

Responsible Research of Deep-Sea Hydrothermal Vents Promoted by the InterRidge Program

*Margaret K. Tivey, Jian Lin, Chris German & Rhian Waller
(Woods Hole Oceanographic Institution, USA)*

The non-profit InterRidge organization (www.interridge.org) was created in 1992 to promote interdisciplinary, international studies of oceanic spreading centers through the scientific exchange and sharing of new technologies and facilities among international partners. InterRidge is dedicated to sharing knowledge amongst the public, scientists and governments and to providing a unified voice for ocean ridge researchers worldwide. Within InterRidge there are several working groups, made up of international scientists brought together to investigate and answer ridge-crest problems within the world's oceans.

Hydrothermal vents are present in all of the world's oceans in areas associated with tectonic and/or volcanic activity. The most abundant and widely distributed of these are hydrothermal vents associated with deep-sea spreading centers, areas where the plates that make up the surface of the Earth are moving apart and new sea-floor is being formed. Understanding this process of plate tectonics is central to understanding the dynamics of our planet. Furthermore, this process results in extreme environments that are home to high densities of specialized microbes and animals, the study of which may lead to exciting new discoveries applicable to societal needs. However, with the increased scientific and potential commercial interests surrounding these hydrothermal vents comes the potential for large anthropogenic impacts.

In 2006 the Biology Working group of InterRidge published a "Statement of commitment to responsible research practices at deep-sea hydrothermal vents". This voluntary "code of conduct" statement encompassed the concerns of research scientists over the potentially harmful impacts of scientific collecting by multiple parties at the same vent sites. As an organization of marine research scientists we appreciate the uniqueness and complexity of the deep-sea hydrothermal vent fauna and environments, and are particularly interested in preserving vents for their scientific, aesthetic, ecological, and potential economic values. Six guidelines were approved by the representatives of the InterRidge member nations (28 countries in total):

- 1) Avoid, in the conduct of scientific research, activities that will have deleterious impacts on the sustainability of populations of hydrothermal vent organisms.
- 2) Avoid, in the conduct of scientific research, activities that lead to long lasting and significant alteration and/or visual degradation of vent sites.
- 3) Avoid collections that are not essential to the conduct of scientific research.
- 4) Avoid, in the conduct of scientific research, transplanting biota or geological material between sites.
- 5) Familiarize yourself with the status of current and planned research in an area and avoid activities that will compromise experiments or observations of other researchers. Assure that your own research activities and plans are known to the rest of the international research community through InterRidge and other public domain data bases.

6) Facilitate the fullest possible use of all biological, chemical and geological samples collected through collaborations and cooperation amongst the global community of scientists.

This talk will explain the voluntary Statement of Responsible Research as adopted by the InterRidge program and discuss issues concerning responsible research of deep-sea hydrothermal vents and their ecosystems.