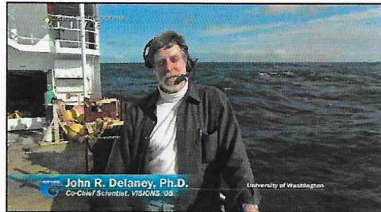
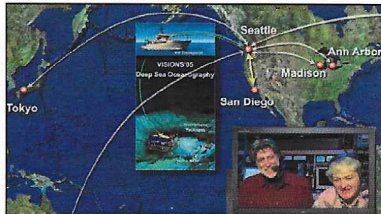


VISIONS '05

Live HD Video from Seafloor to Land Takes Science to New Level



In an unprecedented event, live high-definition images of active thermal vents on the ocean floor were available as an IP-based feed and were broadcast around the globe to the ResearchChannel audience. This feed gave scientists immediate access to findings from the VISIONS '05 research expedition and marks the beginning of a shift in scientific research.



The HD images came directly from the ocean floor by way of the research vessel Thomas G. Thompson. The ship was on site at a research expedition of the Juan de Fuca Ridge in the Northeast Pacific Ocean, 200 miles off the Washington-British Columbia coast. This video broadcast epitomizes the next generation of research, in which data and images collected by scientific instruments are immediately available across Internet networks. Direct observation of earthquakes, marine mammals, erupting volcanoes, landslides, blooms of microscopic life-forms and a host of equally fascinating processes, creatures and phenomena can be brought into laboratories, classrooms and living rooms by way of the Internet. These images were available over the Internet in HD multicast to selected research groups and sites in six countries capable of handling the high-bandwidth Internet data.



"This 20Mbps MPEG2 HD video stream is definitely the most-capable imaging medium in existence for viewing and sharing the unparalleled deep seascapes festooned with luxuriant and exotic life-forms that thrive on volcanic activity while living in the shadow of death from scorching 700°F vent fluids billowing out of the seafloor centimeters away," stated University of Washington professor of Oceanography John Delaney and co-leader of the expedition with UW professor Deborah Kelley.



The expedition used three HD cameras located on the seafloor, on the ship and on land in a classroom setting. Internet multicast viewers felt as if they were present on the VISIONS '05 research expedition, experiencing underwater images and scientists in real time.



This IP-based feed is an important step in transforming the way research is conducted. As Delaney said, "It is the result of an exciting collaboration with resources from ResearchChannel, the National Science Foundation and the W.M. Keck Foundation. We could not have done this type of program with HD via satellite even two years ago." He continued, "This program is emblematic of the rapid and nonlinear changes in both scientific insights and technology-based capabilities that are literally transforming our perceptions and interactions with ocean space."



Highlights from the broadcasts can be seen at

www.researchchannel.org/visions05