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## "Deepsea Dawn" maps the ocean floor

Oregon State University professor and geographer Dawn Wright recaps her experiences above and below the surface

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An important part of OSU professor and geographer Dawn Wright's career involves traveling to the land down under, and we're not talking Australia.

"It's very exotic, making maps of places people have never been," Wright said.

Wright's career requires a large array of disciplines -- documenting the Earth's submerged land is a large part of her research.

"When people ask me what I do I just say, 'I make maps of the ocean floor," Wright said.

Wright's interest in the ocean blossomed while growing up in Hawaii.

"I knew I wanted to work in the outdoors and with the ocean, so I started reading books about the ocean," Wright said.



Wright: Teaching GEO 103 this spring [Click to enlarge]

While in high school, Wright discovered that she would need to get a general degree in one of the sciences, then attend a graduate school in a specific area of science.

"I chose to go to a college in Illinois that my mom attended, and then went on to U.C. Santa Barbara for my last degree," Wright said.

After finishing school, Wright spent three years working on a ship comprised of 100 specialists in the field of oceanography, only ten being women.

"We would poke holes in the ocean floor and take sediments to study," Wright said.

The distribution of cracks in the ocean's volcanic rock is especially interesting to Wright.

These cracks are formed when hot water containing metallic minerals of over 100 degrees Fahrenheit is released from a volcano. The hot water hits the freezing water, and the rock bursts and forms cracks, Wright said.

After college, Wright was also given the opportunity to dive in the Alvin research submarine.

"I was very excited because there is at least a two-year waiting list to go aboard the Alvin," Wright said.

The submersible "Alvin" was made popular in the 1960s when it was used to locate a hydrogen bomb in the Atlantic Ocean. In the 1970s the Alvin aided in the discovery of oceanic hot springs.

The 21-foot long submersible transports one pilot and two scientists 1 1/2 to 2 miles deep to reach the ocean floor.

In order to save energy, weights are used to pull the submersible to the floor, a process that takes approximately two hours.

"Once on the ocean floor, the other scientist and I will talk into microphones describing what we see," Wright said. "These tapes are taken back to the lab to be transcribed and are used as data."

When the submersible's energy begins to wane, the pilot will drop the extra weights, also known as "Alvin turds," and the crew begins a two-hour ascension to the surface.

"Most people ask me how I go to the bathroom in such a tiny space during the eight hours inside of Alvin ... the answer is that I don't," Wright said.

Before being eligible to dive aboard Alvin, potential crew members are asked a series of questions, one important one pertaining to the possibility of claustrophobia.

"You can't even think about fear when diving," Wright said. "If you are claustrophobic or fearful at all, you could flip the wrong switch and cause serious problems."

Oceanography is an evolving field because of the abundance of area yet to be discovered.

"The topography we have acquired of Mars is better than what we have of the ocean floor," Wright said.

With 70 percent of the Earth's surface covered in water, there is much to be seen.

"There are mountain ranges that rival the sizes of mountains on land," Wright said.

One not-so-scientific experiment Wright and the Alvin crew enjoy involves styrofoam cups.

"We would let kids decorate normal styrofoam cups which would be put into a plastic sack and attached to the outside of Alvin," Wright said, "The pressure at that depth is close to two tons per square inch, so the cups shrink

to less than an inch.

To learn more about geology and its relationship to the ocean, a four-credit class will be offered spring term. GEO103 is titled Exploring the Deep: Geography of the World's Oceans, and taught by Wright.

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