

Dr. Elizabeth J. Cassel
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EDUCATION

Ph.D. Stanford University, Geological and Environmental Sciences June 2010
Dissertation: "Cenozoic Landscape Evolution of the Northern Sierra Nevada and Western Basin and Range: Implications for Tectonics, Climate, and Topography"
Advisor: Professor Stephan A. Graham
Committee: Christopher Henry, C. Page Chamberlain, Donald Lowe, and George Hilley

B.A. Carleton College, Geology, *Magna Cum Laude*
June 2003

Senior Thesis: "The Sedimentary Succession and its Evolution at Morgan Beach, Cape Liptrap, Australia"

RESEARCH AND TEACHING INTERESTS

General Research Description: My research focuses on understanding and quantifying mountain uplift and evolution through the sedimentary basin record. I combine sedimentologic, geochemical, geomorphic, and geo-/thermochronologic data to track changes in surface topography, drainage morphology, climate, and exhumation. I am currently focusing on the Cenozoic history of the North and South American Cordillera. I also have interests in Eocene paleoclimate and orogen-climate dynamics, basin analysis, subduction and slab rollback mechanics, detrital double dating and provenance, source-to-sink clastic sedimentology, and analytical methods in stable isotope geochemistry.

Potential Courses: Sedimentology and Stratigraphy; Tectonics; Basin Analysis; Historical Geology; Field Methods; Stable Isotope Geochemistry; Sedimentation Mechanics; Geology Field School; Depositional Environments; Tectonics, and Topography: Mountains of the Cenozoic; Methods in Paleogeometry; Geologic and Historical Aspects of the California Gold Rush; Geology of the North American Cordillera, Isotope Systems, Cenozoic Paleoclimate.

PROFESSIONAL EXPERIENCE

Assistant Professor, University of Idaho

Dept. of Geological Sciences, Moscow, ID

January 2014-present

Current research projects:

1. Drivers for basin formation and lacustrine evolution through the Eocene sedimentary record in eastern Nevada and the implications for the timing and magnitude of Basin and Range extension, using basin stratigraphy, $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology, stable isotope analysis, and detrital zircon (U-Th)/(He-Pb) double dating. NSF Tectonics Collaborative Research Project with D. Stockli (UT-A), M.E. Smith (NAU), and B. Jicha and B. Singer (UW-Madison) began in September 2013. Students: Andrew Canada (PhD), Amanda Wilson, Nikki Seymour (Sr. Theses at UT-A completed 2013-2014), Cameron Carlson, and Emily White (Sr. Theses completed in 2016).
2. History of Cenozoic uplift and forearc basin evolution in the southern Peruvian Andes, using sedimentologic and stratigraphic characterization of forearc sediments, detrital zircon geochronology, and stable isotope analysis of rhyolitic ignimbrites. NSF Tectonics Collaborative Research Grant with B. Yanites (IU-Bloomington), C. Poulsen (U-Michigan), and D. Breecker (UT-A) funded for 2016-2019. Students: Emily White (PhD).

3. Paleogene topography and drainage morphology of the western US through detailed sedimentologic and stratigraphic analysis, detrital zircon (U-Th)/(He-Pb), and stable isotope and geochemical analyses of rhyolitic ignimbrites (multiple projects in ID, WY, MT, CO). NSF Earthscope Collaborative Research Proposal with R. Porter, M.E. Smith, (NAU), and B. Jicha (UW-Madison) currently in revision. Students: Emily Fredericks, (Sr. Thesis in progress), Alexandra Adams (Sr. Thesis), Gabriella Rossetto (Sr. Thesis at Colorado College).
4. Topographic and kinematic evolution of the Cordilleran hinterland in British Columbia. Methods include stratigraphy, glass paleoaltimetry, $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology, detrital zircon U/Pb–Hf, and TREE geochemistry. NSF Tectonics Collaborative Research Proposal with A. Leier (S. Carolina) in review. Student: Zachary Foster-Baril (MS in progress).
5. Testing the durability and stability of the volcanic glass proxy and determining water-glass fractionation for stable isotope analysis. Low-Temp Geochem NSF Proposal currently in preparation. Student: Eric Stauffer (Sr. Thesis in progress).

Current courses: Stratigraphy and Sedimentation, Basin Analysis, Historical Geology, Field Methods, Isotope Systems, Cenozoic Paleoclimate, Geo- & Thermochronology.

Jackson Distinguished Postdoctoral Fellow & Lecturer, The University of Texas at Austin:

Geological Sciences Department, Austin, TX September 2011-January 2014

This research focused on the Cenozoic history of the region of the proposed ‘Nevadaplano’ (northern Nevada and northeastern California). I reconstructed past drainage morphology and quantified paleo-elevations across the region. I also began projects on the uplift of the Andean Altiplano in southern Peru and laboratory methods in stable isotope geochemistry, and I participated in multiple research groups and field trips. In Fall 2014, I taught an upper-level undergraduate Continental Tectonics, primarily for majors.

Visiting Assistant Professor of Geosciences, Franklin & Marshall College:

Department of Earth & Environment 2010-2011

Course load included an introductory environmental geology course with a lab, a writing-intensive first-year seminar on the California Gold Rush, and a field-intensive Sedimentology and Stratigraphy course with a lab. In addition to my teaching responsibilities, I collaborated with other faculty and students, contributed to independent student research projects, and supervised student preceptors and teaching assistants. I also co-led the department spring field trip to Death Valley with 18 Earth & Environment students.

Graduate Research and Teaching Assistant, Stanford University:

Geological and Environmental Science Department, Stanford, CA 2004-2010

Graduate Research: My dissertation addressed the controversial issues of Eocene-Oligocene topography and climate of Sierra Nevada, the timing of uplift of the range, and the existence of a high-elevation plateau to the east by reconstructing the history of fluvial incision and aggradation, sedimentary provenance, and the isotopic record of paleo-elevation. I gained a new understanding of fluvial system evolution through detailed documentation of the stratigraphic architecture, sedimentary processes, contact relationships, and the pattern of paleo-valley incision and basin aggradation, as well as laboratory research including stable isotope and TREE geochemistry, GIS surface mapping, $^{40}\text{Ar}/^{39}\text{Ar}$ radiometric dating, and detrital zircon geochronology.

Hoagland Teaching Assistantship: This yearlong appointed assistantship involved improving introductory undergraduate courses within the Earth Sciences by working one-on-one with faculty members and developing new activities, labs, lectures, and field trips. Developed

activities for Introductory Geology and a K/T extinction-focused introductory course; continued work and class lectures in the undergraduate Sedimentology course. Supervisor: Anne Egger, Undergraduate Program Coordinator, Stanford University.

Field Course Supervisor: One-on-one mentoring of three undergraduate students in the field for up to three weeks, including teaching field sedimentology, stratigraphy, geomorphology, GPS mapping, detrital zircon and stable isotope proxy sampling methods, and creating and advising a final field course project for the Stanford undergraduate Geology major field requirement.

Intern, ExxonMobil Upstream Research:

Sources and Seals Team, New Play Concepts, Houston, TX 2008

This project included two weeks of field work in Wyoming and northern Utah studying the Mowry Shale, followed by producing a prospect-scale geologic timescale hydrocarbon flow model, based on well-log and core data, as well as field observations and interpretations. The geologic model was built in PETREL and simulations were run in MPath (UNIX-based, from Permedia). Supervisor: Dr. Rene Jonk, New Play Concepts, ExxonMobil Upstream Research.

Field Researcher, Stanford University

Sedimentary Research Group, Stanford, CA 2005-2009

1. Four weeks in Patagonia, Southern Chile to study the Mesozoic Magallanes Basin turbidite deposits in outcrop. Fieldwork involved compiling both vertically and laterally extensive and detailed stratigraphic records of vast exposures, as well as gathering lithologic, paleocurrent and paleobiologic data, to gain insights into deep-water depositional architecture.

2. Six weeks in Western China to study the provenance and depositional history of sediments in the Songpan-Ganzi, a complex of highly deformed and folded Mesozoic turbidite deposits. Fieldwork involved sampling of sediments for sandstone QFL, REE, and detrital zircon analysis, collecting paleocurrent data, facies analyses, and photo documentation, to determine provenance and basin evolution. Thin sections from a potential sedimentary unroofing sequence in the Northeast Sichuan Basin provide a possible follow-up project.

3. Two weeks in southwest Montana to study the Paleocene to the Pliocene climatic and sedimentary record based on oxygen stable isotope analysis of paleosol carbonate from intermontane basins in southwestern Montana and eastern Idaho. This work contributed to the landscape evolution group's research on the Cenozoic topographic history of the western US.

4. Two weeks in the Taranaki Basin on the north island of New Zealand to study the stratigraphic architecture and depositional history of a Miocene deep-water slope succession now exposed along the coast. This work contributed to the sedimentary group's ongoing research.

Geographic Information Systems Analyst, University of Washington

Earth & Space Sciences and Marine Sciences Departments, Seattle, WA 2003-2004

At UW, I performed GIS analyses for both The Puget Sound River History Project and The Near Shore Project division of the Puget Sound Regional Synthesis Model. Work included georeferencing, digitizing and interpreting USCGS topographic sheets to establish the character of the Puget Sound near shore pre-settlement; also interpreting and trimming LIDAR topographic imagery to construct an accurate map of the modern shoreline. Supervisors: Amir Sheikh, Dr. David Finlayson, and Prof. David Montgomery, University of Washington.

Australia Program, Researcher:

KECK Consortium Project, Melbourne, Australia and Carleton College, MN 2002-2003

This work included four weeks of independent field research: mapping, sampling for OSL dating, and constructing a detailed stratigraphic record of beach exposures in Southeastern Australia, followed up by interpretation of that record and geochronology to determine the timing

and evolution of a coastal alluvial fan system, and further understanding of the tectonic evolution of the area. Culminated in senior thesis and co-authored publication. Advisor: Prof. Thomas Gardner, Trinity University.

Southeast Alaska Pluton Emplacement, Project Researcher:

National Science Foundation Research Project, Southeast AK 2002

This project included two weeks of GPS mapping, studying field relationships, and sample collection from plutons within the Alexander Terrane and Western Metamorphic Belt. Used Al-in-hornblende barometry and phase equilibria, based on data from electron microprobe analysis, to reconstruct the Cretaceous pluton intrusion and crystallization history for the region.

Teaching and Laboratory Assistant, Carleton College:

Geology Dept. 2002-2003

Courses: Sedimentology and Stratigraphy, Mineralogy, Petrology.

GRANTS AND AWARDS

2016-2019	National Science Foundation EAR-Tectonics Collaborative Research Grant, Lead PI: Quantifying Paleotopography and Paleoclimate to Test Geodynamic Models in the Peruvian Andes
2013-2017	National Science Foundation EAR-Tectonics Collaborative Research Grant, Lead PI: Paleogeographic record of contractional to extensional tectonics in the Cordilleran hinterland, Nevada, US
<i>In review</i>	National Science Foundation EarthScope Collaborative Research Grant, UI Lead PI: Testing Mechanisms for the Support of High Topography in the North American Cordillera Interior, February 2017
<i>In prep</i>	National Science Foundation EAR-Tectonics Collaborative Research Grant, UI Lead PI: Eocene Topography, Volcanism, and Basin Formation: Collapse of the Southern Canadian Cordilleran Hinterland
<i>In prep</i>	National Science Foundation Low-Temperature Geochemistry Collaborative Research Grant, Lead PI: Environmental Controls on Natural Glass Hydration and Isotopic Fractionation: A Record of Ancient Water Chemistry, May 2017
2014-2015	University of Idaho Seed Grant: Hydration and Stability of Natural Glasses on Geologic Timescales
2011-2013	Jackson Distinguished Postdoctoral Fellowship, School of Geosciences, UT Austin
2007-2008	Hoagland Teaching Assistantship, School of Earth Sciences, Stanford University
2005-2007	Stanford Graduate Fellowship, Stanford University
2006-2007	American Association of Petroleum Geologists Grant-in-Aid
2006-2007	Geological Society of America Student Grant
2006-2008	McGee Research Grant, School of Earth Sciences, Stanford University
2006-2007	Northern California Geological Society Graduate Research Grant
2002-2003	Duncan Stewart Fellowship, Geology Department, Carleton College
2003	Distinction in Geology (exemplary work on senior thesis), Carleton College
2003	Phi Beta Kappa; Sigma Xi Scientific Society Member

UNIVERSITY AND PROFESSIONAL SERVICE

2017	Co-chair: GSA Annual Meeting session on Grand Challenge #3: Future Directions in Tectonics
2016-2017	Co-author: Grand Challenges (#3) Report, and Workshop Participant: NSF Future Directions in Tectonics
2016-2017	Geological Sciences Dept. Curriculum Committee Member

2016-2017 Geological Sciences Dept. Representative: College of Science Faculty Council
 2015-2016 University of Idaho Creative and Scholarly Activities Committee Member
 2015-2016 Geological Sciences Structure/Tectonics Search Committee Member
 2015 Invited Speaker and Participant: NSF FACET Conference, Taiwan
 2015 NSF-EAR Tectonics Panel Member
 2014 Geological Sciences Groundwater Hydrology Search Committee Member
 2014 Organizer, Geological Sciences Department Seminar
 2014-2017 Faculty Advisor: UI Men's and Women's Ultimate Frisbee Teams
 2012-2013 Judge: Jackson School of Geosciences Research Symposium
 2011 Co-Leader, Earth & Environment Dept. Field Trip to Death Valley, F&M
 2010-2011 Faculty Advisor & Coach, F&M Women's Ultimate Frisbee Team
 2009-2010 GES Department Seminar Committee, Stanford University
 2007-2008 Geochronology Faculty Search Student Committee, Stanford University
 2007-2008 Organizer, "Brown Bag" Student Research Seminar, Stanford University
 2007 Organizer, "Convergent Margins" Department Field Trip, Stanford University
 2006 Organizer, Silicic Volcanism Seminar, Stanford University

Reviewer: NSF-EAR; ACS-PRF; DFG; Geology; Geological Society of America Bulletin; Earth and Planetary Science Letters; Geochimica et Cosmochimica Acta; Lithosphere; Bulletin of Volcanology; Geosphere; Journal of Structural Geology; Journal of Sedimentary Research; Paleo-3; American Journal of Science.

Professional Memberships: Geological Society of America, American Geophysical Union, Geological Society of Nevada.

Invited Seminars in 2016-2017: Northern Arizona University, University of North Carolina, University of Nevada-Reno, Portland State University, Montana State University, University of Idaho Board of Regents Meeting.

STUDENTS

Current: PhD: Andrew Canada; Emily White; MS: Zachary Foster-Baril
 Undergraduate Theses: Eric Stauffer, Emily Fredericks

Completed: Undergraduate Theses: Alexandra Adams, Cameron Carlson, Emily White (Co-advised, Sonoma State Univ.); Nikki Seymour, UT-A; Amanda Wilson, UT-A, Gabriella Rossetto (Co-advised, Colorado College)

Committees: Audrey Warren, MS; Luke Schwab, MS; Aaron Rodriguez, MS; Jeff Larimer, MS; Jens Hegg, PhD; Beverly Rice, PhD; Bridget Wade, MS.

Student Grants and Awards recently received by advisees:

A. Canada: AAPG (2016, 2015), RMAG (2016), SEPM (2016, 2015), GSA (2016, 2015), TRGS Scholarship (2016), GSN-Elko (2015), UI-COS (2015), Outstanding Graduate Student Award, University of Idaho Geological Sciences (2016, 2015), Best Poster Presentation: Rocky Mountain Rendezvous (2016), Geological Society of Nevada Symposium (2015).

Z. Foster-Baril: UI-COS (2016), RMS-SEPM Fluvial Sedimentology Award (2016), GSA (2016), RMS-GSA (2016), Nugent Geology Scholarship (2015).

E. White: AWG Brunton Award (2017), UI-COS (2016), RMS-GSA (2016), UI-GPSA (2016).

E. Stauffer: UI Undergraduate Research Grant (2016), RMS-GSA (2016), AAPG L. Austin Weeks Undergraduate Research Grant (2016).

A. Adams: Hill Undergraduate Research Fellowship (2015-2016), TRGS Scholarship (2015).

PUBLICATIONS

Peer-reviewed articles: (*student)

- Cassel, E.J., and Breecker, D.O., 2017, Long-term Stability of Hydrogen Isotope Ratios in Hydrated Volcanic Glass, *Geochimica et Cosmochimica Acta*, v. 200, p. 67-86, 10.1016/j.gca.2016.12.001.
- Smith, M.E., Cassel, E.J., Jicha, B.R., Singer, B.S., and Canada, A.C.*, *in review*, Hinterland drainage closure in response to Farallon flat slab removal, Nevada, U.S.A., *Earth and Planetary Science Letters*.
- Canada, A.C.*, Cassel, E.J., Stockli, D.F., Smith, M.E., Jicha, B.R., and Singer, B.S., *sub.*, Early Extension and Paleogene Accommodation in the North American Cordilleran hinterland: Implications from Apatite and Zircon Double Dating, *Geology*.
- Smith, M.E., Carroll, A.R., Jicha, B., Cassel, E.J., and Scott, J., 2015, Paleogeographic record of Eocene Farallon slab rollback beneath western North America: REPLY, *Geology*, v. 43, p. 364.
- Cassel, E.J., Breecker, D.O., Henry, C.D., Larson, T.E., and Stockli, D.F., 2014, Profile of a paleo-orogen: High topography across the present-day Basin and Range from 40 to 23 Ma, *Geology*, v. 42, no. 11, p. 1007-1010.
- Smith, M.E., Carroll, A.R., Jicha, B., Cassel, E.J., and Scott, J., 2014, Paleogeographic record of Eocene Farallon slab rollback beneath western North America, *Geology*, v. 42, no. 12, p. 1039-1042.
- Long, S.P., Henry, C.D., Muntean, J.L., Edmondo, G.P., and Cassel, E.J., 2014, Early Cretaceous construction of a structural culmination, Eureka, Nevada, U.S.A.: Implications for out-of-sequence deformation in the Sevier hinterland, *Geosphere*, v. 10, p. 564-584.
- Cassel, E.J., Grove, M., and Graham, S.A., 2012, Eocene drainage evolution and erosion of the Sierra Nevada batholith across northern California and Nevada, *American Journal of Science*, v. 312, no. 2, p. 117-144.
- Cassel, E.J., Graham, S.A., Chamberlain, C.P., and Henry, C.D., 2012, Early Cenozoic Topography, Morphology, and Tectonics of the Northern Sierra Nevada and Western Basin and Range, *Geosphere*, April 2012, v. 8, no. 2, p. 229-249.
- Henry, C.D., Hinz, N.H., Faulds, J.E., Colgan, J.P., John, D.A., Brooks, E.R., Cassel, E.J., Garside, L.J., Davis, D.A., and Castor, S.B., 2012, Eocene–Early Miocene paleotopography of the Sierra Nevada–Great Basin–Nevadaplano based on widespread ash-flow tuffs and paleovalleys, *Geosphere*, v. 8, no. 1, p. 1-27.
- Cassel, E.J., and Graham, S.A., 2011, Paleovalley morphology and fluvial system evolution of Eocene-Oligocene sediments ('auriferous gravels'), northern Sierra Nevada, California: Implications for climate, tectonics, and topography, *Geological Society of America Bulletin*, v. 123, no. 9/10, p. 1699-1719.
- Cassel, E.J., Graham, S.A., and Chamberlain, P.C., 2009, Cenozoic tectonic and topographic evolution of the northern Sierra Nevada, California, through stable isotope paleoaltimetry in volcanic glass: *Geology*, v. 37, no. 6, p. 547-550.

Cassel, E.J., Calvert, A.T., and Graham, S.A., 2009, Age, geochemical composition, and distribution of Oligocene ignimbrites in the northern Sierra Nevada, California: implications for landscape morphology, elevation, and drainage divide geography of the Nevadaplano: *International Geology Review*, v. 51, no. 7, p. 723-742.

Gardner, T.W., Webb, J., Davis, A.G., Cassel, E.J., Pezzia, C., Merritts, D.J., and Smith, B., 2006, Late Pleistocene landscape response to climate change: eolian and alluvial fan deposition, Cape Liptrap, southeastern Australia: *Quaternary Science Reviews*, v. 25, p. 1552-1569.

Cassel, E., 2003, The Late Quaternary Sedimentary Succession and its Evolution at Morgan Beach, Cape Liptrap, Australia: *KECK Proceedings*, v. 16.

Manuscripts in preparation:

Cassel, E.J., Stockli, D.F., Smith, M.E., and Canada, A.C.*, *in prep*, Paleogene drainage morphology, sediment transport, and sediment accumulation across the Cordilleran hinterland of the western US, *Geological Society of America Bulletin*.

Cassel, E.J., Stauffer, E.A.*, Canada, A.C.*, and Breecker, D.O., *in prep*, A New Glass-Water Fractionation Factor for Hydrogen Isotopes using the 7.7 ka Mazama Ash, *Geology*.

Cassel, E.J., Smith, M.E., and Canada, A.C.*, *in prep*, Hydrogen Isotope Ratios in Volcanic Glass as a Proxy for Paleo-Lake Water Geochemistry, *Earth and Planetary Science Letters*.

Foster-Baril, Z.F.*, Cassel, E.J., Leier, A., and Archibald, S.B., *in prep*, Eocene basin evolution in the North American Cordilleran hinterland, southern British Columbia, *Basin Research*.

Cassel, E.J., Adams, A.*, Smith, M.E., Breecker, D.O., and Poulsen, C., *in prep*, Quantitative Paleoelevations across the Eocene Northern Rocky Mountains: The Northern Extent of the Cordilleran Hinterland Plateau.

Conference Presentations:

Cassel, E.J., Stockli, D.F., Smith, M.E., and Canada, A.C.*, 2016, A multi-proxy study of topography and sediment provenance across the Eocene Cordilleran hinterland, *Geological Society of America Annual Meeting*, September 2016.

Canada, A.C.*, Cassel, E.J., Stockli, D.F., Smith, M.E., Jicha, B.R., and Singer, B.S., 2016, Early Cenozoic extension and accommodation in the Basin and Range: Implications from apatite and zircon double dating, *Geological Society of America Annual Meeting*, September 2016.

Foster-Baril, Z.F.*, Cassel, E.J., Leier, A. and Archibald, S.B., 2016, Eocene basin evolution in the North American Cordilleran hinterland, southern British Columbia, *Geological Society of America Annual Meeting*, September 2016.

Rubino, E.*, Leier, A., Archibald, S.B., and Cassel, E.J., 2016, Sedimentary and detrital zircon data from Eocene strata exposed in the hinterland of the southern Canadian Cordillera: Implications for basin evolution in a collapsing orogen, *Geological Society of America Annual Meeting*, September 2016.

- Canada, A.C.*, Cassel, E.J., Stockli, D.F., Smith, M.E., Jicha, B.R., and Singer, B.S., 2016, Linking detrital zircon double dating with chronostratigraphy in the Eocene Elko Basin, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- Foster-Baril, Z.F.*, Cassel, E.J., Leier, A. and Archibald, S.B., 2016, Reconstructing Eocene topography and volcanism in the North American Cordilleran hinterland, southern British Columbia, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- White, E.J.*, Cassel, E.J., Anfinson, O., and Henry, C.D., 2016, Heavy mineral analysis of Eocene sediments deposited on the high elevation North American Cordilleran plateau, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- Stauffer, E.A.* and Cassel, E.J., Volcanic glass as a meteoric water proxy: Determining Hydrogen isotope fractionation from the Mazama ash in western North America, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- Adams, A.C.*, Cassel, E.J., and Smith, M.E., 2016, Reconstructing early Eocene elevations of eastern Idaho and southwest Montana using hydrated volcanic glass, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- Carlson, C.L.*, Cassel, E.J., Canada, A.C.*, and Stockli, D.F., 2016, Constraining sediment sources across the Cordilleran hinterland in the Eocene from detrital zircon U/Pb dating, Geological Society of America Rocky Mountain Section Meeting, May 2016.
- Cassel, E.J., Smith, M.E., Canada, A.C.*, Henry, C.D., and Breecker, D.O., 2015, INVITED: The Paleogene Evolution of the Cordilleran Hinterland: American Geophysical Union, Fall Meeting, December 2015.
- Canada, A.C.*, Cassel, E.J., Stockli, D.F., Smith, M.E., Jicha, Brian R., and Singer, Brad S., 2015, Insights into the tectonic evolution of the North American Cordilleran hinterland from detrital zircon double dating of the Eocene Elko Formation: American Geophysical Union, Fall Meeting, December 2015.
- Smith, M.E., Cassel, E.J., Canada, A.C.*, Jicha, Brian R., and Singer, Brad S., 2015, A major Eocene lake system in the North American Cordilleran hinterland comes into geochronologic focus: American Geophysical Union, Fall Meeting, December 2015.
- Rossetto, G.*, Fricke, H., and Cassel, E.J., 2015, Late Paleogene topography of the Central Rocky Mountains and western Great Plains region using hydrogen isotope ratios in volcanic glass: American Geophysical Union, Fall Meeting, December 2015.
- Cassel, E.J., Breecker, D.O., Henry, C.D., and Smith, M.E., 2015, INVITED: Hydrated Volcanic Glass Durability and δD Stability on Geologic Timescales: Feedbacks among Climate, Erosion, and Tectonics (FACET), Taipei, Taiwan, June 2015.
- Cassel, E.J., Henry, C.D., Smith, M.E., Breecker, D.O., and Stockli, D.F., 2015, INVITED: Paleogene topography, tectonics, and drainage system evolution across the Basin and Range: Geological Society of Nevada Symposium, May 2015.
- Canada, A.C.*, Cassel, E.J., and Smith, M.E., 2015, The Eocene Elko Formation: a paleogeographic record of high-elevation lake basin formation and topographic evolution

in the Cordilleran hinterland: Geological Society of Nevada Symposium, May 2015. (1st place: Student Poster Presentations)

- Cassel, E.J., Breecker, D.O., Larson, T.E., and Henry, C.D., 2014, INVITED: Quantifying Paleoelevations using Hydrated Volcanic Glass: Geological Society of America Annual Meeting, October 2014.
- Cassel, E.J., Smith, M.E., Canada, A.C.*, Henry, C.D., and Breecker, D.O., 2014, Finding the Plateau: Paleogene Topography and Basin Formation in the Cordilleran Hinterland: American Geophysical Union, Fall Meeting, December 2014.
- Cassel, E.J., Breecker, D.O., and Larson, T.E., 2014, Hydration and Stability of Volcanic Glass on Geologic Timescales: Goldschmidt Annual Meeting, June 2014.
- Cassel, E.J., Breecker, D.O., Larson, T.E., and Henry, C.D., 2013, Measuring and modeling ancient meteoric water in volcanic glass, with application to the paleotopography of the US Cordilleran hinterland: American Geophysical Union, Fall Meeting, December 2013.
- Cassel, E.J., Stockli, D.F., Henry, C.H., and Breecker, D.O., 2013, Tectonically driven changes in paleotopography and drainage system evolution in the Cordilleran hinterland, western US: Geological Society of America Annual Meeting, October 2013.
- Seymour, N.M.*, Cassel, E.J., and Stockli, D.F., 2013, Detrital Zircon Geochronology of Bull Run and Copper Basins, Elko, NV: Geological Society of America Annual Meeting, October 2013.
- Cassel, E.J., Henry, C.D., Breecker, D.O., and Larson, T.E., 2012, Paleogene topography and drainage morphology across Nevada: Evidence from depositional systems, sediment provenance, and δD of ancient waters in volcanic glass, American Geophysical Union, Fall Meeting, Abstract T31F-05, December 2012.
- Cassel, E.J., Henry, C.D., Graham, S.A., and Chamberlain, C.P., 2011, Oligocene Provenance, Drainage Morphology, and Topography of the Nevadaplano: American Geophysical Union, Fall Meeting, Abstract T23H-06, December 2011.
- Cassel, E.J., Henry, C.D., Graham, S.A., and Chamberlain, C.P., 2010, Determining Oligocene Topography and Tectonism across the Northern Sierra Nevada and Western Basin and Range using Stable Isotope Palealtimetry in Volcanic Glass: Abstracts with Programs – 2010 Annual Meeting, The Geological Society of America.
- Cassel, E.J., Henry, C.D., Grove, M., Graham, S.A., and Chamberlain, C.P., 2010, Cenozoic Landscape Evolution of the Northern Sierra Nevada and Western Basin and Range: Implications for Tectonics and Topography: Origin and Uplift of the Sierra Nevada, The Geological Society of America Penrose Conference, Bridgeport, CA, August 16-20, 2010.
- Cassel, E.J., Grove, M., and Graham, S.A., 2010, Depositional Ages, Provenance, and Paleodrainage Patterns from Detrital Zircon Geochronology of Eocene-Oligocene Fluvial Sediments ('auriferous gravels') in the Northern Sierra Nevada, CA: Abstracts with Programs – 2010 Cordilleran Section Meeting, The Geological Society of America, Anaheim, CA, May 28-30, 2010.

- Cassel, E.J., and Graham, S.A., 2009, Eocene-Oligocene paleovalley characterization and fluvial system evolution in the northern Sierra Nevada, California: Abstracts with Programs – 2009 Annual Meeting, The Geological Society of America.
- Cassel, E.J., and Graham, S.A., 2008, Geochemical Composition and Correlation of Oligocene Ash-flow Tuffs in the Northern Sierra Nevada of California: Eos, Transactions, American Geophysical Union, Fall Meeting Suppl., Abstract V21C-2126, December 2008.
- Cassel, E.J., and Graham, S.A., 2007, The Eocene to Oligocene Landscape of the Northern Sierra Nevada: Eos, Transactions, American Geophysical Union, Fall Meeting Suppl., Abstract T33A-1141, December 2007.
- Cassel, E.J., Graham, S.A., and Chamberlain, P.C., 2007, Paleoelevation of the northern Sierra Nevada in the Oligocene using hydrogen isotopes in hydrated volcanic glass: Abstracts with Programs – 2007 Annual Meeting, The Geological Society of America.
- Cassel, E. and Davidson, C., 2003, Crystallization Depths of Cretaceous Plutons along the Wrangell Transect, Southeast Alaska: Abstracts with Programs – 2003 Annual Meeting, The Geological Society of America.
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