Welcome SMILE!

Mapping Hydrothermal Venting Ecosystems

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We have much better maps of other planets than of the ocean floor:

Only 5% of the seafloor is mapped in detail.

80% of the earth’s volcanic activity occurs in the ocean.
Where we work-

Hydrothermal Vents occur on seafloor spreading ridges
Bathymetric Mapping - first you need a map to know where to go explore!
Today’s tools:

Gas sampling

Fluid samplers
Vehicles find vents, take samples, put out markers, make observations.

Eruption at Axial!

Mapping out the lava flows (which devour instruments, markers and vents).
GIS used throughout the phases of exploration:

DATA INTEGRATION without layers of paper maps!

GIS analyst humor: “We don’t need navigation, I just want to go to the vent.”
Resources for Educators:

ConnectED & GeoMentors (geomentors.net):
Network of GIS professionals to mentor your class – FREE!

ESRI (GIS ArcMap software/resources): (www.esri.com/en-us/industries/education/overview)
Kids can makeFREE!
Deep Sea Biology
Smokers
First real-time observed eruption: April, 2006
First sample of molten Submarine lava!

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