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# *Oceanography*

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# Roots

It is with especially great pleasure, and a bit of nostalgia, that I introduce the March 2012 special issue of *Oceanography* on “Oceanic Spreading Center Processes: Ridge 2000 Program Research.” My very first oceanographic cruise was to the Juan de Fuca Ridge in 1983 aboard the National Oceanic and Atmospheric Administration (NOAA) ship *Discoverer*. On that cruise, scientists from NOAA and the Lamont-Doherty Geological Observatory were collecting deep-sea photographs and seafloor basalt samples to ground truth the Sea MARC I side-scan sonar images collected the previous year from the NOAA ship *Surveyor*. The camera sled was “homemade” at Lamont by Bill Ryan and his group of students and technicians. It was far from sleek (see photo), but it did the job well as long as we didn’t hang it up on a cliff—which happened on occasion.

As in the earlier cases of the Galápagos Spreading Center and the East Pacific Rise, return expeditions to the Juan de Fuca Ridge soon required additional scientific expertise beyond geology and geophysics to begin to make sense of the samples and data being collected. These interdisciplinary scientific parties often comprised an eclectic collection of people, ranging from a Smithsonian Institution worm expert to a gaggle of economic geologists from the Geological Survey of Canada who had never expected to go to sea. Over the years, the breadth of expertise on mid-ocean ridge cruises has expanded even further, as more ridge segments have yielded to scrutiny. These productive interdisciplinary collaborations, some described in this special issue, illuminate the intriguing linkages among tectonics, magma, rocks, seawater, and life in the ocean.

Continual improvements in imaging, sampling, and analysis technologies at sea and on shore certainly also played a significant role in the scientific advances described in this Ridge 2000 special issue. So did massive increases in computational power and data storage—note that 1983 was one year before the first Apple Macintosh was introduced. Some of these latest technologies, and the discoveries they facilitated in the ocean’s depths, are also on display in the supplement to the March issue, a separate booklet that highlights the 2011 field seasons of the Exploration Vessel *Nautilus* and the NOAA ship *Okeanos Explorer*. These two ships take the notion of interdisciplinary scientific parties one step further by streaming video and data to shore to enable many more scientists to take part in their expeditions.



Lamont camera sled being deployed in 1983 along the Juan de Fuca Ridge.



Photos of Cleft segment seafloor, Juan de Fuca Ridge, captured by the Lamont camera sled in June 1983.

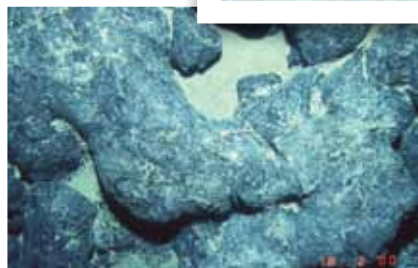


Photo taken by the Lamont camera system while it was hung up on a cliff at Cleft segment.



Twenty-nine years have passed since that 1983 *Discoverer* cruise. Twenty-nine years from now we’ll be reading about, and viewing from whatever the iPhone and iPad will be then, the new discoveries of 2041 enabled by even niftier technologies that we can’t yet imagine. It’s more than a little exciting to ponder what those discoveries—and technologies—will be.

*Ellen S. Kappel*  
ELLEN S. KAPPEL, EDITOR