

**Jacob I. Walter**  
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## Education

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- 2012** Ph.D. Earth Sciences (August 2012)  
University of California, Santa Cruz, CA  
Thesis title: *The influence of small stresses on the dynamics of glaciers and subduction zones*
- 2006** B.A. Geology (Magna cum laude)  
University of Colorado, Boulder, CO

## Appointments

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- 2014 -** **Research Associate**, Institute for Geophysics, University of Texas at Austin
- 2012 - 2013** **Postdoctoral Fellow**, Georgia Institute of Technology, Atlanta, GA

## Teaching Experience

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- 2014** **Guest Instructor (1 lecture)**, UT, Intro. to the Cryosphere (Fall 2014)
- 2013** **Guest Instructor (3 lectures)**, GT, Seismology (Fall 2013)
- 2012** **Guest Instructor (1 lecture)**, UCSC, Glaciology
- 2011, 2009** **Teaching Assistant**, UCSC EART 110C: The Dynamic Earth (Geophysics course for Senior Undergraduate and Graduate Students)

## Professional Experience

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- 2006 - 2007** **Geologist**, Trihydro Corporation, Laramie, WY

## Publications – in review

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**Walter, J. I.**, Z. Peng, S. Tulaczyk, and L. H. Beem (in revision), Ice stream slip triggered by distant earthquakes.

## Publications – peer-reviewed

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15. **Walter, J. I.**, P. J. Dotray, C. Frohlich, and J. F. W. Gale (in press), Earthquakes in northwest Louisiana and the Texas-Louisiana border possibly induced by energy resource activities within the Haynesville shale play, *Seismol. Res. Lett.*
14. **Walter, J. I.**, Z. Peng, X. Meng, A. V. Newman, S. Y. Schwartz, and J. Marino Protti (2015), Far-field triggering of foreshocks near the nucleation zone of the 5 September 2012 (Mw 7.6) Nicoya Peninsula, Costa Rica earthquake, *Earth and Planet. Sci. Lett.*, 431: 75-86, doi:10.1016/j.epsl.2015.09.017.

13. Bartholomaeus, T. C., J. M. Amundson, **J. I. Walter**, S. O'Neel, M. E. West, and C. F. Larsen (2015), Subglacial discharge at tidewater glaciers revealed by seismic tremor, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL064590.
12. Malservisi, R., S. Y. Schwartz, N. Voss, M. Protti, V. Gonzalez, T. H. Dixon, Y. Jiang, A. V. Newman, J. Richardson, **J. I. Walter**, and D. Vayenko (2015), Multiscale postseismic behavior on a megathrust: The 2012 Nicoya earthquake, Costa Rica, *Geochem. Geophys. Geosyst.*, 16, doi:10.1002/2015GC005794.
11. Aiken, C., J. P. Zimmerman, Z. Peng, and **J. I. Walter** (2015). Triggered seismic events along the eastern Denali fault in northwest Canada following the 2012 Mw 7.8 Haida Gwaii, 2013 Mw 7.5 Craig, and two Mw>8.5 teleseismic earthquakes, *Bull. Seismol. Soc. Am.*, 105, no. 2B, doi: 10.1785/0120140156.
10. Frohlich, C., **J. I. Walter**, and J. F. W. Gale (2015), Analysis of transportable array (USArray) data shows earthquakes are scarce near injection wells in the Williston Basin, 2008-2011, *Seismol. Res. Lett.*, 86, 492-499.
9. **Walter, J. I.**, I. Svelitsky, S. Tulaczyk, J. Fineberg, E. E. Brodsky, and S. P. Carter (2015), Rupture speed dependence on initial stress profiles: Insights from glacier and laboratory stick-slip, *Earth and Planet. Sci. Lett.*, 411: 112-120, <http://dx.doi.org/10.1016/j.epsl.2014.11.025>.
8. Peng, Z., **J. I. Walter**, R. Aster, D. A. Wiens, S. Anandakrishnan, and A. Nyblade (2014), Antarctic icequakes triggered by the 2010 Maule earthquake in Chile, *Nature Geosci.*, 7, 677–681, doi:10.1038/ngeo2212.
7. Protti, M., V. Gonzalez, A. V. Newman, T. H. Dixon, S. Y. Schwartz, J. S. Marshall, L. Feng, **J. I. Walter**, R. Malservisi, and S. E. Owen (2014), Nicoya earthquake rupture anticipated by geodetic measurement of the locked plate interface, *Nature Geosci.*, 7, 117–121, doi:10.1038/ngeo2038.
6. **Walter, J. I.**, S. Y. Schwartz, M. Protti, and V. Gonzalez (2013), The synchronous occurrence of shallow tremor and very low frequency earthquakes offshore of the Nicoya Peninsula, Costa Rica, *Geophys. Res. Lett.*, 40, 1517–1522, doi:10.1002/grl.50213.
5. Horgan, H. J., S. Anandakrishnan, R. W. Jacobel, K. Christianson, R. B. Alley, D. S. Heeszel, S. Picotti, and **J. I. Walter** (2012), Subglacial Lake Whillans – Part 1: Imaging a Shallow Active Reservoir Beneath a West Antarctic Ice Stream, *Earth and Planet. Sci. Lett.*, 331: 201-209.
4. **Walter, J. I.**, J. E. Box, S. Tulaczyk, E. E. Brodsky, I. M. Howat, Y. Ahn, and A. Brown (2012), Oceanic mechanical forcing of a marine-terminating Greenland glacier, *Ann. Glaciol.*, 53(60), 181-192(12), doi:10.3189/2012AoG60A083.

3. **Walter, J. I.**, E. E. Brodsky, S. Tulaczyk, S. Y. Schwartz, and R. Pettersson (2011), Transient slip events from near-field seismic and geodetic data on a glacier fault, Whillans Ice Plain, West Antarctica, *J. Geophys. Res.*, 116, F01021, doi:10.1029/2010JF001754.
2. **Walter, J. I.**, S. Y. Schwartz, J. M. Protti, and V. Gonzalez (2011), Persistent tremor of the northern Costa Rica seismogenic zone, *Geophys. Res. Lett.*, 38, L01307, doi:10.1029/2010GL045586.
1. Outerbridge, K. C., T. H. Dixon, S. Y. Schwartz, **J. I. Walter**, M. Protti, V. Gonzalez, J. Biggs, M. Thorwart, and W. Rabbel (2010), A tremor and slip event on the Cocos-Caribbean subduction zone as measured by a GPS and seismic network on the Nicoya Peninsula, Costa Rica, *J. Geophys. Res.*, 115, B10408, doi:10.1029/2009JB006845.

## **Funding and Grants**

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### **Current External Research Grants**

“Probing dynamic interactions between the Haida Gwaii and Craig earthquakes and implications for Southeast Alaska faults,” lead PI with Z. Peng (Georgia Tech), USGS-NEHRP, \$49,996 awarded to UT, 2 months salary, 3/1/15-2/29/16.

“Collaborative Research: MIDGE: Minimally Invasive Direct Glacial Exploration of Biogeochemistry, Hydrology and Glaciology of Blood Falls, McMurdo Dry Valleys,” NSF-AISS, subaward in amount of \$15,353 awarded to UT, 0.78 months salary.

### **Pending External Research Proposals**

“Collaborative Research: Slip behavior of a shallow, seismogenic subduction interface,” lead PI with 1 other inst., NSF-Geophysics.

“Collaborative Research: Quest for the Source of Blood Falls – Geophysical Search for Water Beneath Taylor Glacier, Antarctica,” co-PI with 2 other inst., NSF-Antarctic Glaciology.

“Collaborative Research: Triggering of Antarctic icequakes, slip events, and other tectonic phenomena by distant earthquakes,” lead PI with 1 other inst., NSF-Antarctic Earth Sciences.

“Collaborative Research: Kamb Ice Stream Shear Margin Evolution (KISSME): Shear margins as a critical Antarctic environment for ice sheet dynamics and subglacial,” co-PI with 3 other institutions, NSF-Antarctic Glaciology.

“Comprehensive analysis of USArray data to evaluate induced and natural earthquakes in Wyoming,” co-PI, USGS-NEHRP.

### **Current Internal**

“Probing variations in deformation rate and seismicity along the forearc of the uniquely accessible Western Solomon Islands,” lead PI, JSG seed grant, 0.5 months salary, \$34,214.

## Students

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### Graduate advisor

Taylor Borgfeldt      MS Candidate      2015-

### Graduate thesis committee member

Mason Fried      PhD Candidate      2014-

### Undergraduate research advising

Shawn Lee      2015 IRIS summer intern      UC Berkeley, Geophysics

Julie Gerzina      Fall 2015 -      UT Austin, Physics

Peter Dotray      Fall 2014 -      UT Austin, JSG

## Invited/Special Seminars

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**Walter, J. I.**, The spatio-temporal evolution of seismic activity preceding and following the 5 September 2012 Nicoya Peninsula earthquake, Pacific Geoscience Centre, February 2014.

**Walter, J. I.**, Dynamics of ice sheets on seismic (and slightly longer) timescales, University of Illinois Chicago, October 2013.

**Walter, J. I.**, The spatio-temporal evolution of seismic activity preceding and following the 5 September 2012 Nicoya Peninsula earthquake, Institute of Geophysics, Chinese Earthquake Administration, August 2013.

**Walter, J. I.**, Dynamics of ice sheets on seismic (and slightly longer) timescales, Earthquake Research Institute, University of Tokyo, August 2013.

## Selected Conference Presentations

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**Walter, J. I.**, Z. Peng, H. Kao, X. Meng, T. Hobbs, P. Dotray, T. Mulder (Oral), Dynamic interactions between the late October 2012 Haida Gwaii and early January 2013 Craig earthquakes and other faults in Southeast Alaska, *AGU Fall Meeting*, San Francisco, CA, December 2015.

**Walter, J. I.**, Z. Peng, S. Tulaczyk, and L. Beem, Ice stream slip triggered by distant earthquakes, *AGU Fall Meeting*, San Francisco, CA, December 2014.

**Walter, J. I.**, I. Svetlizky, J. Fineberg, E. E. Brodsky, S. Tulaczyk, and S. P. Carter (Oral), Interfacial stresses at the grounding line of the Whillans Ice Plain control the initial stick-slip rupture speed, *Western Antarctic Ice Sheet Workshop*, San Diego, CA, September 2014.

**Walter, J. I.**, H. Kao, Z. Peng, C. Aiken, X. Meng, J. Zimmerman (Oral), Investigating dynamic interactions between the October 2012 Haida Gwaii and January 2013 Craig earthquakes, *Seismological Society of America Meeting*, Anchorage, AK, May 2014.

**Walter, J. I.**, J. Amundson, Z. Peng, S. Prejean, and P. Morgan (Invited Oral), The seismic signature of glacier outburst floods, *AGU Fall Meeting*, San Francisco, CA, December 2013.

**Walter, J. I.**, Z. Peng, X. Meng, C. Kyriakopoulos, A. V. Newman, R. Malservisi, L. Feng, S. Y. Schwartz, T. H. Dixon, M. Protti, and Z. Kannan, Spatio-temporal patterns of post-earthquake seismicity and afterslip following the 5 September 2012 (Mw 7.6) Nicoya Peninsula earthquake, *AGU Fall Meeting*, San Francisco, CA, December 2013.

**Walter, J. I.**, Z. Peng, S. Y. Schwartz, X. Meng, A. Newman, and M. Protti (Invited Oral), Tremor, slow slip, and the spatio-temporal evolution of seismic activity at the fringes of a megathrust earthquake at the Nicoya Peninsula, Costa Rica, *Seismological Society of America Meeting*, Salt Lake City, UT, April 2013.

**Walter, J. I.**, Z. Peng, S. Tulaczyk, and S. O'Neel (Oral), Triggering of glacier (icequake) seismicity by distant earthquakes, *Seismological Society of America Meeting*, Salt Lake City, UT, April 2013.

**Walter, J. I.**, Z. Peng, S. Tulaczyk, S. O'Neel, and J. Amundson (Poster), Assessing the triggerability of glacier (icequake) seismicity, *AGU Fall Meeting*, San Francisco, CA, December 2012.

**Walter, J. I.**, J. E. Box, S. Tulaczyk, E. E. Brodsky, I. M. Howat, Y. Ahn, and A. Brown (Invited Oral), Oceanic mechanical forcing of the dynamics of a marine-terminating Greenland glacier by ice mélange removal and ocean tides, *AGU Fall Meeting*, San Francisco, CA, December 2011.

## Service

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- Outreach**      Contributed to Ice Stories, an Exploratorium (science museum in San Francisco) project and website featuring contributions from Antarctic researchers
- Reviewer**      Journal of Geophysical Research-Earth Surface/Solid Earth, Geology, Journal of Glaciology, Geophysical Research Letters, Bulletin of the Seismological Society of America, Polar Science, National Geographic (ad-hoc), NSF Arctic Natural Sciences (ad-hoc), NSF Geophysics (ad-hoc), NSF GeoPRISMS (ad-hoc)
- Mentorship**    Supervised or co-supervised undergraduate research projects (S. Lee-IRIS summer intern, P. Dotray-UT Austin, K. Myers-UCSC, P. Morgan-GT summer intern, Z. Kannan-GT)
- Convener**      2014 Fall AGU Meeting session on seismicity and geodesy after large earthquakes, 2013 AGU Meeting of the Americas session on slow slip and tremor
- Committee**    PASSCAL Scientific Steering Committee Member since 2015, Institutional Representative to the IRIS consortium of Universities conducting seismological

research, UTIG Science Council, UTIG Review Committee for Classified Employees, UTIG Seminar Committee

### **Awards as a Graduate Student**

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**2011 - 2012** Chancellor's Dissertation Year Fellowship (\$21,000 plus student fees)  
**2011** Earthscope Annual Meeting Student Presentation Award  
**2010** Waters Award (Best Department Thesis Proposal ~\$4,000)  
**2009 - 2012** NASA Earth and Space Science Fellowship (\$90,000)  
**2010** US Antarctic Service Medal

### **References**

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