

Creep into the DEEPEND

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FROM: DEEPEND Science Team
TO: DEEPEND Virtual Team Leaders
SUBJECT: ROVS

Hello Virtual Science Team,
Many of you have questions about ROVs and if we are using them. Though DEEPEND is not using an ROV, it is an important research tool for deep-sea exploration. Many of the DEEPEND Team members has used or uses ROVs in other deep-sea research projects.

R-O-V stands for Remotely Operated Vehicle. The ROV in the photos is the Deep Sea Systems Global Explorer. It is quite large, about the size of a mini-van! (see photo) Does your family have a mini-van? Next time you climb in look around and imagine that that's how big our ROV is.

People don't ride in the ROV like they would a submersible. We send the ROV to the deep to explore. We watch what it sees from the cameras it has attached to it.

The ROV is tethered – connected – to the ship with a very very very long cable. Think of it as a super long extension cord that connects it to the ship. A crane lifts the ROV off the deck of the ship and lowers it into the water. (see photo)

Depending on the research, ROVs might explore the middle of the ocean or the ocean floor. ROVS take photographs and video in the light (that we provide) and also photograph in the dark. Some ROVs can collect samples and live animals.

With a name of "Remotely Operated..." you might have already guessed that the science team operates the ROV from a distance, remotely. Do you have a remote control for your television? That remote allows you to control the television from across the room. The ROV is controlled by pilots from the control room (see photo). We, the Science Team, watch the action and videos of what the ROV is seeing or doing and, when needed direct the pilot. (see photo) The pilots control

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the ROV in the deep from the ship, sort of like you can control the television from across the room. Of course, an ROV is much more sophisticated and complicated than the television, but you get the idea.

This ROV has robotic arm we can manipulate to gently collect organisms. The engineering of this kind of technology is very important. If you like to tinker and build things, maybe ROV design is for you!

Our friends at [Oregon Coast Aquarium's Oceanscape Network](#) let us know that have an entire [webpage about ROVs!](#) It includes information and two fun videos that explain what ROVs are, how they work, and follows a group of teen boys as they compete in an Oregon competition with an ROV they engineered.

What if DEEPEND added an ROV to the research and you were the designer. What equipment do you think the ROV would need? What kind of arms/tools would you include? How would you design it? What challenges would we face using an ROV for DEEPEND research?

Talk to you soon.

Tammy

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Creep into the DEEPEND Mission

