

2007 SUMMARY OF CONFERENCE PROCEEDINGS

“Oregon’s Ocean: Resources and Opportunities ”

Lecture: “Monitoring Oregon's Coastal Ocean with the Autonomous Underwater Glider ”

Dr. R. Kipp Shearman, Assistant Professor, College of Oceanic and Atmospheric Sciences, OSU

Oceanographic scientists are using new, high-tech gliders to monitor Oregon’s ocean with results that are both faster and cheaper than by manned vessels. The autonomous underwater vehicle is a robot. It flies through the sea by changing its buoyancy—taking on water to become heavy and sink, then expelling the water to become light and rising. Small wings turn vertical motion into forward motion, so that the glider moves without propulsion.

Shearman not only brought visuals of the 7’ long glider at work, but had one on display. He said they use GPS for positioning, and Iridium satellite phone for communication. Not least important is the fact that gliders—there are two currently in use—can collect data at a fraction of the cost of a research vessel.

According to Shearman, the tracking information gives them data on the structure of the upwelling of the ocean, as well as the hypoxia on the Oregon shelf. Understanding the circulation of currents and the patterns of upwelling which bring deep water that is cold, nutrient rich and oxygen poor, aids scientific analysis of the ecosystem. Further research will provide a better understanding of an ocean constantly in motion.