Axial 2020 Expedition to Axial Seamount (R/V Thompson TN383)

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**R/V Thompson** – Sept 1-20, 2020
Newport, OR – Newport, OR

**Main goals using ROV Jason & AUV Sentry:**

- Repeat pressure measurements for volcano inflation/deflation time-series monitoring
- Repeat AUV bathymetric mapping to measure inflation/deflation inside & outside caldera (Nooner/Chadwick/Caress; NSF-funded)
- Deploy & recover Crustal Compliance instruments (Spahr Webb; NSF-funded)
- Time-series sampling of hydrothermal fluid chemistry & e-DNA pilot study (Butterfield/Baumberger/McAllister. NOAA, OSU, UW)
- 5 ROV Jason dives, 7 AUV Sentry dives
- 9 CTD casts, 5 instrument mooring turn-arounds, multibeam bathymetric surveys
Current geodetic monitoring array

Pressure measurements to monitor volcanic inflation and deflation

Related presentations at AGU this year:
V043-06 - Chadwick et al. - Repeated short-term deflation events observed during long-term inflation at Axial Seamount
Sentry tracklines for repeat mapping in 2020

Successful testing of MBARI Terrain Relative Navigation software on AUV Sentry

Related presentations at AGU this year:

**V040-0017 - Caress et al. - Vertical Deformation of the Axial Seamount Summit from Repeated 1-m Scale Bathymetry Surveys Using AUVs**
Crustal Compliance instruments deployed & recovered by Spahr Webb
Thanks to UNOLS, NSF, UW, WHOI for making it happen!