

## Chet J. Hopp

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### OBJECTIVE

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To pursue a career in the geosciences, focusing on research in the field of seismology, especially as it relates to geothermal power production, fluid injection and induced seismicity.

### EDUCATION

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**Montana State University**  
**Department of Earth Sciences** Bozeman, MT

Bachelor of Science in Earth Sciences: Geology August 5, 2011

- Minor in Hispanic Studies

**Michigan Technological University**  
**Department of Geological and Mining Engineering and Sciences** Houghton, MI

Master of Science: Geophysics August, 2015

- Peace Corps Master's International program

**Victoria University of Wellington**  
**School of Geography, Environment and Earth Sciences** Wellington, NZ

Doctor of Philosophy: Geophysics July 1, 2019 (expected)

### WORK EXPERIENCE

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**United States Peace Corps** Panamá  
**International Development Organization** May 2, 2012-May 15, 2014

- Designed and installed a temporary seismic network on Volcán Barú from May 2013 through April 2014 in collaboration with OSOP and the University of Panamá Department of Geosciences. These data were analyzed in fulfillment of the requirements of the MSc listed above.
- Collaborated with host community to organize, plan and implement projects addressing community-identified sanitation needs

### FIELD EXPERIENCE

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I have participated in the installation and maintenance of a number of active- and passive-source seismic field deployments. These networks include:

#### **Fuego and Pacaya volcanoes, Guatemala:**

- Temporary networks for passive monitoring of Guatemalan volcanoes

#### **Deep Fault Drilling Project, Alpine Fault (DFDP2), New Zealand:**

- Installation of nodal instruments and lines of geophones for active-source imaging of the Alpine Fault near Whataroa, New Zealand

#### **Seismic Triggering Response for Earthquakes around Wellington, NZ (STREWN):**

- Installation and maintenance of a temporary network for monitoring aftershocks of the M 7.8 Kaikoura earthquake

#### **Seismogenesis at Hikurangi Integrated Research Experiment (SHIRE):**

- Installation of land-based instrumentation used for imaging the Hikurangi subduction zone, North Island, New Zealand

#### **Ngatamariki and Rotokawa geothermal fields, New Zealand:**

- Network installation and maintenance for monitoring of induced seismicity at geothermal power production sites

## PUBLICATIONS

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### Characterization of seismicity at Volcán Barú, Panama: May 2013 through April 2014

- Hopp, C. J., & Waite, G. P. (2016). Characterization of seismicity at Volcán Barú, Panama: May 2013 through April 2014. *Journal of Volcanology and Geothermal Research*, 328, 187-197. doi: <https://doi.org/10.1016/j.jvolgeores.2016.11.002>

### Seismic response to injection well stimulation in a high-temperature, high-permeability reservoir

- Hopp, C., Sewell, S., Savage, M., Mroczek, S., Townend, J. (2018). Seismic response to injection well stimulation in a high-temperature, high-permeability reservoir. *Geochemistry, Geophysics, Geosystems*. In review.

### EQcorrscan: Repeating and near-repeating earthquake detection and analysis in Python

- Chamberlain, C. J., Hopp, C. J., Boese, C. M., Warren-Smith, E., Chambers, D., Chu, S. X., Townend, J. (2017). EQcorrscan: Repeating and near-repeating earthquake detection and analysis in Python. *Seismological Research Letters*, 89 (1), 173-181. doi: <https://doi.org/10.1785/0220170151>

### Matched filter earthquake detection and double-difference relocation at Rotokawa and Ngatamariki geothermal areas: January to November 2015

- Hopp, C., Savage, M., Townend, J., Sewell, S., Sherburn, S. (2016). Matched filter earthquake detection and double-difference relocation at Rotokawa and Ngatamariki geothermal areas: January to November 2015, Abstract 113 presented at New Zealand Geothermal Workshop 2016, Auckland, NZ, 23-25 Nov.

## SELECTED PRESENTATIONS

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### 2017 STATSEI Poster Presentation

- Hopp, C., Savage, M., Townend, J., Sewell, S., Sherburn, S. (February, 2017). Four-year induced seismicity catalog at Ngatamariki and Rotokawa, Poster #14 presented at 2017 STATSEI Meeting, Wellington, New Zealand, 20-24, Feb.

### 2017 AGU Fall Meeting Poster Session

- Hopp, C., Savage, M., Sewell, S., Townend, J. (December, 2017). Characteristics of seismicity at Ngatamariki and Rotokawa geothermal fields, North Island, New Zealand, Abstract 252905 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.

### 2018 SSA Annual Meeting Talk

- Hopp, C., Sewell, S., Savage, M., Mroczek, S., Townend, J. (May, 2018). Variations in source properties with evolving deep injection at the Ngatamariki geothermal field, New Zealand, presented at 2018 SSA Annual Meeting, Miami, FL, 14-17 May. doi: <https://www.seismosoc.org/presentations/variations-in-source-properties-with-evolving-deep-injection-at-ngatamariki-geothermal-field-new-zealand/>

## ADDITIONAL SKILLS

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- Spanish: written and oral fluency
- Programming languages and software: Linux OS, Python, software development (Python), git & bitbucket, shell scripting, ANTELOPE, SEISAN, MATLAB, R, RockScience Suite
- Strong public speaking and group facilitation skills in multi-cultural environments
- Extensive off-road driving experience: ATV, side-by-side, truck

## PROFESSIONAL ACTIVITIES & ACCOMPLISHMENTS

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- Member: American Geophysical Union, Seismological Society of America
- Returned Peace Corps Volunteer