

ROV SUBASTIAN

Schmidt Ocean Institute's
Remotely Operated Vehicle (ROV)
2018 Mid-year update



Introduction

➤ Errol Campbell – ROV Manager

➤ Schmidt Ocean Institute

- Not for Profit Organization
- Goal to advance global marine research
- Provide state of the art operational, technological and information support
- Pioneering Ocean science and technology projects
- Share what we discover

➤ ROV Subastian

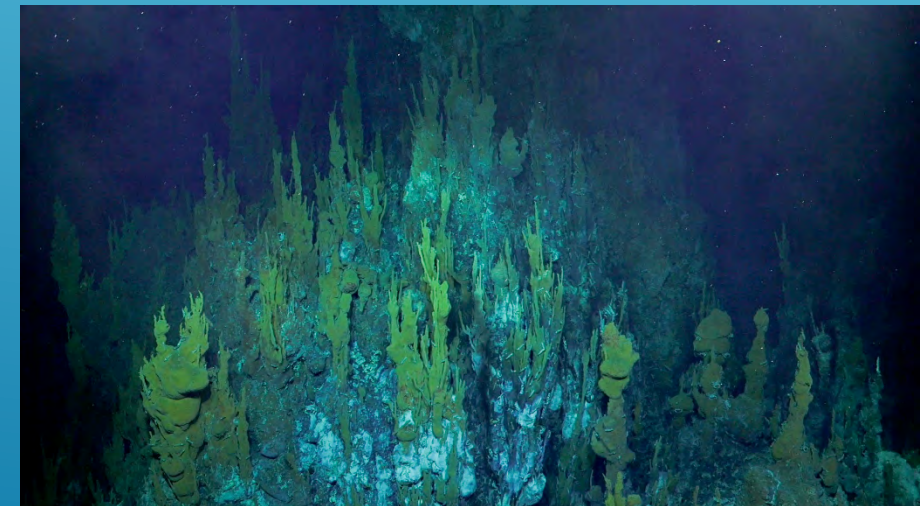
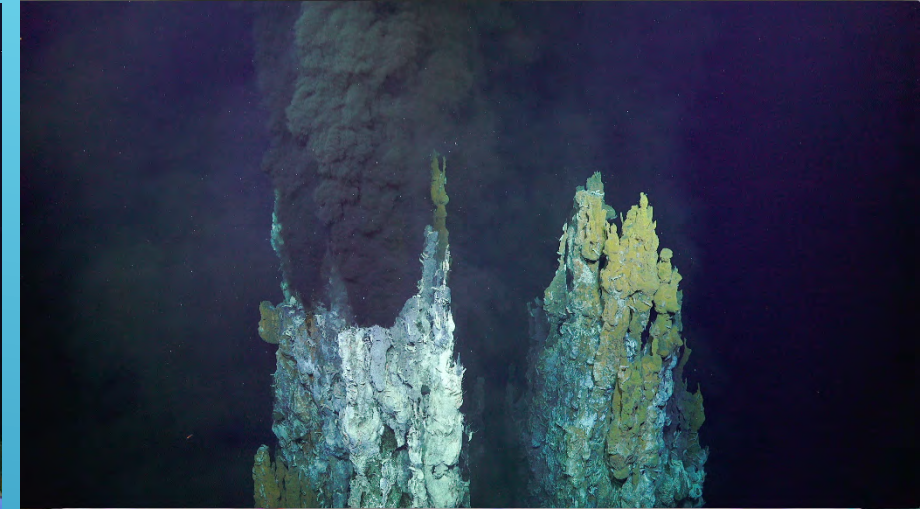
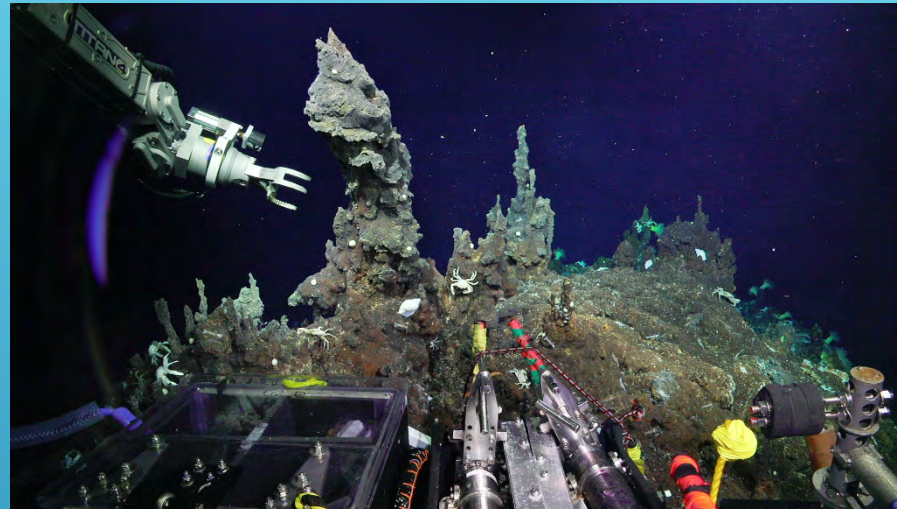
- 4500m depth rating
- Development started in 2015
- Integrated onto R/V Falkor in summer of 2016
- Successfully completed 118 Dives to date



ROV Subastian's Tool Box - 2018

➤ Large array of calibrated sensors and tooling:

- Water samplers
- Suction Sampler
- Temp Probe
- Bio-Boxes
- Gas tights
- Mapper
- Microbiology cans
- Scoops
- Robo-critters
- Rock Boxes
- Mini-Temp Recorders
- Push cores
- Majors
- O2 Sensors
- CTD
- PH
- SV Probe
- Mini IPS
- Photomosiacing



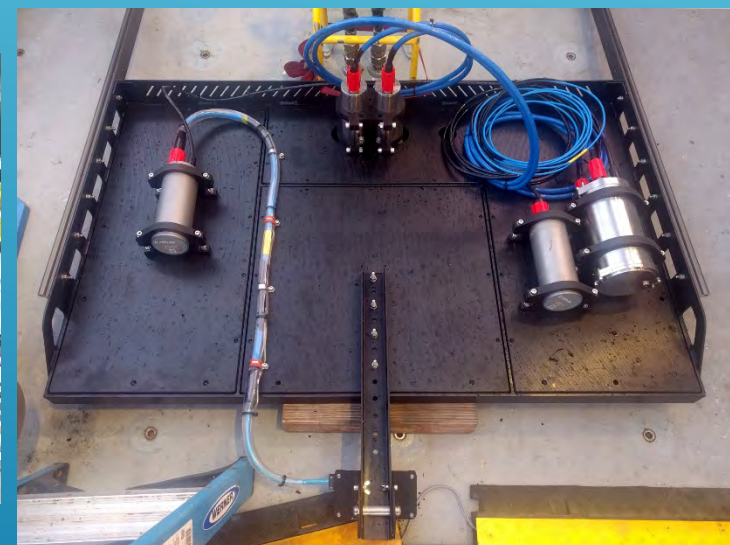
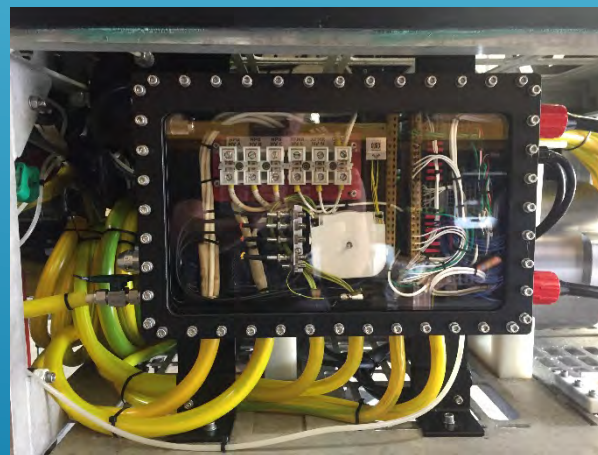
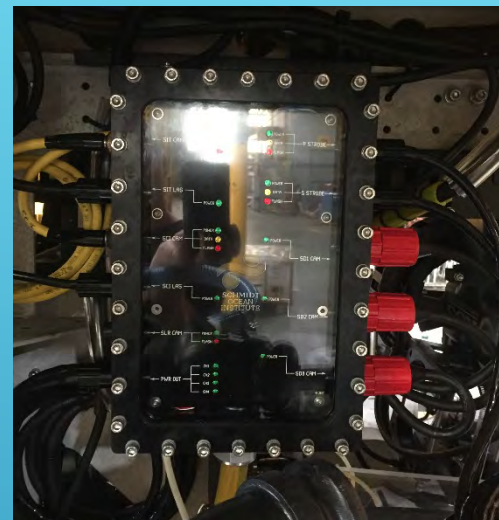
2018 R & M rebuild and upgrades

➤ Rebuild and Inspections

- Complete strip down, inspection & repair
- Structural inspection of frame & load path, thrusters, manipulators, all major components
- Science, equipment, tooling & sensors

➤ Upgrades

- HD Cameras from Fibre to FlexLink system
- New Digital Stills Camera & 2nd P & T
- Photomosaicing system
- Lighting systems
- Slide out/Swing arms
- Science tooling upgrades
- GSS software updates, waypoint execution & line follow function



2018 Post R & M Sea Trials

➤ Sea Trials

- Full system test dives & trials
- Tested a new 4K Camera
- Sensor calibration
- GSS software updates, waypoint execution & line follow function
- 3D Printing of parts
- Remote Operation (VPN)



2018 ROV Science Missions

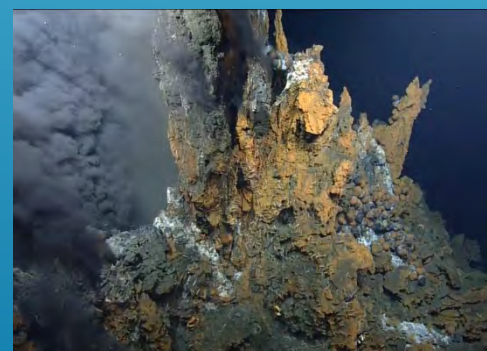
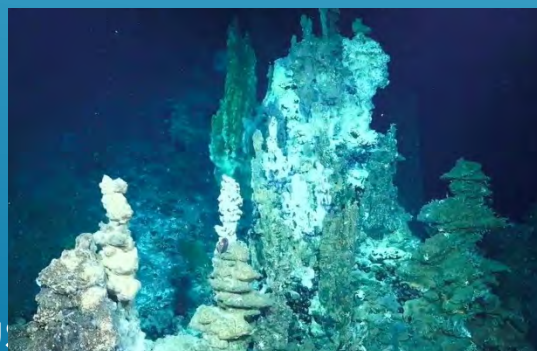
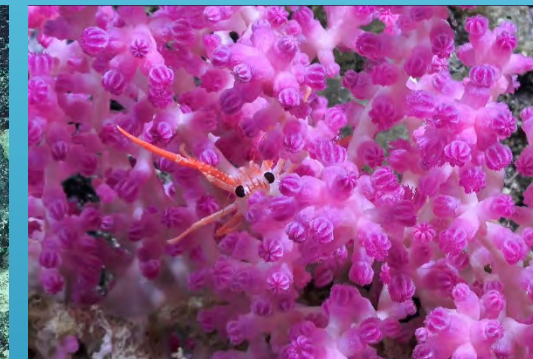
➤ A visit to the White Shark Cafe

- A remote area of the Pacific
- Located midway between Hawaii & San Diego
- Studying Great White Sharks
- B Block & B Robison



➤ 2018 Scheduled ROV Science Missions

- Insitu sensor measurement robotic surveys
- Hunting Bubbles: Understanding Rising Plumes of Seafloor Methane
- Finding the Missing Link – Characterizing venting and seepage along the CA coast
- Hydrothermal Vents
- Exploration With Under-actuated Autonomous Vehicles in Hazardous Environments



THANK YOU!
www.schmidtocean.org

SUBASTIAN

- **www.schmidtocean.org**
- Livestreaming ROV Dives
- Facebook
- YouTube