“The metal potential of a slow-spreading ridge segment”

A two day workshop was held on April 19-20th at the Steigenberger Hotel in Kiel, Germany. The workshop, hosted by GEOMAR, brought together scientists with backgrounds in geology, geophysics, modeling and engineering, but who all had an interest in hydrothermal mineralization processes at slow-spreading ridges. Thirty-three participants from 8 countries attended the workshop. The goal of the workshop was to develop a framework for an integrated study of the metal content of a slow-spreading ridge segment with a multi-disciplinary approach that combines geological and geophysical studies and uses the latest technological advances in marine surveying.

The proposed study relies on the use of multiple surveying platforms and techniques, including rock sample and fluid collection, visual reconnaissance, ship and AUV-based high-resolution mapping, and geophysical surveys along and across the spreading axis. The goal is to produce various high-resolution geological and geophysical surveys of an entire ridge segment in order to calculate the full metal budget of a ridge segment and its variability with time. The integration of these various sources of information will be used to constrain the proportion of metals transported to the seafloor by hydrothermal fluids along the length of a ridge that are either deposited as massive sulfides, or dispersed over a wider area by the hydrothermal plume, or dissolved back into seawater. The area chosen for this study is the TAG segment on the Mid-Atlantic Ridge that hosts known active and inactive hydrothermal systems.