

POTENTIAL OUTREACH TOOLS for UNOLS/DESSC and NDSF

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Inner Space Center, University of Rhode Island Graduate School of Oceanography



THE
UNIVERSITY
OF RHODE ISLAND
GRADUATE SCHOOL
OF OCEANOGRAPHY



SHIPS AND ROVS FOR OCEAN EXPLORATION



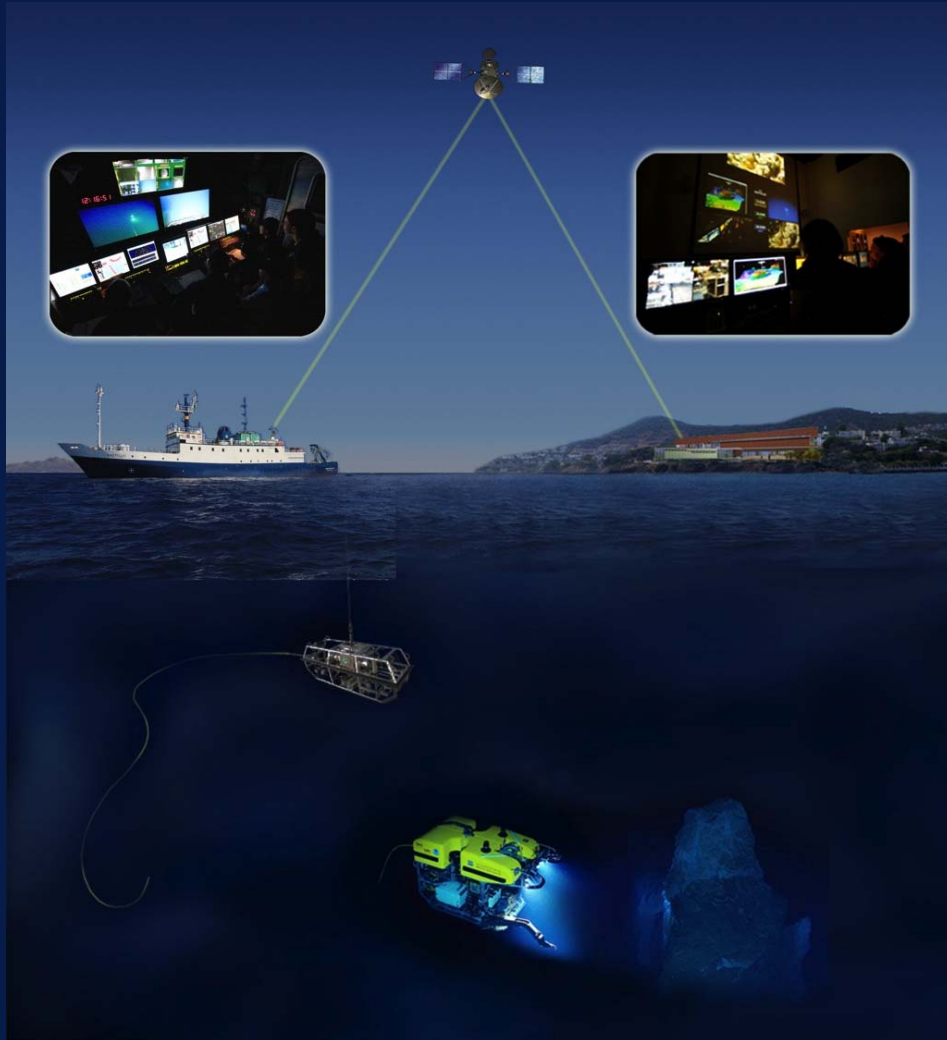
E/V Nautilus



NOAA Ship Okeanos Explorer



TELEPRESENCE AND THE URI INNER SPACE CENTER



Ship-to-Shore Telepresence



ISC Mission Control



Exploration Command Centers




E/V NAUTILUS
Satellite Feed



OKEANOS EXPLORER
Satellite Feed

INCOMING



INNER SPACE CENTER HUB

OUTGOING

**EXPLORATION
COMMAND CONSOLES**




Internet2



INTERNET / WWW / PORTAL

**OUTREACH CONSOLES
and KIOSKS**

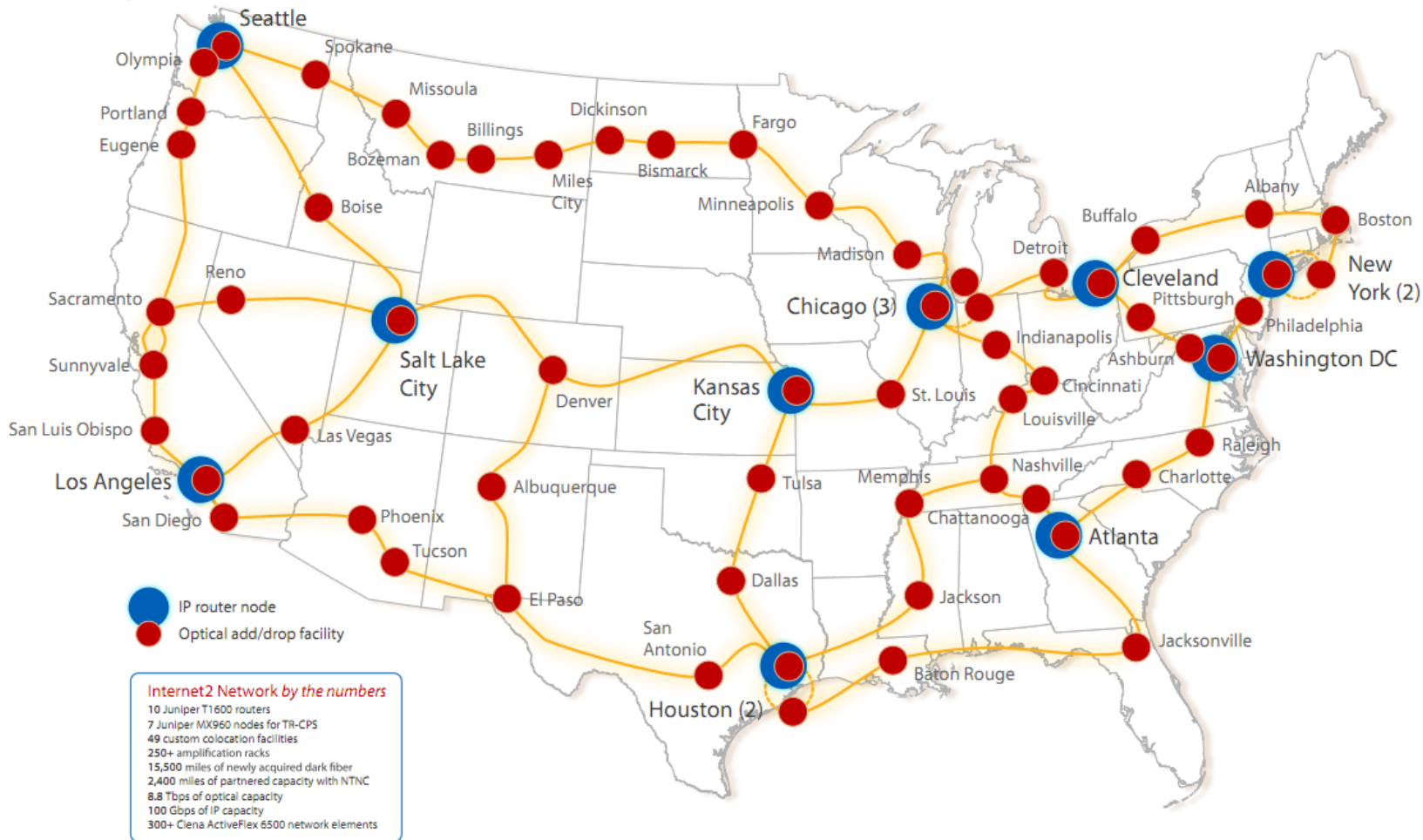


Internet2



Internet2 Planned 100 Gigabit Infrastructure Topology

Draft - Last updated 27 Mar 2012



IN SUPPORT OF

U.S.UCAN

NETWORK PARTNERS

ciena



INDIANA UNIVERSITY

infinera

JUNIPER NETWORKS



NOAA HQ Silver Spring



University of Delaware



University of Haifa, Israel



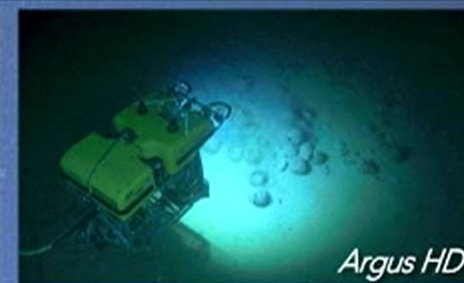
NOAA PMEL, Seattle

EV Nautilus - 2011 Expedition

NA013- August 22 2011 - Knidos O



Hercules HD



Argus HD



Control Van



Hercules Captures

EV system Argus and Hercules.



**MYSTIC
AQUARIUM**

**THE
UNIVERSITY
OF RHODE ISLAND**





ISC Studio

EXPLORING INNER SPACE: LINKING AQUARIUMS WITH OCEAN SCIENTISTS

- 4 year grant from NOAA Office of Education to support Ocean Literacy at AZA Aquariums



- Partnership between:, University of Rhode Island Graduate School of Oceanography (Inner Space Center and COSEE), and the NOAA Office of Ocean Exploration and Research, Mystic Aquarium, and South Carolina Aquarium



- Pilot project to develop and evaluate prototype interactive kiosks and “exploration command stations” for connecting aquarium visitors with ocean scientists and ocean exploration content

The Unknown Ocean Kiosk



Exploring Inner Space *Wierd Creatures*

Inner Space
center



Sled View

Map/Control
Center

Creature
Legend





Mystic Aquarium – Unknown Ocean Kiosk

Exploration Command Station



MYSTIC AQUARIUM – NAUTILUS LIVE THEATER (ECS)



The Unknown Ocean

Geology



Vents

Narrator
Dr. Steve
Hammond

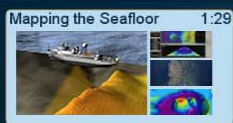
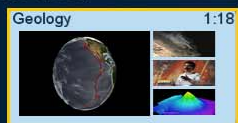
Seafloor



1:18



Select A Video:



The Unknown Ocean

Mapping the Seafloor

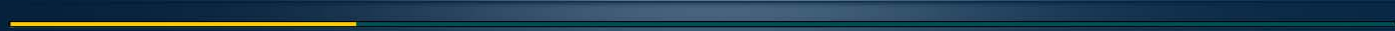


Multibeam Sonar

Seafloor

Bathymetry

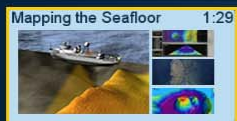
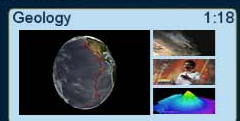
Mapping



1:29



Select A Video:



The Unknown Ocean

Telepresence



Telepresence allows people around the world



ROV view



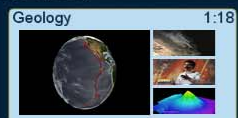
E/V Nautilus Data



Viewing Data

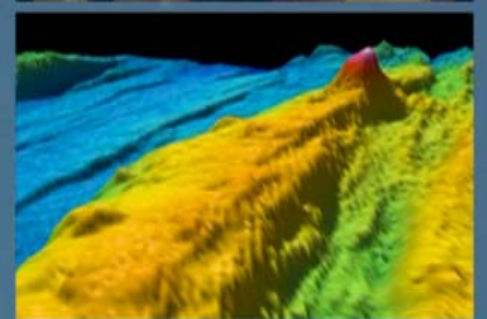
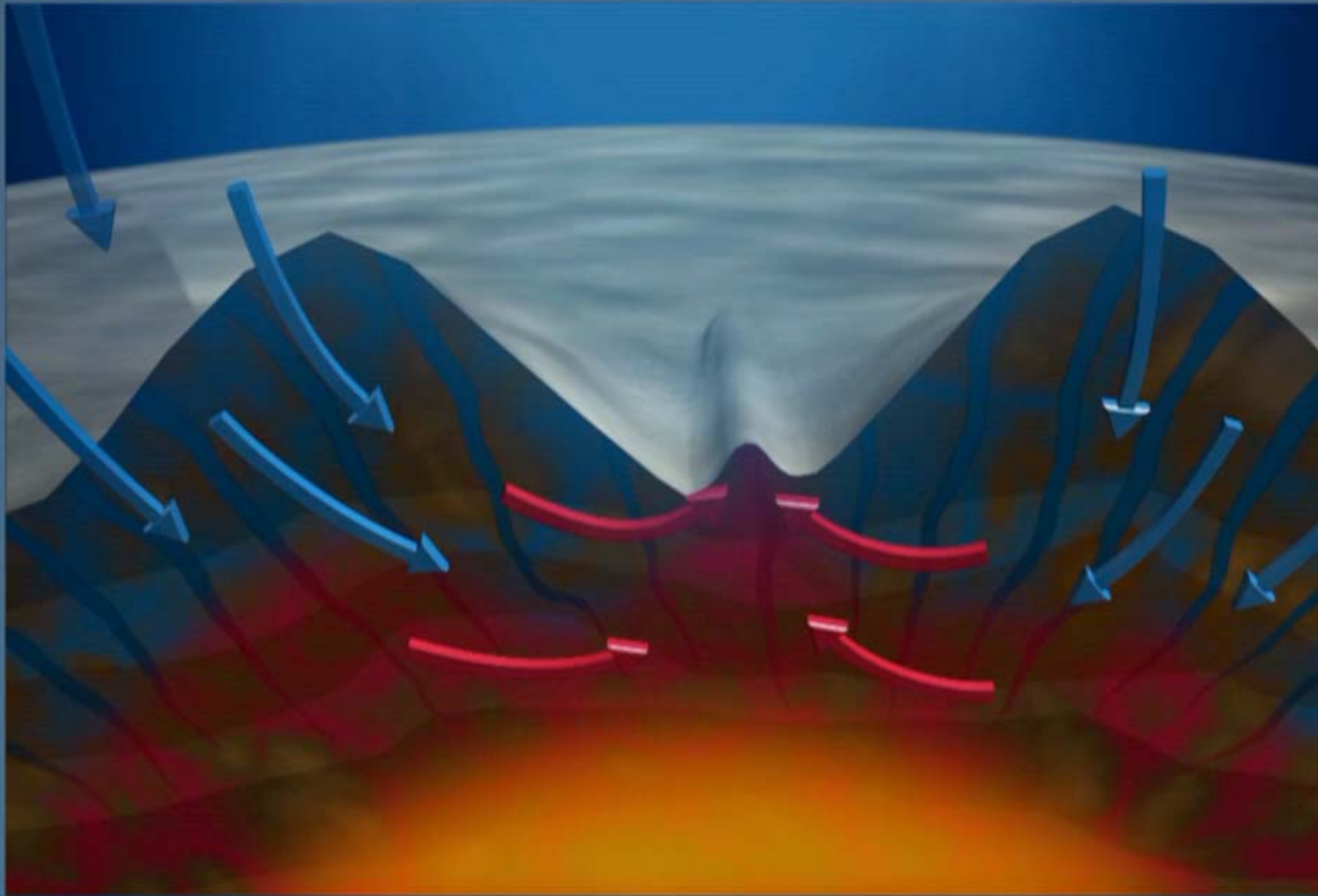


Select A Video:



Unknown Ocean

Deep Sea Vents



nown only a few decades ago. Their c

What's happening now at the Inner Space Center?

The Inner Space Center is getting ready for the 2012 E/V *Nautilus* expedition. You'll be able to get the live feeds here, as well as photo and video highlights. The ISC is also continuing to support the *Okeanos Explorer*.



Select a video:



Live feed: Okeanos Explorer



Unknown Ocean: Deep Sea Archaeology



Unknown Ocean: Deep Sea Geology



Unknown Ocean: Deep Sea Creatures



Unknown Ocean: Deep Sea Communities



Unknown Ocean: Mapping the Seafloor



Unknown Ocean: Guide to the ROV

more videos
[ISC Gallery](#)
click here



tes



COSEE

**CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE**



CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE

COSEE Objectives

- To facilitate broader impact activities in the ocean sciences
- To develop catalytic partnerships between ocean science researchers and educators
- To foster communication & coordination among ocean science education programs nationwide
- To promote ocean science as an interdisciplinary tool for improving science education
- Increase the participation of students from under-represented groups in the ocean sciences



CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE

The National COSEE Network

- Fourteen collaborative Centers linking academic and research institutions to K-12 school districts and informal learning institutions
- Each Center must have at least one research institution, one formal education entity and one informal science education provider (Centers engage approximately 20 institutional partners on average)
- Centers may have a regional focus or a national thematic mission and must contribute to National COSEE Network activities



CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE

COSEE has grown into one of the nation's most comprehensive ocean science and education networks with over 270 partners:

- >113 Universities and Research Institutions
- 4 Community Colleges
- 26 School Districts
- >80 Informal Science Education Institutions
- 50 Local, State, and Federal Agencies

COSEE Lead Academic Institutions

- **University of Rhode Island, Graduate School of Oceanography (GSO)**
- **Scripps Institution of Oceanography (Scripps), University of California, San Diego**
- **Lawrence Hall of Science, University of California, Berkeley**
- **University of Alaska Fairbanks**
- **School of Ocean and Earth Science and Technology (SOEST), University of Hawaii at Manoa**
- **Florida Institute of Technology**
- **Rutgers University**
- **Woods Hole Oceanographic Institution (WHOI)**
- **University of Massachusetts, Boston**
- **University of Washington, College of the Environment, School of Oceanography**
- **University of Maine**
- **University of Oregon, Institute of Marine Biology**
- **Oregon State University, Hatfield Marine Science Center**
- **Western Washington University Shannon Point Marine Center**
- **Humboldt State University Marine Laboratory**
- **University of Hawai'i Kewalo Marine Laboratory**
- **University of Connecticut**
- **University of Southern California**
- **University of California, Los Angeles**
- **North Carolina State University**



CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE

COSEE Impacts 2002-2011

- Engaged more than 2100 ocean scientists in outreach activities between 2009 and 2011
- Engaged more than 13,000 teachers in professional development activities with ocean scientists
- Advanced ocean awareness and literacy among the general public
- Developed new undergraduate and graduate courses on communicating ocean sciences at 32 universities
- Reached underserved and underrepresented audiences through targeted recruitment, partnerships with school districts, and translation of materials
- Created K-12 curricular materials, with teams of educators and scientists, integrating ocean sciences into science curricula

Discovery of **Sound in the
Sea**

www.dosits.org

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Discovery of *Sound in the Sea*

Home

Science of Sound

Animals and Sound

People and Sound

Audio Gallery

Technology Gallery

Scientist Gallery

Resources

Glossary

FAQs

Facts and Myths

Tutorials

About DOSITS

DOSITS Public Survey

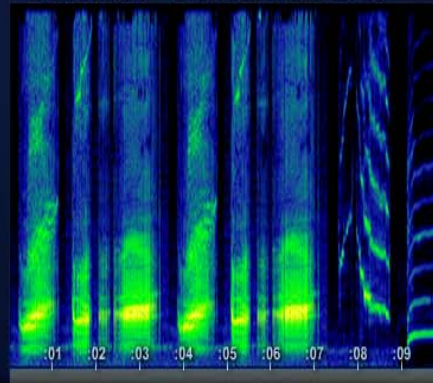
Audio Gallery

[View Non-Flash Version of the Audio Gallery >](#)

[View 'Non-Flash' Version of Narwhal >](#)

Marine Mammals - Toothed Whales

Narwhal (*Monodon monoceros*)



Sound:

Click either choice below to hear the Narwhal: A collection of narwhal pulsed signals and whistles. Courtesy of Ari Daniel Shapiro and the Woods Hole Oceanographic Institution.

[Click For Full Description](#)

Select by Category

Category Taxonomy

Copyright ©
Information



Harbor Porpoise



Killer Whale



Marine Mammals - Toothed Whales
Narwhal



Marine Mammals - Toothed Whales
Pilot Whale



Marine Mammals - Toothed Whales



Marine Mammals - Toothed Whales



Marine Mammals - Pinnipeds
Bearded Seal



Marine Mammals - Pinnipeds
California Sea Lion



Marine Mammals - Pinnipeds
Harbor Seal



Marine Mammals - Pinnipeds
Hawaiian Monk Seal



Hurricanes: Science and Society

www.hurricanescience.org

THE
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Hurricanes: Science and Society

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Interactive History Timeline

Featured Storms

Hurricane Case Studies

HURRICANE TIMELINE

pre1900 1900s 1910s 1920s 1930s 1940s 1950s 1960s 1970s 1980s 1990s 2000s 2010s



Hurricane tracks for the years 2000-2008. NOAA, Coastal Services Center.

SUMMARY OF THE HAPPENINGS IN the 2000s

Summary Facts Related Links

The period 2000 to 2009 is a period of high hurricane activity in the North Atlantic. 2004 and 2005 were remarkable years, with major hurricanes that made landfall in the U.S. 2005 in particular set many records with 27 storms, 15 of which became hurricanes, 7 major hurricanes and 4 category 5 hurricanes. Hurricane Wilma had the lowest recorded pressure in the Atlantic (882 mb) among many other records and unusual features. There are 14 Featured Storms in this decade.

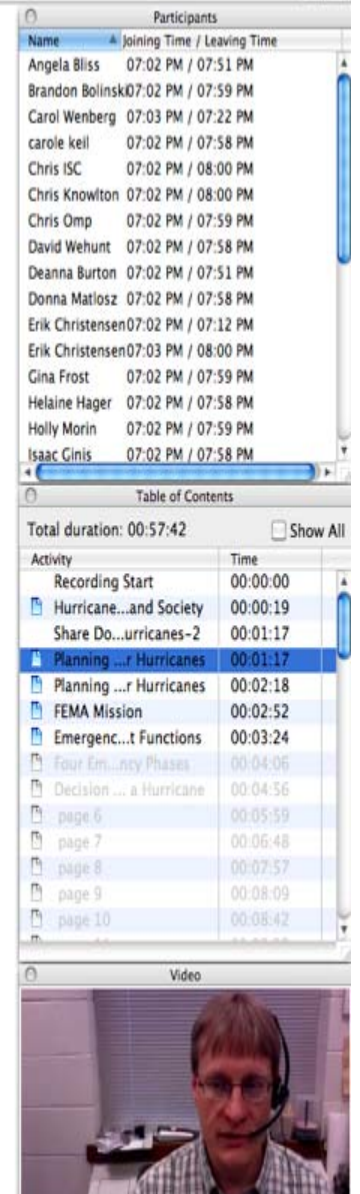


* The blue bar represents all named tropical cyclones in the North Atlantic
The orange bar represents only the major hurricanes (cat. 3+) in the North Atlantic

Webinars

Planning and Preparing for Hurricanes

Brandon Bolinski
FEMA Region IV
Hurricane Program Manager
Atlanta, GA



The screenshot displays a webinar interface with two main panels. The top panel, titled "Participants", lists the names of attendees along with their joining and leaving times. The bottom panel, titled "Table of Contents", shows a list of activities and their corresponding times, with the current activity highlighted.

Name	Joining Time	Leaving Time
Angela Bliss	07:02 PM	07:51 PM
Brandon Bolinski	07:02 PM	07:59 PM
Carol Wenberg	07:03 PM	07:22 PM
carole keil	07:02 PM	07:58 PM
Chris ISC	07:02 PM	08:00 PM
Chris Knowlton	07:02 PM	08:00 PM
Chris Omp	07:02 PM	07:59 PM
David Wehunt	07:02 PM	07:58 PM
Deanna Burton	07:02 PM	07:51 PM
Donna Matlosz	07:02 PM	07:58 PM
Erik Christensen	07:02 PM	07:12 PM
Erik Christensen	07:03 PM	08:00 PM
Gina Frost	07:02 PM	07:59 PM
Helaine Hager	07:02 PM	07:58 PM
Holly Morin	07:02 PM	07:59 PM
Isaac Ginis	07:02 PM	07:58 PM

Activity	Time
Recording Start	00:00:00
Hurricane...and Society	00:00:19
Share Do...urricanes-2	00:01:17
Planning ...r Hurricanes	00:01:17
Planning ...r Hurricanes	00:02:18
FEMA Mission	00:02:52
Emergenc...t Functions	00:03:24
Four Em...ncy Phases	00:04:06
Decision ... a Hurricane	00:04:56
page 6	00:05:59
page 7	00:06:48
page 8	00:07:57
page 9	00:08:09
page 10	00:08:42

Below the table of contents is a video feed showing a man with glasses and a headset, likely the presenter, Brandon Bolinski.



Expedition 14 is underway!

From **November 28 to December 9, 2011**, join Dive and Discover as scientists explore super-salty, dense pools of water more than two miles deep in the Mediterranean Sea called brine lakes. What life forms live in this toxic, hyper-saline, lightless environment that lacks oxygen? From the research vessel *Atlantis*, researchers will use the remotely operated vehicle *Jason* and a new deep-sea robotic micro-laboratory to study the chemistry of the brine lakes and the organisms they find there.

Today's update: Farewell from the Mediterranean



What are DHABs?

Deep Hypersaline Anoxic Basins, or DHABs,



Expedition 14 Activities

We've added two new activities to start you



Expedition 14 Videos

The principal investigators of Expedition 14



NOAA Ship Okeanos Explorer, "America's Ship for Ocean Exploration"

Featured Expedition: [Gulf of Mexico 2012 Expedition](#)



Featured Content

Watch video clips from the [Okeanos Explorer Gulf of Mexico 2012 Expedition](#). See how scientists used the tandem remotely operated vehicles (ROV's), [Little Hercules](#) and [Seirios](#), to explore deep-sea habitats and marine life in the northern Gulf of Mexico.



[Okeanos Explorer](#)



[Education](#)



[Explorations](#)



[Slideshows](#)



[Video Playlist](#)



[Okeanos Explorer Digital Atlas](#)



NAUTILUS LIVE

ABOUT | FAQ | FOR KIDS | FOR EDUCATORS | NAUTILUS LIVE THEATER



On the bottom! We are diving at the Anaximander seamounts on a large mud volcano. Our depth is about 1700 meters.

Posted by Chris Roman 46 min 58 sec ago

MISSION

BLOG

PHOTOS

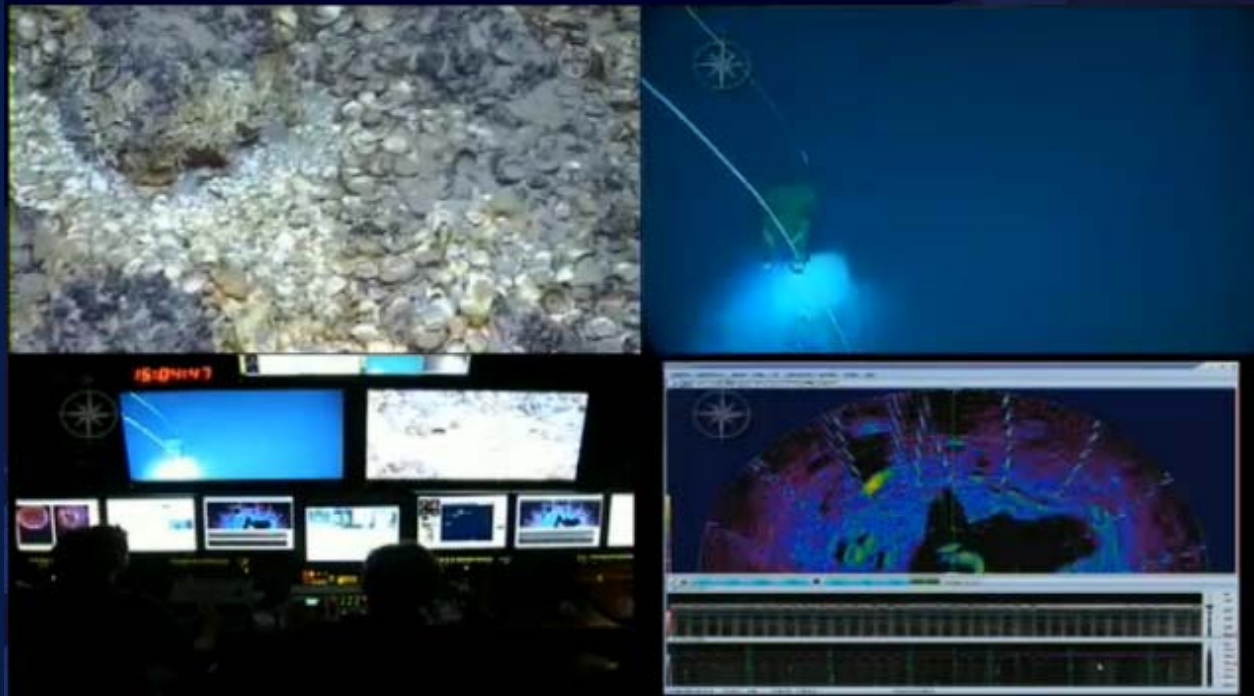
MAP



SEND A QUESTION

JOIN OUR MAILING LIST

Sign up to receive email alerts from Nautilus Live. You can also keep up with the



Current Ship Time: 18:04:52

occasional siting of closed bivalves (alive?)

4 minutes ago

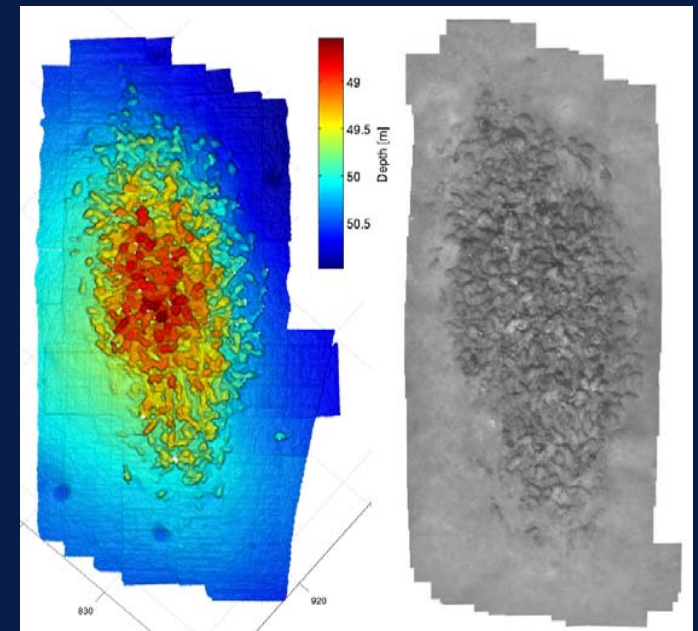
Main video 640 960 Quad video 640 960

NDSF HAS THE RESOURCES

Technology – Alvin, Jason, Sentry

Discoveries – Geology, Biology, Archaeology

Data – video, stills, multibeam bathymetric maps, photomosaics, 3-d visualizations, time series



DEVELOP A PLAN FOR OUTREACH

Know your audience

- Conduct a front end or baseline evaluation – collect some data from the user community
- Conduct a needs assessment – surveymonkey, for example – collect some more data
- Process, analyze, and interpret the data and design the best plan that meets the need
- Develop an incentive for user community participation

Develop an outreach toolkit

- Decide on the best application – video, e-book, webapp, powerpoint or pdf
- Develop a storyboard, wireframe, and template, think about user interface and consistency
- Content development – team approach, iterative, pull all the pieces together (video clips, interviews, graphics, animations, still images)
- Video production – tell the story - technologies, discoveries, successes
- Make the videos short, interesting, informative, with a scripted narration

Deliver the program

- Graduate classrooms, professional meetings (AGU, ASLO), seminars, webinars, video streams, online interactive sessions
- Track results, evaluate again, redesign and reproduce

