

Water as a Habitat: Episode 15

PVC ROV

Glossary:

Submersible: A submersible is any object designed to operate underwater, including marine technology vessels used to collect data.

Sub: Sub is usually an abbreviation for submarine, although it can be used to describe any submersible object. Submarines are distinct in that they are designed to carry a passenger(s).

UUV: UUV is an acronym for Unmanned Underwater Vehicles and encompasses all of the vessels below. The acronym UUV is most often used to describe vessels in military and university research applications.

ROV: ROV is an acronym for Remotely Operated Vehicle. ROVs are distinct from AUVs and submarines in that ROVs provide real time, instant feedback to the user. Most all ROVs are also connected to the surface and the operator via a tether. The tether may also be referred to as an umbilical. The tether connections allows the operator to maneuver the ROV, collect data, take pictures and even retrieve objects if the ROV has tools to do so. ROVs are used all over the world in varied applications. ROVs are used to inspect pipelines, nuclear power cooling towers, shipwrecks and even underwater crime scenes.

AUV: AUV is an acronym for Autonomous Underwater Vehicle. AUVs are distinct in that they are typically pre-programmed in a laboratory, released at sea to complete a mission, left alone to complete the mission and then retrieved. Once collected, they are taken back to the lab to interpret the data the AUV collected. AUVs can be built to encompass a variety of sensors and most often are used for long transects. Many AUVs are deployed for tasks ranging from ocean mapping to sampling microscopic sea life. AUVs are most often torpedo shaped.

Glider: Gliders are a type of AUV and like AUVs they carry a variety of sensors to collect data at sea. Gliders are programmed to work for weeks at a time and are unique in that they are able to surface in between transects, to transmit their data. Unlike AUVs, these gliders can also receive new instructions while still

deployed. This ability to add and/or change instructions saves valuable ship time.

Additional Resources:

- Remote Environmental Monitoring Units, or REMUS – low-cost autonomous underwater vehicles (AUVs): <http://www.whoi.edu/main/remus>
- Shark bites fiber optic cable video: <https://www.youtube.com/watch?v=1ex7uTQf4bQ>