



OCEAN NETWORKS CANADA MEDIA FACTSHEET

Oct. 26, 2018

International sensors at Endeavour hot vents

This Ocean Networks Canada factsheet is to provide correct information related to recent media reports. Ocean Networks Canada is an initiative of the University of Victoria.

- Ocean Networks Canada recently installed very short-range (5m) oceanographic sensors to measure chemical properties of water and rocks in the deep ocean (more than 2,000m) at the Endeavour hydrothermal vents as part of this past summer's annual maintenance expedition.
- The equipment was built by researchers at China's Institute of Deep-Sea Science and Engineering (IDSSE).
- The hardware takes measurements within a range of less than five metres. Currently, only two of the four sensors are operating.
- The installation is part of the scientific expansion of instrumentation at the Endeavour hydrothermal vents.
- This particular science project is led by a University of Victoria researcher, in collaboration with U.S. and IDSSE scientists to investigate basic questions about the dynamics of hydrothermal vent systems in the deep ocean.
- The data streams from all instruments and is captured by Ocean Networks Canada's Oceans 2.0 data management system/archive.
- Ocean Networks Canada has an open-data policy – the scientific and environmental data collected are available to researchers around the world.
- Ocean Networks Canada partners include many Canadian federal government agencies and departments where communication is open and ongoing.
- All instruments on Ocean Networks Canada's observatories are checked and inspected before installation to ensure alignment with procedures and practices.
- IDSSE was not present at-sea during the installation of the equipment, and IDSSE has no access to the hardware on the seafloor.

Ocean Networks Canada's open-data policy:

- [Data usage policy](#)
- [Additional data policy information/ethical obligation](#)

Endeavour background:

- The Endeavour hydrothermal vents, Canada's first marine protected area established in 2003, are located approximately 300 kilometres offshore southwest of Vancouver Island at a depth of more than two kilometres below sea level on the northern segment of the Juan de Fuca mid-ocean ridge.
- Endeavour has attracted international research attention since the vents were discovered in the early 1980s and have produced many firsts, from the hottest black smokers and the tallest chimneys to the most heat-tolerant animals and microbes – not to mention being the location of the world's first hydrothermal vents marine protected area.
- Endeavour has also become the world's most international deep-sea cabled observatory site, with contributions from research labs in Canada, the United States, United Kingdom, France and now China – all connected to Ocean Networks Canada's deep-sea observatory, providing real-time data to researchers around the world.
- With Endeavour's new capabilities, scientists and researchers will soon have the data to better understand the link among geological, chemical, biological and oceanographic processes operating at mid-ocean ridges.
- New instruments include seismometers, recording sub-surface tectonic activity; sensors directly installed in hydrothermal vents, recording changes in temperature and (bio)chemistry; cameras watching the associated biology; and moorings recording water column changes related to vent fluids that rise hundreds of metres above the seafloor.

More information:

- [Endeavour expansion during Leg 1 of Expedition 2018: Wiring the Abyss](#)
- [Endeavour observatory node](#)
- [Introduction to Endeavour](#)
- [Endeavour's complex environment](#)

Maps:

- [Southern British Columbia infrastructure](#)
- [Endeavour observatory node](#)

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