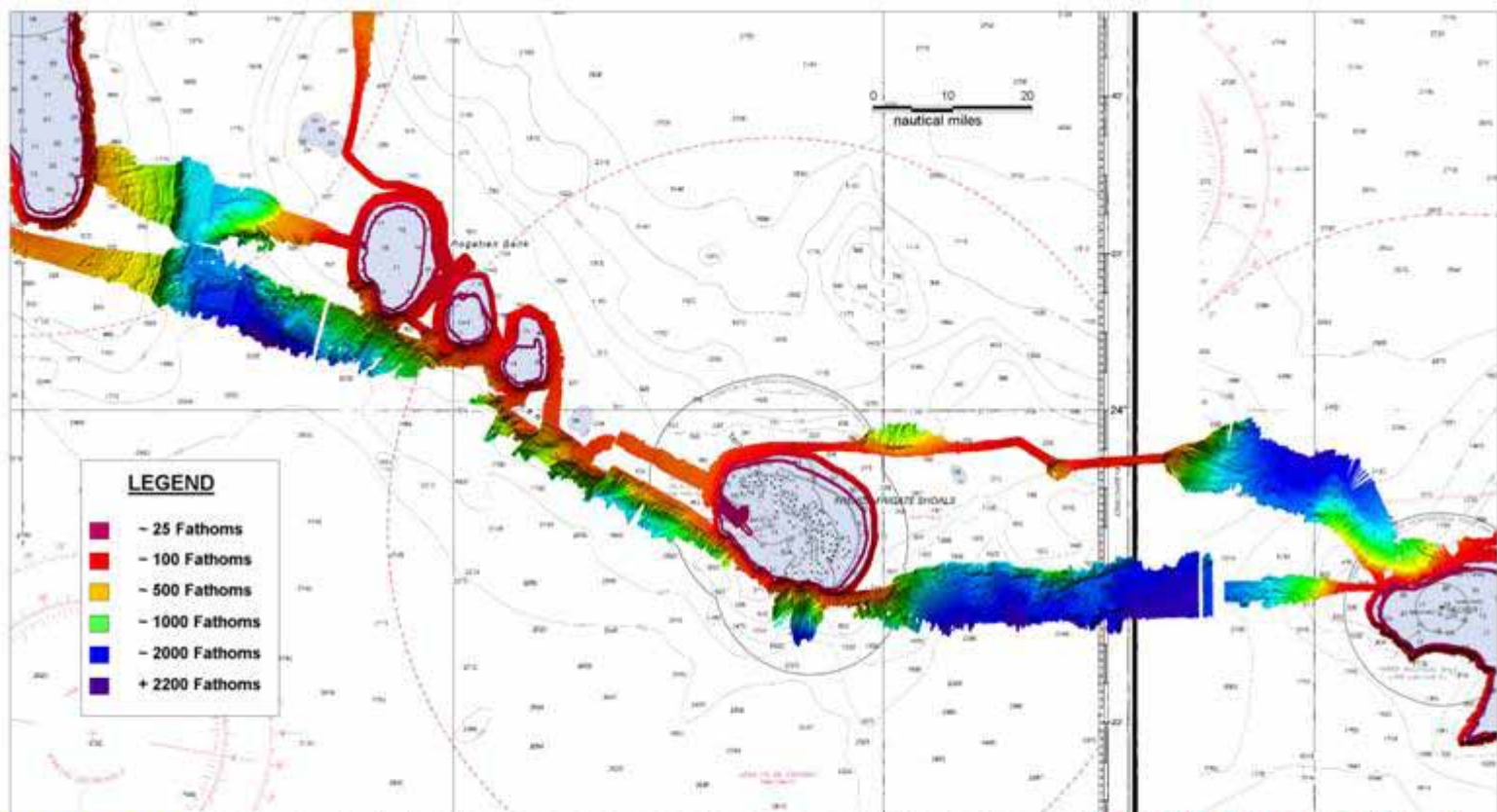




EXPLORE

The Mission

- Mapping the physical and dynamic aspects of ocean regions
- Understanding ocean dynamics at new scales
- Developing new sensors and tools
- Reaching out in new ways to ocean partners



Chartlet 3 of 4

Digital terrain models (DTM) of Gardner Pinnacle to Necker Island displayed on charts 19022, 19016 and 19019. Multibeam data acquired using Simrad EM1002 and EM120 aboard the R/V Kilo Moana, University of Hawaii. Some projection distortion may be displayed. Chief scientist for the cruise was Dr. John R. Smith of the Hawai'i Undersea Research Laboratory.

This chartlet has been corrected through Notice to Mariners dated September 2002
NOT FOR NAVIGATION.



NOAA's NORTHWESTERN HAWAIIAN ISLANDS
 CORAL REEF ECOLOGICAL RESERVE
 NOAA's CORAL REEF CONSERVATION PROGRAM
 NOAA's NATIONAL MARINE SANCTUARIES
 PROGRAM
 NOAA's OFFICE OF OCEAN EXPLORATION

Project: *NWHI Multibeam Survey*
 State: *Hawaii*
 Locality: *Northwestern Hawaiian Islands*
 Sub-locality: *Gardner Pinnacle to Necker Island*
 Survey Scale: *1:1,400,000*

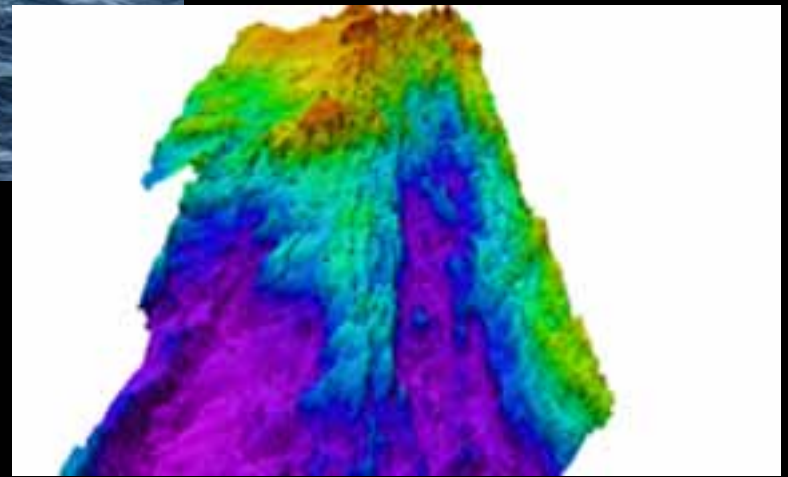
Sounding Units: *Fathoms*
 Sounding Datum: *MLLW*
 Horizontal Datum: *NAD 83*
 Projection: *UTM 3*
 Central Meridian: *165° 00 00*
 Scale Factor: *0.9996*

**Multibeam Coverage for
 Northwestern Hawaiian Islands**

Chartlet created by:
 NOAA's Office of Ocean Exploration
 NOAA's Office of Coast Survey
 December 2002



EXPLORE



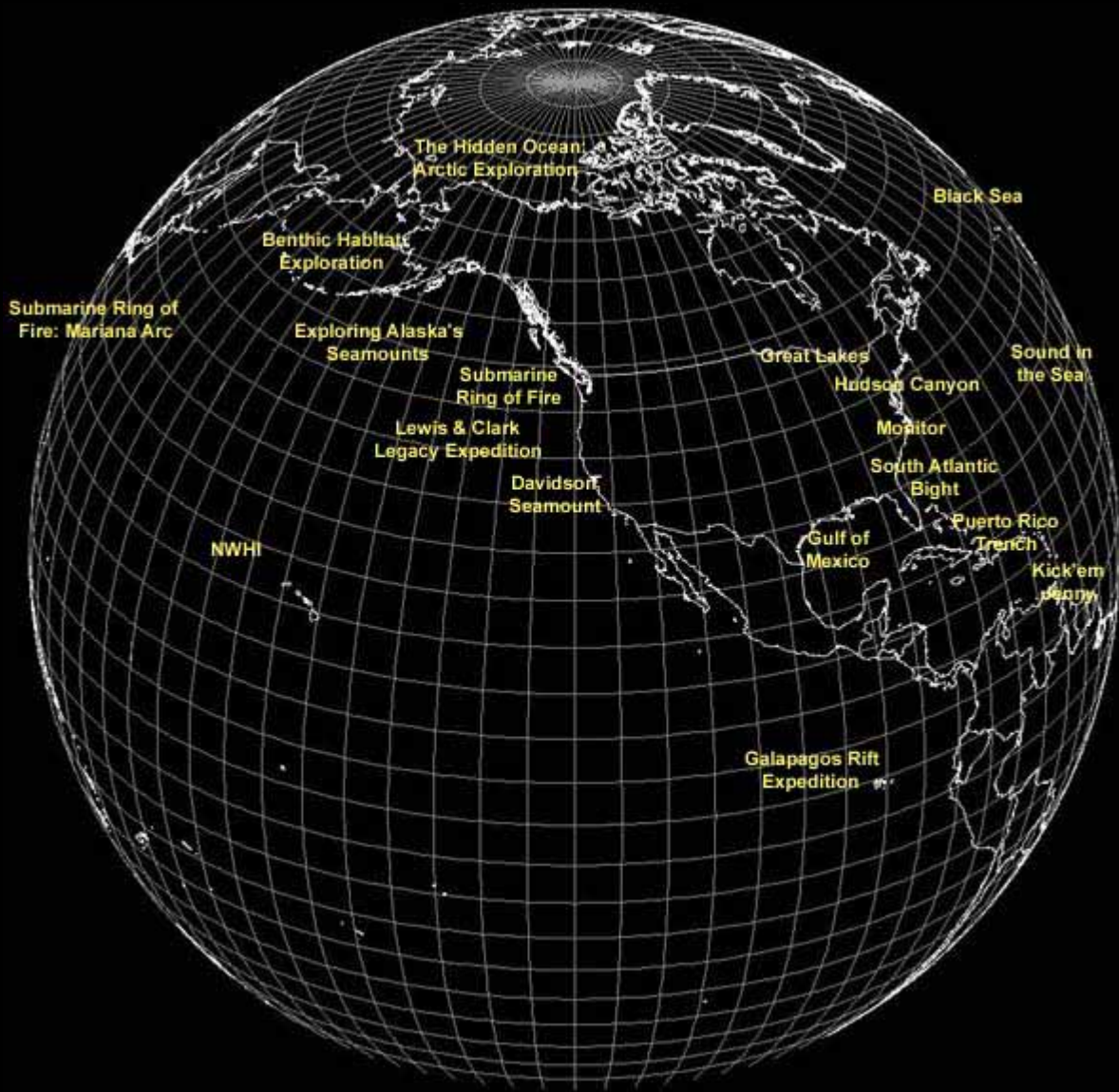
EXPLORE

Education and Outreach – Dedicated Investment = Real Results

- Resources for Educators
 - Over 70 new lesson plans in 2002
 - Professional development
 - National Education Workshop
- Port events: Charleston, Kodiak, New York
- www.oceanexplorer.noaa.gov



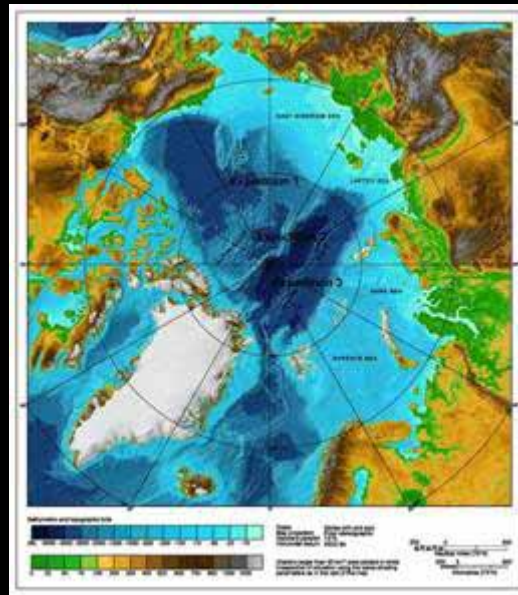
EXPLORE



EXPLORE

The Hidden Ocean

- First biological census of life in the Canada Basin
- Discovery of new species of Jellyfish
- New baseline to determine effects of climate change

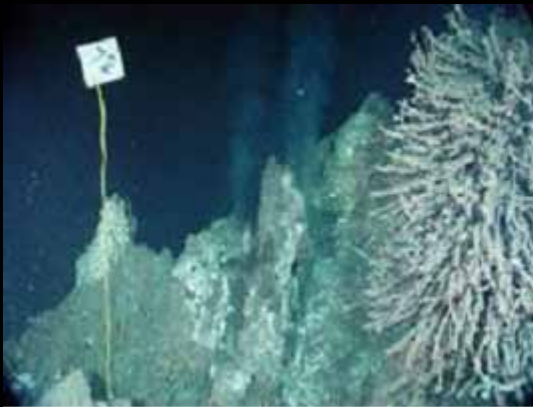




EXPLORE

Submarine Ring of Fire Expedition

- Discovered over 30 new hydrothermal vents
- Used new technology to image in HD
- Mapped over 11,000 nm² in 2002 and 2003





Mariana Arc Explorations

February 9 to March 5, 2003

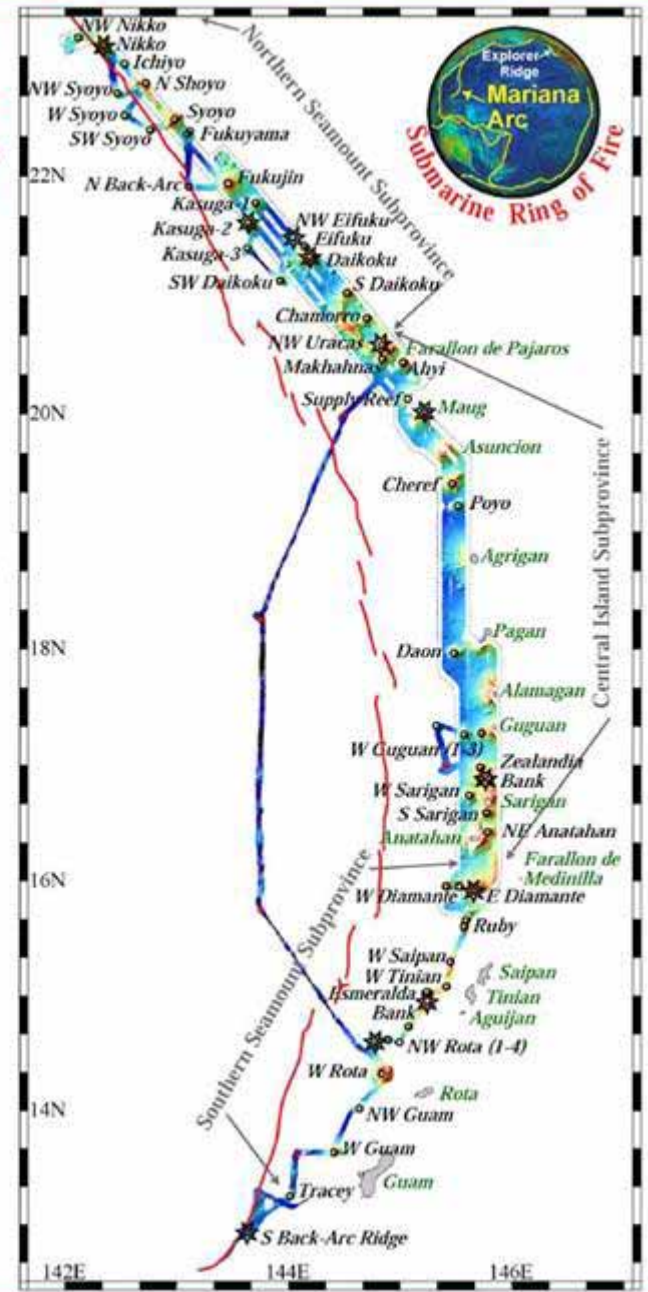
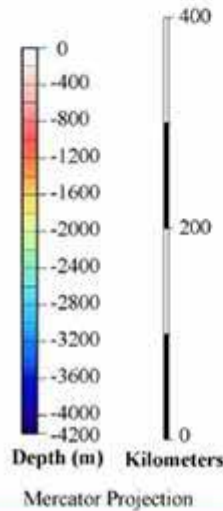
R/V Thomas G. Thompson

- Submarine Volcanoes Mapped
- ★ Hydrothermal Indicators Found
- Hydrophones Deployed
- EM300 Multibeam Bathymetry Coverage
- MRI Sidescan Coverage
- Back-arc Spreading Center

Seamount province names in gray

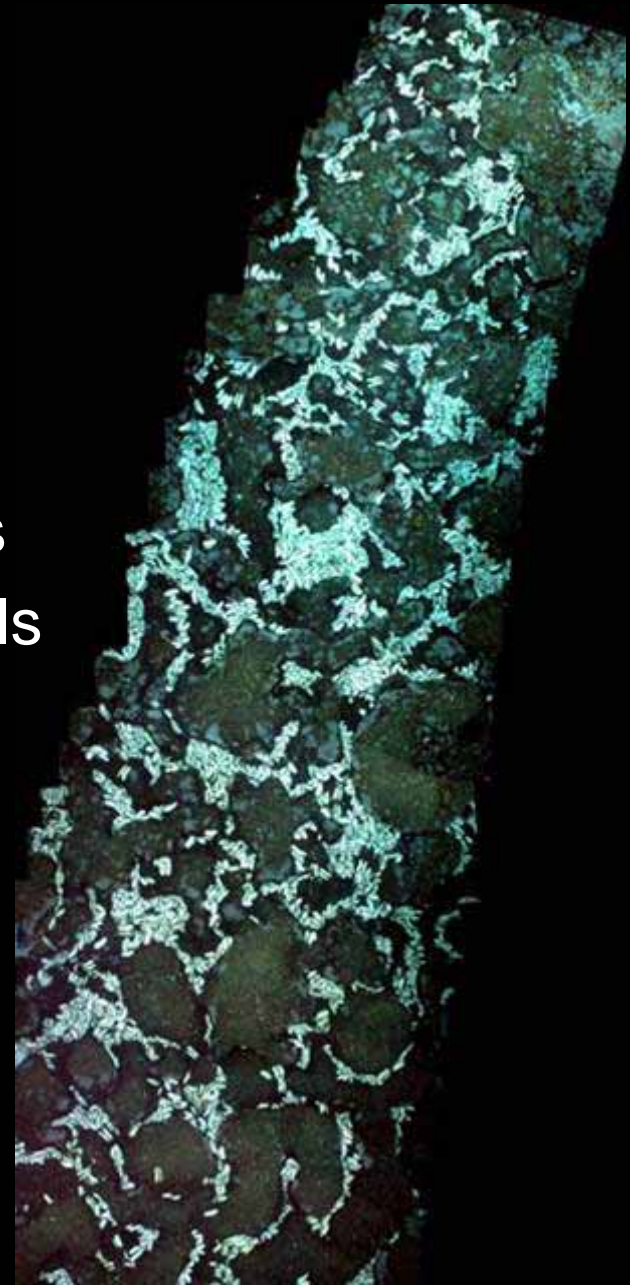
Volcano names in black

Island names in green



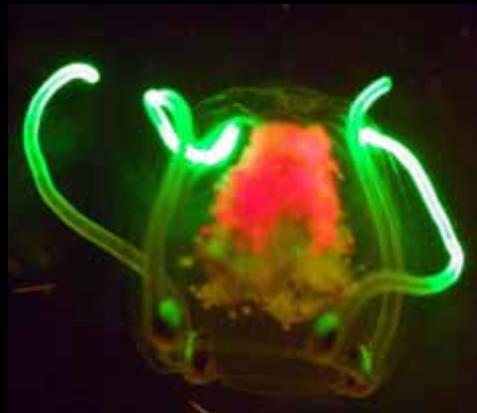
Exploring the Galapagos Rift

- Hydrothermal vent field succession
- The discovery of new sponge species
- Mapped 1031 nm² using high res. tools



Exploration in The South Atlantic Bight

- Collected unidentified sponge with bio-pharmaceutical potential
- Discovered and mapped deep reef fish spawning habitat
- Documented of the presence of lionfish in the SAB





EXPLORE



EXPLORE

2002

2002 At a Glance

2002 Appropriation:	\$14.0 M
Leveraged Funds:	\$13.5 M
Partners (\$):	78
Days at Sea:	427
Bottomtime:	965 hours (>40 days)
NM ² mapped:	30,000
Archaeology targets:	18
New Species	
(as of May 2003):	5

International Exploration Needs

- Forum
 - Basic Exploration
 - ICES 100th anniversary
- U.S. “Exploration v. Research”
 - Funding
 - Interdisciplinary
- Share technology
 - Ships
 - ROVs
 - Tomorrow’s tools
- Globally important habitats
 - Deep corals
 - Hydrothermal vents

The Alaska Native and Minority Student Internship Program, Brown University, Canadian Coast Guard, Canadian Institute for Marine Science, Canadian Scientific Submersible Facility, Carleton University, Chinese Arctic and Antarctic Administration, City of Newport News, Coastal Carolina University, Dalhousie University, Deep Sea Systems International, Inc., Department of Environment Puerto Rico, Department of Fisheries and Oceans Canada, DePaul University, East Carolina University, First Light Films, Florida Keys National Marine Sanctuary, Georgia Institute of Technology, Girl Scouts of the United States of America, Global Industries Inc., Manson Gulf Inc., Harbor Branch Oceanographic Institution, Hatfield Marine Science Center, Hawaii Undersea Research Laboratory, Institute for Exploration, Jacques Cousteau National Estuarine Research Reserve, Japan Marine Science and Technology, Kennedy Space Center, Laboratoire de Geosciences Marines, Louisiana State University, Louisiana State University, Marine Conservation Biology Institute, Mariner's Museum, Massachusetts Institute of Technology, McGill University, Mill Street Elementary School, Miller Place School, Mobile Diving and Salvage Unit Two, Monitor National Marine Sanctuary, Monterey Bay Aquarium Research Institute, Monterey Bay Aquarium, Monterey Bay National Marine Sanctuary, Monterey Peninsula College, Moss Landing Marine Laboratories, National Aeronautics and Space Administration, National Geographic Society, National Science Foundation, National Undersea Research Center at the University of North Carolina at Wilmington, National Undersea Research Program, Naval Sea Systems Command, NOAA Fisheries, NOAA Ocean Service, NOAA Office of Oceanic and Atmospheric Research, NOAA Pacific Marine Environmental Laboratory, North Carolina Division of Marine Fisheries, North Carolina National Estuarine Research Reserve, North Carolina State Museum of Natural Sciences, Northrop Grumman Newport News, Norwegian University of Science and Technology, Ocean Properties, Oregon Sea Grant, Oregon State University, Pennsylvania State University, Phoenix International Inc., Portland State University, Rutgers University, Sci-Tek Communications, Smithsonian Institution, South Carolina Department of Natural Resources, Stanford University, Stennis-Scott Aquarium, Texas A & M University, The Aquarius, The Institute for Genomic Research, The Institute for Genomic Research, The Monterey Bay Aquarium Research Institute, The North Pacific Fisheries Observer Training Center, Thunder Bay National Marine Sanctuary, U.S. Coast Guard, U.S. Naval Academy, U.S. Navy, U.S. Geological Survey, University of Alaska at Anchorage, University of Alaska at Fairbanks, University of California at Berkeley, University of California at Santa Cruz, University of Connecticut at Avery Point, University of Florida, University of Georgia, University of Hawaii, University of Lisbon, University of Maine, University of Maryland, University of Minnesota, University of Missouri, University of North Carolina at Wilmington, University of Oregon, University of Quebec a Montreal, University of the Algarve, University of the Azores, University of Toronto, University of Victoria, University of Virginia, University of Washington, University of Wisconsin at Green Bay, Washington State University, Western Washington University, and the Woods Hole Oceanographic Institution.