

# ALEXANDER NEWTON STEELY – PH.D., L.G.

Established leader and well-rounded geologist

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📍 Olympia, Washington

## EXPERIENCE

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### Geologic Mapping Program Manager

#### Washington Geological Survey

📅 1/2021 - present 📍 Olympia, WA

- Scientific, programmatic, and safety leadership for all geologic mapping
- Supported my team using individual feedback, planning, mentoring, and training all with compassion, humility, and a focus on clear communication
- Convened and led annual stakeholder summit to develop mapping priorities
- Built and staffed new county-based aggregate-mapping program
- Increased annual grant award for STATEMAP program from ~\$170k to ~\$406k, resulting in four additional staff (two full-time; two part-time)
- Pursued and generated new funding opportunities with the EarthMRI grant program, resulting in three grant awards, \$622k in federal support, three MS-student projects, and two full-time staff
- Effectively managed multiple overlapping federal grants, with a current annual budget of ~\$1.3–1.5M
- Developed unified GIS-based mobile data collection platform for mapping
- Completed mapping and mineral assessment for two 7.5-minute quadrangles as part of first EarthMRI project

### Geothermal and Geologic Mapping Program Manager

#### Washington Geological Survey

📅 3/2017 - 12/2020 📍 Olympia, WA

- Scientific lead and project manager for Phase 2 and 3 of DOE Geothermal Play-Fairway grant, including geologic, geophysical, and drilling exploration
- Successfully led team of 20+ external collaborators and students over multi-year and multi-phase project
- Generated \$1.4M of external grant funding for the DOE project
- Provided scientific review and direction for all other mapping projects (STATEMAP and Chehalis Basin Project)
- Expanded geologic mapping program from 2 to 5 full-time staff and from 2 to 5 summer field assistants
- Generated \$1.6M of external grant funding for mapping projects
- Pursued and completed mapping of one 7.5-minute quadrangle for the DOE project and one-and-a-half quadrangles for the STATEMAP program

### Technical Geology Editor

#### Washington Geological Survey

📅 10/2014 - 3/2017 📍 Olympia, WA

- Increased productivity of the editing/production section by embracing new technology and innovating solutions
- Helped design and develop new Agency (DNR) website; wrote dynamic web content for geologic hazard pages, hazard maps, and emergency preparedness; learned and developed Java Script applications

## EDUCATION

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### Ph.D. in Geology, 2016

#### University of California, Santa Cruz

- (1) Uplift and exhumation of the Central California Coast Ranges from thermochronometry, quantitative geomorphology, and basin analysis
- (2) Innovations in zircon U-Pb geochronology

### M.Sc. in Geology, 2006

#### Utah State University

- (1) Transition from oblique low-angle normal faulting to transpressional strike-slip faulting west of the San Andreas fault, southern California
- (2) Evolution of a low-angle detachment fault in southeast Idaho (EDMAP project)

### B.S. in Geology, 2003

#### University of Oregon

Departmental Honors

## LICENSURE

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### Washington Engineering Geologist

In progress: test date 2024

### Washington Geologist

Since 2015

## SELECTED TRAININGS

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DNR Crucial Conversations – 2019

DNR Leadership Fellowship – 2016/2017

U-Pb Software Development – 2013

Wilderness First Responder – 2010

Swiftwater Rescue – 2009

Wilderness First Responder – 2007

ExxonMobil Short Course – 2005

## EXPERIENCE

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### Research and Teaching Assistant

#### University of California, Santa Cruz

📅 9/2012 - 9/2014      📍 Santa Cruz, CA

- Authored high-quality publications, wrote successful grant proposals, managed several grant budgets, and mentored five undergraduate Capstone Research projects
- Developed and implemented multi-discipline research project
- Developed new zircon geochronology and apatite thermochronometry methods, including learning several programming languages to write and develop new and innovative software

### PhD Student Internship

#### Chevron Energy

📅 Summer 2013      📍 Houston, TX

- Collaborated effectively with a 20-person international oil development team on a daily and weekly basis to develop regional-scale 2D cross-sections and 3D interpretations of Zagros foreland in northern Iraq
- Compiled and utilized borehole geophysical data, 2D seismic, and surface geology to constrain interpretation
- Presented results to ~100 Chevron geologists and held an open forum discussion on development opportunities

### Founder and Partner

#### Epidote, LLC

📅 10/2010 - 1/2014      📍 Eugene, OR

- Formed a partnership LLC to perform biological consulting work in southern California and Nevada and managed all aspects of company, including budgets, job solicitation, environmental compliance, and logistics

### Crew Leader and GIS Technologist

#### Great Basin Institute

📅 2/2009 - 6/2010      📍 Las Vegas, NV

- Directly supervised six team members for five-day field campaigns in remote areas of southern Nevada while ensuring that our teams met both short-term and long-term project goals
- Collaborated with supervisors, other team leaders, land managers, and logistical support personnel
- Developed and maintained GIS database for all 30 deployed teams

### Head River Guide

#### ECHO Wilderness Trips

📅 5/2008 - 9/2011      📍 Grants Pass, OR

- Effectively managed five guides and ensured the safety and enjoyment of 30 clients on five-day wilderness trips
- Planned all aspects of trip logistics, food, gear, and safety; served as the client liaison; maintained an infectious positive attitude during long-periods of physically strenuous duty
- Served as emergency team leader during river rescues, medical emergencies, and during dangerous situations

## SKILLS

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Budget wizard    Accountability

Project management    Collaboration

Empathy    Scientific writing    Coding

Growth mindset    Geologic mapping

Technical editing    Logic puzzles

Compassion    Gantt charts    Layout

Proposal writing    Structural geology

Out-of-the-box thinking    List making

Communication    Geochronology

## OTHER NOTABLES

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Helping to raise an amazing small human – 2020 to present

Co-developed a 1/2-acre vegetable garden and orchard – 2018 to present

Built an 800-sq-ft house – 2019

Engineered a Subaru engine conversion in a 1974 VW Westphalia – 2010

Regularly do yoga, mountain biking, paddle boarding, swimming, hiking, backpacking, backcountry skiing, rock climbing, wood working, gardening, and foraging

## AWARDS

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College of Science Graduate Researcher of the Year – 2005

**Utah State University**

Department of Geology Graduate Researcher of the Year – 2005

**Utah State University**

## PUBLICATIONS

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Aggregate resource inventory of Kitsap County, Washington

**2023 Washington Geological Survey Map Series 2023-01, 1 sheet, scale 1:100,000, with 17 p. text**  
*Rudko, Amy; Steely, A. N.*

Geologic map of the Chester Morse Lake 7.5-minute quadrangle, King County, Washington.

**2022 Washington Geological Survey Map Series 2022-04, 1 sheet, scale 1:24,000, with 33 p. text**  
*Steely, A. N.; Anderson, Megan; Alexander, K. A.*

Discrete multi-pulse laser ablation depth profiling with a single-collector ICP-MS: sub-micron U-Pb geochronology of zircon and the effects of radiation damage on depth-dependent fractionation.

**2014 Chemical Geology v. 372, p. 92-108**  
*Steely, A. N.; Hourigan, J. K.; Juel, E.*

Evidence for seismic slip on a continental low-angle normal fault: Tectonic pseudotachylite from the West Salton detachment fault, CA, USA

**2014 Earth and Planetary Science Letters, v. 387C, p. 170-183**  
*Prante, M. R.; Evans, J. P.; Janecke, S. U.; Steely, A. N.*

High geologic slip rates since early Pleistocene initiation of the San Jacinto and San Felipe fault zones in the San Andreas Fault System: southern California, USA

**2011 Geological Society of America Special Paper 475, pp. 48**  
*Janecke, S. U.; Dorsey, R. J.; Forand, D.; Steely, A. N.; Kirby, S. J.; Lutz, A. T.; Housen, B. A.; Belgarde, B.; Langenheim, V. E.; Rittenour, T.M.*

Early Pleistocene initiation of the San Felipe fault zone, SW Salton Trough, during reorganization of the San Andreas fault system,

**2009 Geological Society of America Bulletin, v. 121, n. 5-6, p. 663-687**  
*Steely, A. N.; Janecke, S. U.; Dorsey, R. J.; and Axen, G. J.*

Pleistocene Brawley and Ocotillo formations: Evidence for initial strike-slip deformation along the San Felipe and San Jacinto fault zones, California

**2007 Journal of Geology, v. 115, n. 1, p. 43-62**  
*Kirby, S. M.; Janecke, S. U.; Dorsey, R. J.; Housen, B. A.; McDougall, K.; Langenheim, V.; Steely, A. N.*

Evolution of a late Cenozoic supradetachment basin above a flat-on-flat detachment with a folded lateral ramp, SE Idaho

**2005 Geological Society of America Field Guide 6, p. 169-198**  
*Steely, A. N.; Janecke, S. U.; Long, S. P.; Carney, S. M.; Oaks Jr., R. Q.; Langenheim, V. E.; Link, P. K.*

Geologic map of the Weston Canyon 7.5' Quadrangle, Franklin and Oneida Counties, SE Idaho

**2005 Idaho Geological Survey Technical Report T-05-3, scale 1:24,000**  
*Steely, A. N.; Janecke, S. U.*

## IN PREPARATION PUBLICATIONS

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Geologic map of the Port Townsend 1:100,000-scale quadrangle

**Anticipated publication date: 2023**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Schuster, J. E.*

Geologic map and mineral resources of the Adams Mountain and Hunters 7.5-minute quadrangles, Stevens County, Washington

**Anticipated publication date: 2023**

**Publisher: Washington Geological Survey**

*Steely, A. N.*

Aggregate resource inventory of Skagit County, Washington

**Anticipated publication date: 2023**

**Publisher: Washington Geological Survey**

*Rudko, Amy; Steely, A. N.*

Geologic map of the Cougar Mountain 7.5-minute quadrangle, King County, Washington

**Anticipated publication date: 2024**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Contreras, T. C.; Lockett, Alec; Bauer, Anita; Anderson, Megan; Alexander, K. A.*

Age, provenance, and correlation of Paleogene to Neogene strata in Western Washington

**Anticipated publication date: 2024**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Hourigan, J. K.; Brandon, M.*

Active focused uplift and erosion along San Gregorio Hosgri fault, central California

**Anticipated publication date: 2024**

**Publisher: Geology**

*Steely, A. N.; Hourigan, J. K.*

Geologic and geophysical assessment of tectonic uplift and fault activity in the Doty and Willapa Hills, Southwest Washington

**Anticipated publication date: 2024**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Anderson, Megan; von Dassow, W.; Reedy, T.; Lau, T.; Horst, A.; Amaral, C.; Cakir, R.; West, T.; Stanton, K.; Linneman, C.; Lockett, A.; Duckworth, C.; Woodring, D.; Tepper, J.; Staisch, L.*

Geothermal Play-Fairway Analysis of Washington State Prospects: Final Report

**Anticipated publication date: 2024**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Cladouhos, T. C.; Davatzes, N.; Allen, C. K.; Swyer, Michael; Spake, Drew; Stowe, B. L.; Anderson, M. L.; Ritzinger, Brent; Peacock, J.; DeAngelo, J.; Schermerhorn, W.; Crosbie, K.; Ulberg, C.; Schmalzle, G.; Garrison, G.; Glen, J.; Czajkowski, J.; Uddenberg, M.; Burns, E.; Stelling, P.; Tanner, N.; Norman, D.*

Geologic map and mineral resources of the Orient 15-minute quadrangle, Stevens County, Washington

**Anticipated publication date: 2026**

**Publisher: Washington Geological Survey**

*Steely, A. N.; Anderson, Megan; Mattinson, C.; Gaudette, R.; Miller, D.; others to be determined*

# GRANTS AND COOPERATIVE AGREEMENTS

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## 2016–2023 Washington Geological Survey Total: \$6.0M

2023–2026	EathMRI Grant	U.S. Geological Survey	<b>Award: \$330k</b>
<i>Geologic map of the Orient 15-minute quadrangle</i>			
2023–2025	EarthMRI Grant	U.S. Geological Survey	<b>Award: \$193k</b>
<i>Mine-waste characterization at 10 sites and statewide mine-waste inventory</i>			
2023–2024	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$406k</b>
<i>Geologic maps of the Ellensburg South, Eatonville, Eagle Gorge, and S. half of Cougar Mountain 7.5-minute quadrangles</i>			
2022–2023	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$338k</b>
<i>Geologic maps of the Bald Hill, Harts Lake, Kittitas, and S. half of East Kittitas 7.5-minute quadrangles</i>			
2021–2022	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$331k</b>
<i>Geologic maps of the Colockum Pass SE, N. half of East Kittitas, McKenna, N. half of Lake Lawrence, Chester Morse Lake, and N. half of Cougar Mountain 7.5-minute quadrangles</i>			
2020–2023	EarthMRI Grant	U.S. Geological Survey	<b>Award: \$100k</b>
<i>Geologic map and mineral resources of the Adams Mountain and Hunters 7.5-minute quadrangles</i>			
2020–2021	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$222k</b>
<i>Geologic maps of the Tenalquat Prairie, N. half of Vail, Colockum Pass SW, and S. half of Naneum Canyon 7.5-minute quadrangles</i>			
2019–2020	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$170k</b>
<i>Geologic maps of the Ellensburg North, S. half of Reecer Canyon, Oakville, and Rainbow Falls 7.5-minute quadrangles</i>			
2018–2021	Chehalis Basin	WA Department of Ecology	<b>Award: \$1.2M</b>
<i>Geologic and geophysical assessment of tectonic uplift and fault activity in the Doty and Willapa Hills</i>			
2018–2019	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$170k</b>
<i>Geologic maps of the Adna and Rochester 7.5-minute quadrangles</i>			
2017–2019	Play Fairway Grant	U.S. Department of Energy	<b>Award: \$1.6M</b>
<i>Phase 3—Validation of play-fairway methods through drilling in the Washington Cascades</i>			
2017–2018	STATEMAP Grant	U.S. Geological Survey	<b>Award: \$170k</b>
<i>Geologic maps of the Centralia and Violet Prairie 7.5-minute quadrangles</i>			
2016–2017	Play Fairway Grant	U.S. Department of Energy	<b>Award: \$760k</b>
<i>Phase 2—Geologic and geophysical exploration of three plays in the Washington Cascades</i>			
2014	Graduate Student Award	J. Casey Moore Foundation	<b>Award: \$2,500</b>
<i>Exhumation of the Central California Coast Ranges</i>			
2013	R. Chambers Memorial Grant	Northern California Geological Society	<b>Award: \$2,500</b>
<i>Exhumation of the Central California Coast Ranges</i>			
2013	Graduate Student Research Grant	Geological Society of America	<b>Award: \$2,150</b>
<i>Exhumation of the Central California Coast Ranges</i>			
2005	Graduate Student Research Grant	Geological Society of America	<b>Award: \$900</b>
<i>Evolution from oblique-normal faulting to transpressional strike-slip faulting in southern California</i>			