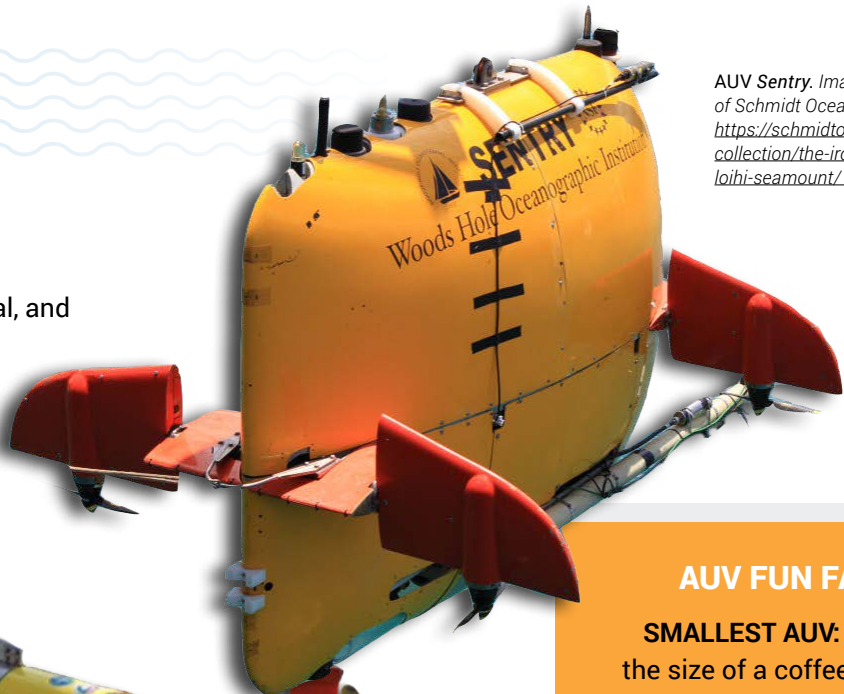# What is an AUV?

AUV stands for `utonomous t nderwater uehicle. AUVs are unoccupied, untethered, battery-powered vehicles used to collect data for underwater research.

AUV *Sentry*. Image courtesy of Schmidt Ocean Institute: https://schmidtocean.org/collection/the-iron-eaters-of-loihi-seamount/

WHAT ARE AUVs USED FOR?

- **Creating** maps of the ocean floor
- **Recording** data on biological, chemical, and physical ocean conditions
- **Identifying** hazards to navigation
- **Exploring** geological formations
- **Documenting** shipwrecks

The *REMUS 600* AUV.
Image courtesy of B. Eakins, CU Boulder and NOAA NCEI. https://oceanexplorer.noaa.gov/facts/auv.html

HOW DO AUVs WORK?

- Route and sampling protocol are **pre-programmed by an operator** on vessel or on land
- **Data collected** by cameras, sonar, chemical sensors, and/or other water property sensors
- Can accommodate **a variety of sensors** depending on the research needs
- Depending on the model, AUVs can **glide** at the surface, **dive** deep, or even **hover**
- **Powered by** onboard batteries
- Stores images and other sensor data on **onboard computers** until the AUV can be retrieved after a dive

AUV FUN FACTS

SMALLEST AUV: about the size of a coffee table

LARGEST AUV: about the size of a bus

DEPTH RANGE: Can travel to the full depth of the ocean and through shallow water ecosystems that would be difficult for large boats or ROVs to navigate.

LONGEST DIVE: missions can last weeks with a recharging plan in place, but dives can typically run ~24 hours

ADDITIONAL RESOURCES

AUV FACTS https://oceanexplorer.noaa.gov/facts/auv.html

FREQUENTLY ASKED QUESTIONS
https://schmidtocean.org/technology/robotic-platforms/autonomous-underwater-vehicle-auv/