BRIAN K. HORTON

Professor, Department of Geological Sciences
Research Professor, Institute for Geophysics
Jackson School of Geosciences
University of Texas at Austin
Austin, TX 78712 USA
512-471-1869
horton@jsg.utexas.edu
www.jsg.utexas.edu/researcher/brian_horton

Education

1998	Ph.D., Geosciences, University of Arizona
1994	M.S., Earth Sciences, Montana State University
1992	B.S. (with distinction), Geology, University of New Mexico

Professional Experience

2020 - present	J. Nalle Gregory Chair in Sedimentary Geology, Department of Geological Sciences and Institute for Geophysics, Jackson School of Geosciences, University of Texas at Austin
2021	Visiting Professor, University of Chile, Santiago, Chile
2014 - 2020	Alexander Deussen Professor of Energy Resources, University of Texas at Austin
2016 - 2017	Visiting Professor, Yachay Tech University, School of Geological Sciences, Urcuquí, Ecuador
2012 -	Professor (Department of Geological Sciences) and Research Professor (Institute for Geophysics), University of Texas at Austin
2006 - 2012	Associate Professor (Department of Geological Sciences) and Associate Research Professor (Institute for Geophysics), University of Texas at Austin
2001 - 2006	Assistant Professor, University of California Los Angeles (tenured, 2006)
1999 - 2001	Assistant Professor, Louisiana State University

Honors and Awards

2022	Best Paper Award, Society of Exploration Geophysicists: Timing of hydrocarbon entrapment in the eastern foothills of the Eastern Cordillera of Colombia: Sánchez et al., Interpretation, v. 9.
2021	Carolyn G. and G. Moses Knebel Teaching Award, Department of Geological Sciences, UT: Undergraduate teaching excellence (GEO 420K Introduction to Field & Stratigraphic Methods)
2019	University of Arizona Geosciences Distinguished Alumni Award
2019	Outstanding Researcher Award, Institute for Geophysics, UT-Austin
2018	William R. Dickinson Medal (Award for Excellence in Sedimentary Geology by a Mid-Career Scientist), SEPM Society for Sedimentary Geology
2017	Outstanding Educator Award, Jackson School of Geosciences, UT-Austin
2017	Director's Circle of Excellence Award, Institute for Geophysics, UT-Austin
2016 - 2017	Faculty Research Assignment (sabbatical research fellowship), UT-Austin
2013	Outstanding Researcher Award, Institute for Geophysics, UT-Austin
2013	Director's Circle of Excellence Awards, Institute for Geophysics, UT-Austin
2012 - 2013	Faculty Research Assignment (sabbatical research fellowship), UT-Austin
2012	Director's Circle of Excellence Awards, Institute for Geophysics, UT-Austin
2011	Outstanding Research Award, Jackson School of Geosciences, UT-Austin
2011	Director's Circle of Excellence Awards, Institute for Geophysics, UT-Austin
2010	Exceptional Reviewer, *Lithosphere*
2007	Exceptional Reviewer, *Geological Society of America Bulletin*
2006 - 2007	Humboldt Research Fellowship, Alexander von Humboldt Foundation, Germany
2005	Fellow, Geological Society of America
2004	Young Scientist Award, Donath Medal, Geological Society of America
2004	Faculty Career Development Award, UCLA
1998 - 1999	NSF Postdoctoral Research Fellowship
1998	Outstanding Teaching Assistant, University of Arizona Department of Geosciences
1998	Award for Meritorious Performance in Teaching, University of Arizona Foundation
1993 - 1996	NSF Graduate Research Fellowship

1993	Geological Society of America Outstanding Student Research Award
1992 - 1993	Presidential Graduate Scholarship, Montana State University
1992	NSF Graduate Research Fellowship, Honorable Mention
1992	Albuquerque Petroleum Association Victor Salazar Memorial Scholarship
1992	Estwing Outstanding Geology Student Award, University of New Mexico
1992	Stuart A. Northrop Outstanding Geology Senior Award, University of New Mexico
1991	Sherman A. Wengerd Outstanding Geology Junior Award, University of New Mexico
1990	J. Paul Fitzsimmons Outstanding Geology Sophomore Award, University of New Mexico
1988 - 1992	Excel Scholarship (merit-based full scholarship), University of New Mexico

Professional Affiliations

Geological Society of America (Fellow), American Geophysical Union, International Association of Sedimentologists, Society for Sedimentary Geology (SEPM), American Association of Petroleum Geologists, European Geophysical Union

Graduate Student Research Supervision: degree, completion date, research field area, current position

Acevedo, Eliana, Ph.D. expected 2024 (co-supervised), Universidad de Buenos Aires, Argentina
Regier, Nicholas, M.S. expected 2024, Argentina
Butler, Kristina, Ph.D. 2022, now NSF Earth Sciences Postdoctoral Fellow, Brown University
Gutierrez, Juan, M.S. 2022, now Ph.D. student, University of Texas at Austin
Banks, Claudia, M.S. 2022, now Carbon Capture Geologist, Tetra Tech, Austin, Texas
Malone, Joshua, M.S. 2022, now Ph.D. student, University of Texas at Austin
McKeighan, Caroline, M.S. 2022 (co-supervised), now Geologist, Diamondback Energy, San Antonio, Texas
Nix, Matthew, M.S. 2022, now Geologist, EOG, Corpus Christi, Texas
Hirtz, Jaime, M.S. 2021, now Geologist, U.S. Geological Survey, Denver, Colorado
Mackaman-Lofland, Chelsea, Ph.D. 2020, now Assistant Professor, Denison University
Capaldi, Tomas, Ph.D. 2019, now Assistant Professor, University of Nevada Las Vegas
Jackson, Lily, Ph.D. 2019, now Assistant Research Scientist, University of Wyoming
George, Sarah, Ph.D. 2019, now Assistant Professor, University of Oklahoma
Gutierrez, Evelin Gabriela, M.S. 2018, now Ph.D. student, University of Texas at Austin
Calle, Amanda, Ph.D. 2017, now Geologist, Bureau of Economic Geology, Austin, Texas
Ramirez, Sebastian, Ph.D. 2016 (co-supervised), now Geologist, Shell Oil Company, Houston, Texas
Koshnaw (Mohammed), Renas, Ph.D. 2016, now postdoc, University of Göttingen, Germany
Bush, Meredith, Ph.D. 2016, now High-School Biology Teacher, Seattle, Washington
Perez, Nicholas, Ph.D. 2015, now Associate Professor, Texas A&M University
Anderson, Veronica, Ph.D. 2015, now Data Scientist, kWh Analytics, Houston, Texas
(Levina) Jones, Mariya, M.S. 2013, now Chemistry Tutor, Student Academic Center, UC Davis, California
Calle, Amanda, M.S. 2013, Ph.D. 2017, now Geologist, Bureau of Economic Geology, Austin, Texas
Fitch, Justin, M.S. 2012, now Software Engineer, Infosys, Providence, Rhode Island
Woodruff, William, Jr., M.S. 2011, now Senior Geologist, Hunt Oil Company, Dallas, Texas
Sanchez, Javier, M.S. 2011, Ph.D. 2015, University of Houston, now Geologist, Ecopetrol, Colombia
Siks, Benjamin, M.S. 2011, now Petroleum Geologist, Hilcorp Energy Company, Anchorage, Alaska
Bande, Alejandro, M.S. 2010, Ph.D. 2017, U. Potsdam, Germany, now Geologist, Tecpetrol, Buenos Aires.
Moreno, Christopher, M.S. 2010, now Systems Administrator, Salesforce, Portland, Oregon
Cardona, Paola, M.S. 2009 (co-supervised), now Geologist, Ecopetrol, Colombia
Mackey, Glen, M.S. 2009 (co-supervised), Ph.D. 2019, University of Utah, now Data Scientist, Salt Lake City, Utah
Perez, Nicholas, B.S. 2009, Ph.D. 2015, now Associate Professor, Texas A&M University
Gavillot, Yann, M.S. 2007, UCLA (co-supervised). Ph.D. 2014, Oregon State, now Assoc Prof, Montana Tech
Mosolf, Jesse, M.S. 2007, UCLA. Ph.D. 2013, UCSB, now Associate Professor, Montana Tech
Murray, Bryan, M.S. 2007, UCLA. Ph.D. 2014, UCSB, now Associate Professor, California Poly State U., Pomona
Giovanni, Melissa, Ph.D. 2007, UCLA, now Professor, College of Southern Nevada, Las Vegas, Nevada
(Shirvell) Belgarde, Catherine, M.S. 2006, UCLA (co-supervised), now Superintendent Exploration, BHP, Arizona
Bourke, Matthew, M.S. 2005, UCLA, now Geoscience Manager, ExxonMobil, Houston, Texas
Gillis, Robert, M.S. 2005, UCLA, now Geologist, Alaska Division of Geological and Geophysical Surveys
Fink, Richard, M.S. 2002, LSU, now Principal - Operations Geology, ExxonMobil, Houston, Texas
Hampton, Brian, M.S. 2002, LSU. Ph.D. 2006, Purdue University, now Associate Professor, New Mexico State U.

Research Grants (past 5 years)

[42] Collaborative Research: Internal and external drivers of orogenic episodicity in the Ecuadorian Andes. National Science Foundation Tectonics Program, 9/2020-8/2023 (3 years). Co-PI: Jay Chapman (University of Wyoming).

[41] Shortening, extension, and drainage reorganization in the Andean fold-thrust belt and broken foreland basin of northern Patagonia, Argentina. National Science Foundation Tectonics Program, 9/2019-8/2022 (3 years).

[40] Collaborative Research: Consequences of flat slab subduction on the chemical, structural, and dynamic evolution of continental lithosphere. National Science Foundation Frontier Research in Earth Sciences (FRES) Program, 9/2019-8/2023 (4 years). Co-PIs: Lara Wagner (Carnegie Institution for Science), Christy Till (Arizona State University), Thorsten Becker (UT).

[39] IODP (International Ocean Discovery Program). Expedition 387 (Amazon Margin), 2019-2021 (2 years). Chief Scientists: Paul Baker (Duke University), Cleverson Silva (Federal University Fluminense, Brazil).

[38] Collaborative Research: Trans-Amazon Drilling Project. National Science Foundation Integrated Earth Systems Program (IES), 9/2018-8/2021 (3 years). Co-PIs: P. Baker (Duke University, and 4 others).

[37] Provenance, geochronology and geological synthesis of the M1 and basal Tena sandstones, Oriente Basin, Ecuador. Andes Petroleum Ecuador Ltd., 5/2018-8/2020 (2 years). PI: R.J. Steel (UT).

[36] Trans-Amazon Drilling Project. International Continental Scientific Drilling Program (ICDP), 9/2017-8/2019 (2 years). Co-PIs: P. Baker (Duke University, and 16 others).

[35] The dynamics of mountains, landscapes and climate in the distribution and generation of biodiversity of the Amazon/Andean forest. National Science Foundation Frontiers in Earth System Dynamics (FESD) Program, 9/2015-8/2016 (1 year). Co-PIs: P. Baker (Duke University, and 3 others).

[34] Mapping linkages between geophysical and biological diversity across space and time in the Andes, Amazon, and Chocó of Perú, Ecuador, and Colombia. NASA Biodiversity Program, 9/2016-2/2018 (1.5 years). Co-PIs: S. Fritz (University of Nebraska, and 6 others).

[33] Continental-scale drainage reversal of the Amazon River. National Geographic Society Research and Exploration Program, 9/2016-8/2017 (1 year).

[32] The dynamics of mountains, landscapes and climate in the distribution and generation of biodiversity of the Amazon/Andean forest. National Science Foundation Frontiers in Earth System Dynamics (FESD) Program, 9/2015-8/2016 (1 year). Co-PIs: P. Baker (Duke University, and 3 others).

[31] Deformational and thermal history of the Iranian Zagros fold-thrust belt (thermochronometric analysis of legacy samples). ExxonMobil, 8/2015-12/2016 (1.5 years). Co-PI: D.F. Stockli (UT).

[30] Basin analysis and field studies of the Argalant basin, Block IV, central Mongolia. Petro Matad (Ulaanbaatar, Mongolia) 8/2015-7/2016 (1 year).

[29] The Pampean desert: reconstructing the largest Quaternary sand sea in South America. National Geographic Society Research and Exploration Program, 7/2015-6/2016 (1 year). PI: Edgardo Latrubesse (UT).

[28] Exhumation history of the Indian Lesser Himalaya: Discriminating tectonic models with implications for the Neogene isotopic composition of seawater. National Science Foundation Tectonics Program, 5/2015-4/2018 (3 years). Co-PIs: N.R. McKenzie, D.F. Stockli (UT).

[27] Rapid Miocene thrust propagation and wholesale basin partitioning along the central and southern Andes, Argentina. National Science Foundation Tectonics Program, 6/2014-5/2017 (3 years). Co-PI: N.R. McKenzie (Yale University).

[26] Exploring source-to-sink linkages between Laramide basins and the Gulf of Mexico. Statoil. 6/2014-8/2015 (1 year). Graduate Fellow: Meredith Bush (UT).

[25] The dynamics of mountains, landscapes and climate in the distribution and generation of biodiversity of the Amazon/Andean forest. National Science Foundation Frontiers in Earth System Dynamics Program Program, 9/2013-8/2015 (2 years). Co-PIs: P. Baker (Duke University, and 3 others).

[24] Thrust belt response to rapid surface uplift of the Altiplano: A field test of Cordilleran cyclicity in southern Bolivia. National Science Foundation Tectonics Program, 7/2013-6/2016 (3 years). Co-PI: S. Long (University of Nevada Reno).

Peer-Reviewed Publications (underlined = graduate student; * = postdoctoral scholar)

140 articles published: 28 first author (8 sole author); 47 second author; 65 other.
(includes 75 first-authored articles by student (63) and postdoc (12) advisees).

Researcher ID = A-1804-2009

Web of Science Researcher ID = P-5772-2019

Google Scholar h-index = 60 (first author h-index = 24). Total citations = >11,000. (December 2022)

ISI Web of Science h-index = 50 (first author h-index = 22).

[140] Acevedo, E., *Fernández Paz, L., Encinas, A., **Horton, B.K.**, Hernando, A., Valencia, V., and Folguera A., in press (2023), Late Jurassic back-arc extension in the Neuquén Basin (~37°S): Insights from structural, sedimentological, and provenance analyses: *Basin Research,* v. 35, doi:10.1111/bre.12744.

[139] George, S.W.M., Perez, N.D., *Struble, W., Curry, M.E., and **Horton, B.K.**, 2022, Aseismic ridge subduction focused late Cenozoic exhumation above the Peruvian flat slab: *Earth and Planetary Science Letters*, v. 600, doi:10.1016/j.epsl.2022.117754.

[138] **Horton, B.K.**, Capaldi, T.N., Mackaman-Lofland, C., Perez, N.D., Bush, M.A., Fuentes, F., and Constenius, K.N., 2022, Broken foreland basins and the influence of subduction dynamics, tectonic inheritance, and mechanical triggers: *Earth Science Reviews*, v. 234, doi:10.1016/j.earscirev.2022.104193 [invited review].

[137] Mackaman-Lofland, C., **Horton, B.K.**, Ketcham, R.A., McQuarrie, N., Fosdick, J.C., Fuentes, F., Constenius, K.N., Capaldi, T.N., Stockli, D.F., and Alvarado, P., 2022, Causes of variable shortening and tectonic subsidence during changes in subduction: insights from flexural thermokinematic modeling of the Neogene southern central Andes (28–30ºS): *Tectonics*, v. 41, doi:10.1029/2022TC007334.

[136] **Horton, B.K.**, Capaldi, T.N., and Perez, N.D., 2022, The role of flat slab subduction, ridge subduction, and tectonic inheritance in Andean deformation: Geology, v. 50, p. 1007-1012, doi:10.1130/G50094.1.

[135] **Horton, B.K.**, and Folguera, A., 2022, Tectonic inheritance and structural styles in the Andean fold-thrust belt and foreland basin, *in* Zamora, G., and Mora, A., eds., *Andean Structural Styles: A Seismic Atlas:* Elsevier, p. 3-28, doi:10.1016/B978-0-323-85175-6.00001-8.

[134] Runyon, B., Saylor, J.E., **Horton, B.K.**, Reynolds, J.H., and Hampton, B., 2022, Basin evolution in response to flat subduction in the Altiplano: *Journal of the Geological Society of London*, v. 179, doi:10.1144/jgs2021-003.

[133] **Horton, B.K.**, 2022, Unconformity development in retroarc foreland basins: Implications for the geodynamics of Andean-type margins: *Journal of the Geological Society of London*, v. 179, doi:10.1144/jgs2020-263.

[132] George, S.W.M., **Horton, B.K.**, Vallejo, C., Jackson, L.J., and Gutierrez, E.G., 2021, Did accretion of the Caribbean oceanic plateau drive rapid crustal thickening in the northern Andes? *Geology,* v. 49, p. 936-940, doi:10.1130/G48509.1.

[131] Liu, S., Zhang, A., *Lin, C., Zhang, B., Yuan, H., Huang, D., Steel, R.J., and **Horton, B.K.**, 2021, Thrust duplexing and transpression in the Yanshan Mountains: Implications for early Mesozoic orogenesis and decratonization of the North China Craton: *Basin Research,* v. 33, p. 2303-2327, doi:10.1111/bre.12558.

[130] Vallejo, C., Romero, C., **Horton, B.K.**, Spikings, R.A., Gaibor, J., Winkler, W., Esteban, J.J., Thomsen, T.B., and Mariño, E., 2021, Jurassic to early Paleogene sedimentation in the Amazon region of Ecuador: Implications for the paleogeographic evolution of northwestern South America: *Global and Planetary Change,* v. 204, doi:10.1016/j.gloplacha.2021.103555.

[129] Anderson, R.B., Long, S.P., **Horton, B.K.**, Calle, A.Z., and Soignard, E., 2021, Late Paleozoic Gondwanide deformation in the central Andes: Insights from RSCM thermometry and thermal modeling, southern Bolivia: *Gondwana Research,* v. 94, p. 222-242, doi:10.1016/j.gr.2021.03.002.

[128] Capaldi, T.N., *McKenzie, N.R., **Horton, B.K.**, Mackaman-Lofland, C., Colleps, C.L., and Stockli, D.F., 2021, Detrital zircon record of Phanerozoic magmatism in the southern central Andes: *Geosphere,* v. 17, p. 876-897, doi:10.1130/GES02346.1.

[127] Perez, N.D., Anderson, R.B., **Horton, B.K.**, Ohlson, B.A., and Calle, A.Z., 2021, Reconciling spatial and temporal patterns of Cenozoic shortening, exhumation, and subsidence in the southern Bolivian Andes: *Frontiers in Earth Science*, v. 9, doi:10.3389/feart.2021.636269.

[126] Sánchez, N., Pacheco, J., Guzman-Vega, M.A., Mora, A., and **Horton, B.**, 2021, Timing of hydrocarbon entrapment in the eastern foothills of the Eastern Cordillera of Colombia: *Interpretation,* v. 9, p. T145-T159, doi:10.1190/int-2020-0058.1.

[125] Koshnaw, R.I., Stockli, D.F., **Horton, B.K.**, Teixell, A., Barber, D.E., and Kendall, J.J., 2020, Late Miocene deformation kinematics along the NW Zagros fold-thrust belt, Kurdistan region of Iraq: Constraints from apatite (U-Th)/He thermochronometry and balanced cross sections: *Tectonics,* doi:10.1029/2019TC005865.

[124] Mora, A., *Tesón, E., Martínez, J., *Parra, M., Lasso, Á., **Horton, B.K.**, Ketcham, R.A., Velásquez, A., and Arias-Martínez, J.P., 2020, The eastern foothills of Colombia, *in* Gómez, J., and Mateus-Zabala, D., eds., *The Geology of Colombia:* Servicio Geológico Colombiano, Publicaciones Geológicas Especiales, v. 37, p. 123-142, Bogotá, Colombia, doi:10.32685/pub.esp.37.2019.05.