



Sensor technology for observatories at chemosynthetic environments – Reality versus hope!

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The North American and European science communities have proposed the development of deep-sea observatories at active chemosynthetic environments; on the Juan De Fuca Ridge in the N. Pacific and the Lucky Strike vent field in the N. Atlantic. These observatories will be permanent cabled systems hosting a number of sensors to measure real-time variability in the chemical, physical and biological environments at these sites. These observatories are rapidly becoming reality with the first stage of the Pacific system in place and the Atlantic system currently going through the funding review process. But do we have the sensor technology to deploy on the observatories in order to address the many questions we have?

This talk will consider the present capability of our sensors and consider those sensors that are in development in a number of laboratories around the world. The talk will encompass a consideration of the challenges common to the development of sensors for these extreme environments and identify some of the areas where sensors are lacking. This talk is largely the result of a discussion at the InterRidge Theoretical Institute on Biogeochemical interactions at deep-sea vents.