

Guaymas Basin cruise

AT42-05

Nov. 15 – Nov. 29, 2018

Guaymas-Manzanillo





Cruise strategy: Expedition-style logistics

- Rationale, avoid shipping to/from Mexico**
- Chemicals and gas bottles loaded at WHOI**
- Containers loaded in US port [San Juan] / add info**
- Custom-designed *Sentry* project for Guaymas Basin, to avoid off-loading in Mexico**
- Pro and contra Expedition-style preparation: Considerable pre- and post-expedition complexity and some snares, but no shipping/customs disaster as in 2016**
- requires ample time for planning & coordination**
- sample transport home is a challenge; everything goes as checked-in luggage since there is no alternative**

Science Crew:

7 faculty, 2 staff scientists, 3 postdocs, 7 grad students, 1 artist

USA – Mexico – Germany – Colombia – China – Netherlands

Projects: 3 NSF Bio-Oce, 1 NSF Chem-Oce, 1 ARPA-E, MPI



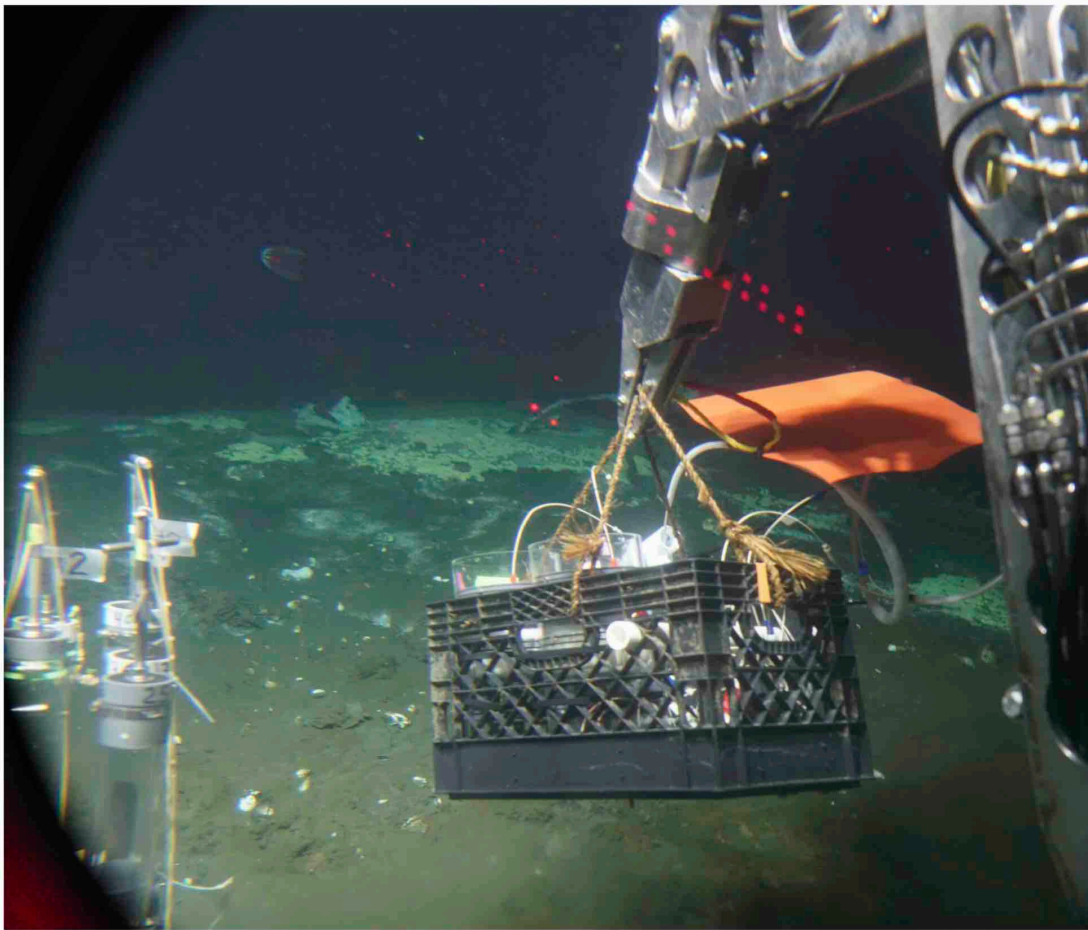
Alvin dives 4991 – 5001

High push core & chimney sample recovery for multiple projects

Shorting issues with Heatflow probe; Dive 4996 had to return from 200 m

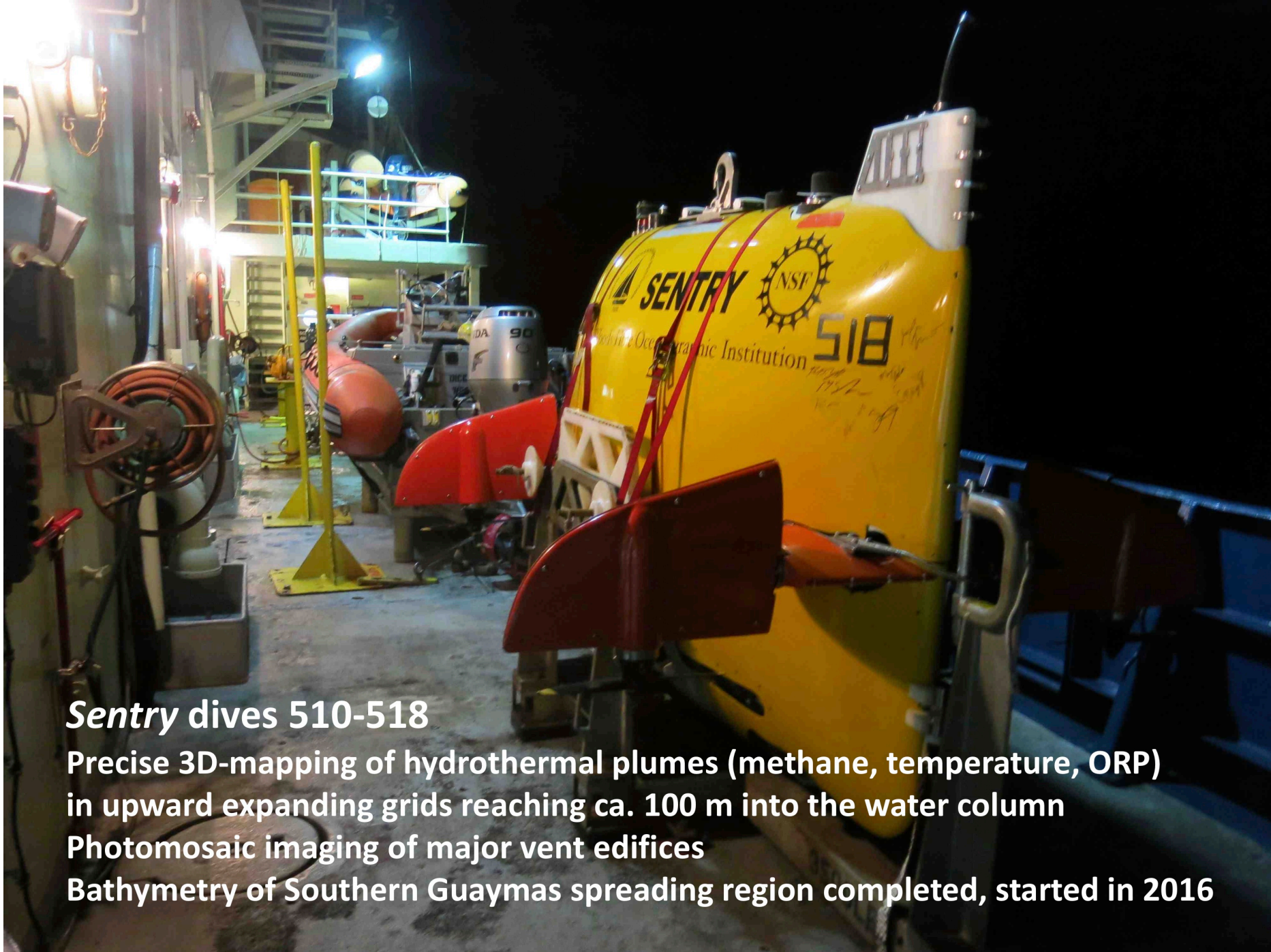
Highlight: Exploring hydrothermal edifice north of Cathedral Hill [dive 5000]





Instrument deployments:
Osmosamplers via elevator: mostly OK, with some close calls during recovery
T-loggers: easy Alvin deployment & recovery
In-situ microsensor not deployed due to missing pressure tests for new metal casings





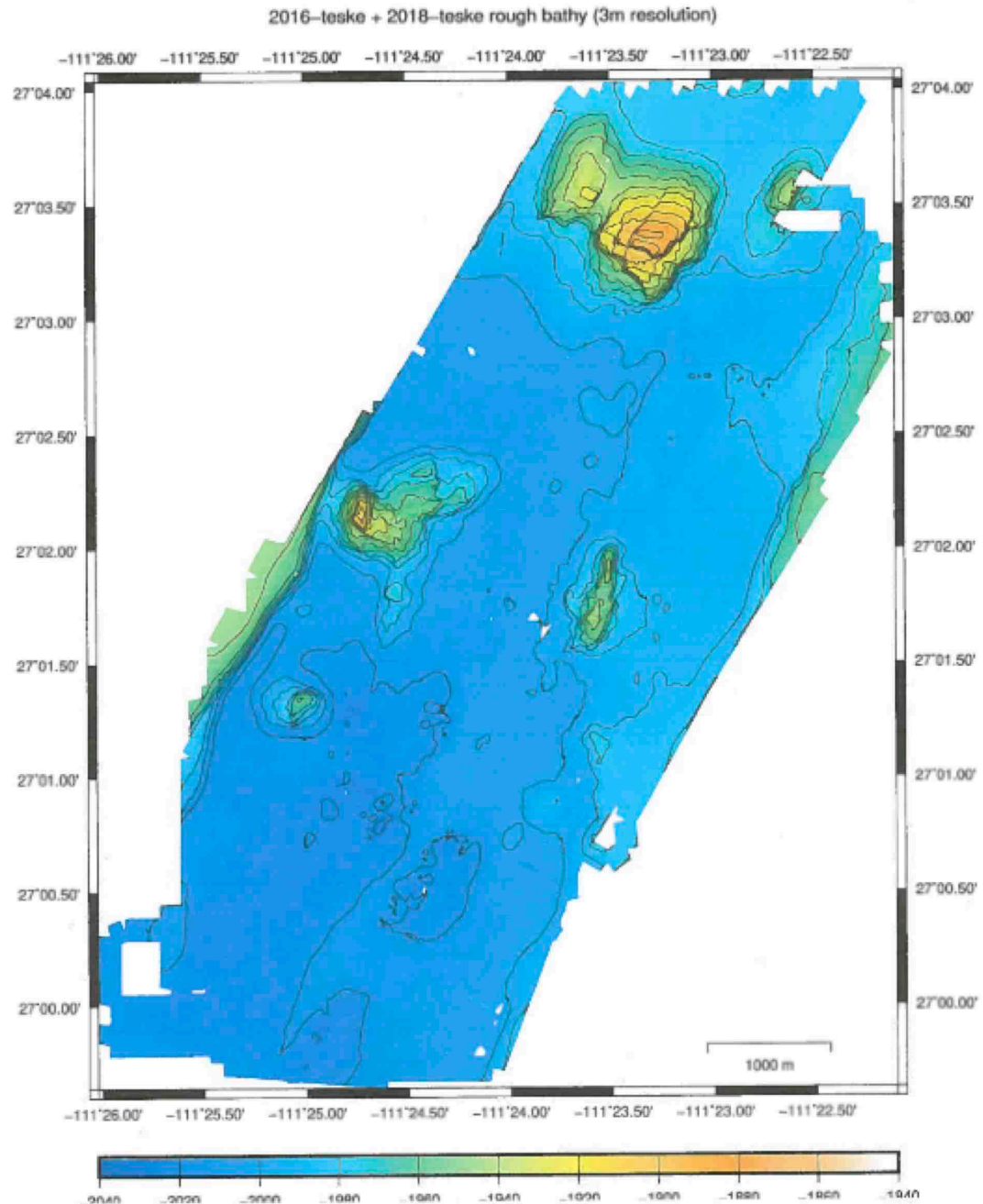
***Sentry* dives 510-518**

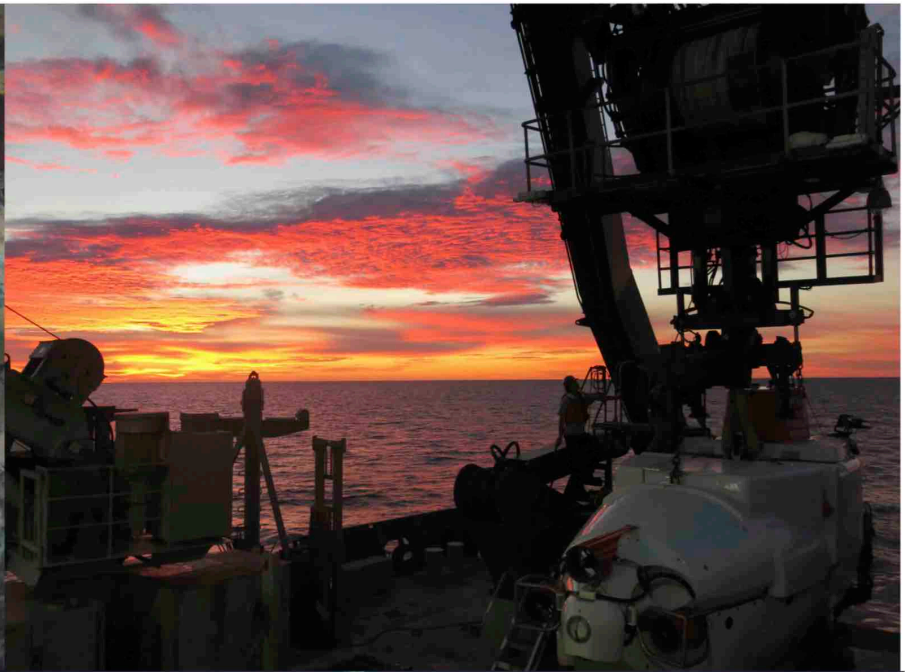
Precise 3D-mapping of hydrothermal plumes (methane, temperature, ORP) in upward expanding grids reaching ca. 100 m into the water column

Photomosaic imaging of major vent edifices

Bathymetry of Southern Guaymas spreading region completed, started in 2016

**Complete *Sentry*
Bathymetry of
Southern Guaymas
Basin axial graben
4.5 x 3 nm**





Guaymas Basin – Hasta la vista!

