

Yitian CHENG (he/him/his)

Geophysics PhD candidate, University of Alaska Fairbanks

Last revised in Oct 2025

CONTACT INFORMATION

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INTERESTS

Magmatic System and Dynamics: Investigating the physical processes and mechanical controls on magma ascent and stalling; understanding the architecture of magmatic plumbing systems.

Solid Earth Geodynamics: Understanding the properties and behaviors of the lithosphere.

TECHNIQUES:

Processing and timeseries analysis of InSAR and GNSS data.

Numerical modeling of crustal deformation; with finite-element (e.g. PyLith) models and novel analytical models developed specifically towards the problems.

EDUCATION

Aug 2021 - *current* Ph.D. Geophysics, University of Alaska Fairbanks (UAF)

Dissertation (*planned*): Volcano deformation analysis along Aleutian Arc with geodetic data

Sept 2017 - Jun 2021 B.Sc. Geophysics, University of Science and Technology of China (USTC)

Zhao Jiuzhang Honors Program in Earth and Space Sciences

Thesis: Coupling Properties of Japan Subduction Zone from GNSS observations

PUBLICATIONS

Cheng, Y. and Grapenthin, R., 2024. The Alaska Makushin Volcano 2016–2018 inflation and its potential relation to the 2020 earthquake swarm, from GNSS observations. *Journal of Volcanology and Geothermal Research*, 446, p.108010.

Grapenthin, R., Cheng, Y., Angarita, M., Tan, D., Meyer, F.J., Fee, D. and Wech, A., 2022. Return from dormancy: rapid inflation and seismic unrest driven by transcrustal magma transfer at mt. edgecumbe (l'úx shaa) volcano, alaska. *Geophysical Research Letters*, 49(20), p.e2022GL099464.

In-prep work:

Cheng, Y. and Grapenthin, R. A compilation of volcanic deformation and geodetic source models across the Aleutian Arc, in prep for JVGR

Cheng, Y. and Grapenthin, R. Unrest periods and magma system evolutions at Spurr volcano, Alaska, 1995-2025, in prep for GRL

FIELDWORK & PROFESSIONAL EXPERIENCE

2019 - *present* Campaign GNSS survey, multiple locations in China and Alaska

2024 Continuous GNSS/seismometer maintenance, Alaska

2024 Magnetotellurics survey, Gakona & Utqiagvik, Alaska

2021 - *present* Research Assistant, Alaska Volcano Observatory

2019 Summer Intern, Tengchong Seismological Observatory, Yunnan, China

TEACHING ASSISTANT EXPERIENCE

Spring 2021 Scientific Computing and Programming (00731401), USTC

Fall 2020 Mechanics A (PHYS1001A18), USTC