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OceanInsight: Email Your Questions

Ask Amy

Ever wonder what it is like to live at sea on a research vessel or have a question about the oceans or about Dr. Amy Bower's science? Email your questions to Amy at abower@whoi.edu.

Answers to Your Questions

Date: June 29, 2007
Question from Perkins School students: What kind of measurements will be you making on the cruise in September?
Answer from Amy Bower: Here is a partial list

- sea surface temperature
- sea surface salinity
- wind speed and direction
- air temperature and humidity

The above variables will be collected continuously along the ship track. Other variables that could be observed at least daily, if not several times per day are:

- Wave height
- Cloud cover.
- Others?

If you think of something, ask me and maybe we can do it. One good project might be a comparison of air and sea temperature. Another might be air temperature and barometric pressure.

Date: June 29, 2007
Question from Perkins School students: Do all the oceans have the same amount of salt?
Answer from Amy Bower: If I may rephrase this question, I might ask, do all the oceans have the same salt concentration? Or are there some oceans that are saltier than others? Yes! Each ocean has a different saltiness, or salt concentration. For example, the Pacific is less salty than the Atlantic. And the Atlantic is less salty than the Mediterranean. One big factor that affects saltiness is the balance between precipitation (rainfall) and evaporation. When it rains on the ocean, that makes the water less salty. But if evaporation is strong, the ocean gets more salty. This is because when seawater evaporates, only the H2O molecules turn to water vapor; the salt molecules stay behind and make the ocean saltier.

Date: June 29, 2007
Question from Perkins School students: Why are the oceans salty?
Answer from Amy Bower: Most of the salt in the oceans has come from river run-off. When it rains over the land, the rain collects in streams and rivers that erode the rocks. Almost all of the river run-off ends up in the ocean, with its load of dissolved minerals, many of which are salts. And this process has been going on as long as there have been continents. Do you know how long that is?

Date: July 20, 2007
Question from Perkins School students: We discussed surface currents today. We understand that your floats move up and down after they are deployed. What is the range of depths for the floats?
Answer from Amy Bower: Hi All - My floats will go up and down as they drift with the currents. To go up, they inflate a balloon like device that increases their volume and makes them more buoyant. To go back down, the balloon is deflated and the float's volume decreases. Most of the time the floats will drift at about 300 meters (how many feet is that?). Every few days, they will sink down to 1000 meters and then go up to the surface to collect temperature and salinity observations over that depth range. Then they go back to "park" at 300 meters and drift with the currents for a few more days.

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