

## Yijie Zhu

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### EDUCATION

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**UNIVERSITY OF VICTORIA**, Victoria, Canada **May 2021 - Present**

**PhD in Earth and Ocean Sciences (GPA: 9/9)**

Major Courses: Rock Deformation in Geodynamics (A+), Earthquake Engineering (A+).

PhD Project: Understanding earthquake cycle deformation along subduction margins and strike-slip faults.

**UNIVERSITY OF VICTORIA**, Victoria, Canada

**Sep 2017 - Aug 2020**

**Master of Science in Earth and Ocean Sciences**

Master Thesis: Localizing interseismic deformation around locked strike-slip faults.

**UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA**, Hefei, China

**Sep 2013 - July 2017**

**Bachelor of Science in Geophysics**

Bachelor Thesis: Theory of wedge mechanics and its application to northeast Japan subduction zone

### RESEARCH INTERESTS

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- **Earthquake Cycle Deformation; Tsunami Source Modelling; Mantle Rheology; Geodetic Observations; Interseismic Strain Accumulation.**

### PUBLICATIONS

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- **Zhu, Y.**, Wang, K., Shen, L., & Nissen, E. (2026). Replacing the elastic model with a simple viscoelastic model for more reliable estimation of geodetic locking depths. (submitted)
  - **Zhu, Y.**, Wang, K., Sun, T., Carvajal, M., & He, J. (2025). On dislocation modeling of megathrust tsunami sources. *Journal of Geophysical Research: Solid Earth*, 130(3), e2024JB030903.
  - Wang, K., Carvajal, M., **Zhu Y.**, Sun, T., He, J., & Sypus, M. (2025). Chapter 8: Informing Megathrust Tsunami Source Models with Knowledge of Tectonics and Fault Mechanics. In *Probabilistic Tsunami Hazard and Risk Analysis*, edited by Goda, K., De Risi, R., Gusman, A., and Nistor, I., Elsevier (2025).
  - **Zhu, Y.**, Wang, K., Xie, S., Jiang, Y., & Zhou, X. (2024). Dominance of transient rheology in far-field postseismic deformation following the 2012 Mw 7.8 Haida Gwaii and 2013 Mw 7.5 Craig earthquakes. *Earth and Planetary Science Letters*, 636, 118698.
  - Carvajal, M., Sun, T., Wang, K., Luo, H., & **Zhu, Y.** (2022). Evaluating the Tsunamigenic Potential of Buried Versus Trench - Breaching Megathrust Slip. *Journal of Geophysical Research: Solid Earth*, 127(8), e2021JB023722.
  - Wang, K., **Zhu, Y.**, Nissen, E., & Shen, Z. K. (2021). On the Relevance of Geodetic Deformation Rates to Earthquake Potential. *Geophysical Research Letters*, 48(11), e2021GL093231.
  - **Zhu, Y.**, Wang, K., & He, J. (2020). Effects of earthquake recurrence on localization of interseismic deformation around locked strike - slip faults. *Journal of Geophysical Research: Solid Earth*, 125(8), e2020JB019817.

### CONFERENCE PRESENTATIONS

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**Zhu, Y.**, Wang, K., Shen, L., & Nissen, E. (2025, December). Viscoelastic Models Yield Physically More Reasonable Geodetic Locking Depth: the Altyn Tagh Fault Example (Oral). *American Geophysical Union Annual Meeting*. New Orleans, US.

- **Zhu, Y., & Wang, K.** (2025, October). Fault Locking and Strain Energy Accumulation in a Viscoelastic Earth: Implications for Hazard Assessment (Oral). *VII Colloquium on Geophysical Signatures of Earthquakes and Volcanoes*, Valparaíso, Chile.
- **Zhu, Y., Wang, K., Sun, T., Carvajal, M., & Luo, H.** (2024, December). A systematic study of dislocation modelling of megathrust tsunami sources (Poster). *American Geophysical Union Annual Meeting*. Washington DC, US.
- **Wang, K., Zhu, Y., Jiang, Y., Zhou, X., & Xie, S.** (2023, December). Dominance of Transient Rheology in Controlling Far-Field Postseismic Deformation of the 2012 Haida Gwaii and 2013 Craig Earthquakes (E-Lightening Poster). *American Geophysical Union Annual Meeting*. San Francisco, US.
- **Zhu, Y., Wang, K., Jiang, Y., & Zhou, X.** (2022, December). Short-duration Far-field Postseismic Deformation of the 2012 Mw 7.8 Haida Gwaii Earthquake and Its Implications to Regional Rheological Structure (Oral). *American Geophysical Union Annual Meeting* (Vol. 2022, pp. T56A-07). Chicago, US.
- **Zhu, Y., Wang, K., Nissen, E., & Shen, Z.** (2021, August). Strain energy build up around locked faults towards future earthquakes: Strain rate vs. strain itself (Oral). Geodetic/Seismological Facility for the Advancement of Geoscience 2021 Community Science Workshop. Online.
- **Zhu, Y. & Wang, K.** (2019, December). Localization of Interseismic Deformation in Viscoelastic Earthquake-Cycle Models for Strike-slip Faults (Poster). *American Geophysical Union Annual Meeting*. San Francisco, US.
- **Zhu, Y. & Wang, K.** (2019, April). Localizing Interseismic Deformation with Far-Field Loading Around Locked Strike-Slip Faults (Oral). *Seismological Society of America Annual Meeting*. Seattle, US.

## WORK EXPERIENCE

**SCHOOL OF EARTH AND OCEAN SCIENCE**, University of Victoria, Victoria, Canada      **Sep - Dec 2019, 2021, 2022**  
**Teaching Assistant** for EOS 170 Natural Hazards

**SCHOOL OF EARTH AND OCEAN SCIENCES**, University of Victoria, Victoria, Canada      **Sep - Dec 2018**  
**LAB Instructor** for EOS 120 The Dynamic Earth

## FIELD EXPERIENCE

**NEAR-TRENCH COMMUNITY GEODETIC EXPERIMENT**, Earth Scope, US      **July 2024**  
**Science Team Member**

- Participated in deploying seafloor geodetic instruments along the Cascadia trench offshore Oregon.
- Assisted in the operation of Remotely Operated Vehicles (ROVs) for underwater exploration.
- Identified and documented noteworthy observations or technical issues during ROV operation.

**PACIFIC GEOSCIENCE CENTRE**, Geological Survey of Canada, BC, Canada. **Aug 2018, 2019; Sep 2023, 2024**  
**Volunteer**

- Participated in the strategic planning and decision-making process for the placement of crustal deformation monitoring stations around Vancouver Island and central BC.
- Assisted the installation of GNSS stations, including site preparation, equipment setup, and calibration, ensuring all stations were operational and correctly configured.
- Maintained detailed records of site selection criteria, installation procedures, and station performance.

## HONORS AND AWARDS

- 2025: Commander Peter Chance MASC Memorial Graduate Fellowship (\$10000)
- 2025: Dr. Arne H. Lane Graduate Fellowships in Marine Sciences (\$10105)
- 2024: David McGillivray Scholarship (\$2730)