

New Opportunities with the Alaska and Cascadia Near-Trench Community Geodetic Experiment

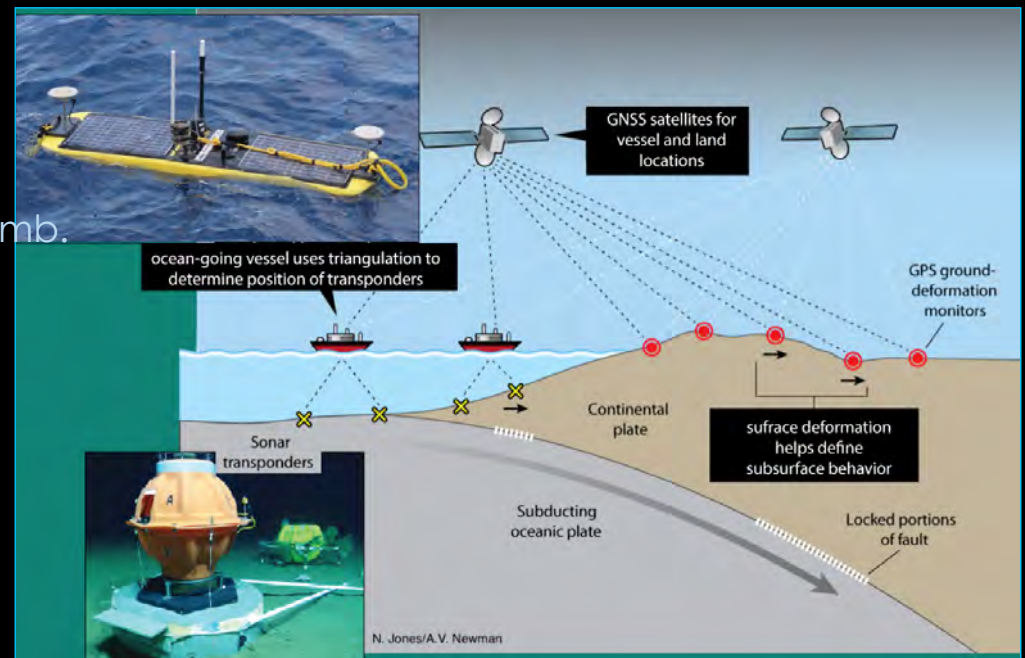


PI Team:

- **Mark Zumberge (lead)**, Scripps, UCSD
- **Andrew Newman***, Georgia Tech
- **Noel Bartlow**, Univ. of Kansas
- **Donna Charlevoix**, UNAVCO
- **David Schmidt**, Univ. Washington
- **Spahr Webb**, Lamont Doherty EO, Columb.
- **Surie Xie**, Univ. Houston
- **John DeSanto**, Univ. Washington

Much thanks to:

C. David Chadwell, Scripps UCSD





Alaska and Cascadia Near-Trench Community Geodetic Experiment

- Funding started January 1st, 2023 (NSF-MGG)
- Deploy **12 GNSS-Acoustic sites in Alaska and Cascadia**
 - Each site includes an absolute pressure gauge
 - Collect data and maintain sites **over 5 years**
 - Distribute data through a new seafloor geodetic archive
 - Science goals & sites identified through community planning
- Support the **training & development** of the geodetic community

Other Funded Activities:



Apply-to-Sail

- **Seagoing opportunities** are planned for students, post-docs, and early-career scientists
- **Applications due Feb 1st**. See www.seafloorgeodesy.org/experimentupdates

Software Development

- **Open-source code** for the processing of GNSS-Acoustic data



Short-Courses

- **"Data Processing"** courses will utilize the newly developed software for working with available community data. Courses planned for 2025 and 2027.
- **"Future PIs"** courses designed to enable young investigators to develop seafloor geodesy projects. Course planned for 2024 and 2026.

Community Data Archive

- All community experiment data will be **openly available** and **following FAIR data standards** through the GAGE facility to be operated by the EarthScope Consortium.
- Development of community **data standards for seafloor geodetic data**

www.seafloorgeodesy.org

Development Timeline

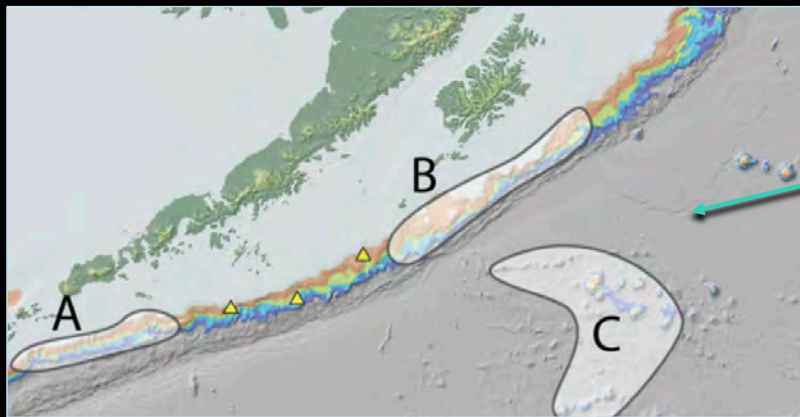


2022 Alaska-Cascadia Community Seafloor Geodetic Experiment Workshop Report

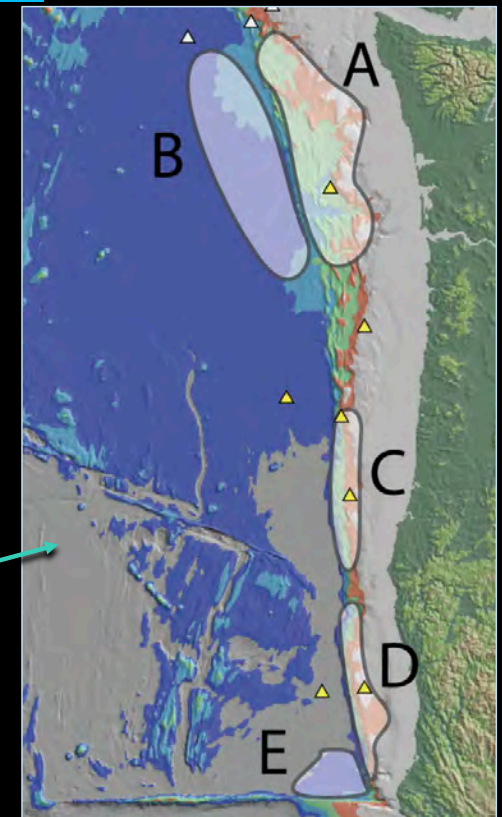


Identified Primary Science Goals:

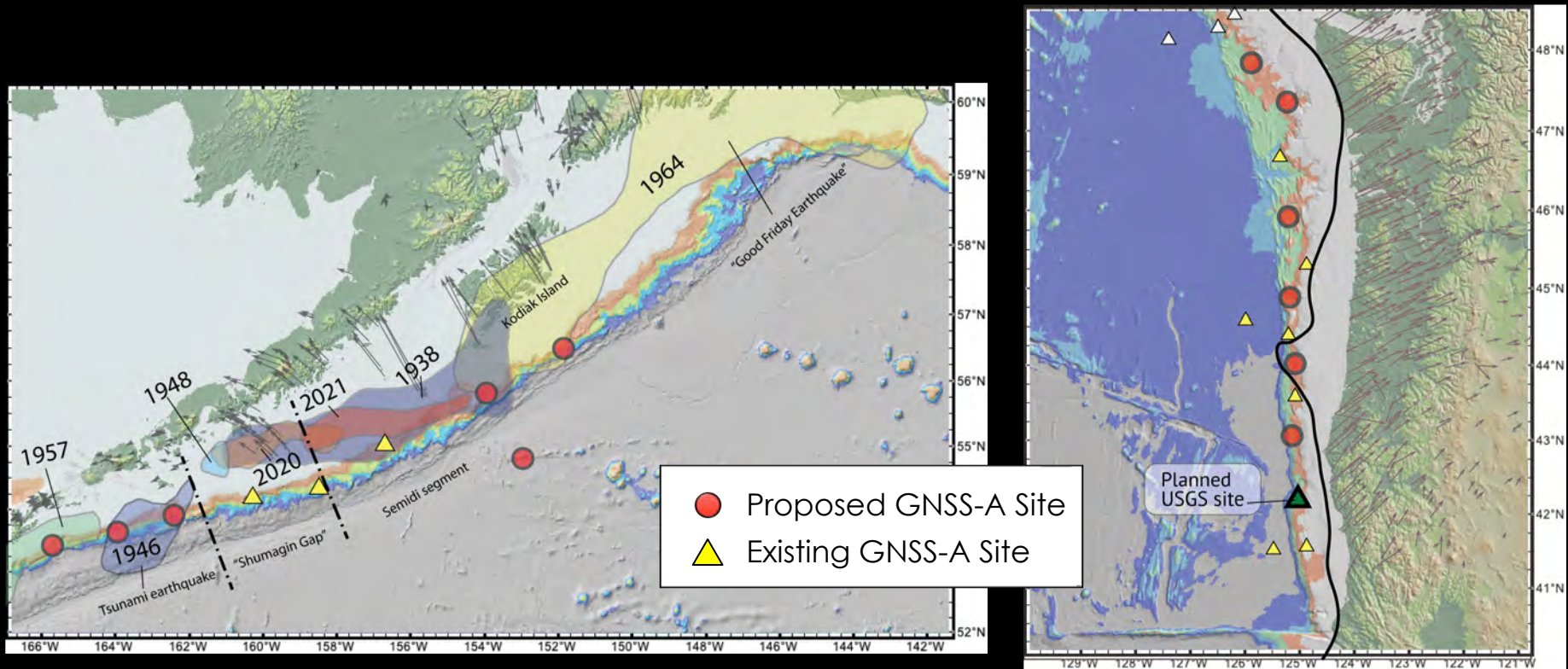
- **Along-strike coupling** and relation to onshore deformation.
- **Near-trench coupling** and relation to tsunami earthquake(s) and down-dip behavior.
- Occurrence of **shallow aseismic slip** and its relation to earthquakes.
- **Postseismic time-dependent coupling**, including transients, afterslip, viscous relaxation, and recoupling.



Primary regions of interests for science questions



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Alaska-Cascadia Near-Trench Community Geodetic Experiment

What's Next?



2023

- Cruise in Cascadia to deploy remaining 3 GNSS-A sites, and survey existing sites
- Apply-to-Sail opportunity
- Begin work on developing an open-source GNSS-A processing code
- Working group on establishing data standards for seafloor geodetic data

2024

- Cruise in Alaska to deploy 6 GNSS-A sites; Apply-to-Sail opportunity
- Follow-up cruise in Cascadia to refurbish old GNSS-A sites
- Early career training workshop
- Roll-out of community data archive