# Michael P. Lamb

Geological and Planetary Sciences
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## Appointments

Professor of Geology, Geological and Planetary Science, California Institute of Technology, 2014 – present.

Geology Option Representative, Geological and Planetary Science, California Institute of Technology, 2014-2021.

Assistant Professor, Geological and Planetary Sciences, California Institute of Technology, 2009 – 2014.

Postdoctoral Fellow, Geological Sciences, University of Texas, Austin, Advisor: David Mohrig, 2008 – 2009.

Scientist, St. Anthony Falls Laboratory, Minneapolis, Minnesota, Advisors: Gary Parker & Chris Paola, 2000 – 2001.

## Major Research Interests

Landscape dynamics and physical sedimentology on Earth and other planets through the mechanics of erosion, transport and deposition of sediment. Active research questions include: Will river deltas and coastal landscapes drown due to sea level rise? How will Arctic rivers respond to permafrost thawing? When and where did water flow across the surface of Mars?

## Consulting Services

Consulting services including expert witness and peer review for land-use and hazards: fluvial geomorphology; sediment transport; landslide and river-flooding hazards; river, hillslope and coastal erosion; riparian vegetation; stream and alluvial habitat restoration; river and reservoir sedimentation; dam removal; post-wildfire sedimentation and debris flows; hydrology.

## Education

Ph.D. Earth and Planetary Science, University of California, Berkeley, Advisor: William Dietrich, 2008. Dissertation: *Formation of Amphitheater-headed Canyons*.

M.S. Oceanography, University of Washington, Seattle, Advisor: Jeffrey Parsons, 2003. Thesis: *High-density suspensions formed under waves.*

B.S. Geophysics *high distinction* & B.S. Geology *magna cum laude*, University of Minnesota, Minneapolis, 2001.

## Honors and Awards

Keynote Lecture, Gilbert Club Meeting, Berkeley, 2019
NASA Group Achievement Award, MSL Curiosity Mission Science, 2017
James B. Macelwane Medal, American Geophysical Union, 2017
Fellow, American Geophysical Union, 2017
Keynote Lecturer, Steepest Descent Meeting, Vienna, 2017
Royal Academy of Engineering Distinguished Visitor, Imperial College - London, 2015
NASA Group Achievement Award, MSL Curiosity Mission Science, 2015
Editor's Citation for Refereeing for *Reviews of Geophysics*, 2014
Editor's Citation for Refereeing for *Geophysical Research Letters*, 2013
Luna B. Leopold Young Scientist Award, American Geophysical Union, 2012
Robert P. Sharp Capstone Lecture, American Geophysical Union, 2012

Editor's Citation for Excellence in Refereeing for *JGR-Earth Surface*, 2009
Louderback Award for Outstanding Scholarship, University of California, 2007
National Defense Science and Engineering Graduate Fellowship, 2001-2004
Academic Rewards for College Scientists (ARCS) National Scholarship, 2001-2004
Aldrich Award for Academic Excellence, University of Minnesota, 2001
Field Mentor Grant, Association of American State Geologists, 2000
Dennis Scholarship for Academic Excellence, University of Minnesota, 2000
W.A. Hoyer National Scholarship, Society of Professional Well Log Analysts, 2000

# Selected Professional Service and Experience

Developed, in coordination with Prof. Madeline Foster-Martinez, a recruitment and training program to bring undergraduate students from the University of New Orleans, who are directly affected by land loss in the Mississippi Delta region, to participate in related summer research at Caltech, 2022 - present.

Developed k-12 outreach program in coordination with the Yukon River Inter-Tribal Watershed Council at rural Native Alaskan schools on riverbank erosion, 2022 – present.

Team Member, Mars 2020 rover *Perseverance*, 2022 – present.

Team Member, Mars Science Laboratory rover *Curiosity*, 2014 – present.

Team Member, Mars Exploration Rover *Opportunity*, 2016 – 2019.

Founder and steering committee for SoCal Geomorph Symposium (2018 – present)

Designed infographic on fires and debris flows, LA Times (front page), 2014, 2015.

Outreach with Pasadena Unified School District including laboratory demonstrations and tours, 2009 - present.

Interviewee for local and national news on natural hazards and related public concerns (16 events, 2009-2015).

Caltech's Watson public lecture: "When Rocks Roll: How Sediment Transport Shapes Planetary Surfaces," March, 2014.

Developed and led workshop on sediment transport in steep rivers for the annual meeting of the National Association of Geoscience Teachers, 2011.

Designed an informational geologic sign at Box Canyon State Park, Idaho, 2010.

Founder and moderator of "GeomorphLectures" Wiki that facilitates transfer of educational materials in geomorphology, 2010 – present.

Co-convener: *Earth and Planetary Surfaces General Poster Session*, AGU 2009 – 2016

Reviewer for international scholarly journal and funding agencies.

Member: American Geophysical Union, European Geophysical Union, Geological Society of America, Society for Sedimentary Geology (SEPM).

# Courses Taught

Ge13: Mentor for *Scientific Writing Tutorial*, Spring 2010, Spring 2011, Winter 2016.

Ge40: *Special Problems for Undergraduates*, Spring 2010, Fall 2010, Spring 2011, Winter 2014, Spring 2014.

Ge125: *Geomorphology*, Fall 2010, Fall 2012, Fall 2014, Fall 2016, Fall 2018, Fall 2020, Fall 2022.

Ge126: *Topics in Geomorphology:*

Winter 2010: *Geomorphology and Wildfire*
Winter 2011: *Sediment Transport Physics*
Winter 2012: *Alluvial Fans and Pediments*
Winter 2014: *Organic Carbon and Landscapes* (with J. West and W. Fischer)
Winter 2015: *Erosion of Rock by Wind*
Winter 2016: *Soil Production in Steep Landscapes*
Winter 2017: *Morphodynamics with Gary Parker*
Winter 2018: *Rivers in Permafrost*
Winter 2020: *Sediment Transport Mechanics*

Winter 2021: *Floodplains and mud transport and deposition*
Winter 2022: *Biotic influence on soil production and transport (with Todd Ehlers)*
Winter 2023: *Riverbank erosion*

Ce/Ge/Ge222 (also Ge192): *Earthquake Source Processes, Debris Flows, and Soil Liquefaction* (with Ampuero, Andrade and Lapusta), Spring 2012, Spring 2013.

Ge193: *Subglacial hydrology and erosion* (with V. Tsai), Winter 2013

Ge121: *Advanced Field Mapping*:
Spring 2012: *Death Valley and Carrizo Plain*
Fall 2013: *The Channeled Scablands of eastern Washington*
Fall 2015: *Inverted Channels of Southern Utah*
Fall 2017: *Rivers without vegetation in Death Valley*
Fall 2019: *Island accretion on Wax Lake Delta, Louisiana*
Fall 2021: *Soil production in Carrizo Plain*

# Student and Postdoctoral Research Advised

High school students: Conor O'Toole (2010), Khadijah Omerdin (2012-2013), Gheorghe Schreiber (2013), Jay Yalamanchili (2015), Grace Knuth (2021-2022), Brayden Noh (2022 – present).

Undergraduate and visiting graduate students: Peter Buhler (2009 - 2010), Eric Kleinsasser (2010), Mariya Levina (2010), Cindy Tran (2010 –2011), Will Steinhardt (2011), Odin Marc (2010 - 2011), Mathieu Lapôtre (2010-2011), Connor O'Toole (2011), Cailan Halliday (2011), Aaron Tran (2012), Daniel Lo (2012), Fanny Brun (2013), Michael Jensen (2013), Hima Hassenruck-Gudipati (2013-2014), Julianne Preimesberger (2014), Elliot Simon (2014), Sam Holo (2015), Kirby Sikes (2015-2016), Brian Zdeb (2016), Jose Silvestre (2017), Sarah Steele (2017-2019), Lydia Kivrak (2017), Erich Herzig (2016-2018), Omar Wani (2018), Zewei Ma (2018), Janette Levin (2019-2020), Jade Fischer (2019-2020), Victor Heme (2019), Denice Garcia (2019), Zhongheng Sun (2019-2020), Sarah Feil (2020), Patrick Donohoe (2021), Maria Schmeer (2021), Kenny Thai (2021, 2022), Sarah Preston (2022), Vincent Soldano (2022), Isaac Smith (2022), Mavis Stone (2022).

PhD students as secondary advisor: Brent Minchew (2011), Luca Malatesta (2011-2016), Kirsten Siebach (2011-2012), Robert Wills (2013 – 2016), Abbey Nastan (2013-2014), Yanzhe Zhu (2016-2017), Oak Kanine (2020- ); Samantha Baker (2021 -); Hussain Alqattan (2021 –)

PhD students as primary advisor:
Ajay Limaye (2009–2014; now Assistant Professor U. Virginia)
Joel Scheingross (2009–2015; now Assistant Professor U. Nevada-Reno)
Jeff Prancevic (2010–2016; now Geology Manager, Brimstone)
Mathieu Lapôtre (2012–2017; Ehlmann co-advised; now Assistant Professor Stanford)
Austin Chadwick (2014–2019; now postdoctoral scholar UC Santa Barbara)
Alistair Hayden (2014–2020; now Assistant Professor, Cornell)
Madison Douglas (2017–2023; now postdoctoral scholar, MIT)
Justin Nghiem (2019–present)
Emily Geyman (2021- present)
Jocelyn Reahl (2023 – present)
Maria Schmeer (2022 – present)

Postdoctoral scholars:
Ryan Ewing (2010–2011; now Professor, Texas AM)
Ben Mackey (2010–2011; now Natural Hazards Analyst, Otago Regional Council, NZ)
Pailin Chatanantavet (2010–2013; now Engineer, Ocean and Human, Tokyo, Japan)
Adam Booth (2012-2013; now Associate Professor, Portland State)
Roman DiBiase (2011–2014; now Associate Professor Penn State)
Dirk Scherler (2013–2014; J.-P. Avouac main advisor; now Professor at GFZ-Potsdam)
Vamsi Ganti (2012–2014; now Assistant Professor U.C. Santa Barbara)
Isaac Larsen (2013–2015; now Associate Professor, U. Massachusetts-Amherst)
Florent Gimbert (2013–2015; V. Tsai main advisor; now Scientist, CNRS, France)

Marisa Palucis (2014–2017; now Assistant Professor, Dartmouth)
Mark Torres (2015–2017; W. Fischer co-advisor; now Assistant Professor, Rice U.)
Lizzy Trower (2015–2017; W. Fischer co-advisor; now Assistant Professor, U.C. Boulder)
Ke Liu (2017–2018; Marc Simard (JPL) main advisor; now on Wall Street)
Jan de Leeuw (2017–2019; Now Engineering Consultant in Bavaria)
Tien-Hao Liao (2017–2021; Marc Simard (JPL) main advisor; now Assistant Professor National Taipei University of Technology)
Alex Beer (2017–2019; Now postdoctoral scholar at Tuebingen University)
Flavien Beaud (2017–2019; Now postdoctoral scholar at U. British Columbia)
Gen Li (2018–2021; Fischer & Avouac co-advised; now Assist. Prof., U.C. Santa Barbara)
Tamara Pico (2019–2021; now Assistant Professor, U.C. Santa Cruz)
Lisanne Braat (2020–2021; now Scientist, European Space Agency)
Omar Wani (2022-2023; now Assistant Professor, NYU).
Gerard Salter (2019–2022; now Mendenhall Scholar, USGS)
Ben Cardenas (2019–2022; now Assistant Professor, Penn State)
Kieran Dunne (2021–present)
Yutian Ke (2022 – present)
Dongchen Wang (2022 – present)
Abdallah Zaki (2022 – present)

Scientific staff:

Brian Fuller (2010-2017; Now engineering geologist, California Water Board).
Francois Ayoub (2014-2015; Now scientists at NASA Jet Propulsion Laboratory).
Tom Ulizio (2017-2020 Now at Maryland Geological Survey).
Kim Miller (2021 – present).

# Invited Seminars

2023: MIT
2020: Duke University
2019: Institut de Physique du Globe de Paris (IPGP), France; Universidad Compultense, Madrid, Spain, University of Minnesota; Gilbert Club, Berkeley, CA.
2018: GeoMod Conference, Barcelona, Spain; UNED Madrid, Spain; GeoForschungsZentrum (GFZ), Potsdam, Germany.
2017: American Geophysical Union Fall Meeting, New Generation of Scientists session; European Geophysical Union, Planetary Geomorphology; Keynote Lecturer Steepest Descent Symposium, Vienna, Austria; University of Basel, Switzerland.
2016: University of California - Santa Barbara; University of Oregon; Jet Propulsion Laboratory, Director's conference; University of California – Santa Cruz.
2015: Brown University; Binghamton Symposium on experimental geomorphology; Imperial College, London.
2014: Rice University, University of California-Los Angeles, Caltech-GPS Division Seminar, Brown University, Earnest C. Watson public lecture at Caltech, Texas A&M; Stanford University.
2013: University of British Columbia, Geography; Simon Fraser University, Geography; Harvard University, EPS; Caltech, Board of Trustees; University of California – Los Angeles; ETH, Zurich, Switzerland; WSL, Zurich, Switzerland; IRSTEA, Grenoble, France; NASA Jet Propulsion Laboratory; Geological Society of America Annual Meeting; American Geophysical Union Annual Meeting; Stratodynamics Workshop, Nagasaki, Japan.
2012: Caltech, The Associates; University of Colorado, Boulder; University of Southern California, Earth Science; University of California, Santa Cruz, Earth Science; American Geophysical Union; Robert P. Sharp Capstone Lecture, AGU.
2011: University of California, Riverside, Earth Sciences; University of Illinois, Champaign, Geology; University of Wyoming, Geology and Geophysics; Titan Surface Processes Workshop, Pasadena.

2010: American Geophysical Union; California Institute of Technology, Board of Trustees, Keck Institute for Space Sciences & GPS Geoclub seminar; University of Washington, Seattle, School of Oceanography; Chevron Corporation; University of Pittsburg, Civil and Environmental Engineering.
2009: University of California, Santa Barbara, Earth Science; California Institute of Technology, Environmental Science and Engineering & GPS Division seminar; University of Arizona, Tucson, Geosciences; University of California, Berkeley, Civil and Environmental Engineering; University of Texas, Austin, School of Geosciences.
2008: University of Texas, Austin, RioMar Workshop & School of Geosciences; U.S. Geological Survey, Menlo Park; University of California, Berkeley, Earth and Planetary Science.
2007: Rice University, Earth Science; California Institute of Technology, Geological and Planetary Sciences; Massachusetts Institute of Technology, Earth and Planetary Sciences; University of Wisconsin, Madison, Geology and Geophysics.

# Refereed Publications

*Please see **https://lamb.caltech.edu/publications** for an up-to-date publication list and PDF downloads for in-review and published articles.*

Google Scholar citation h-index = 53; i10-index = 125; Citations = 8500.

* denotes a graduate student, post-doctoral scholar or Lamb group staff author
**denotes a Caltech undergraduate student or high school student intern author

165. *Cardenas, B. T., Lamb, M. P., Jobe, Z. R., Mohrig, D., & Swartz, J. M., 2023, Morphodynamic Preservation of Fluvial Channel Belts. *The Sedimentary Record*, 21(1).
164. Wright, K., Hariharan, J., Passalacqua, P., Salter, G., Lamb, M.P., 2022, From Grains to Plastics: Modeling Nourishment Patterns and Hydraulic Sorting of Fluvially Transported Materials in Deltas. Journal of Geophysical Research-Earth Surface, 127, e2022JF006769. https://doi.org/10.1029/2022JF006769.
163. *Cardenas, B.T. and Lamb, M.P., 2022, Paleogeographic reconstructions of an ocean margin on Mars based on deltaic sedimentology at Aeolis Dorsa. Journal of Geophysical Research: Planets, 127, e2022JE007390. https://doi.org/10.1029/2022JE007390.
162. *Cardenas, B.T., Grotzinger, J.P., Lamb, M.P., Lewis, K., Fedo, C., Bryk, A., Dietrich, W., Stein, N., Turner, M., and Caravaca, G., 2022, Barform deposits of the Carolyn Shoemaker formation, Gale crater, Mars. Journal of Sedimentary Research, v. 92, 1071–1092, DOI: 10.2110/jsr.2022.032.
161. *Cardenas, B.T., Lamb, M.P., and Grotzinger, J.P., in press, Martian landscapes of fluvial ridges carved from ancient sedimentary basin fill. Nature Geoscience, v. 15, 871 - 877, https://doi.org/10.1038/s41561-022-01058-2.
160. *Salter, G., Lamb, M.P, 2022, Autocyclic secondary channels stabilize deltaic islands undergoing relative sea level rise, Geophysical Research Letters, 49, e2022GL098885. https://doi.org/10.1029/2022GL098885.
159. *Salter, G., Passalacqua, P., Wright, K., Feil, S., Jensen, D., Simard, M., Lamb, M.P., 2022, Spatial patterns of deltaic deposition revealed by streaklines extracted from remotely-sensed suspended sediment concentration, Geophysical Research Letters, 49, e2022GL098443. https://doi.org/10.1029/2022GL098443.
158. *Chadwick, A.J., *Steele, S., *Silvestre, J., Lamb, M.P., 2022, Effect of sea-level change on river avulsions and stratigraphy for an experimental lowland delta, Journal of Geophysical Research - Earth Surface, 127, e2021JF006422. https://doi.org/10.1029/2021JF006422.
157. *Chadwick, A.J., *Steele, S., *Silvestre, J., Lamb, M.P., 2022, More extensive land loss expected on coastal deltas due to rivers jumping course during sea-level rise, Proceedings of

the National Academy of Science, 119 (31) e2119333119https://doi.org/10.1073/pnas.2119333119

156. David, S. R., Larsen, I. J., & Lamb, M. P., 2022, Narrower paleo-canyons downsize megafloods. Geophysical Research Letters, 49, e2022GL097861. https://doi.org/10.1029/2022GL097861.
155. Watkins, Jessica A., John P. Grotzinger, Nathan T. Stein, Steven G. Banham, Sanjeev Gupta, David M. Rubin, Kathryn Stack Morgan, Kenneth S. Edgett, Jens Frydenvang, Kirsten L. Siebach, Michael P. Lamb, Dawn Y. Sumner, Kevin W. Lewis, 2022, Burial and exhumation of sedimentary rocks revealed by the base Stimson erosional unconformity, Gale crater, Mars, 2022, Journal of Geophysical Research: Planets, 127, e2022JE007293. https://doi.org/10.1029/2022JE007293.
154. Stack, K. M., Dietrich, W. E., Lamb, M. P., Sullivan, R. J., Christian, J. R., Newman, C. E., et al., 2022, Orbital and in-situ investigation of periodic bedrock ridges in Glen Torridon, Gale Crater, Mars. Journal of Geophysical Research: Planets, 127, e2021JE007096. https://doi.org/10.1029/2021JE007096.
153. Rubin, D. M., Lapôtre, M. A. G., Stevens, A. W., Lamb, M. P., Fedo, C. M., Grotzinger, J. P., et al., 2022, Ancient winds, waves, and atmosphere in Gale crater, Mars, inferred from sedimentary structures and wave modeling. Journal of Geophysical Research: Planets, 127, e2021JE007162. https://doi.org/10.1029/2021JE007162.
152. Brooke, S., *Chadwick, A.J., *Silvestre, J., Lamb, M.P., Edmonds, D, Ganti, V., 2022, Where rivers jump course, Science, Vol 376, Issue 6596, pp. 987-990, DOI: 10.1126/science.abm1215.
151. *Nghiem, J. A., Fischer, W. W., *Li, G. K., & Lamb, M. P., 2022, A mechanistic model for mud flocculation in freshwater rivers. Journal of Geophysical Research: Earth Surface, 127, e2021JF006392. https://doi.org/10.1029/2021JF006392.
150. *Douglas, M. M., *Li, G. K., Fischer, W. W., Rowland, J. C., *Kemeny, P. C., West, A. J., Schwenk, J., Piliouras, A. P., *Chadwick, A. J., and Lamb, M. P., 2022, Organic carbon burial by river meandering partially offsets bank erosion carbon fluxes in a discontinuous permafrost floodplain, Earth Surf. Dynam., 10, 421–435, https://doi.org/10.5194/esurf-10-421-2022.
149. Ma, H., Nittrouer, J.A., Fu, X., Parker, G., Zhang, Y., Wang, Y., Wang, Y., Lamb, M.P., Best, J.L., Parsons, D.R., Wu, B., Cisneros, J., 2022, Amplification of downstream flood stage due to damming of fine-grained rivers, Nat Commun 13, 3054 (2022). https://doi.org/10.1038/s41467-022-30730-9.
148. *Pico, T., David, S.R., Larsen, I.J., Mix, A., Lehnigk, K., Lamb, M.P., 2022, Glacial isostatic adjustment directed incision of the Channeled Scabland by ice-age megafloods. Proceedings of the National Academy of Science, 119(8), https://doi.org/10.1073/pnas.2109502119.
147. Hughes, M. N., Arvidson, R. E., Dietrich, W. E., Lamb, M. P., Catalano, J. G., Grotzinger, J. P., & Bryk, A. B. (2022). Canyon wall and floor debris deposits in Aeolis Mons, Mars. Journal of Geophysical Research: Planets, 127, e2021JE006848. https://doi.org/10.1029/2021JE006848.
146. *Levin, J.N., *Dickson, J.L., Lamb, M.P., 2022, Evaluating the Role of Volatiles in Bedrock Chute Formation on the Moon and Mars, Icarus, 373, 114774.
145. *Sun, Z., *Ulizio, T.P., *Fischer, J.N., *Levin, J.N., *Beer, A.R., *Dickson, J.L., Lamb, M.P., 2022, Formation of low sloping bedrock chutes by dry rockfall on planetary surfaces, Geology, 50 (2): 174–178. doi: https://doi.org/10.1130/G49286.1
144. *Hayden, A.T., Lamb, M.P., Myrow, P., Mohrig, D.C., Williams, R.M.E., Cuevas Martinez, J.L., Cardenas, B.T., Findlay, C.P., Ewing, R.C., McElroy, B.J., 2021, The Oligocene-Miocene Guadalope-Matarranya Fan, Spain, as an analog for long-lived, ridge-bearing megafans on Mars. https://doi.org/10.1029/2021JE006993
143. *Douglas, M., *Lingappa, U., Lamb, M., Rowland, J., West, A., Li, G., Kemeny, P., Chadwick, A., Piliouras, A., Schwenk, J., Fischer, W., 2021, Impact of river channel lateral

migration on the microbial ecology of a discontinuous permafrost floodplain, Applied and Environmental Microbiology. 87:e01339-21. https://doi.org/10.1128/AEM.01339-2

142. *Hayden, A.T., Lamb, M.P., McElroy, B.J., in press, Constraining the timespan of fluvial activity from the intermittency of sediment transport on Earth and Mars. Geophysical Research Letters, 48, e2021GL092598. https://doi.org/10.1029/2021GL092598. [PDF]
141. *Chadwick, A.J. and Lamb, M.P., 2021, Climate-change controls on river delta avulsion location and frequency. Journal of Geophysical Research: Earth Surface, 126, e2020JF005950, https://doi.org/10.1029/2020JF005950.
140. Edmonds, D.A., Chadwick, A.J., Lamb, M.P., Lorenzo-Trueba,J., Murray, A.B., Nadin, W., Salter, G., Shaw, J.B., 2021, Morphodynamic Modeling of River-Dominated Deltas: A Review and Future Perspectives, Treatise on Geomorphology . [PDF]
139. Li, G., Fischer, W.W., Lamb, M.P., West, Zhang,T., Galy, V., Wang, X., Li, S., Li, G., Zhao, L., Ji, J., 2021, Coal fly ash is a major carbon flux in the Changjiang (Yangtze) River basin, Proceedings of the National Academy of Science, 118 (21) e1921544118; DOI: 10.1073/pnas.1921544118.138. Scheingross, J.S. and Lamb, M.P., 2021, Thresholds of sediment scour and bedrock erosion in waterfall plunge pools.
138. Scheingross, J.S. and Lamb, M.P., 2021, Mass balance controls on sediment scour and bedrock erosion in waterfall plunge pools. Geology, 2021; doi: https://doi.org/10.1130/G48881.1.
137. Larsen, I.J., Karley, K.A., Lamb, M.P., Pritchard, C.J., 2021, Emperical evidence for cosmogenic 3He production by muons, Earth and Planetary Science Letters, 562, 10.1016/j.epsl.2021.116825.
136. *Kemeny, P., Torres, M.A., Lamb, M.P., Webb, S.M., Dalleska, N., Cole, T., Hou, Y., Marske, J.P., Adkins, J.F., Fischer, W.W., 2021, Organic sulfur fluxes and geomorphic control of sulfur isotope ratios in rivers, Earth and Planetary Science Letters, 562, https://doi.org/10.1016/j.epsl.2021.116838.
135. Lapôtre, M.G.A., Ewing, R.C., Lamb, M.P., 2021, An evolving understanding of enigmatic large ripples on Mars, Journal of Geophysical Research: Planets, 126, e2020JE006729, doi: 10.1029/2020JE006729.
134. *Hayden, A.T., Lamb, M.P., Carney, A.J., 2021, Similar curvature-to-width ratios for channels and channel belts: Implications for paleoo-hydraulics of fluvial ridges on Mars, Geology, 49 (7): 837–841. doi: https://doi.org/10.1130/G48370.1.133.
133. *Zeichner, S., *Nghiem, J., Lamb, M.P., *Takashima, N., *de Leeuw, J., Ganti, V., Fischer, W.W., 2021, Early plant organics increased global terrestrial mud deposition through enhanced flocculation, Science, v. 371 (6528), p. 526-539, doi: 10.1126/science.abd0379.
132. *Palucis, M.C., *Ulizio, T.P., Lamb, M.P., 2021, Debris flow initiation from ravel-filled channel-bed failure following wildfire in a bedrock landscape with limited sediment supply, GSA Bulletin, doi: 10.1130/B35822.1.
131. *Beer, A.R. and Lamb, M.P., 2021, Abrasion regimes in fluvial bedrock incision, Geology.
130. Moodie, A., Nittrouer, J.A., Ma. H., Carlson, B., Wang, Y., Lamb, M.P., Parker, G., 2020, Suspended-sediment induced stratification inferred from concentration and velocity profile measurements in the lower Yellow River, China. Water Resources Research, 56, e2020WR027192. doi: 10.1029/2020WR027192.
129. Brooke, S.A.S., Ganti, V., Chadwick, A.J., Lamb, M.P., 2020, Flood variability determines the location of lobe-scale avlsions on deltas: Madagascar. Geophysical Research Letters, 47, e2020GL088797. doi: 10.1029/2020GL088797.
128. *Dickson, J.L., Lamb, M.P., Williams, R.M.E., Hayden, A.T., Fischer, W.W., 2020, The global distribution of depositional rivers on early Mars. Geology 2020; doi: 10.1130/G48457.1.
127. *Hayden, A.T. and Lamb, M.P., 2020, Fluvial Sinuous Ridges of the Morrison Formation, USA: Meandering, Scarp Retreat, and Implications for Mars. Journal of Geophysical Research: Planets, 125, e2020JE006470. doi: 10.1029/2020JE006470.

126. Liao, Tien-Hao, Simard, M., Denbina, M., Lamb, M.P., 2020, Monitoring water level change and seasonal vegetation change in the coastal wetlands of Louisiana using L-band time series, Remote Sensing, 12, 2351, doi:10.3390/rs12152351.
125. *Chadwick, A.J., Lamb, M.P. Ganti, V., 2020, Accelerated river avulsion frequency on lowland deltas due to sea level rise, Proceedings of the National Academy of Science.
124. Trower, E.J., Bridgers, S.L., Lamb, M.P., Fischer, W.W., 2020, Ooid cortical stratigraphy reveals common histories of individual co-occurring sedimentary grains, JGR-Earth Surface.
123. An, C., Parker, G., Fu, X., Lamb, M.P., Venditti, J.G., 2020, Morphodynamics of downstream fining in rivers with unimodal sand-gravel feed, River Flow 2020, Proceedings of the 10th Conference on Fluvial Hudraulics, Eds. Uittewaal, W., Franca, M., Valero, D., Chavarrias, V., Ylla Arbos, C., Schielen, R., Crosato, A., Delft, Netherlands.
122. Lamb, M.P., de Leeuw, J., Fischer, W., Moodie, A.J., Venditti, J.G., Nittrouer, J.A., Haught, D., Parker, G., 2020, Mud in rivers transported as flocculated, suspended bed-material, Nature Geoscience.
121. *de Leeuw, J., Lamb, M. P., Parker, G., Moodie, A. J., Haught, D., Venditti, J. G., and Nittrouer, J. A., 2020, Entrainment and suspension of sand and gravel, Earth Surf. Dynam. Discuss., doi.org/10.5194/esurf-2019-67.
120. Prancevic, J.P., Lamb, M.P., McArdell, B.W., Rickli, C., Kirchner, J.W., 2020, Decreasing landslide sediment yield on steeper slopes in soil-mantled landscapes, Geophysical Research Letters, 47, e2020GL087505.doi.org/10.1029/2020GL087505.
119. *Torres, M.A., *Kemeny, P.C., Lamb, M.P., Cole, T.L., Fischer, W.W., 2020, Long-term storage and age-biased export of fluvial organic carbon: field evidence from West Iceland. Geochemistry, Geophysics, Geosystems, 21, e2019GC008632. doi.org/10.1029/2019GC008632.
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