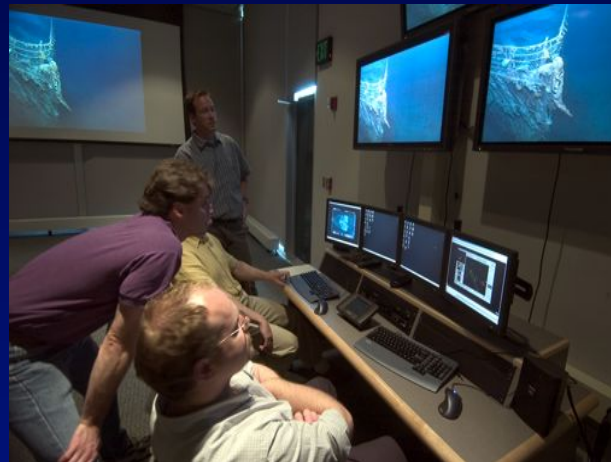




NOAA Office of Ocean Exploration and Research

The Application of Telepresence Technology for Ocean Science and Exploration





NOAA EX Telepresence-enabled cruises

Application is extremely efficient

- Unlimited access to personnel on shore, transcending schedules, expertise, skills, and abilities of traditional shipboard teams.
- Development of partnerships between geographically dispersed groups who otherwise might not have the opportunity to collaborate due to cost or logistics.
- Most efficient use of all resources, as access to data and information between ship and shore is immediate and sustained for the duration of an expedition.

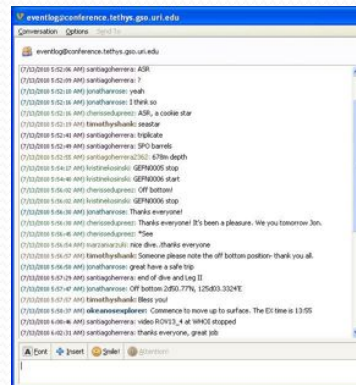


EX 1205 L1
Sentry cruise at Blake
Ridge/URI ISC



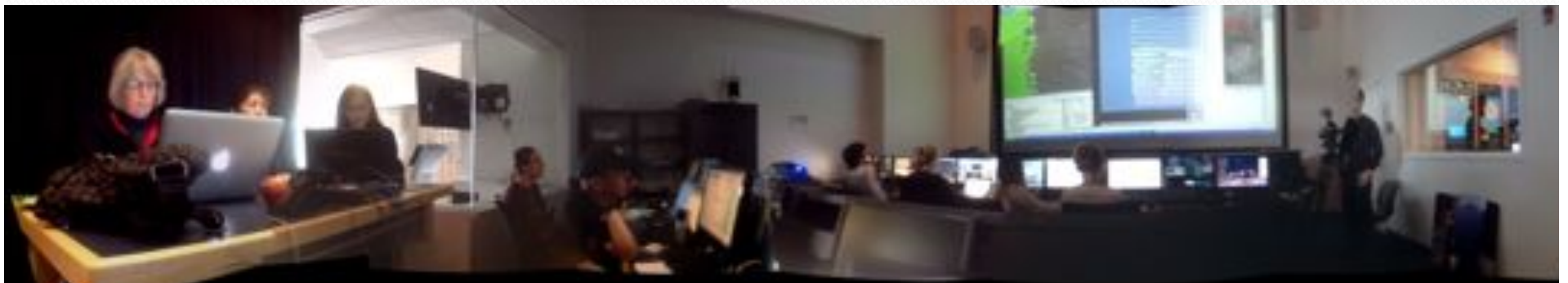
How We Operated Ship-to-Shore

- Mission critical scientists and technicians onboard, principal investigator and core science team onshore
- Daily ship-to-shore science meetings & communications enables shore-based team to guide day-to-day at-sea operations




ISC Mission Control

- Mission operations and planning
- Remote AUV engineering tests and operations
- Data access, processing, and analysis
- Scientific planning and discussions
- Daily science meetings and other communications between ship and shore
- Training of students and interns
- Tours for VIPs, students and the general public



Ship-to-Shore Operations

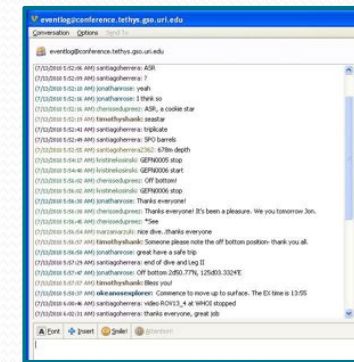
- Real-time video and data feeds to shore
- Daily schedule
- Internet-based communications and collaboration tools
- Developed standardized products and workflow
- Regular ship/shore data transfers



NOAA SHIP OKEANOS EXPLORER R-337
"America's Ship for Ocean Exploration"
- PLAN OF THE DAY -
Saturday July 14th, 2012
Sunrise -0607 Sunset -2015
UNDERWAY EX1205LI
OPERATIONS: Exploration- Blake Plateau (Mapping/AUV)

EVENTS OF THE DAY:

0000	Underway as Before
0745	Conducting AUV Operation - Blake Ridge Duplex Safety Brief (Bridge)
0800	AUV Operations - Recover AUV - Raise Transducer Pole Thrusters Secured / Discharges Overboard / Pump CHE
0900	Conduct Ship Mapping Operations - SEP
1300	Science Meeting mission leads w/ shore side (Forward Lounge) CPS Training (Library)
1500	Ops Brief (Forward Lounge)
1630	Thrusters Online Discharges Secured
1900	AUV Operations - Lower Transducer Pole / Launch AUV





ISC Mission Control



ISC Mission Control

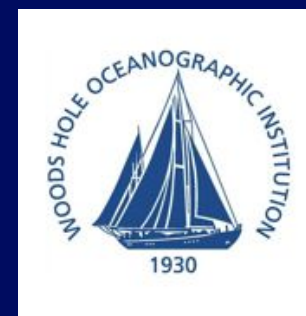


"This was easily one of the best 'at-sea' experiences I have ever had." Cindy Van Dover, 2012



Partnerships to enable innovation

Develop a program in systematic ocean exploration enabled by telepresence technology



Center for Coastal and Ocean Mapping
Joint Hydrographic Center

