the Survey Control Room.



Photo 10: Mary and Greg are displaying before and after cup sizes.

The evening began with a follow-up activity for Sharon Walker's fish unit. Sea Scholars created a make-n-take of a shark's egg, also known as mermaid's purse and received a shark hat for classroom students to create.

Unfortunately, due to high seas we could not attempt the planned plankton tow activity. Fortunately, we were witness to an astounding display from Hawaii's active volcano, Mauna Loa!

Goodnight,
Mary Lee Ruchand Greg Graeber