VIDEOCONFERENCING TECHNOLOGY REQUIREMENTS

On video broadcasts from the JOIDES Resolution

System:
Aboard the JOIDES Resolution, the Integrated Ocean Drilling Program’s United States Implementing Organization (IODP-USIO) uses videoconferencing and collaboration systems from IOCOM (see their webpage at http://www.iocom.com). With IOCOM, users on the ship can share live video and sound, or just voice with a single or simultaneously with many audiences on shore, wherever they are (as long as they have Internet connection). All partners see each other and can talk back and forth (see limitations for ship use below).

Why IOCOM and what if you use a different system?
The IODP-USIO uses IOCOM because it seems to be the most flexible application on the market (provides most communication options). IOCOM videoconferencing systems have a strong heritage with research, academic, and government institutions. However, if the receiving institution (e.g. school, museum, conference, or personal computer) is using a different Internet communication system (such as those from Tandberg or Polycom) it can be “bridged in” to IOCOM and should work as well. IOCOM will also provide free downloadable software and a trial membership for use at education venues.

Hardware:
Currently we have two IOCOM stations on the ship. The first one is permanently installed in the conference room. We have one camera mounted on the starboard wall of the conference room that provides a broad view of the room. The angle, tilt, and zoom are adjustable using the software, allowing great flexibility in the view shown to other conference attendees. Additional cameras, mounted on the forward and port walls will be installed soon.

The second station is mobile (consisting of a laptop running IOCOM and two cameras connect with 0.5 m long USB cables to the laptop). This portable system is available, on request, for temporary use. This mobile IOCOM system can be used in any shipboard location that has a network jack (which can be found in all labs, offices and even staterooms), and can also be used for wireless “walkabouts” in the labs, on the catwalk, and other visually interesting locations.

Broadcast limitations:
Due to bandwidth limitations, the ship can only send/receive one camera view at a time. IOCOM systems on land can send/receive multiple camera views from multiple participants simultaneously. For a videoconference between the ship and multiple audiences on shore, a meeting moderator on shore can select the individual camera view (individual shore audience) that will be sent to the ship (e.g. when the audience is asking questions).

There are a number of bottlenecks that limit the quality of the video broadcast from the ship. The IOCOM systems themselves are capable of acceptable quality and multi-point collaboration. However, the shipboard satellite system constrains performance and limits usable video to fairly modest levels. Note that this includes two-way communication. If the incoming camera view is turned off (basically making it a one-way communication) some bandwidth can be freed up and can be used to increase the quality of the outgoing video.

Other mission-specific video broadcasting systems can be accommodated with adequate notice (very early in your expedition planning) and strong technical collaboration between IODP-TAMU staff and your IT/Networking contacts. At present, the JOIDES Resolution has 512 kilobits of satellite service available 24-hours a day via the shipboard VSAT system.

For IOCOM Software Access and Testing
Please contact:

Nate Scheidler
IOCOM
nscheidler@iocom.com
Desk: 312 786 9169 x127
Cell: 312 404 8095

Please allow at least 5 days for downloading and testing of IOCOM Software.