

Daniel Enrique Ibarra

Manning Assistant Professor

Department of Earth, Environmental and Planetary Sciences (DEEPS)

Institute at Brown for Environment and Society (IBES)

Brown University, Providence, Rhode Island, USA

[Brown Profile](#); [Lab Website](#); [LinkedIn](#)

daniel_ibarra@brown.edu; +1 (401) 863-1920

324 Brook Street, Box 1846, Providence, RI 02912 USA

1. EDUCATION

2018 Ph.D. Earth System Science, Stanford University.

Dissertation: *Paleoclimate constraints on terrestrial hydroclimate, silicate weathering, and the carbon cycle*. Advisor: CP Chamberlain. Committee: CK Boyce (chair), JL Payne, K Maher, SA Graham, S Fendorf.

2014 M.S. in Geological and Environmental Sciences, Stanford University.

Thesis: *Applying uranium-series isotope geochemistry and geochronology to Great Basin Pleistocene paleohydrology*. Advisor: K Maher. Reader: J Vazquez (USGS).

2012 B.S. Civil and Environmental Engineering, Atmosphere/Energy Track, Stanford University.

Advisors: L Hildemann and MZ Jacobson.

2012 B.S. Geological and Environmental Sciences (with Honors), Stanford University.

Thesis: *An assessment of late Pleistocene to middle Holocene lake level fluctuations in Surprise Valley, California*. Advisors: K Maher and AE Egger.

2. PROFESSIONAL EXPERIENCE

A. Academic Appointments

Brown University, Providence, RI

08/25-Present Affiliate Faculty, Swearer Center

01/25-Present Affiliate Assistant Professor, School of Engineering

09/24-Present Affiliate Faculty, Data Science Institute

07/23-Present Director of Diversity and Inclusion, Institute at Brown for Environment and Society

02/23-6/25 Executive Committee Member, Initiative for Sustainable Energy, School of Engineering

01/23-Present Manning Assistant Professor of Earth, Environmental and Planetary Sciences, and Environment and Society

07/21-12/22 Assistant Professor of Earth, Environmental and Planetary Sciences, and Environment and Society [*Parental Teaching Release in Spring 2022*]

04/19-06/21 Visiting Assistant Professor of Environment and Society

University of California Berkeley and Lawrence Berkeley National Laboratory, Berkeley, CA

07/19-06/21 Postdoctoral Scholar – Fellow, Earth and Planetary Science, Miller Institute Research Fellow and UC President's Postdoctoral Fellow.

Mentors: DA Stolper and DJ DePaolo.

10/19-06/21 Postdoc Affiliate, Earth and Environmental Sciences, Lawrence Berkeley Laboratory. Supervisors: JN Christensen and DJ DePaolo.

2019 Visiting Scientist, National Institute of Geological Sciences and Institute of Environmental Science and Meteorology, University of the Philippines Diliman. Host: CPC David.

Stanford University, Palo Alto, CA

- 06/18-06/21 Postdoctoral Research Fellow (2018-19) and Visiting Postdoctoral Scholar (2019-21), Geological Sciences.
Mentor: CP Chamberlain.
- 05/16-09/16 Visiting Scientist, Earth Surface Geochemistry Group, GFZ Helmholtz Centre Potsdam, Germany.
Host: F von Blanckenburg.
- 05/11-12/11 Sustainable Education Research Associate, MAP Royalty Inc., Palo Alto, CA and the Civil and Environmental Engineering Atmosphere/Energy Program.
Supervisor: K Knapp.

B. Industry Consulting and Collaborations

Consulting Advisor and Technical Reviewer, Frontier Climate (advance market commitment for permanent carbon removal), 2024-Present

Scientific Collaborator, E3 Lithium, 2023-Present

Consulting Collaborator, Lithium Americas Corp., 2022-2024

Scientific Collaborator, Albermarle Corp., 2018-Present

3. PUBLICATIONS (* = equal contributions/joint first-authorship; **bold underline** = Ibarra lab member or former mentee at Brown University; underline = Ibarra external student collaborator/mentee)
H-index: 30/33; Citations: 3,129/3,200 (Google Scholar/Web of Science)

A. Book Chapters

4. DA Stolper, **DE Ibarra**, A Bednarick, CE Bucholz, LA Coogan, KM Gillis, M Lloyd, JN Christensen, DJ DePaolo, 2025, The effect of seawater Sr concentration on the hydrothermal alteration of oceanic crust: Sr isotopes in dikes of the Early Paleozoic Bay of Islands Ophiolite, in *Hydrothermal Circulation and Seawater Chemistry: Links and Feedbacks*, edited by LA Coogan, S Turchyn, AG Dunlea, W Bach, *AGU Geophysical Monograph Series*, Chapter 8, 169-186. doi: 10.1002/9781394229185.ch8
3. T Bhattacharya, **DE Ibarra**, R Feng, N Burls, 2025, Geochemical Approaches to Reconstructing Earth's Hydroclimates, *Treatise in Geochemistry, Reference Module in Earth Systems and Environmental Sciences* (3rd Edition, Elsevier), 51-73. doi: 10.1016/B978-0-323-99762-1.00029-2
2. Y Gao, YF Gao, **DE Ibarra**, 2024, Core Investigations of the International Continental Drilling Program from the Cretaceous Songliao Basin (SK-1/SK-2/SK-3), NE China, in *Field Trip Guidebook on Chinese Sedimentary Geology*, edited by XM Hu, *Springer Singapore*, 31-119. doi: 10.1007/978-981-99-693604_2
1. AE Egger, **DE Ibarra**, R Weldon, RM Langridge, B Marion, J Hall, 2021, The influence of pluvial lake cycles on earthquake recurrence in the northwestern Basin and Range, USA, in *From Saline to Freshwater: The Diversity of Western Lakes in Space and Time*, edited by SW Starratt and MR Rosen, *Geological Society of America Special Papers Series* 536-07, 28. doi: 10.1130/2018.2536(07)

B. Peer Reviewed Journal Articles

Published and In Press/Accepted

99. K Andrzejewski, JA McIntosh, E Gulbranson, **DE Ibarra**, *Accepted*, Estimating paleotemperature using soil-formed phyllosilicates from paleosols: A review, *Earth Science Review*.

98. **S Miller**, CW Kinsley, **CA Gagnon**, WD Sharp, JL Oster, **DE Ibarra**, *Accepted*, Carbonate Clumped Isotopes Record Variable Carbonate Formation Depth in Response to Fluctuating Last Interglacial Lake Hydrology at Owens Lake, California, *Geochemistry, Geophysics, Geosystems*.
97. **C Marsh**, **N Sekhon**, T Beach, D McGee, **C Kong-Johnson**, **DE Ibarra**, *In Press*, Late Holocene hydroclimate variability in the Tropical Andes from fast-growing stalagmites in the Eastern Cordillera of Colombia, *Paleoclimatology & Paleoceanography*.
96. J Mering, **AJ Arnold**, **L Santi**, H-I Lee, J Lerback, O Ajoku, **DE Ibarra**, S Nelson, A Farnsworth, P Valdes, A Tripathi, *In Press*, Quantifying the Impacts of Rainfall and Evaporation on Lake Bonneville, *Science Advances*.
95. MK Lloyd, RA Stein, BE Wortham, RE Dunn, **DE Ibarra**, TE Dawson, DA Stolper, 2025, Isotopic evidence for elevated photorespiration during the last glacial period, *Nature Geoscience*. doi: 10.1038/s41561-025-01841-x
94. Y Gao, X Tian, YY Hu, WJ Cai, JM Qin, JQ Guo, XJ Du, T Kukla, **DE Ibarra**, H Huan, LX Wu, CS Wang, 2025, Active El Niño-Southern Oscillation-like interannual variability 120 million years ago, *Geology*. doi: 10.1130/G53646.1
93. XT Wang, YB Yang, **DE Ibarra**, XB Ruan, ZY Yan, JM Sun, C-S Jin, 2025, Oligocene atmospheric CO₂ drawdown linked to increased land surface weatherability, *EPSL* 665, 119462. doi: 10.1016/j.epsl.2025.119462
92. **E Ramos**, **DE Ibarra**, **G Piccione**, 2025, Uranium and lithium isotope ratios of river solutes clarify the role of bedrock erodibility in landscape denudation, *GRL*, 52 (12), e2025GL115420. doi: 10.1029/2025GL115420
91. WJ Larsen, MA Torres, **EJ Ramos**, **J Bernstein-Schalet**, M Gammernan, Y Hou, **DE Ibarra**, PC Kemeny, **S Munoz**, T Sun, KD Suquino, 2025, Constraining aquatic carbon fluxes from headwater streams and floodplain wetlands using an isotope-enabled degassing model, *JGR: Biogeosciences* 130 (10), e2024JG008592. doi: 10.1029/2024JG008592
90. **R Havel**, **DE Ibarra**, R Bartoschewitz, G Budde, 2025, Interrogating leaching procedures of meteorites for triple oxygen isotope analyses, *Meteoritics & Planetary Science* 60 (10), 2311-2333. doi: 10.1111/maps.70039
89. SAF Darroch, MM Casey, AT Cribb, AE Bates, ME Clapham, DL Contreras, M Craffey, IAP Duijnste, W Gearty, NJ Gotelli, MJ Hamilton, RF Hayes, PM Hull, **DE Ibarra**, VA Korasidis, JM Lee, CV Looy, TR Lyson, B Muddiman, PD Roopnarine, AB Shupinski, FA Smith, AL Stigall, CP Tome, KA Turk, A Villasenor, PJ Wagner, SC Wang, SK Lyons, 2025, Earth system engineers' and the cumulative impact of organisms in deep time, *Trends in Ecology & Evolution* 40 (11), 1066-1076. doi: 10.1016/j.tree.2025.08.005
88. **MJ Custado**, **CA Gagnon**, B Belanger, **N Sekhon**, **J Bernstein-Schalet**, CW Kinsley, WD Sharp, JL Oster, **DE Ibarra**, 2025, Constraining the Modern Hydrological Balance of Bear Lake, Utah-Idaho: Insights from Stable Isotopes ($\delta^{18}\text{O}$ and $\delta^2\text{H}$), *Water Resources Research* 61 (4), e2024WR038264. doi: 10.1029/2024WR038264
87. A Arnold, J Mering, L Santi, V Petryshyn, B Mitsunaga, B Elliot, J Wilson, **DE Ibarra**, D Kaufman, A Cohen, R Dunbar, J Russell, S Lalonde, PD Roy, XQ Liu, FM Chang, RA Eagle, AK Tripathi, 2025, Comparative clumped isotope temperature relationships in freshwater carbonates, *Depositional Record* 11 (1), 418-443. doi: 10.1002/dep2.312
86. **CA Gagnon**, **R Havel**, **J Chen**, **G Piccione**, **DE Ibarra**, 2025, Determination of KGa-1b and SHCa-1 $\Delta^{17}\text{O}$ and $\delta^{18}\text{O}$ via laser fluorination of lithium fluoride clay pellets, *Rapid Communications in Mass Spectrometry* 39 (11), e10021. doi: 10.1002/rcm.10021.
85. C Emprato, TR Benson, **CA Gagnon**, W Baek, **DE Ibarra**, AC Simon, 2025, Clay Chemistry of the Thacker Pass Deposit, Nevada: Implications for the Formation of High-grade Volcano-sedimentary Lithium Resources, *Economic Geology* 120 (5), 1047-1070. doi: 10.5382/econgeo.5155

84. **K Butler**, LA Munk, DF Boutt, N Morris, J Kennedy, MR Blake, **MJ Custado**, **DE Ibarra**, 2025, The origin and enrichment of low-temperature geothermal lithium brines: a case study from the Devonian Leduc Formation, Alberta Basin, Canada, *Economic Geology* 120 (3), 649-662. doi: 10.5382/econgeo.5151
83. EB Hodgins, NL Swanson-Hysell, ARC Kylander-Clark, AC Turner, DA Stolper, **DE Ibarra**, MD Schmitz, YM Zhang, LM Fairchild, AJ Fuentes, 2024, One billion years of stability in the North American Midcontinent following two-stage Grenvillian structural inversion, *Tectonics* 43 (9), e2024TC008415. doi: 10.1029/2024TC008415
82. **CA Gagnon**, **KL Butler**, K Robertson, C Empro, P Gans, R Eden, **DE Ibarra**, TR Benson, 2025, Volcano-sedimentary lithium occurrences in Barstow, CA and their related formation mechanisms determined by stable isotope analyses of carbonates and clays, *Economic Geology* 120 (5), 1261-1285. doi: 10.5382/econgeo.5174
81. F Putzolu, RN Armstrong, TR Benson, D Boutt, **KL Butler**, A Dolgoplova, RJ Herrington, **DE Ibarra**, LA Munk, 2025, Volcano-Sedimentary Deposits: Overview of an Emergent Type of Lithium Resource, *Economic Geology* 120 (3), 541-573. doi: 10.5382/econgeo.5135
80. **N Sekhon**, **A Gao**, **S Mallick**, JW Partin, MB Cardenas, **DE Ibarra**, 2025, Assessing matrix and non-matrix, single and multi-point calibration of trace elements using LA-ICP-MS on a tropical speleothem, *Rapid Communications in Mass Spectrometry* 39 (9), e9983. doi: 10.1002/rcm.9983.
79. T Bhattacharya, PR Brennan, **DE Ibarra**, **CA Gagnon**, **KL Butler**, A Terrazas, **S Miller**, LA Munk, DF Boutt, R Feng, SN Bullinger, L Weisbeck, 2024, Pleistocene shifts in Great Basin hydroclimate seasonality govern the formation of lithium-rich paleolake deposits, *Quaternary Science Reviews* 335, 108747. doi: 10.1016/j.quascirev.2024.108747
78. **S Muñoz**, J Jenckes, **EJ Ramos**, LA Munk, **DE Ibarra**, 2024, Hydrologic and Landscape Controls on Rock Weathering Along a Glacial Gradient in South Central Alaska, USA, *Journal of Geophysical Research: Earth Surface* 129 (3), e2023JF007255. doi: 10.1029/2023JF007255
77. J Jenckes, **S Muñoz**, **DE Ibarra**, D Boutt, LA Munk, 2024, Geochemical Weathering Variability in High Latitude Watersheds, *Journal of Geophysical Research: Earth Surface* 129 (3), e2023JF007284. doi: 10.1029/2023JF007284
76. **EJ Ramos**, WJ Larsen, Y Hou, **S Muñoz**, PC Kemeny, JS Scheingross, MN Repasch, **DE Ibarra**, M Torres, 2024, Competition or collaboration: Clay formation sets the relationship between silicate weathering and organic carbon burial in soil, *Earth and Planetary Science Letters* 628, 118584. doi: 10.1016/j.epsl.2024.118584
75. ***DE Ibarra**, *J Evaristo, 2024, Soil pore water evaporation and temperature influences on clay mineral paleothermometry, *Communications Earth & Environment* 5 (21). doi: 10.1038/s43247-024-01201-4
74. Y Hou, H Long, S Tsukamoto, **DE Ibarra**, Z Lu, T Tamura, W Sun, J Zhang, L Gao, M Frechen, 2023, Sahara's surface transformation forced an abrupt hydroclimate decline and Neolithic culture transition in northern China, *The Innovation* 1005500. doi: 10.1016/j.xinn.2023.100550
73. AJ Smith, E Ito, N Burls, L Clarke, T Donders, R Hatfield, S Kuehn, A Koutsodendris, T Lowenstein, D McGee, P Molnar, A Prokopenko, K Snell, B Valero Garcés, J Werne, C Zeeden, and the **PlioWest Working Consortium**, 2023, Workshop report: PlioWest – drilling Pliocene lakes in western North America, *Scientific Drilling* 32, 61-72. doi: 10.5194/sd-32-61-2023
72. MK Lloyd, RA Stein, **DE Ibarra**, RS Barclay, SL Wing, DW Stahle, TE Dawson, DA Stolper, 2023, Isotopic composition of wood methyl groups reveals global patterns in plant photorespiration, *Proceedings of the National Academy of Sciences* 120 (46) e2306736120. doi: 10.1073/pnas.2306736120
71. T Kukla, **DE Ibarra**, KV Lau, JKC Rugenstein, 2023, All aboard! Earth system investigations with the CH2O-CHOO TRAIN v1.0, *Geoscientific Model Development* 16, 5515-5538. doi: 10.5194/gmd-16-5515-2023

70. MB Weller, AJ Evans, **DE Ibarra**, AV Johnson, 2023, Venus's atmospheric nitrogen explained by ancient plate tectonics, *Nature Astronomy* 7, 1436–1444. doi: 10.1038/s41550-023-02102-w
69. ***DE Ibarra**, *JG Dai, *Y Gao, XH Lang, PZ Duan, ZJ Gao, JQ Chen, K Methner, LJ Sha, H Tong, X Han, DC Zhu, YL Li, JX Tang, H Cheng, CP Chamberlain, CS Wang, 2023, High-elevation Tibetan-Plateau before India-Eurasia collision recorded by triple oxygen isotopes, *Nature Geoscience* 16, 810-815. doi: 10.1038/s41561-023-01243-x
68. EM Leonard, BJC Laabs, EE Crawford, BT Mackall, **DE Ibarra**, MB Osman, MA Plummer, MW Caffee, 2023, Chronology and climate of the Last Glacial Maximum and the subsequent deglaciation in the northern Medicine Bow Mountains, Wyoming, USA, *Quaternary Science Advance* 12, 100109. doi: 10.1016/j.qsa.2023.100109
67. O Pourret, **DE Ibarra**, 2023, The rise of preprints in Earth Sciences, *F1000Research* 12, 156. doi: 10.12688/f1000research.133612.1
66. C de Wet, **DE Ibarra**, B Belanger, JL Oster, 2023, North American rainfall patterns during past warm states: A proxy network – model comparison for the Last Interglacial and the mid-Holocene, *Paleoceanography and Paleoclimatology* 38 (6), e2022PA004528. doi: 10.1029/2022PA004528.
65. J Jenckes, LA Munk, **DE Ibarra**, D Boutt, J Fellman, E Hood, 2023, Hydroclimate Drives Seasonal Riverine Export Across a Gradient of Glacierized High-Latitude Coastal Catchments, *Water Resources Research* 49 (4), e2022WR033305. doi: 10.1029/2022WR033305
64. **CA Gagnon**, KL Butler, E Gaviria, A Terrazas, A Gao, T Bhattacharya, DF Boutt, LA Munk, **DE Ibarra**, 2023, Paleoclimate controls on lithium enrichment in Great Basin Pliocene-Pleistocene lacustrine clays, *Geological Society of America Bulletin*. doi: 10.1130/B36572.1
63. EM Leonard, BJC Laabs, A Robertson, MA Plummer, **DE Ibarra**, MW Caffee, 2023, Late Pleistocene glaciation in the southernmost Sangre de Cristo Mountains, New Mexico – chronology and paleoclimate, *Quaternary Science Advances* 9, 100070. doi: 10.1016/j.qsa.2023.100070
62. CK Boyce, **DE Ibarra**, M D'Antonio, 2023, What we talk about when we talk about the long-term carbon cycle, *New Phytologist* (invited Tansley Insight) 237 (5), 1550-1557. doi: 10.1111/nph.18665.
61. *M D'Antonio, ***DE Ibarra**, CK Boyce, 2023, The preservation of cause and effect in the rock record, *Paleobiology* 49 (2), 204-214. doi: 10.1017/pab.2022.33.
60. CK Boyce, **DE Ibarra**, MP Nelsen, MP D'Antonio, 2023, Nitrogen-based symbioses, phosphorous availability, and accounting for a modern world more productive than the Paleozoic, *Geobiology* 21 (1), 86-101. doi: 10.1111/gbi.12519
59. T Kukla, J Rugenstein, E Driscoll, **DE Ibarra**, CP Chamberlain, 2022, The PATCH Lab: A database and workspace for Cenozoic terrestrial paleoclimate and environment reconstruction, *American Journal of Science* 322 (10), 1124-1158. doi: 10.2475/10.2022.02
58. O Pourret, P Anand, P Bots, E Cottrell, A Dosseto, DW Hedding, **DE Ibarra**, DE Irawan, K Johannesson, J Labidi, S Little, HY Liu, TV Makhubela, J Marin Carbonne, AP Fodich, A Riches, R Tartese, A Tripathi, 2022, Evolution of binary gender and geographical diversity in the editorial boards of Chemical Geology and Geochimica et Cosmochimica Acta, *European Science Editing* 48, e89470. doi: 10.3897/ese.2022.e89470.
57. S Menemenlis, SM White, **DE Ibarra**, JM Lora, 2022, A proxy-model comparison for mid-Pliocene warm period hydroclimate in the Southwestern US, *Earth and Planetary Science Letters*, 596, 117803. doi: 10.1016/j.epsl.2022.117803.
56. G Piccione, T Blackburn, S Tulaczyk, ET Rasbury, M Hain, **DE Ibarra**, K Methner, C Tinglof, B Cheney, P Northrup, K Licht, 2022, A Radiometrically Dated Record of Antarctic Ice Sheet Response to Millennial-Scale Climate Cycles during Glacials and Interglacials, *Nature Communications*, 13, 5428. doi: 10.1038/s41467-022-33009-1.

55. F von Blanckenburg, J Bouchez, JK Willenbring, **DE Ibarra**, JK Caves Rugenstein, 2022, There is no Neogene denudation conundrum, *Proceedings of the National Academy of Sciences of the United States of America*, 119 (35), e2202387119. doi: 10.1073/pnas.2202387119
54. J Chen, Y Gao, **DE Ibarra**, J Qin, C Wang, 2022, Mid-latitude precipitation in East Asia influenced by a fluctuating greenhouse climate during the latest Cretaceous through the earliest Paleogene, *Global Planetary Change*, 216, 103900. doi: 10.1016/j.gloplacha.2022.103900
53. N Sekhon, CPC David, MCM Geronia, MJG Custado, **DE Ibarra**, 2022, Investigating the response of hydrological processes to El Niño events using a 100-year dataset from the western Pacific Ocean, *Journal of Hydrology: Regional Studies*, 42, 101172. doi: 10.1016/j.ejrh.2022.101174
52. CP David, MJ Custado, N Sekhon, **DE Ibarra** (corresponding), 2022, Forecasting tropical ENSO-induced drought conditions using sea surface height in the Western Pacific, *All Earth*, 34 (1), 55-65. doi: 10.1080/27669645.2022.2089484
51. T Kukla, JK Caves Rugenstein, **DE Ibarra**, MJ Winnick, CAE Stromberg, CP Chamberlain, 2022, Drier winters linked to Cenozoic open habitat expansion in North America, *AGU Advances* 3 (2), e2021AV000566. doi: 10.1029/2021AV000566
50. A Belem, T Bell, H Burdett, **D Ibarra**, N Kaushal, B Keenan, A Klimaszewski-Patterson, M Mette, S Naeher, O Onafeso, C Panmei, A Ratnayake, O Truax, 2022, Paleoclimatology and Paleoceanography Perspectives on Integrated, Coordinated, Open, Networked (ICON) Science, *Earth and Space Science* 9 (1), e2021EA002115. doi: 10.1002/essoar.10508554.1
49. J Jenckes, **DE Ibarra**, LA Munk, 2021, Concentration-Discharge Patterns Across the Gulf of Alaska Reveal Geomorphological and Glacierization Controls on Stream Water Solute Generation and Export, *Geophysical Research Letters* 49 (1), e2021GL095152. doi: 10.1029/2021GL095152
48. **DE Ibarra**, AG Yanchilina, MK Lloyd, KA Methner, CP Chamberlain, R Yam, A Shemesh, DA Stolper, 2022, Triple oxygen isotope systematics of diagenetic recrystallization of diatom opal-A to opal-CT to microquartz in deep sea sediments, *Geochimica et Cosmochimica Acta* 320 (1), 304-323. doi: 10.1016/j.gca.2021.11.027
47. D Coffey, LA Munk, **DE Ibarra**, KL Butler, DF Boutt, J Jenckes, 2021, Lithium Storage and Release from Lacustrine Clays: Implications for Lithium Enrichment and Sustainability in Continental Brines, *Geochemistry, Geophysics, Geosystems* 22 (12), e2021GC009916. doi: 10.1029/2021GC009916
46. X Tian, Y Gao, T Kukla, O Lenz, H Huang, **DE Ibarra**, SL Sun, CS Wang, 2021, Early Cretaceous solar cycles recorded in lacustrine laminations in North China, *American Journal of Science* 321 (9), 1308-1349. doi: 10.2475/09.2021.01
45. O Pourret, J Middleton, **DE Ibarra**, DE Irawan, A Rouff, P Anand, A Tripathi, AJV Riches, A Dossetto, 2021, Diversity among Editorial Boards of Elements and other selected Geochemistry, Cosmochemistry, Mineralogy and Petrology journals, *Elements* 17 (3), 152-154. doi: 10.2138/gselements.17.3.150
44. JK Caves Rugenstein, **DE Ibarra**, S Zhang, NJ Planavsky, F von Blanckenburg, 2021, Isotope Mass Balance Constraints Preclude that Mafic Weathering Drove Neogene Cooling, *Proceedings of the National Academy of Sciences of the United States of America* 118 (30), e2026345118. doi: 10.1073/pnas.2026345118
43. H Huang, Y Gao, C Ma, MM Jones, C Zeeden, **DE Ibarra**, HC Wu, CS Wang, 2021, Non-linear orbital pacing of organic carbon burial by a ~173 kyr obliquity cycle in middle-high latitudes, *Science Advances* 7 (28), eabf9489. doi: 10.1126/sciadv.abf9489
42. O Pourret, DW Hedding, **DE Ibarra**, DE Irawan, HY Liu, J Tennant, 2021, International disparities in open access practices in the Earth Sciences, *European Science Editing* 47, e63663. doi: 10.3897/ese.2021.e63663. Preprint doi: 10.31223/X5HW2S

41. **DE Ibarra**, PLM Tolentino, CPC David, 2021, Technical Note: Evaluation and bias correction of an observations-based global runoff dataset using streamflow observations from small tropical catchments in the Philippines, *Hydrology and Earth System Sciences* 25, 2805-2820. doi: 10.5194/hess-25-2805-2021. Preprint doi: 10.5194/hess-2020-26.
40. CS Wang, Y Gao, **DE Ibarra**, HC Wu, PJ Wang, 2021, An Unbroken Record of Climate During the Age of Dinosaurs, *Eos* 102. doi: 10.1029/2021EO158455
39. Y Gao, YF Gao, **DE Ibarra**, XJ Du, T Dong, ZF Liu and CS Wang, 2021, Clay mineralogical evidence for mid-latitude terrestrial climate change from the latest Cretaceous through the earliest Paleogene in the Songliao Basin, NE China, *Cretaceous Research* 124, 104827. doi: 10.1016/j.cretres.2021.104827
38. CP Chamberlain, **DE Ibarra**, T Kukla, K Methner, Y Gao, 2021, Triple Oxygen Isotope Paleosalinity of Crystalline Rocks. *Frontiers in Earth Science* 9, 633687. doi: 10.3389/feart.2021.633687
37. **DE Ibarra**, T Kukla, KA Methner, A Mulch, CP Chamberlain, 2021, Reconstructing Past Elevations from Triple Oxygen Isotopes of Lacustrine Chert: Application to the Eocene Nevadaplano, Elko Basin, Nevada, USA, *Frontiers in Earth Science* 9, 628868. doi: 10.3389/feart.2021.628868
36. Y Gao, **DE Ibarra**, JK Caves Rugeinstein, JQ Chen, T Kukla, K Methner, YF Gao, H Huang, ZP Lin, LM Zhang, DP Xi, HC Wu, AR Carroll, SA Graham, CP Chamberlain, CS Wang, 2021, Terrestrial climate in mid-latitude East Asia from the latest Cretaceous to the earliest Paleogene: A multiproxy record from the Songliao Basin in northeastern China, *Earth-Science Reviews* 103572. doi: 10.1016/j.earscirev.2021.103572
35. T Kukla, **DE Ibarra**, JKC Rugeinstein, JT Gooley, CE Mullins, S Kramer, DY Moragne, CP Chamberlain, 2021, High-resolution stable isotope paleotopography of the John Day region, Oregon, USA. *Frontiers in Earth Science* 9, 635181. doi: 10.3389/feart.2021.635181
34. *DR Lowe, ***DE Ibarra**, N Drabon, CP Chamberlain, 2020, Constraints on surface temperature 3.4 billion years ago based on triple oxygen isotopes of cherts from the Barberton Greenstone Belt, South Africa, and the problem of sample selection, *American Journal of Science* 320 (9), 790-814. doi: 10.2475/11.2020.02
33. J Zhong, SL Li, **DE Ibarra**, H Ding, CQ Liu, 2020, Insights into solute production and transport processes in large Chinese rivers from concentration-discharge relationships, *Global Biogeochemical Cycles* 34 (9), e2020GB006541. doi: 10.1029/2020GB006541
32. DE Penman, JK Caves, **DE Ibarra**, and MJ Winnick, 2020, Silicate weathering as a feedback and forcing on Earth's climate and the carbon cycle, *Earth-Science Reviews* 209, 103298. doi: 10.1016/j.earscirev.2020.103298
31. *CP Chamberlain, ***DE Ibarra**, MK Lloyd, T Kukla, Y Gao D Sjostrom, ZD Sharp, 2020, Triple oxygen isotopes of meteoric hydrothermal systems – implications for paleosalinity, *Geochemical Perspectives Letters* 15, 6-9. doi: 10.7185/geochemlet.2026
30. *L Santi, *AJ Arnold, ***DE Ibarra**, C Whicker, JA Mering, JM Lora, A Tripathi, 2020, Clumped Isotope Constraints on Changes in Hydroclimate in the Northwest Great Basin: Lake Surprise, California, *Geological Society of America Bulletin*, 132 (11-12), 2669–2683. doi: 10.1130/B35484.1
29. H Huang, Y Gao, MM Jones, HF Tao, AR Carroll, **DE Ibarra**, HC Wu, CS Wang, 2020, Astronomical forcing of Middle Permian terrestrial climate recorded in a large paleolake in northwest China, *Palaeogeography, Palaeoclimatology, Palaeoecology* 550, 109735. doi: 10.1016/J.PALAEO.2020.109735
28. *MP D'Antonio, ***DE Ibarra**, CK Boyce, 2020, Land plant evolution decreased, rather than increased, weathering rates, *Geology*, 48 (1), 29-33. doi: 10.1130/G46776.1

27. L Santi, A Arnold, **DE Ibarra**, **C Whicker**, J Mering, CG Oviatt, A Tripathi, 2019, Lake Level Fluctuations in the Northern Great Basin for the Last 25,000 years in *Exploring Ends of Eras in the eastern Mojave Desert*, edited by DM Miller, 2019 *Desert Symposium Field Guide and Proceedings*, 176-186. doi: 10.31223/osf.io/6as7t
26. **DE Ibarra**, JL Oster, MJ Winnick, JK Caves Rugenstein, MP Byrne, CP Chamberlain, 2019, Lake area constraints on past hydroclimate in the western United States: Application to Pleistocene Lake Bonneville, Reviewed Proceedings Volume: 2018 Lake Bonneville Conference & Short Course, edited by WR Lund, AP McKean and SD Bowman, *Utah Geological Survey Miscellaneous Publication* 170, 6. doi: 10.31223/osf.io/rk5pe
25. JL Oster and **DE Ibarra**, 2019, Glacial hydroclimate of western North America: insights from proxy-model comparison and implications for Lake Bonneville, Proceedings Volume: 2018 Lake Bonneville Conference & Short Course, edited by WR Lund, AP McKean and SD Bowman, *Utah Geological Survey Miscellaneous Publication* 170, 8. doi: 10.31223/osf.io/h75mw
24. T Narock, EB Goldstein, CA-L Jackson, AA Bubeck, AML Enright, JI Farquharson, A Fernandez, D Fernández-Blanco, S Girardclos, **DE Ibarra**, SK Lengger, AW Mackay, V Venema, B Whitehead, J-P Ampuero, 2019, Earth Science is Ready for Preprints. *Eos*, 100. doi: 10.1029/2019EO121347 and 10.31223/osf.io/kftsv
23. J Lora and **DE Ibarra**, 2019, The North American hydrologic cycle through the last deglaciation, *Quaternary Science Reviews* 226, 105991. doi: 10.1016/j.quascirev.2019.105991
22. JK Caves Rugenstein, **DE Ibarra**, F von Blanckenburg, 2019, Neogene cooling driven by land surface reactivity rather than increased weathering fluxes, *Nature* 571 (7767), 99-102. doi: 10.1038/s41586-019-1332-y
21. TJ Kukla, MJ Winnick, K Maher, **DE Ibarra**, CP Chamberlain, 2019, The sensitivity of terrestrial $\delta^{18}\text{O}$ gradients to hydroclimate evolution. *Journal of Geophysical Research: Atmospheres* 124 (2), 563-582. doi: 10.1029/2018JD029571
20. ***DE Ibarra**, ***JK Caves Rugenstein**, ***A Bachan**, A Baresch, KV Lau, DL Thomas, JE Lee, CK Boyce, CP Chamberlain, 2019, Modeling the consequences of land plant evolution on silicate weathering, *American Journal of Science* 319, 1-43. doi: 10.2475/01.2019.01
19. **DE Ibarra**, JL Oster, MJ Winnick, JK Caves Rugenstein, MP Byrne, CP Chamberlain, 2018, Warm and cold wet-states in the western United States during the Pliocene-Pleistocene, *Geology*, 46 (4), 355-358. doi: 10.1130/G39962.1
18. NW Hermann, JL Oster, **DE Ibarra**, 2018, Spatial Patterns and Driving Mechanisms of Mid-Holocene Hydroclimate in Western North America, *Journal of Quaternary Science*, 33 (4), 421-434. doi: 10.1002/jqs.3023
17. MM Jones, **DE Ibarra**, Y Gao, BB Sageman, D Selby, CP Chamberlain, SA Graham, 2018, Evaluating Late Cretaceous OAEs and the influence of marine incursions on organic carbon burial in an expansive East Asian paleo-lake, *Earth and Planetary Science Letters*, 484, 41-52. doi: 10.1016/j.epsl.2017.11.046
16. AS Wymore, RL Brereton, **DE Ibarra**, K Maher, WH McDowell, 2017, Critical zone structure controls concentration-discharge relationships and solute generation in forested tropical montane watersheds, *Water Resources Research*, 53 (7), 6279-6295. doi: 10.1002/2016WR020016
15. **DE Ibarra**, S Moon, JK Caves, CP Chamberlain, K Maher, 2017, Concentration-discharge patterns of weathering products from global rivers, *Acta Geochemica*, 36 (3), 405-409. doi: 10.1007/s11631-017-0177-z
14. JK Caves, BU Bayshashov, A Zhamangara, AJ Ritch, **DE Ibarra**, DJ Sjostrom, HT Mix, MJ Winnick, CP Chamberlain, 2017, Late Miocene uplift of the Tian Shan and Altai and reorganization of Central Asia climate, *GSA Today*, 17 (2). doi: 10.1130/GSATG305A.1

13. Y Tong, **DE Ibarra**, JK Caves, T Mukerji, SA Graham, 2017, Constraining basin thermal history and petroleum generation using paleoclimate data in the Piceance Basin, Colorado, *Basin Research*, 29 (4), 542-553. doi: 10.1111/bre.12213
12. JK Caves, DY Moragne, **DE Ibarra**, BU Bayshashov, Y Gao, MM Jones, A Zhamangara, AV Arzhannikova, SG Arzhannikov, CP Chamberlain, 2016, The Neogene de-greening of Central Asia, *Geology*, 44 (11), 887-890. doi: 10.1130/G38267.1
11. **DE Ibarra**, JK Caves, S Moon, DL Thomas, J Hartmann, CP Chamberlain, K Maher, 2016, Differential weathering of basaltic and granitic catchments from concentration-discharge relationships, *Geochimica et Cosmochimica Acta*, 190, 265-293. doi: 10.1016/j.gca.2016.07.006
10. HT Mix, **DE Ibarra**, A Mulch, SA Graham, CP Chamberlain, 2016, A hot and high Eocene Sierra Nevada, *Geological Society of America Bulletin*, 128 (3-4), 531-542. doi: 10.1130/B31294.1
9. Y Gao, **DE Ibarra**, JK Caves, CS Wang, CM Huang, CP Chamberlain, SA Graham, HC Wu, 2016, Mid-latitude terrestrial climate of East Asia linked to global climate in the Late Cretaceous: REPLY, *Geology*, 44 (2), e379. doi: 10.1130/G37574Y.1
8. **DE Ibarra** and CP Chamberlain, 2015, Quantifying closed-basin lake temperature and hydrology by inversion of oxygen isotope and trace element paleoclimate records, *American Journal of Science*, 315 (9), 781-808. doi: 10.2475/09.2015.01
7. Y Gao, CS Wang, ZF Liu, XJ Du, **DE Ibarra**, 2015, Diagenetic and paleoenvironmental controls on Late Cretaceous clay minerals in the Songliao Basin, northeast China, *Clays and Clay Minerals*, 63 (6), 469-484. doi: 10.1346/CCMN.2015.0630605
6. F von Blanckenburg, J Bouchez, **DE Ibarra**, K Maher, 2015, Stable runoff and weathering fluxes into the oceans over Quaternary climate cycles, *Nature Geoscience*, 8 (7), 538-542. doi: 10.1038/ngeo2452
5. JL Oster, **DE Ibarra**, MJ Winnick, K Maher, 2015, Steering of westerly storms over western North America at the Last Glacial Maximum, *Nature Geoscience*, 8 (3), 201-205. doi: 10.1038/ngeo2365
4. Y Gao, **DE Ibarra**, CS Wang, JK Caves, CP Chamberlain, SA Graham, HC Wu, 2015, Mid-latitude terrestrial climate of East Asia linked to global climate in the Late Cretaceous, *Geology*, 43 (4), 287-290. doi: 10.1130/G36427.1.
3. **DE Ibarra**, AE Egger, KL Weaver, CR Harris, K Maher, 2014, Rise and fall of late Pleistocene pluvial lakes in response to reduced evaporation and precipitation: Evidence from Lake Surprise, California, *Geological Society of America Bulletin*, 126 (11-12), 1387-1415. doi: 10.1130/B31014.1
2. K Maher, **DE Ibarra**, JL Oster, DM Miller, JL Redwine, MC Reheis, JH Harden, 2014, Uranium isotopes in soils as a proxy for past infiltration and precipitation across the western United States, *American Journal of Science*, 314 (4), 821-857. doi: 10.2475/04.2014.01
1. JL Oster, **DE Ibarra**, CR Harris, K Maher, 2012, Influence of eolian deposition and rainfall on the U-isotopic composition of soil water and soil minerals, *Geochimica et Cosmochimica Acta*, 88, 146-166. doi: 10.1016/j.gca.2012.04.004

Forthcoming

In Review/Revision

- KA Methner, **DE Ibarra**, A Mulch, C Teyssier, CP Chamberlain, *In Revision*, Triple Oxygen Isotope Paleoelevation of the Kettle Metamorphic Core Complex (WA, USA), *Geochemistry, Geophysics, Geosystems*.
- K Taylor, S Rauzi, TT Isson, B Kalderon-Asael, **DE Ibarra**, D Hulse, JL Payne, D Altiner, DJ Lehrmann, N Planavsky, MY Yu, KV Lau, *Revised*, Heterogeneous Li isotope records across the end-Permian mass extinction as an indicator for a highly perturbed Li cycle, *American Journal of Science*.

- S Munoz**, LC Smith, **G Piccione**, S Esenther, **EJ Ramos**, J Jenckes, LA Munk, **DE Ibarra**, *Revised*, Competition Between Ice Sheet and Alpine Glacier Weathering Dictates Strength of Climate Weathering Feedback, *Geophysical Research Letters*.
- CP Chamberlain, KA Methner, E Holmfred, **DE Ibarra**, XY Cheng, A Mulch, *In Review*, Miocene Triple Oxygen Isotope Paleoaltimetry Demonstrates Diachronous Uplift of the Cascades, USA, *American Journal of Science*.
- G Piccione**, **JE Nirenberg**, J Novak, T Blackburn, **DE Ibarra**, *In Revision*, Thermogenic Methane Production in Antarctic Subglacial Hydrocarbon Seeps. Preprint doi: 10.31223/X5HM89
- JQ Chen**, Y Gao, **DE Ibarra**, LJ Sha, **G Piccione**, YF Zhang, HB Wang, ZQ Yu, LP Dong, T Dong, X Tian, H Huang, PZ Duan, BY Zong, MJ Benton, H Cheng, CP Chamberlain, CS Wang, *In Revision*, Jehol Biota flourished in Cretaceous Sangri-La.
- JM Custado**, AR Waldeck, B Belanger, X Wang, JCK Rugenstein, KM Cobb, JL Oster, **DE Ibarra**, *In Revision*, Differing sensitivity of $\delta^{18}\text{O}$ - $\delta^2\text{H}$ versus $\delta^{18}\text{O}$ - $\delta^{17}\text{O}$ systematics in a balance-filled lake, *Geochemical Perspective Letters*.
- YD Hou, GW Dai, JR Zhang, **DE Ibarra**, WY Sun, K Liu, T Chen, ZS Zhang, H Long, *In Review*, Lake-level responses to climate change on the Tibetan Plateau: insights from the Holocene and current warm periods.
- JQ Chen, Y Gao*, **DE Ibarra***, ZH Qin, G Piccione, TY Wang, DP Xi, CS Wang, *In Review*, Hydroclimate Change in Mid-latitude Asia Linked to Early Cretaceous Weissert Event, *Geophysical Research Letters*.
- NE Jemison, MJ Winnick, **S Munoz**, **D Ibarra**, M Torres, HL Zhou, KH Williams, EJ Ramos, *In Review*, Reconciling the role of clay mineral formation on net alkalinity: Insights from reactive transport models of shale, granite, and basalt, *Geochimica et Cosmochimica Acta*.
- ER Nigro, **DE Ibarra**, **JQ Chen**, **G Piccione**, XY Cheng, CP Chamberlain, *In Revision*, Triple Oxygen Isotope Record from Ferricrete Deposits Shows Holocene Moisture Source Shift in the Rocky Mountains, *Paleoceanography and Paleoclimatology*

C. Other Publications and Conference Papers/Extended Abstracts

- JB Marston, **DE Ibarra**, 2025, Removing Atmospheric Carbon Dioxide Using Large Land Or Ocean Areas Will Change Earth Albedo And Force Climate, *ArXiv preprint*. doi: 10.48550/arXiv.2501.01885
- AJ Irving, PK Carpenter, JS Boesenberg, K Ziegler, **DE Ibarra**, 2025, PETROLOGY, MINERALOGY AND OXYGEN ISOTOPE COMPOSITION OF TWO AFRICAN BENCUBBINITES: NORTHEAST AFRICA 071 AND EL MILHAS 009. 56th Lunar and Planetary Science Conference.
- N Sekhon**, **C Kong-Johnson**, B Belanger, S Tabujara, J Gatluda, **M Gerald**, **A Gao**, **J Custado**, MCM Geronia, CPC David, **DE Ibarra**, 2024, Tracking hydroclimate extremes from deep in the tropics. *Past Global Changes Horizons* 3, 13-19.
- R Havel**, **DE Ibarra**, R. Bartoschewitz, G Budde, 2024, INTERROGATING LEACHING PROCEDURES OF METEORITES FOR TRIPLE OXYGEN ISOTOPE ANALYSES. Submitted to 55th Lunar and Planetary Science Conference.
- D Khan**, AJ Evans, **DE Ibarra**, SW Parman, MB Weller, 2023, THE HABITABILITY OF MERCURY SIZED EXOPLANETS WITH MOBILE AND STAGNANT LID TECTONIC REGIMES. 54th Lunar and Planetary Science Conference.
- AJ Irving, A Greshake, PK Carpenter, JS Boesenberg, **DE Ibarra**, 2023, EVIDENCE FOR A PREVIOUSLY UNRECOGNIZED NON-CARBONACEOUS CHONDRITIC PARENT BODY FROM PETROLOGIC AND OXYGEN ISOTOPE STUDIES OF UNGROUPED MG-RICH CHONDRITE NORTHWEST AFRICA 15468. 54th Lunar and Planetary Science Conference.

- JS Boesenberg, M Humayun, **DE Ibarra**, 2023, HASSI el BIOD 002: A PYROXENE PALLASITE FROM THE MANTLE OF THE IIAB IRON PARENT BODY. 54th Lunar and Planetary Science Conference.
- JS Boesenberg, M Humayun, AJ Irving, **DE Ibarra**, 2023, NEW PYROXENE PALLASITES: BORDJI BADJI MOKHTAR 001 AND GYARUB ZANGBO, AND A PLETHORA OF PALLASITE PARENT BODIES. 54th Lunar and Planetary Science Conference.
- T Kukla, KV Lau, **DE Ibarra**, JKC Rugenstein, 2022, Deterministic icehouse and greenhouse climates on million-year timescales. *EarthArXiv preprint*. doi: 10.31223/X5SW75
- MB Weller, AJ Evans, **DE Ibarra**, AV Johnson, T Kukla, 2022, Atmospheric Evidence of Early Plate Tectonics on Venus. 53rd Lunar and Planetary Science Conference.
- O Pourret, K Bazdaric, L Besancon, M Gonzalez-Marquez, J Havemann, DW Hedding, A Hursthouse, DE Irawan, **DE Ibarra**, P Masuzzo, S Onie, J Owango, C Wien, 2021, Open Access Beyond Article Processing Charges (A comment on “For NGOs, article-processing charges sap conservation funds” by Wood et al.). doi: 10.31235/osf.io/8brjg.
- SW Parman, AJ Evans, EG Alvarez, MB Weller, CT Reinhard, **DE Ibarra**, BA Anzures, 2021, Assessing the abundance of super-mercuries and their habitability. 52nd Lunar and Planetary Science Conference.
- MB Weller, AJ Evans, **DE Ibarra**, AV Johnson, T Kukla, 2020, Exploring the Evolution and Habitability of Planets: Coupling of the Mantle-Atmosphere System. 51st Lunar and Planetary Science Conference.
- SW Parman, AJ Evans, MB Weller, CT Reinhard, **DE Ibarra**, EC First, BA Anzures, 2020, Abundance and Habitability of super-Mercuries. 51st Lunar and Planetary Science Conference.
- JK Caves, MJ Winnick, **DE Ibarra**, CP Chamberlain, DJ Sjostrom, HT Mix, A Mulch, 2015, Combining back-trajectory modeling and measurements of water isotopes to understand the paleoclimatic record in Central Asia: The impact of seasonality and topography. Paper 223, 2015 International Symposium on Isotope Hydrology, IAEA, Vienna, Austria, 11-15 May.
- DE Ibarra**, AE Egger, K Maher, 2013, The late Pleistocene pluvial history of Surprise Valley, CA. 26th Pacific Climate Workshop. Pacific Grove, California, 3-6 March. Quaternary International, 387, 137. doi: 10.1016/j.quaint.2015.01.145
- JL Oster, K Maher, **DE Ibarra**, 2011, Uranium isotopic variations in modern soils and dated soil minerals: calibrating a potential paleo-rainfall proxy. 25th Pacific Climate Workshop, Pacific Grove, California, 6-9 March. Quaternary International, 310, 239. doi: 10.1016/j.quaint.2013.07.099

For all conference presentations please see my research group website: <https://sites.brown.edu/ibarra-lab/research/presentations/>

D. Invited Seminars, Colloquiums, and Conference Talks (^ = virtual)

2026: Princeton University (*Upcoming*); U.S.-Africa Frontiers of Science, Engineering, and Medicine (*Upcoming*)

2025: Geological Society of London; Duke University; Yale University (BIOMES Yale School of Environment Seminar); Massachusetts Institute of Technology; Oregon State University.

2024: Stanford University; GSA Connects; AGU Fall Meeting.

2023: ^University of Southern California; Washington University in St. Louis; Rocky Mountain Geobiology Symposium at the University of Colorado Boulder; UMass Amherst; Syracuse University; University of Utah; Utah State University; University of Kansas; Woods Hole Oceanographic Institute (Steinbach Visiting Scholar; 2x); American Institute of Chemical Engineers; Northwestern University; AGU Fall Meeting.

2022: Skidmore College (Lester W. Strock Lecture); ^University of Minnesota Duluth (Darwin Day Lecture); ^Colorado College; ^University of Texas at Arlington; ^James Madison University; ^Yale University (2x); ^Rutgers University; University of Connecticut; Massachusetts Institute of Technology; Columbia University; Penn State; GSA Annual Meeting (2x); AMQUA; ^International Sedimentological Conference (2x).

2021: ^China University of Geosciences; ^Institut de Physique du Globe de Paris; ^University of California, Davis; ^University of Nevada, Reno; ^Boston College; ^Caltech; ^UT Austin; ^University of Göttingen; Dartmouth College.

2020: University of California, Berkeley (Geography); University of Washington; ^University of California, Berkeley (Integrated Biology/UC Museum of Paleontology); ^University of Queensland; ^University of California, Santa Cruz; ^Yale University (2x); ^University of Wisconsin-Madison (2x); ^University of New Mexico; Goldschmidt.

2019: University of the Philippines Diliman (National Institute of Geological Sciences (2x) and Institute of Environmental Science and Meteorology (1x)); University of Alaska, Anchorage; University of Arizona; USGS Menlo Park; Goldschmidt; AGU Fall Meeting; GSA Annual Meeting; EGU General Assembly.

2018: Virginia Tech; Brown University; University of California, Los Angeles (Geochemistry Seminar); Vanderbilt University; San Francisco State University; Stanford University (Atmosphere, Ocean and Climate Dynamics Seminar); Lake Bonneville Geologic Conference.

2017: University of California, Berkeley (Isotope Geochemistry Seminar); University of California, Los Angeles (Tectonics Seminar); AGU Fall Meeting.

2016: GFZ Potsdam; Stanford University (Sedimentary Geology Seminar); AGU Fall Meeting, GSA Annual Meeting.

2015: San Jose State University; China University of Geosciences, Beijing

4. RESEARCH GRANTS AND SUPPORT

~\$2.0m external to Brown University as PI/co-PI, ~\$4.5m total.

~\$510k external fellowships and grants to postdoctoral researchers and students with Ibarra as mentor.

~\$50k in industry-supported research/analyses and student internships.

~\$365k in internal seed grants and ~\$270k in internal fellowships at Brown University.

A. Pending Grants

NSF CSEV, *Collaborative Research: Paleoaltimetry of the South-Central Tibetan Plateau Using Triple Oxygen Isotope Measurements of Fossil Hydrothermal Systems and Basin Sediments*, PIs: CP Chamberlain, **DE Ibarra**, L Li, \$150,000 to Brown University, \$500,000 total.

NSF OPP, *Collaborative Research: Reconstructing Late Miocene Antarctic Ice Sheet Oxygen Isotope Composition and Extent Using Subglacial Precipitates and Ice Sheet Modeling*, PIs: **G Piccione**, **DE Ibarra**, AR Halberstadt, \$354,344 to Brown University, \$526,822 total.

DOE Carbon Ore, Rare Earth and Critical Minerals (CORE-CM) Initiative, *Regional assessment and characterization of conventional and unconventional emerging domestic lithium resources from U.S. Region 7*, PIs: **KL Butler**, **DE Ibarra**, LA Munk, D Boutt, M Whittaker, S Regan. \$1,777,215 (plus \$527,640 cost share) to Brown University, \$7,500,000 total (plus \$1,875,000 total cost share).

Seed Award Track 1: Research Resilience Award, Brown Division of Research, *Disentangling mechanisms for a warm-wet Pliocene climate in western North America*. PI: **DE Ibarra**. \$75,000

Seed Award Track 2: Research Innovation Award, Brown Division of Research, *Multiscale Characterization of Critical Mineral-Rich Clay Deposits*. PIs: **DE Ibarra**, Y Qi, J Kellner. \$50,000 + \$200,000.

Seed Award Track 3: Research Seed Award, Brown Division of Research, *Surface Albedo Modification and Enhanced Rock Weathering: Supporting Student-Engaged Field Experiments in Rhode Island*. PIs: JB Marston, **DE Ibarra**. \$75,000

B. Current Grants

External Funding as Brown PI/co-PI

NSF P4Climate, *Collaborative Research: RUI: Constraining Tropical Hydroclimate Responses to Periods of Abrupt Climate Change Using Cave Deposits, Cave Monitoring, and Climate Model Outputs*, PIs: **N Sekhon**, **DE Ibarra**. \$410,124 to Brown University, \$723,746 total.

NSF, MRI: *Track 1: Acquisition of an Ultra-Performance liquid chromatography orbitrap mass spectrometer for the Environmental Geochemistry Core Facility at Brown University*, PIs: YS Huang, **DE Ibarra**, JM Russell, T Herbert, M Hastings. \$898,865 to Brown University.

NIH Climate and Health Initiative, CHAIRS-C Pilot Grant, *Will Climate Change Make Metal Pollution Worse? A Pilot Study in Providence Watersheds*, PIs: G Piccione, **DE Ibarra**, \$50,000.

Heising-Simons Foundation, “*Renewed support for paleoCAMP (Paleoclimate training in Climate Archives, Models, and Proxies): A multidisciplinary summer school for graduate students in paleoclimatology*”, 2025-2027. PI: J Tierney, co-PIs: **DE Ibarra**, KJ Anchukaitis, S Dee, K Johnson. \$450,000 total, \$47,081 to Brown University.

DOE, Biological and Environmental Research, Earth and Environmental Systems Sciences Division, *Floodplains vs. hillslopes: Informing the timing and tempo of clay formation and organic matter stabilization across an alpine watershed*, PIs: M Torres, **E Ramos**, **DE Ibarra**, MJ Winnick, KH Williams. \$39,000 to Brown University, \$713,660 total (including significant analytical costs billed to Brown facilities).

NSF P4Climate, *Collaborative Research: Using a Combined Basin Analysis, Isotopic, and Modeling Approach to Reconstruct the LGM through Early Holocene Hydroclimate for Glacial Lake Mojave*. PIs: M Kirby, **DE Ibarra**, AN Daneshmand. \$565,669 total, \$272,434 to Brown University.

Completed External Funding as Brown PI/co-PI

NSF Paleoclimate, *Collaborative Research: RAPID: Characterizing the water isotope signature of an El Nino event for paleoclimate and hydroclimate studies*, 2023-2025. PIs: JKC Rugenstein, **DE Ibarra**. \$28,589 to Brown University, \$62,009 total.

NSF AGS 2102901, “*Collaborative Research: Western U.S. hydroclimate during the Last Interglacial: developing proxy records and using model intercomparison to glimpse the future*”, NSF Paleo Perspectives on Climate Change Program, 2021-2025. PIs: JL Oster, **DE Ibarra**, and WD Sharp. \$818,633 total, \$298,664 to Brown University.

Packard Foundation DEI Funding, *Augmenting paleoCAMP: A multidisciplinary summer school for graduate students in paleoclimatology*, 2023. PI: J Tierney, co-PIs: **DE Ibarra**, KJ Anchukaitis, T Bhattacharya, K Johnson. \$50,000 total.

Heising-Simons Foundation, “*PaleoCAMP (Paleoclimate training in Climate Archives, Models, and Proxies): A multidisciplinary summer school for graduate students in paleoclimatology*”, 2021-2024.

PI: J Tierney, co-PIs: **DE Ibarra**, KJ Anchukaitis, T Bhattacharya, K Johnson. \$425,166 total, \$19,569 to Brown University.

NSF ICER 2136141. “*GOLD-EN: EAGER: Collaborative Research: Enhancing Asian American and Pacific Islander Participation and Belonging in the Geosciences*”, NSF Geoscience Opportunities for Leadership in Diversity – Expanding the Network, 2021-2025. PI: **DE Ibarra**; co-PIs: KV Lau, D Ho, S Legg, S Kim, J Wang, RI Rutberg, S Ying. \$295,291 total, \$209,243 to Brown University. [Note: grant was terminated by NSF on 05/2025]

National Cave and Karst Research Institute (NCKRI) National Seed Grants Program, *Utilizing Stalagmites from the Philippines (USPS): Quantifying and understanding interannual hydroclimate variability in the Philippines through cave monitoring and stalagmite analyses*, 2021-2022. PIs: **DE Ibarra**, **N Sekhon**, \$24,991 to Brown University.

NSF EAR 2025125, “*Acquisition of a continuous flow isotope ratio mass spectrometer (IRMS) system for the Organic Geochemistry Core Facility at Brown University*”, NSF Earth Sciences: Instrumentation and Facilities, 2020-2022. PI: Y Huang; co-PIs: **DE Ibarra**, S Clemens, T Herbert, J Russell. \$387,476 to Brown University.

External Funding as Significant Collaborator

NSF AGS 2503126, *Collaborative Research: The Drivers of Regionally Coherent Meridional Variability Across the Australian and Asian Monsoons Over the Common Era*, PI: **N Sekhon** (Ibarra as collaborator with analytical budget). \$120,364.

NSF EAR 2421880, *Conference: The 9th International Clumped Isotope Workshop (ICIW) at Stony Brook University*, PI: G Henkes (Ibarra as collaborator and co-convenor). \$49,500.

NSF EAR 2320327, *MRI Track 1: Acquisition of a replacement electron microprobe at Brown University*, PI: S Parman, co-PIs: J Hirth, Y Liang, A Saal, E Cooperdock (w/ DE Ibarra as collaborator). \$641,223 to Brown University

NSF EAR 2243857. “*REU Site: Dynamic Earth in the 21st Century: Undergraduate Research on the Evolution of Earth’s Interior, Surface and Climate*”, 2023-2026. PIs: K Fischer, Taiese Bingham-Hickman (w/ DE Ibarra as collaborator on advisory group). \$291,598 to Brown University.

NASA Planetary Science Enabling Facilities, “*Brown University electron microprobe facility*”, 2023. PI S Parman, co-PIs: R Milliken, G Hirth, Y Liang, J Mustard, A Saal, J Boesenberg, R Cooper (w/ DE Ibarra as collaborator), \$581,576 to Brown University.

NASA Solar System Exploration Research Virtual Institute (SSERVI), *Lunar Structure, Composition, and Processes for Exploration LunaSCOPE*, PI: AJ Evans (w/ 35 other co-Is; co-I **DE Ibarra** as SSERVI liaison). \$7,500,00 to Brown University.

Internal Funding as PI/co-PI

Brown Equitable Climate Futures Grant, *Equitable Climate Information*, PIs: M Freilich, M Hastings, **DE Ibarra**, **D Kerins**, A Lopez, **G Piccione**, J Plaut, S Salap-Ayca, K Schapira, \$30,000 (\$120,000 total budget over 2 years)

Lead Exposure in Providence: A Comprehensive Survey and Initiation of a Community Engagement Project for Safer Drinking Water. Sustainability Seed Grant 2025. PIs: **G Piccione**, **DE Ibarra**, **D Kerins**. \$15,000.

Investigating mineralogical, geochemical and thermodynamic mechanisms governing lithium enrichment in lake clay deposits and subsequent release into lithium-rich brine-aquifer systems. Initiative for Sustainable Energy Seed Research Grant, 2024-25. PI: **DE Ibarra**. \$50,000.

Ice, Coral, Dust and Pollen: Multidisciplinary Approaches to Climate History, Brown University Cogut Institute for the Humanities, Collaborative Humanities Course Award. PIs: B Lander, **DE Ibarra**, 2023-2024. \$30,000 (\$15,000 to Ibarra).

Tropical Weathering and the Fate of Anthropogenic Carbon Emissions, Brown University IBES Research Seed Fund Multi-Investigator Research Project. PIs: **DE Ibarra**, S Porder, 2022-2024. \$60,000.

Life Beyond Earth: Determining the Habitability of Exoplanets, Brown University Seed Funds. PIs: A Evans, S Parman, **D Ibarra**, G Tucker, 2022-2024. \$90,000.

C. Other Completed Grants

University of California President's Postdoctoral Fellowship Program, "*Climate, Weathering and Erosion: How have glacial cycles influenced global sediment transport?*" 2019-2020. PI: **DE Ibarra**. \$13,000 for support of research and fellowship travel expenses.

Miller Research Fellowship, Miller Institute for Basic Research in Science, University of California, Berkeley, "*Reconstructing Water Cycle Changes in the American West*" 2019-2021. PI: **DE Ibarra**. ~\$152,000 for support of postdoctoral fellowship and research

Balik Scientist Program, Short-Term Category, Department of Science and Technology, Republic of the Philippines, 2018-2019. PI: **DE Ibarra**, Co-PI: CP David. ~\$10,000 USD for support of 30 days of field work, teaching and collaboration at the University of the Philippines, Diliman.

Heising-Simons Foundation, "*Acquisition of a Gas Isotope Ratio Mass Spectrometer for the Measurement of Rare Oxygen-17 Isotopes in Terrestrial Paleoclimate Archives*", 2017-2019. PI: CP Chamberlain; co-PIs: **DE Ibarra**, P Blisniuk. \$526,212 to support acquisition of a Thermo Scientific 253 Plus 10kV Isotope Ratio Mass Spectrometer and one year of postdoc funding for Ibarra. (Note: *Proposal was primarily written by Chamberlain and Ibarra*)

NSF EAR-1423967 "*Collaborative Research: High-resolution Cretaceous terrestrial climate records of temperature, weathering and hydrologic response to hyperthermals in the Songliao Basin, China*" NSF SGP Program, 2014-2016. PI: CP Chamberlain, Co-PIs: SA Graham, BB Sageman, AR Carroll and BS Singer. \$195,505 total, \$73,073 to Stanford University to partially support Ibarra PhD research. (Note: *Proposal was primarily written by Chamberlain and Ibarra*)

D. Funded Student and Postdoc Grants and Fellowships

External Grants

Cave Research Foundation, Philip M. Smith Graduate Student Research Grant for Cave and Karst Research, "Analysis of U And Th Isotopes on Speleothem Calcite and Modern Cave Drip Waters from the Tropics to Develop a Karst Paleo-Infiltration Proxy" to **M Gerald Vega**, 2025, \$2,000.

GSA Lipman Research Award, "Inferring iron oxide formation conditions on Mars from triple oxygen isotopes", to **R Havel**, 2025, \$2,500.

NASA Goldschmidt Conference Planetary Science Grant, "Inferring iron oxide formation conditions on Mars from triple oxygen isotopes", to **R Havel**, 2025, \$1,500.

DOE SCGSR award, “*Investigating geochemical and thermodynamic mechanisms governing lithium mineralization in volcano-sedimentary ore deposits*” to **CA Gagnon** (working with Michael Whittaker, Lawrence Berkeley National Laboratory), 2024-2025, ~\$15,000 + travel and analytical expenses.

NSF EAR 2052913, “*EAR-PF: Paleoelevation reconstruction in hyper-arid settings – integrating triple oxygen and clumped isotope techniques in the Salar de Atacama Basin, Chile (22-25S)*”. Earth Science Postdoctoral Fellowship to **KL Butler** (co-mentored by K Huntington, University of Washington), National Science Foundation, 2022-2024, \$174,000.

NSF EAR 2053056, “*EAR-PF: Controls of and connections between silicate weathering and organic carbon cycling in watersheds: A test case in the Upper Deschutes Basin, Oregon, USA*”. Earth Science Postdoctoral Fellowship to **E Ramos** (co-mentor with M Torres, Rice University), National Science Foundation, 2021-2023, \$174,000.

Geological Society of America, “*Stable isotope-based Pliocene to present hydroclimate reconstruction from Clayton Valley, NV*”. Continental Scientific Drilling Division Student Research Grant to **CA Gagnon**, 2021, \$2,400 + \$500 for Conference Travel.

Geological Society of America, “*Paleoelevation reconstruction in a hyper arid setting: a case study from the Salar de Atacama Desert, Chile*”. Farouk El-Baz Student Research Grant to **KL Butler**, 2021, \$2,200.

Internal Funds

“*From Streets to Streams: Deciphering urban imprints on terrestrial-aquatic carbon cycling*”, Voss Postdoctoral Fellowship to **D Kerins**, Brown University, 2024-2026, \$135,000.

“*Constructing a hydrological balance model for the Bear Lake Watershed, Utah and Idaho using stable isotope data*”, IBES Research Award to **J Custado**, 2024, \$4,954.

“*Filling in the Gaps: Soils as Recorders of Regional Hydrology Across the Planet*”, IBES Research Award to **T Bobik**, 2023, \$5,000.

“*Hydroclimate in the southwestern Great Basin: Implications for economically viable lithium accumulation in lake clay deposits*”, IBES Research Award to **CA Gagnon**, 2023, \$5,000.

“*The Impacts of Forest Fires on Catchment-Scale Chemical and Physical Weathering*”, IBES Voss Undergraduate Research Fellowship to **J Bernstein-Schalet**, 2023-2024, \$4,500 stipend and \$2,000 research funds.

“*Effects of Wastewater Pollution on Cape Cod Estuaries Revealed by Stable Isotopic Analysis*”, IBES Voss Undergraduate Research Fellowship to **M Benson**, 2023-2024, \$4,500 stipend and \$2,000 research funds.

“*Temperature Dependent Dissolution Experiments of Basalt, Dacite and Pumice from The Little Deschutes River Valley, OR*”, Research at Brown Grant to **J Miller**, \$500

Cascade Streams as indicators of changes to the Soil Organic Carbon Pool, IBES Research Award to **S Munoz**, 2023, \$4,720.

Watershed controls on rock weathering and soil carbon storage, IBES Research Award to **S Munoz**, 2022, \$4,450.

“*Using rivers to decipher the coevolution of carbon cycling and silicate weathering*”. IBES Research Award to **S Munoz**, 2022, \$1,600.

“Quantifying and understanding interannual climate variability in the Philippines”. Voss Postdoctoral Fellowship and Presidential Diversity Postdoctoral Fellowship to **N Sekhon**, Brown University, 2021-2023, ~\$130,500.

“Pliocene to present hydroclimate reconstructions from the Great Basin”. IBES Research Award to **CA Gagnon**, 2021, \$4,991.

E. Industry Supported Research and Contracts

Note: due to non-disclosure agreements industry support and billed amounts are not disclosed

Smithsonian Institution, National Museum of Natural History, carbonate stable isotope and trace metal analyses (billed to Brown geochemistry facilities), 2025-Present

Southwest Research Institute, carbonate stable isotope analyses (billed to Brown geochemistry facilities), 2025-Present

E3 Lithium and UT Dallas, carbonate and silicate stable isotope analyses and lithium and strontium isotope analyses (billed to Brown geochemistry facilities), 2023-Present

Lithium Americas student internship for **CA Gagnon**, summer 2023

Lithium Americas, carbonate and silicate stable isotope analyses (billed to Brown geochemistry facilities), 2022-2024

Albermarle Corporation, carbonate stable isotope analyses (billed to Brown geochemistry facilities), 2021-2022

Meteorite Identification utilizing triple oxygen isotope analyses with >10 external clients (billed to Brown geochemistry facilities), 2022-Present. Meteoritical Bulletin Classification contributions by my lab are listed here: <https://sites.brown.edu/ibarra-lab/research/data-and-code-2/>

5. SERVICE

Departmental and University Service

Brown University

Advisory Committee, Honorary Degrees, 07/2024-10/2025

Engineering & Physical Sciences Cores Oversight Committee, 09/2024

Department Laboratory Safety Committee, 09/2023-07/2024

Chair, Diversity, Inclusion and Action Committee (DIAC), IBES, 09/2023-Present

Ad Hoc Faculty Search Committee (Cryosphere/Physical Oceanography), 07/2023

Seed Grant Committee, Institute for Sustainable Energy, 06/2023

Second Year Advisor, 2023-24 (n=6)

Voss Undergraduate Fellowship Selection Committee, IBES, 03/2023, 03/2024 & 02/2025

First Year Advisor, 2022-23 (n=6, listed below)

ENVS Concentration Advisor, 04/2022-05/2024 (n=4, listed below)

Department Diversity, Equity and Inclusion Committee (DIAC), DEEPS, 09/2021-07/2024

Department Colloquium Committee, DEEPS, 07/2021-12/2022

Voss Postdoc Search Committee, IBES, 10/2021-03/2022 & 08/2024-03/2025

University of California, Berkeley & Stanford University as Graduate Student or Postdoc

Seminar Co-Organizer, Center for Isotope Geochemistry, UC Berkeley, 2020

Postdoc Representative to the Committee on Libraries (C-LIB), elected Stanford Faculty Senate appointment, Stanford University, 2018-2019
 Community Engagement Board, California Alliance for Graduate Education & The Professoriate (NSF AGEP Program), 2018-2020
 Mentor, EDGE (Enhancing Diversity in Graduate Education) Graduate Fellowship Program, Stanford University, 2015-2018.

Professional Service

Editorial Board

Handling Editor (Low-Temperature Geochemistry), *Advances in Geochemistry and Cosmochemistry*, 2025-Present
 Associate Editor, *Frontiers in Earth Science*, 2022-Present
 Editorial Board (Earth Science), *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 2022-Present
 Associate Editor, *All Earth* (Taylor & Francis), 2021-Present
 Associate Editor, *American Journal of Science* (Highwire Press/Yale), 2019-Present
 Advisory Council and Moderator, *EarthArXiv*, Earth and Planetary Science preprint server, 2017-2020

Other Professional Service

Travel Grant Committee, AGU Paleooceanography and Paleoclimatology Section, 2024-Present
 Advisory Group, GSA On to the Future Program, 2024-Present
 Advisory Board and Mentor, GradMAP Philippines, 2022-2023
 Member-at-Large, Geological Society of America Diversity in the Geoscience Committee, 2021-2024
 Elderfield Award Committee, American Geophysical Union, 2021-2023
 AGU Bridge Partner Selection Committee, American Geophysical Union, 2021-2023
 Co-founder and Board of Directors, Paleoclimate Training in Climate Archives, Models, and Proxies (paleoCAMP) summer school, 2021-Present
 Member, National Research Council of the Philippines, Department of Science and Technology, 2020-Present

Conference Session Convener/Co-Convener

- *Hydroclimate variability across timescales in western North America: causes and consequences*, 2025 GSA Connects
- *Hydroclimate Lessons from Cenozoic Paleoclimates*, 2021 and 2023 AGU Fall Meeting
- *Do Carbon Sources or Sinks Drive the Phanerozoic Carbon Cycle?: Understanding Geobiologic Forcings and Feedbacks*, 2022 and 2023 GSA Annual Meeting
- *Asian Americans and Pacific Islanders in Geosciences Town Hall*, 2021 AGU Fall Meeting
- *Novel and Quantitative Methods for Reconstructing Continental Palaeoenvironments and Palaeohydrology*, 2021 AGU Fall Meeting
- *Global Geochemical Cycles and Earth's Climate over Geologic Time*, 2020 AGU Fall Meeting
- *Marine-terrestrial Connections between the Pacific and the Americas*, 2020 AGU Fall Meeting
- *Recent Advances in Lakes and Lacustrine Material: Responses to Regional Climate and Environmental Change*, 2016 AGU Fall Meeting

Manuscript Reviewer (n=161 reviews, since 2012), including but not limited to: *Nature; Science Advances; Nature Geoscience; Nature Communications; Earth and Planetary Science Letters; Geophysical Research Letters; Geology; Geochimica et Cosmochimica Acta; Water Resources Research; Paleooceanography and Paleoclimatology; Earth Surface Dynamics; Quaternary Science Review; Climate of the Past.*

My complete review record is documented on Web of Science:
<https://www.webofscience.com/wos/author/record/E-6141-2013>

Proposal Panelist (n=5, since 2020): National Science Foundation (multiple programs).

Proposal Reviewer (n=38, since 2018): National Science Foundation (multiple programs); Austrian Science Fund; Earth Observatory of Singapore; Israel Science Foundation; German Research Foundation; American Chemical Society.

Additional Reviews: IPCC AR6 WG1 Expert Reviewer (2019)

Community Service and Outreach

Vartan Gregorian Elementary school visit to DEEPS, Brown University, 04/2025

Every Rock Has a Story YouTube Channel, Ethan Baxter, Boston College, Featured Host, 2022

Miller Research Institute Outreach at El Cerrito High School Science Department, El Cerrito, California, 2020-2021

- Lead coordinator for outreach program focused on promoting interest in STEM fields with historically underrepresented groups (school is 28% Hispanic, 17% African American and 22% Asian American and Pacific Islander; 43% qualify for Free/Reduced Lunch)

Independent Schools Foundation (ISF) Academy, Hong Kong, Shuyuan Discovery Science Program, 2013–2021

- External Science Advisor, 2013–2021
- Presentation: *Preparing an AGU Bright STaRS poster*, 2014, 2016, 2020 and 2021
- Designed spatial mapping project on history of science in China using QGIS/ArcGIS carried out at the Needham Research Institute, Cambridge University, 2016

Gear up for Scientific & Technical Publishing, Stanford Libraries, 2018.

Presentation: *Preprints and preprint servers for all disciplines: lessons from the creation of EarthArXiv.*

Understanding Global Change Teacher Workshop, University of California Museum of Paleontology and Stanford School of Earth, Energy and Environmental Sciences, 2015. Presentation: *Ice Age evidence for dramatic regional and global changes in the terrestrial water cycle*

History of Life High School Intern Program, Stanford School of Earth, Energy and Environmental Sciences, 2015. Presentation: *The Ice Age water cycle.*

Geographic Information Systems (GIS) Day, Branner Earth Sciences Library, Stanford University, 2012. Presentation: *Enhancing paleo-lake level records of an internally draining watershed: Surprise Valley, CA*

6. ACADEMIC HONORS AND AWARDS

Early Career Research Achievement Award, Brown University, 2025

Graduate School Faculty Award for Advising and Mentoring, Brown University, 2024

H. Burr Steinbach Visiting Scholar, Marine Geology and Geophysics, Woods Hole Oceanographic Institute, 2023

Best Paper, European Association of Science Editors (EASE), for Pourret et al. *International disparities in open access practices in the Earth Sciences*, 2022

Elected Member, Earth and Space Sciences Division, National Research Council of the Philippines, Department of Science and Technology, Republic of the Philippines, 2021

Elected Full Member, The Philippine-American Academy of Science and Engineering (PAASE), 2021

Balik Scientist (Short-Term Category), Republic of the Philippines, Department of Science and Technology, 2018

Graduate Student Award for Scholarly and Research Achievement (awarded to the top graduating Ph.D. student in the department), Earth System Science, Stanford University, 2018

Editor's Citation for Excellence in Refereeing, Geophysical Research Letters, American Geophysical Union, 2017

Centennial Teaching Assistant Award, Stanford University, 2016

NSF USSP, Urbino Summer School in Paleoclimatology NSF Scholarship, 2014

On to The Future Diversity Program, Geological Society of America, 2013

Hoefer Fund Partnership Award for Excellence in Mentoring Undergraduate Writing, Stanford University, 2013

Graduate Climate Conference Travel Scholarship, University of Washington, 2012

Firestone Medal for Excellence in Undergraduate Research, Stanford University, 2012

Dean's Award for Outstanding Academic Achievement, Stanford University, 2012

Outstanding Senior in Geological and Environmental Sciences, Stanford University, 2012

David E. Lumley Young Scientist Scholarship for Energy and Environmental Science, American Geophysical Union, 2011

Barry M. Goldwater Scholarship, Honorable Mention, 2011

7. FELLOWSHIPS

Henry Merritt Wriston Fellowship, Brown University, 2025-2026

Junior Faculty Teaching Fellow, Sheridan Center for Teaching and Learning, Brown University, 2024-2025

University of California President's Postdoctoral Fellow, University of California, Berkeley, 2019

Miller Research Fellow, Miller Institute for Basic Research in Science, University of California, Berkeley, 2019

National Science Foundation Earth Science Postdoctoral Fellow (EAR-PF), 2019 (award declined)

Enhancing Diversity in Graduate Education (EDGE) Fellowship, Stanford University, 2013

Thomas D. and Janice H. Barrow Fellowship, Stanford University, 2012-2013

8. TEACHING AND MENTORING

Teaching

Brown University Teaching

Terrestrial Biogeochemistry, Ecosystems and the Global Carbon Cycle, EEPS/ENVS 1300, Fall 2024 (25 undergraduates)

Environmental Stable Isotopes, EEPS 1380, co-taught with Yongsong Huang, Spring 2023 (6 Undergraduates, 7 Graduate Students) and sole instructor in Spring 2025 (5 Undergraduates, 4 Graduate Students and 4 Postdoctoral Fellow Auditors)

Ice, Coral, Dust and Pollen: Multidisciplinary Approaches to Climate History, ENVS 1917, co-taught with Brian Lander, Spring 2024 (9 Undergraduates)

Terrestrial Paleoclimatology Seminar, EEPS 2910U, Spring 2024 (9 Graduate Students, 2 Postdocs)
Brown Environmental Leadership Lab: Eastern Sierras, CEES0945, Summer 2023 (24 pre-college students) and Summer 2024 (23 pre-college students)
Seminar in Analytical Geochemistry, EEPS 1960N, co-taught with Yongsong Huang, Spring 2023 (4 Undergraduates, 6 Graduate Students)
Historical Climatology and Global Climate Change, ENVS 0070G (First-Year Seminar), co-taught with Natasha Sekhon, Fall 2022 (18 First-Year Undergraduates)
Note: Contracted teaching release in Fall 2021 and Fall 2023; Parental release in Spring 2022.
Upcoming - Junior Sabbatical Fall 2025 and Wriston Fellowship teaching release Spring 2026.

Invited Class Lectures

Terrestrial Biogeochemistry, Methods for Interdisciplinary Environmental Research (ENVS 1920), Brown University, 2022.
Stable Isotope Geobiology, Fundamental of Geobiology (ESS 205/Geosci 205), Stanford University, 2020.
Warm and cold wet states in the western United States during the Pliocene-Pleistocene, Lehigh University, 2020.
Clumped and Triple Oxygen Isotopes: Theory and Applications, Environmental Isotope Geochemistry (GEOL 1380), Brown University, 2020.
Diversity and Inclusion in the Geosciences (Earth 203), Stanford University, 2020.
Quantifying Weathering and Erosion Using Rivers, University of the Philippines, 2019.
Formulating a MS research topic, University of the Philippines, 2019.
A geobiological view of weathering and erosion, Fundamental of Geobiology (ESS 205/Geosci 205), Stanford University, 2018.
Constraining past mid-latitude circulation changes using paleoclimate models and proxies, Atmosphere Ocean and Climate Dynamics Group, Stanford University, 2018.
Western United States Climate During the Last Glacial Maximum, Atmosphere, Ocean and Climate Dynamics (ESS 246A), Stanford University, 2016.
Figure making and dataset visualizing in the Earth sciences, Senior Seminar: Issues in Earth Sciences (Geophys 199/Geosci 150), Stanford University, 2014 and 2016.

Mentoring

Postdoctoral Researchers and Affiliate Postdocs

- Dr. Devon Kerins, Voss Postdoctoral Fellow, DEEPS & IBES, Brown University, 2024-2025
 - o Secured tenure-track faculty position at University College Dublin, 01/2025.
- Dr. Gavin Piccione, DEEPS, Brown University (funded on collaborative NSF P4Climate grant and internal funds), 2023-Present
 - o Wrote and was awarded \$65k in internal funding for Providence watersheds, metals, climate and health research.
 - o Secured tenure-track faculty position at University of Pittsburg starting 07/2026.
- Dr. Kristina L. Butler, NSF Earth Science Postdoctoral Fellow, DEEPS, Brown University & Earth and Space Sciences, University of Washington (co-mentor with K Huntington), 2022-2023
 - o Secured tenure-track faculty position at University of Texas Dallas, 12/2023.
- Dr. Dean Kahn, DEEPS, Brown University (co-mentor with AJ Evans (lead) and S Parman funded on internal seed grant and NASA LunaSCOPE grant), 2022-2024
- Dr. Christopher Kinsley, Berkeley Geochronology Center (external co-mentor with W Sharp and JL Oster funded on collaborative P2C2 NSF grant), 2022-2023.
- Dr. Natasha Sekhon, Voss Postdoctoral Fellow and Presidential Diversity Postdoctoral Fellow, DEEPS & IBES, Brown University, 2021-2023.
 - o Nominated to and awarded Brown University Postdoctoral Research Award, 2022,

- Wrote and was awarded NCKRI grant during postdoc (\$24,991 to Brown University),
- Supported successful nomination package for GSA Karst Division Early Career Award, 2023
- Secured tenure-track faculty position at Occidental College, 01/2024.
- Wrote and was awarded two NSF P4Climate grants
- Dr. Evan Ramos, NSF Earth Science Postdoctoral Fellow, DEEPS, Brown University & Earth, Environmental and Planetary Sciences, Rice University (co-mentor with M Torres), 2021-2024
 - Wrote and was awarded a DOE BES grant during postdoc
 - Secured tenure-track faculty position at the University of Pittsburgh, 07/2024

Graduate Students

Brown University Primary Advisor

Ongoing

- Monica Gerales Vega, Sc.M. Candidate, DEEPS, Brown University, 2023-Present. (co-advised by K Cobb)
 - Cave Research Foundation Grant, 2025
- Riley Havel, Ph.D. Candidate, DEEPS, Brown University, 2022-Present. (co-advisor 2022-2024 with G Budde; primary advisor 2025-Present; Sc.M. 2025)
 - NASA Goldschmidt and Geological Society of America Grants, 2025
 - National Science Foundation Graduate Student Research Fellowship
- Justin Custado, Ph.D. Candidate, DEEPS, Brown University, 2022-Present (Sc.M. 2024)
- Sebastian Muñoz, Ph.D. Candidate, DEEPS, Brown University, 2021-Present. (Sc.M. 2023; co-advised by L Smith)
 - National Science Foundation Graduate Student Research Fellowship
 - Nominated to and awarded Brown University Graduate School's Presidential Fellowship

Completed

- Catherine A. Gagnon, Ph.D., DEEPS, Brown University, 2020-2026 (Sc.M. 2022; Ph.D. 2026)
 - Secured Lithium Americas Internship funding, summer 2023
 - Department of Energy Office of Science Graduate Student Research Program, 2024-2025
- Theodore Bobik, Sc.M., DEEPS, Brown University, 2022-2023.

Brown University Committee Member¹ and/or Collaborator²

Ongoing

- ¹Audrey Smith, M.S./Ph.D., Engineering, Brown University, 2025-Present (advised by A Peterson).
- ¹Cesar Bucheli, M.S./Ph.D., DEEPS, Brown University, 2023-Present (advised by E Cooperdock).
- ¹Ellen Jorgenson, M.S./Ph.D., DEEPS, Brown University, 2023-Present (advised by J Russell).
- ¹Chandler Morris, M.S./Ph.D., DEEPS, Brown University, 2023-Present (advised by K Cobb).
- ¹Xi Chen, M.S./Ph.D., DEEPS, Brown University, 2022-Present (advised by JE Lee).
- ¹Vivien Chen, M.S./Ph.D., DEEPS, Brown University, 2022-Present (advised by M Hastings).
- ¹Andrea Mason, M.S./Ph.D., DEEPS, Brown University, 2021-Present (advised by J Russell).
- ^{1,2}Jared Nirenberg, M.S./Ph.D., DEEPS, Brown University, 2020-Present (advised by T Herbert).

Completed

- ¹Dan Rationale, M.S., DEEPS, Brown University, 2022-25 (advised by G Budde).
- ^{1,2}Kaiyuan Wang, DEEPS, Brown University, 2024-25 (advised by EB Hodgin).
- ¹Heejeong Kim, M.S./Ph.D., DEEPS, Brown University, 2022-25 (advised by M Hastings).
- ¹Sloan Garelick, Ph.D., DEEPS, Brown University, 2022 (advised by J Russell).

External Committee Member or Examiner

- Yanan Cheng, Ph.D., University of North Carolina, 2025-Present (External Committee Member)
- Emily Nigro, Ph.D., Stanford University, 2024-Present (External Committee Member and Collaborator)

- Bryce Belanger, M.S./Ph.D., Earth and Environmental Sciences, Vanderbilt University, 2022-2025. (External Committee Member and Collaborator, funded on collaborative P2C2 grant)
- Anupam Samanta, Ph.D., Indian Institute of Science Education and Research, Pune, 2022. *Weathering and climate linkage at seasonal to kilo-year timescales: Evidence from water and sediment chemistry.* (Ph.D. Examiner)
- Dainty Clarice V. Rabang, M.S., Geology, University of the Philippines, Diliman, 2020-Present. *Hydrogeochemical assessment of ultramafic watersheds and its implications on chemical weathering rates and CO₂ consumption.* (External Committee Member and Collaborator)
- Daniel M. Coffey, M.S., Geological Sciences, University of Alaska Anchorage, 2018–2020. *Lithologic sources and release mechanisms for lithium into the aquifer system of Clayton Valley, NV.* (External Committee Member and Collaborator, funded by Albermarle Inc.)

Undergraduate and High School Student Researchers and Mentees

Researchers

- Ronan Zwa, Undergraduate Research, 2025-Present
 - o SACNAS Undergrad Research Initiative
- Sarah Kramer, Undergraduate Research, 2025-Present
 - o Fall 2025 SPRINT | UTRA
- Exiquio Salinas, Undergraduate Research, 2025-Present
 - o Fall 2025 SPRINT | UTRA
- Owen Vaccaro, Undergraduate Research, 2025-Present
 - o Fall 2025 SPRINT | UTRA
- Camryn Slappey (Albany State), DEEPS Leadership Alliance REU, 2025 (co-advisor with M Hastings)
- Lena Hernandez (UC Berkeley), DEEPS Leadership Alliance REU, 2025 (co-advisor with EHG Cooperdock)
- Yelitza Cabrera (CSU Fullerton), DEEPS Leadership Alliance REU, 2025-Present
- Jenna Serotta, Undergraduate Researcher, 2025-Present
 - o Summer 2025 SPRINT | UTRA
- Kira Ivanova, Undergraduate Researcher, 2025-Present
 - o Summer 2025 SPRINT | UTRA
- Josephine Harrison, Undergraduate Researcher, 2025-Present
 - o Summer 2025 SPRINT | UTRA
- Milla Vogelesang-Liu, Undergraduate Researcher, 2025-Present
- Miko Lehnert, DEEPS, Undergraduate Researcher, 2025
 - o Spring 2025 SPRINT | UTRA
- Emma Louthain, Chemistry, Undergraduate Researcher, 2024-Present
- Sarah Levine, DEEPS, Undergraduate Researcher, 2024-Present
 - o Fall 2024 SPRINT | UTRA
- Claire Xu, DEEPS, Undergraduate Researcher, 2024-Present
 - o Fall 2024 SPRINT | UTRA
- Eleanor Barth Wu, DEEPS, Undergraduate Researcher, 2024-Present
- Tee Gotsch, DEEPS, Undergraduate Researcher, 2024
 - o Summer 2024 SPRINT | UTRA
- Andrea S. Jimenez-Moreno (Estudiante en Universidad de Puerto Rico), DEEPS Leadership Alliance REU, 2024 (collaborator, primary mentor JW Dottin)
- Erin Alejandra Torres (Southern Methodist University), DEEPS Leadership Alliance REU, 2024
- Maira Rojas-Tineo, ENGN, Undergraduate Researcher, 2023.
 - o Fall 2023 SPRINT | UTRA

- Brooke Wangenheim, Undergraduate Researcher, 2023-2024.
 - o Fall 2023 SPRINT | UTRA
- Marina Benson, DEEPS, Undergraduate Researcher, 2023-2024.
 - o IBES Voss Undergraduate Research Fellowship, 2023-2024
 - o Senior Thesis: *Edgartown Great Pond is Turning Green! The Ecological Impacts of Nitrogen Pollution on Coastal Estuaries.*
- Daniel Graves, ENVS, Undergraduate Researcher, 2023-2024.
 - o IBES ENVS Summer Research & Internship Award 2023
 - o Senior thesis: *Variability of groundwater recharge in variable climates: a water-energy balance groundwater model for the arid Southern Great Basin.*
- Jonah Bernstein-Schalet, DEEPS, Undergraduate Researcher, 2023-2024.
 - o IBES Voss Undergraduate Research Fellowship, 2023-2024
 - o Senior Thesis: *Linking Stream Chemistry to Soil Biogeochemistry to Investigate the Environmental Legacy of Wildfire in Oregon's West Cascades.*
- Whitney Vieira Ribeiro, DEEPS, Undergraduate Researcher, 2023-2024.
 - o Senior thesis: *Tracking the Impact of the K/Pg on Pelagic Shark Diversity Using Dermal Denticles.*
- Anna Dubey, BIOL, Undergraduate Researcher, 2022-2025.
 - o University of Maine Darling Marine Center summer internship program, 2023
- Mia Prausnitz-Weinbaum, ENVS, Undergraduate Researcher, 2022.
- Celia Kong-Johnson, DEEPS, Undergraduate Researcher, 2022-2025.
 - o Fall 2023 SPRINT | UTRA
 - o Caltech RSI-WAVE Fellow Program, summer 2023
 - o UCAR SOARS Program, summer 2024
 - o Nominated for and awarded 2024 Sarah LaMendola Undergraduate Research Award for Senior Thesis work, \$1,000.
 - o NSF Graduate Research Fellowship Program awardee, 2025
- Christina Marsh (Pomona College), DEEPS Leadership Alliance REU and Remote Undergraduate Researcher, Summer 2022 to Summer 2023.
 - o Current PhD Student at University of Southern California.
- Shaw Miller, DEEPS, Undergraduate Researchers, 2022-2024.
 - o Summer 2022 SPRINT | UTRA
 - o DOE SULI program to work at the Molecular and Nanogeochemistry group at Lawrence Berkeley National Lab.
 - o Nominated for and awarded 2023 Sarah LaMendola Undergraduate Research Award for Senior Thesis work, \$1,000.
 - o Senior thesis: *Identifying drivers of hydroclimate change during MIS 5 in Owens Valley, California using carbonate clumped isotopes*
- Natalie Chang, DEEPS, Summer 2022 SPRINT | UTRA, Summer 2022.
- Jesse Miller, DEEPS, Independent Study and Undergraduate Researcher, Fall 2021 to Spring 2023
 - o Summer 2022 SPRINT | UTRA
 - o Senior Thesis: *Temperature dependent dissolution experiments of basaltic andesite, dacite and pumice from the Little Deschutes River Valley, Oregon*
- Annabelle Gao, Academic Year Undergraduate Researcher, DEEPS, Fall 2021 to Summer 2023.
 - o Caltech WAVE Program, summer 2022
 - o Current PhD student at Boston University.
- Elizabeth Gaviria (Rice University), DEEPS Leadership Alliance REU and Remote Undergraduate Researcher, Summer 2021 to Spring 2022.

- Senior Project: *Modeling Seasonal and Interannual Climate Variability in Modern Precipitation Pathways Across Western North America*.
- Current MS Student at University of Helsinki.
- Chloe Whicker, UCLA CARE Fellows and CAMP Programs, 2017–2018.
 - Completed PhD at University of Michigan in 2023.
- Samuel Kramer, Stanford Earth Undergraduate Research Program (SESUR), 2015 (co-advised with Jeremy Caves Rugenstein).
- Alex Beroza (Gunn High School, Palo Alto), Stanford Earth Young Investigators, 2012 (co-advised with Miguel Cruz).

Academic Mentees

Data Science Fellows

- Sophie Blumenstein, 2022

Undergraduate Concentration Advisees

- Max Haimes, A.B. ENVS, 2025-Present
- Abigail Gonzalez, A.B. ENVS, Air, Climate & Energy, 2024-2025
- Xiaokang Xue, Sc.B. ENVS, Sustainability in Development, 2022-2025
- Carla Losada, A.B. ENVS, Air, Climate & Energy, 2022-2024
- Anthony Bishop-Gyls, Sc.B. ENVS, Air, Climate & Energy, 2022-2024
- Mia Prausnitz-Weinbaum, A.B. ENVS, Environment and Inequality, 2022-2024

First/Second Year Undergraduate Advisees

- Alicia Chandler, 2022-2024
- Alexandra Coia, 2022-2024
- Bailey Smoko, 2022-2024
- William Yu, 2022-2024
- Yingshen (Karen) Zhang, 2022-2024
- Cameron Zytkeicz Ray, 2022-2024

Significant External Graduate Student Collaborators

- Emily Nigro, Ph.D., Stanford University, 2024-Present (advised by CP Chamberlain).
- Xueyao Cheng, Ph.D., Stanford University, 2023-Present (advised by CP Chamberlain).
- Alexa Terrazas, Ph.D., UCLA, 2021-Present (advised by AE Tripathi).
- Jordan Jenckes, Ph.D., University of Alaska Anchorage, 2019-2023 (advised by LA Munk).
- Larry Taylor, Ph.D., UC Berkeley, 2019-2021 (advised by S Finnegan).
- Alexandria Arnold, Ph.D., UCLA, 2017-2024 (advised by AE Tripathi).
- Cameron de Wet, M.S./Ph.D., Vanderbilt University, 2016-2023 (advised by JL Oster).
- Lauren Santi, M.S., UCLA, 2017-2019 (advised by AE Tripathi).
- Jennifer Hall, M.S., Central Washington University, 2015–2017 (advised by AE Egger).
- Nicholas Hermann, M.S., Vanderbilt University, 2014–2016 (advised by JL Oster).
- Brian Marion, M.S., Central Washington University, 2014–2016 (advised by AE Egger).

Lab Visitors

- Mira Hart, Undergraduate, Occidental College, Spring 2025
- Claire Mock, Ph.D. Student, University of Pittsburg, Spring 2025
- Kyra Croft, Ph.D. Candidate, Boston College, Spring and Summer 2025
- Juan David Hernandez Montenegro, Ph.D. Candidate, Caltech, March 2025
- Hwiseo Choi, Ph.D. Student, Rice University February 2025
- Emily Nigro, Ph.D. Student, Stanford University, March 2024

- Xueyao Cheng, Ph.D. Student, Stanford University, March 2024
- Chris Emproto, Ph.D. Candidate, University of Michigan, Fall 2023
- Jiquan Chen, Ph.D. Candidate, China University of Geosciences (Beijing), Fall 2023 to Fall 2024
- Bryce Belanger, Ph.D. Candidate, Vanderbilt University, Summer 2023
- Dr. Jaivime Evaristo, Assistant Professor, Utrecht University, Spring 2023