LAUREL G. LARSEN

Departments of Geography and Civil and Environmental Engineering
University of California, Berkeley
507 McCone Hall, Berkeley, CA 94720
Telephone: 510-529-5574, Email: laurel@berkeley.edu
Web page: http://geography.berkeley.edu/people/regular-faculty/laurel-larsen/

EDUCATION

Ph.D. 2008 Civil, Environmental, and Architectural Engineering, University of Colorado
Hydroecological Feedback Processes Governing Landscape Self-Organization in the Florida Everglades

M.A. 2003 Earth and Planetary Sciences, Washington University in St. Louis
Development and Testing of a Coupled Heat and Moisture Transfer Model to Assess Subsurface Moisture Gradients

B.S. 2003 Systems Science and Mathematics; Environmental Studies, Washington University in St. Louis, *Summa Cum Laude*

RESEARCH INTERESTS

- Aquatic restoration science – deltas, wetlands, floodplains, streams
- Flow and transport through aquatic vegetation and across aquatic interfaces
- Delineation of causal interactions, feedbacks, and limiting factors in environmental systems
- Complex environmental systems – understanding mechanisms through which coupled natural-human ecosystems function as complex dynamical systems with nonlinear behavior

SCIENTIFIC EXPERTISE

Landscape simulation modeling, dynamical systems, fate and transport dynamics of fine sediment and organic matter, fluvial geomorphology, environmental fluid mechanics, organic biogeochemistry, watershed hydrology, hydroclimatology, landscape ecology

PROFESSIONAL APPOINTMENTS

Delta Lead Scientist, US Geological Survey (housed within Delta Stewardship Council), Sacramento, CA, 9/2020-11/2023
Associate Professor (with tenure), Geography (primary) and Civil and Environmental Engineering, University of California, Berkeley, 2018-present
Assistant Professor, Department of Geography, University of California, Berkeley, 2013-2018
Affiliate, Energy Resources Group, University of California, Berkeley, 2013-present
Affiliate, Center for Information Technology Research in the Interest of Society (CITRIS), University of California, Berkeley, 2017-present
Senior Fellow, Berkeley Institute for Data Sciences, University of California, Berkeley, 5/2015-present
Faculty Research Ecologist, USGS National Research Program, Reston, VA 1/2013-12/2016
Research Ecologist, USGS National Research Program, Reston, VA, 11/2009-12/2012
Adjunct Assistant Professor, Department of Geology, University of Maryland, 1/2011-2012
Affiliate Scientist, National Center for Earth-Surface Dynamics, 3/2010-present
Affiliate Scientist, Florida Coastal Everglades LTER, 2010-present
Research Hydrologist, USGS National Research Program, Reston, VA, 7/2008-11/2009

HONORS AND RECOGNITION

2020, Fulbright-Saastamoinen Fellow in Environmental Science, University of Eastern Finland, Joensuu
2019, Fellow, Geological Society of America
2018, Donath Medal (Young Scientist Award), Geological Society of America
2017, Woo Water Lecture, McMaster University, Hamilton, ON
2017, Plenary speaker for 2017 HydroEco Conference, Birmingham, UK
2017, Editor's citation for excellence in refereeing, Geophysical Research Letters
2015, Hellman Faculty Fellow award, UC Berkeley
2015, NSF CAREER award
2014, Moore Foundation Investigator in Data-Driven Research
2014, Plenary speaker for 2014 Joint Aquatic Sciences Meeting, Portland, OR
2014, Dawdy Lecture in Hydrological Sciences, San Francisco State University
2014, Distinguished Lecture on Earth-Water-Life, Linked Institutions for Future Earth, University of Minnesota
2013, Kohout Early Career Award, Geological Society of America Hydrogeology Division
2009, USGS STAR (Science to Achieve Results) Achievement Award
2009, USGS Chief Hydrologist Seminar speaker
2008, Best Dissertation Award, University of Colorado, College of Engineering and Applied Science
2003-2008, Hertz Foundation Fellow
2005-2008, National Science Foundation Graduate Research Fellow
2005-2008, Canon National Parks Science Scholar
2005-2008, National Wildlife Refuge System Centennial Scholar
2005, Beverley Sears Award, University of Colorado
2008, Outstanding Student Paper Award, American Society of Limnology and Oceanography
2007, Outstanding Student Paper Award, American Society of Limnology and Oceanography
2007, Outstanding Student Paper Award, American Geophysical Union, Hydrology Section
2003, Midwestern Association of Graduate Schools Outstanding Masters Thesis Award
2002, Outstanding Student Paper Award, American Geophysical Union, Hydrology Section
2002, Morris K. Udall Scholar in Environmental Studies
1999-2003, Alexander B. Langsdorf Fellow in Engineering, full tuition award for Washington University
2001-2003, Steven J. Fossett Research Fellow, Washington University
2003, Washington University Women's Society Leadership Award
2003, Outstanding Achievement in the Natural Sciences Senior Award, Washington University
2003, G.A. Sullivan and Associates Professional Achievement Award, Washington University
2002, Systems Science and Mathematics Outstanding Junior Award, Washington University
2001, Systems Science and Mathematics Outstanding Sophomore Award, Washington University
2001, Antoinette Frances Dames Prize, Washington University School of Engineering

PEER-REVIEWED PUBLICATIONS

* Undergraduates supervised
** Ph.D students supervised or co-supervised
*** Postdocs supervised or co-supervised
† Research assistants or project scientists supervised
# Ph.D students mentored at outside institutions

In review/revision

65. Stein, S.**, **L. Larsen**, and E. Variano. 2023. Generating power with inspiration from nature: Impacts to sediment transport dynamics under Standard Modular Hydropower (SMH). In review at *Environmental Management.*
64. Zhang, L.**, D. Bellugi[†], G. Gorski***, E. Moges***, O. Wani***, and **L. G. Larsen**. 2023. A physics-informed machine learning model for streamflow prediction. In revision at *Water Resources Research*.
63. Adera, S.**, D. Bellugi***, A. Dhakal, and **L. Larsen.** 2023. Streamflow prediction at the intersection of physics and machine learning: the senstivity of model performance to parameter calibration, structural complexity, and variable selection in two Mediterranean-climate watersheds. In review at *Water Resources Research.*
62. Hu, H., L. R. Leung, F. Dominguez, D. Gochis, X. Chen, S. Good, A. Dugger, L. Larsen, and M. Barlange. 2022. Effect of lateral flow on transit times: Integrating a water tracer model to WRF-Hydro. In review at *Water Resources Research.*

In press

61. Murray, D. S.[#], E. Moges***, **L. Larsen**, M. D. Shattuck, W. H. McDowell, and A. S. Wymore. 2023. Synchrony of nitrogen wet deposition inputs and watershed exports using information theory. *Water Resources Research*, in press*,* doi: 10.1029/2023WR034794.

Published

60. McDonald, R., R. Neuhausler**, M. Robinson, **L. G. Larsen**, H. A. Harrington, and M. Bruna. 2023. Zigzag persistence for coral reef resilience using a stochastic spatial model. *Journal of the Royal Society Interface*, 20(205), 20230280. https://doi.org/10.488550/arXiv.2209.08974.
59. **Larsen, L.**, S. Bashevkin, M. Christman, J. L. Conrad, C. Dahm, and J. Thompson. 2023. Ecosystem services and disservices of Bay-Delta primary producers: How plants and algae affect ecosystems and respond to management of the estuary and its watershed. *San Francisco Estuary and Watershed Sciences*, 20(4), article 1. doi: 10.15447/sfews.2023v20iss4art1.
58. Moges, E.***, B. L. Ruddell, L. Zhang**, J. M. Driscoll, P. Norton, F. Perez, and **L. Larsen**. 2022. HydroBench: Jupyter-supported reproducible hydrological model benchmarking and diagnostic tool. *Frontiers in Earth Science (Hydrosphere)*, 10:884766. doi: 10.3389/feart.2022.884766.
57. Siegel, K.**, L. Macaulay, M. Shapero, T. Becchetti, S. Larson, F. Mashiri, L. Waks, **L. Larsen**, and V. Bustic. 2022. Impacts of livestock grazing on wildfire probability across regions and vegetation types in California. *Journal of Environmental Management*, 322:116092. doi: 10.1016/ j.jenvman.2022.116092.
56. Siegel, K.**, **L. Larsen**, C. Stephens, W. Steward, and V. Butsic. 2022. Quantifying drivers of change in social-ecological systems: land management impacts wildfire probability in forests of the western US. *Regional Environmental Change* 22(3), article 98, doi: 10.1007/s10113-022-01950-y.
55. Moges, E.***, B. L. Ruddell, L. Zhang**, J. M. Driscoll, and **L. Larsen**. 2022. Strength and memory of precipitation's control over streamflow across the conterminous United States. *Water Resources Research*, 58(3), e2021WR030186, doi: 10.1029/2021WR030186.
54. Zhang, L.**, E. Moges***, E. Coda*, T. Liu*, A. S. Wymore, Z. Xu, J. Kirchner, and **L. G. Larsen**. 2021. CHOSEN: A synthesis of hydrometeorological data from 30 intensively monitored watersheds across the US. *Hydrological Processes*, 35(11), e14429, doi: 10.1002/hyp.14429.
53. Stein, S.**, J. Wingenroth[†], and **L. Larsen.** 2021. A functional form for fine sediment interception in vegetated environments. *Geosciences* 11(4), 157, doi: 10.3390/geosciences11040157.
52. Wingenroth, J.[†], C. Yee*, J. Nghiem*, and **L. Larsen.** 2021. Effects of stem density and Reynolds number on fine sediment interception by emergent vegetation. *Geosciences*, 11(3), 136, doi: 10.3390/geosciences1103016.
51. Bellugi, D.***[†], D. G. Milledge, K. M. Cuffey, W. E. Dietrich, and **L. G. Larsen**. 2021. Controls on the size distribution of shallow landslides. *Proc. Nat. Acad. Sci.*, 118(9), doi: 10.1073/pas.2021855118.

50. Moges, E.***, Y. Demissie, **L. Larsen**, and F. Yassin. 2021. Review: Sources of hydrological model uncertainties and advances in their analysis. *Water*, 13(1), doi: 10.3390/w13010028.
→ Note: Received 2021 Editor's Choice Award.
49. Regier, P., **L. Larsen**, K. Cawley, and R. Jaffe. 2020. Linking hydrology and dissolved organic matter characteristics in a subtropical wetland: a long-term study of the Florida Everglades. *Global Biogeochemical Cycles,* 34(12), doi: 10.1029/2020GB006648.
48. Tennant, C.***, **L. Larsen**, D. Bellugi***, E. Moges***, L. Zhang**, and H. Ma**. 2020. The utility of information flow in formulating discharge forecast models: a case study from an arid snow-dominated catchment. *Water Resources Research*, 56(8), doi: 10.1029/2019WR024908.
47. Beller, E.**, E. Zavaleta, L. McClenachan, and **L. Larsen**. 2020. Past forward: Recommendations from historical ecology for ecosystem management. *Global Ecology and Conservation*, 21, e00836.
46. Beller, E.**, M. Kelly, and **L. Larsen**. 2020. From savanna to suburb: effects of 160 years of landscape change on carbon storage trajectories in Silicon Valley, California. *Landscape and Urban Planning*, 195: 103712.
45. **Larsen, L. G.** 2019. Multiscale flow-vegetation-sediment feedbacks in low-gradient landscapes. *Geomorphology*, 334: 165-193, doi: 10.1016/j.geomorph.2019.03.009.
44. Liu, B.* Y., Q. Zhu, W. J. Riley, L. Zhao, H. Ma**, M. Van Gordon**, and **L. G. Larsen**. 2019. Using information theory to evaluate directional precipitation interactions over the West Sahel region in observations and models. 2019. *Journal of Geophysical Research-Atmospheres*, 124(3), doi: 10.1029/2018JD029160.
43. Kominoski, J.S., J.S. Rehage, W.T. Anderson, R. Boecek, H. Briceño, M. Bush, T. Dreschel, M. Heithaus, R. Jaffé, **L. Larsen**, P. Matich, C. McVoy, A. Rosenblatt, T. Troxler. 2019. Ecosystem fragmentation and connectivity: legacies and future implications of a restored Everglades. *In* Gaiser, E., D. Childers, and L. Ogden, Eds. The Coastal Everglades: The Dynamics of Social-Ecological Transformation in the South Florida Landscape. Oxford University Press, Cambridge, UK.
42. Ma, H.**, **L. G. Larsen**, and W. Wagner. 2018. Ecogeomorphic feedbacks that grow deltas. *J. Geophysical Research-Earth Surface*, 123: 3228-3250, doi: 10.1029/2018JF004706.
41. **Larsen, L. G.** and C. Woelfle-Erskine**. 2018. Groundwater is key to salmonid survival and recruitment in intermittent Mediterranean-climate streams. *Water Resources Research*, 54: 8909-8930, doi: 10.1029/2018WR023324.
40. Nardin, W.***, **L. G. Larsen**, S. Fagherazzi, and P. Wiberg. 2018. How does vegetation community shape geomophological evolution? Tradeoffs among hydrodynamics, sediment fluxes, and vegetation in the Virginia Coast Reserve. *Estuarine, Coastal and Shelf Science*, 210: 98-108, doi: 10.1016/j.ecss.2018.06.009.
39. Dietze, M. C., A. Fox, L. Beck-Johnson, J. L. Betancourt, M. B. Hooten, C. S. Jarnevich, T. H. Keitt, M. A. Kenney, C. M. Laney, **L. G. Larsen**, H. W. Loescher, C. K. Lunch, B. Pijanowski, J. T. Randerson, E. K. Read, A. T. Tredennick, R. Vargas, K. C. Weathers, and E. P. White. 2018. Iterative near-term ecological forecasting: Needs, opportunities, and challenges. *Proc. Nat. Acad. Sci.*, 115: 1424-1432, doi: 10.1073/pnas.1710231115.
38. Drummond, J. D.[#], **L. G. Larsen**, R. González-Pinzón[#], A. I. Packman, and J. W. Harvey. 2018. Less fine particle retention in a restored versus unrestored urban stream: balance between hyporheic exchange, reuspension and immobilization. *J. Geophysical Research-Biogeosciences*, 123: 1425-1439, doi: 10.1029/2017JG004212.
37. Levy, M. C.**, A. vaz Lopes, A. Cohn, **L. G. Larsen**, and S. E. Thompson. 2018. Land use change increases streamflow across the arc of deforestation in Brazil. *Geophysical Research Letters*, 45: 3520-3530, doi: 10.1002/2017GL076526.
36. Rinderer, M., G. A. Ali, and **L. G. Larsen**. 2018. Assessing structural and functional hydrologic connectivity with brain neuroscience methods: state-of-the-art and research directions. *Earth-Science Reviews*, 178: 29-47, doi: 10.1016/j.earscirev.2018.01.009.
35. Getz, W. M., C. R. Marshall, C. J. Carlson, L. Giuggioli, S. J. Ryan, C. Boettiger, S. D. Chamberlain, **L. G. Larsen**, P. D'Odorico, D. O'Sullivan, and S. S. Romañach. 2018. Making ecosystems models adequate. *Ecology Letters*, 21:153-166, doi: 10.1111/ele.12893.

34. **Larsen, L. G.** and J. W. Harvey. 2017. Disrupted carbon cycling in restored and unrestored urban streams: Critical timescales and controls. *Limnology and Oceanography*, 62(Suppl. S1), S160-S182, doi: 10.1002/lno.10613.
33. **Larsen, L.**, J. Ma*, and D. Kaplan. 2017. How important is connectivity for surface-water fluxes? A generalized expression for flow through heterogeneous landscapes, *Geophysical Research Letters*, 44(20), 10349-10358, doi: 10.1002/2017GL075432.
32. Tennant, C. J.***, A. A. Harpold, K. A. Lohse, S. E. Godsey, B. T. Crosby, **L. G. Larsen**, P. D. Brooks, and R. W. Van Kirk. 2017. Regional sensitivities of seasonal snowpack to elevation, aspect, and vegetation cover in western North America. *Water Resources Research*, 53, doi: 10.1002/2016WR019374.
→ Note: Received 2017 Editor's Choice Award.
31. Drummond, J.D.[#], **L. G. Larsen**, R. González-Pinzón, A. I. Packman, and J. W. Harvey, 2017. Fine particle retention within stream storage areas at baseflow and in response to a storm event. *Water Resources Research*, 53, doi: 10.1002/2016WR020202.
30. **Larsen, L. G.**, S. Newman, C. Saunders, and J. W. Harvey. 2017. Complex networks of functional connectivity in a wetland reconnected to its floodplain. *Water Resources Research*, 53, doi: 10.1002/2017WR020375.
29. Woelfle-Erskine, C.**, **L. G. Larsen**, and S. M. Carlson. 2017. Abiotic habitat thresholds for salmonid over-summer survival in intermittent streams. *Ecosphere,* 8(2), e01645. doi:10.1002/ecs1645.
28. Knapp, J.L.A., R. González-Pinzón, J. D. Drummond, **L. G. Larsen**, O. A. Cirpka, and J. W. Harvey. 2017. Tracer-based characterization of hyporheic exchange and benthic biolayers in streams. *Water Resources Research*, 52(2), 1575-1594, doi:10.1002/2016WR019393.
27. Ackerly, D. D., S. M. Carlson, C. J. Donlong, **L. G. Larsen**, and R. M. Sauvajot. Edited by M. F. Oldfather, K. J. Easterday, M. J. Raboin, and K. J. Scheckel. 2017. Strategic conversation: Stewardship of parks in a changing world. pp. 212-222 in S. R. Beissinger, D. D. Ackerly, H. Doremus, and G. E. Machlis (Eds.) *Science, Conservation, and National Parks*, The University of Chicago Press, Chicago, IL.
26. Yurek, S.[#], D. L. DeAngelis, J. C. Trexler, J. A. Klassen, and **L. G. Larsen.** 2016. Persistence and diversity of directional landscape connectivity improves biomass pulsing in simulations of expanding and contracting wetlands. *Ecological Complexity*, 28, doi: 10.1016/j.ecocomp.2016.08.004.
25. **Larsen, L. G.**, M.B. Eppinga, P. Passalacqua, W. M. Getz, K. A. Rose, and M. Liang. 2016. Appropriate complexity landscape modeling. *Earth-Science Reviews*, 160, 111-130. doi:10.1016/j.earscirev.2016.06.016.
24. **Larsen, L.**, L. Hajek, K. Maher, C. Paola, D. Merritts, T. Bralower, I. Montanez, S. Wing, N. Snyder, M. Hochella, L. R. Kump, and M. Person. 2015. Taking the pulse of Earth's surface systems. *Eos,* 96, doi: 10.1029/2015EO040525.
23. Yuan, J.[#], M. Cohen, D. Kaplan, S. Acharya, **L. Larsen**, and M. Nungesser. 2015. Linking metrics of landscape pattern to hydrological process in a lotic wetland. *Landscape Ecology*, 30, 1893-1912.
22. **Larsen, L.**, J. Harvey, K. Skalak, and M. Goodman*, 2015. Fluorescence-based source tracking of organic sediment in restored and unrestored urban streams. *Limnology and Oceanography*, 60(4), 1439-1461, doi: 10.1002/lno.10108.
21. **Larsen, L. G.**, J. W. Harvey, and M. M. Maglio†. 2015. Mechanisms of nutrient retention and its relation to flow connectivity in river-floodplain corridors. Freshwater Science 34(1), 187-205.
→ Note: This article was spotlighted in the Freshwater Science newsletter, accessible at http://www.freshwater-science.org/Publications/Newsletter-In-The-Drift/ITD--Spring-2015.cfm#fwsspot.
20. **Larsen, L. G.**, C. Thomas, M. Eppinga, and T. Coulthard. 2014. Exploratory modeling: extracting causality from complexity. *Eos* 95(32) 285-292.
19. **Larsen, L. G.**, J. W. Harvey, and M. Maglio†. 2014. Dynamic hyporheic exchange at intermediate timescales: Testing the relative importance of evapotranspiration and flood pulses. *Water Resources Research* 49, 1-18: doi:10.1002/2013WR014195.

18. Ho, D. T., S. Ferrón, V. C. Engel, **L. G. Larsen**, and J. G. Barr. 2013. Air-water gas exchange and CO_2 flux in a mangrove-dominated estuary. *Geophysical Research Letters* 40, 1-6, doi:10.1002/2013GL058785.
17. **Larsen, L. G.**, J. Choi, M. K. Nungesser, and J. W. Harvey. 2012. Directional connectivity in hydrology and ecology. *Ecological Applications* 22:2204-2220.
16. Harvey, J. W., J. D. Drummond, R. L. Martin, L. E. McPhillips, A. I. Packman, D. J. Jerolmack, S. H. Stonedahl, A. F. Aubeneau, A. H. Sawyer, **L. G. Larsen**, and C. R. Tobias. 2012. Hydrogeomorphology of the hyporheic zone: Stream solute and fine particle interactions with mobile bedforms and floods. *Journal of Geophysical Research* 117, G00N11, doi:10.1029/2012JG002043.
15. Cawley, K.[#], K. D. Butler, G. R. Aiken, **L. G. Larsen**, T. G. Huntington, and D. M. McKnight. 2012. Identifying fluorescent pulp mill effluent in the Gulf of Maine and its watershed. *Marine Pollution Bulletin* 64:1678-1687.
14. **Larsen, L.**, N. Aumen, C. Bernhardt, V. Engel, T. Givnish, S. Hagerthey, J. Harvey, L. Leonard, P. McCormick, C. McVoy, G. Noe, M. Nungesser, K. Rutchey, F. Sklar, T. Troxler, J. Volin, and D. Willard. 2011. Recent and historic drivers of landscape change in the Everglades ridge, slough, and tree island mosaic. *Critical Reviews in Environmental Science and Technology* 41(S1):344-381.
13. **Larsen, L. G.** and J. W. Harvey, 2011. Modeling of hydroecological feedbacks predicts distinct classes of wetland channel pattern and process that influence ecological function and restoration potential. *Geomorphology* 126: 279-296.
12. Harvey, J. W., G. B. Noe, **L. G. Larsen**, D. J. Nowacki, and L. E. McPhillips[†], 2011. Field flume reveals aquatic vegetation's role in sediment and particulate phosphorus transport in a shallow aquatic ecosystem. *Geomorphology* 126: 297-313.
11. Wheaton, J. M., C. Gibbins, J. Wainwright, **L. Larsen**, and B. McElroy, 2011. Preface: Multiscale feedbacks in ecogeomorphology. *Geomorphology* 126: 265-268.
10. **L. Larsen,** S. Moseman, A. Santoro, K. Hopfensperger, and A. Burgin. 2010. A complex-systems approach to predicting effects of sea level rise and nitrogen loading on nitrogen cycling in coastal wetland ecosystems. Pages 67-92 in P.F. Kemp[Ed.]. *Eco-DAS VIII Symposium Proceedings*. American Society of Limnology and Oceanography, doi:10.4319/ecodas.2010.978-0-9845591-1-4.67.
9. **Larsen, L. G.** and J. W. Harvey, 2010. How vegetation and sediment transport feedbacks drive landscape change in the Everglades and wetlands worldwide. *The American Naturalist* 176(3), E66-E79.
8. **Larsen, L.G**., G. R. Aiken, J. W. Harvey, G.B. Noe, and J. P. Crimaldi, 2010. Using fluorescence spectroscopy to trace seasonal DOM dynamics, disturbance effects, and hydrologic transport in the Florida Everglades. *Journal of Geophysical Research* 115*,* G03001, doi: 10.1029/2009JG001140.
7. Noe, G. B., J. W. Harvey, R. W. Schaffranek, and **L. G. Larsen**, 2010. Controls of suspended sediment concentration, nutrient content, and transport in a subtropical wetland. *Wetlands* 30:39-54.
6. **Larsen, L. G.**, J. W. Harvey, and J. P. Crimaldi, 2009. Predicting bed shear stress and its role in sediment dynamics and restoration potential of the Everglades and other vegetated flow systems. *Ecological Engineering* 35, 1773-1785.
5. Harvey, J.W., R.W. Schaffranek, G.B. Noe, **L.G. Larsen**, D. Nowacki, and B.L. O'Connor, 2009. Hydro-ecological factors governing surface-water flow on a low-gradient floodplain. *Water Resources Research* 45, W03421, doi:10.1029/2008WR007129.
4. **Larsen, L. G.**, J. W. Harvey, and J. P. Crimaldi, 2009. Morphologic and transport properties of natural organic floc, *Water Resources Research* 45, W01410, doi:10.1029/2008WR006990.
3. **Larsen, L.G.**, J.W. Harvey, G. B. Noe, and J. P. Crimaldi, 2009. Predicting organic floc transport dynamics in shallow aquatic ecosystems: Insights from the field, the laboratory, and numerical modeling, *Water Resources Research* 45, W01411, doi:10.1029/2008WR007221.
2. **Larsen, L.G**., J.W. Harvey, and J.P. Crimaldi, 2007. A delicate balance: ecohydrological feedbacks governing landscape morphology in a lotic peatland, *Ecological Monographs* 77(4), 591-614.
1. **Larsen, L.G**. and J.P. Crimaldi, 2006. The effect of photobleaching on PLIF (planar laser-induced fluorescence), *Experiments in Fluids* 41(5), 803-812.

NON PEER-REVIEWED PUBLICATIONS

Delta Science Program. 2022. 2022-2026 Science Action Agenda. scienceactionagenda.deltacouncil.ca.gov. ***Note: L. Larsen oversaw the development of the document, was a member of the lead author team and wrote the Foreword.***

L. Larsen. 2020. From "Wicked" to "Complex": A New Lead Scientist's Outlook on Growing our Understanding of Delta Science. Delta Stewardship Council blog post, September 22, 2020. https:// https://deltacouncil.ca.gov/blogs/new-lead-scientist-outlook-on-growing-our-understanding-of-delta-science.

L. Larsen. 2012. One Night in the Everglades. Taylor Trade Publishing, LTER children's book series. 32 pp.

RESEARCH GRANTS AND PROPOSALS

Active grant funding:

Just Transitions in Large Socioecological Systems: Drought, Sea-level Rise & Salinity in the Delta. University of California Multicampus Research Proposal Initiative ($2,500,000 to 4 campuses: I wrote the proposal as Delta Lead Scientist and submitted it via Holly Doremus), 2023-2027

Collaborative Research: EarthCube Data Capabilities: Jupyter meets the Earth: Enabling discovery in geoscience through interactive computing at scale, NSF-EAR 1928374 ($1,712,604) Berkeley PIs: Fernando Perez, Laurel Larsen; NCAR PI: Joseph Hamman, 2019-2023

Resolving environmental complexity through data-driven induction, Gordon and Betty Moore Foundation, GMBF-4555 ($1,850,000), 2014-2023

Understanding the effects of bedrock fractures and weathering on shallow and deep-seated landslides, Subcontract on NSF CAREER award to Seulgi Moon, UCLA, EAR-1945431, ($145,508 to Berkeley) 2020-2024.

Completed funding:

Restoration Hydro: A watershed approach to standard modular new hydropower, DOE grant to Natel Energy (FOA-001836, Berkeley subcontract: $166,019), 2019-2022

Spatiotemporal investigation of reef resilience in the Pacific Ocean in the 2014-2017 bleaching event and its significance for Pacific fisheries, NASA 80NSSC19K137 ($135,000, with Rosanna Neuhausler), 2019-2022

USGS Powell Center Synthesis Project: Improved hydrologic forecasting through synthesis of critical storage components and timescales across watersheds worldwide, PIs: Laurel Larsen, Judson Harvey (USGS), Jessica Driscoll (USGS), David Gochis (NCAR), 2018-2022

CAREER: The role of organic particulates in controlling the growth of river deltas: a field, experimental, and numerical modeling study, NSF-EAR 1455362 ($697,539), 2015-2020

New regionally calibrated high-resolution land cover datasets for the West African Sahel, NASA award 18-NUP2018-0056 ($71,752, with Mollie van Gordon), 2018-2019

REU Supplement: CAREER: The role of organic particulates in controlling the growth of river deltas: a field, experimental, and numerical modeling study, NSF-EAR 1738527 ($18,000), 2017-2018

Machine learning and information-entropy methods using remote sensing data for understanding hydrological dynamics in a coupled human-natural system: The Niger River Basin, NASA award 03892220992 ($100,483, with Mollie van Gordon), 2015-2019

Doctoral Dissertation Research (with Cleo Woelfle-Erskine): Understanding intermittent water sources and impacts on fish to design optimal water conservation strategies, National Science Foundation (NSF-BCS 1434309, $16,000), 2014-2017.

Collaborative Research: Landscape evolution and sediment-nutrient fluxes in a wetland-stream restoration experiment, National Science Foundation (Berkeley portion - $175,710), Berkeley PI: Laurel Larsen; Franklin and Marshall College PI: Dorothy Merritts, co-PI: Robert Walter

Testing and Monitoring of the Physical Model for Water Conservation Area (WCA) 3

Decompartmentalization and Sheet Flow Enhancement Project, US Army Corps of Engineers (USGS-National Research Program portion: $1.8 million), USGS PIs: J. Harvey, B. Rosen, co-PI: L. Larsen; Florida International University PI: J. Trexler; University of Hawaii PI: D. Ho, 2010-2014.

The Art and Science of Reduced-Complexity Modeling in the Environmental Sciences, National Science Foundation (NSF-EAR 1263851, $38,974), PI: Laurel Larsen

Evaluating water quality – water quantity tradeoffs in a restored Everglades, USGS-NPS Water Quality Partnership Program ($150,000). Lead PI: Laurel Larsen. Co-PIs: Sue Newman (South Florida Water Management), David Ho (University of Hawaii), Colin Saunders (South Florida Water Management District), Jud Harvey (USGS).

Addressing eutrophication and nuisance algal blooms in Bass Harbor Marsh estuary: understanding the impact of marine sources of nitrogen and sediment, USGS-NPS Water quality partnership program ($299,955), PIs: T. Huntington, C. Culbertson, C. Fuller, L. Larsen, 2011-2013.

USGS Youth Initiative Funding grant for summer student employee ($5,000), PI: Laurel Larsen, 2012

High-flow Events in Suburban Streams: Understanding the Physical Nature and Ecological Repercussions of Disturbance, National Association of Geoscience Teachers-USGS partnership award for student research assistantship ($3,000). PI: Laurel Larsen, 2010.

The role of flocculent organic sediment transport as a feedback mechanism that controls landscape dynamics and restoration success in the Everglades, NSF-EAR 0636079 ($209,933). PIs: Laurel Larsen, John Crimaldi, Judson Harvey, 2007-2010.

TEACHING

Courses (Note: Was on sabbatical in 2020 and on leave to serve as Delta Lead Scientist from 2021-present)

Geog 279: Multivariate Statistics and Data Analysis for Research, Spr 2015, Fall 2017: An introduction to advanced statistical methods for research. Topics include hypothesis testing, distribution fitting, ANOVA and MANOVA, PCA, cluster analysis, ordination, discriminant analysis, regression, time series analyses, causality, and data mining techniques. Students complete assignments that use real datasets and gain feedback in working with their own datasets.

Geog 257: Interdisciplinary Research Methods: Environment, Society, and Global Change, Fall 2016, 2017, 2018, 2019: This advanced graduate course will survey interdisciplinary research on global problems at the nexus of humans and the environment. The course will cover data-based research methods from a variety of disciplines in the social, physical and biological sciences, with particular attention to the integration of research methods across disciplinary boundaries. A core focus of the course is the design of research that can inform decision-making and policy development. Topics covered will include: food systems and irrigation; globalization and biotic homogenization; valuation of ecosystem services and sustainable development; conflict, migration, and the environment; ecosystem design, regulation and policy; health and disease ecology; natural disasters; drought and anthropogenic climate change.

Geog 244: Complex Environmental Systems, Spr 2013, 2014, 2016: Applying a complex-systems approach to environmental problems can yield valuable insight into risk, potential drivers of change, likely outcomes of perturbation, and whether it is even possible to forecast or manage system behavior. This course explores complex-systems theory and applications in geography, ecology, and earth science. Case studies include climate change, coupled

human-environmental systems, vegetation community change, river networks, forest fires, earthquakes, and peatlands.

Geog c136: Terrestrial Hydrology, Spr 2014, 2015, 2017, 2019: This class provides a quantitative introduction to the hydrology of the terrestrial environment including lower atmosphere, watersheds, lakes, and streams. The course covers all aspects of the hydrologic cycle, including precipitation, infiltration, evapotranspiration, overland flow, streamflow, and groundwater flow, as well as chemistry and dating of groundwater and surface water. Students develop quantitative insights through problem solving and use of simple models. This course requires one field experiment and several group computer lab assignments.

Geog c135: Water Resources and the Environment, Spr 2016, 2018: This course provides a comprehensive introduction to water resource distribution, dynamics, and usage, and to contemporary water resource issues and challenges. By the end of the course, students will have a physically based understanding of water movement in the terrestrial environment and how it impacts ecosystems, landscapes, and human society. Goals of the course are to provide students with the tools for thinking about and forming informed opinions of the most pressing water resource issues facing global society, to provide a foundation for further studies in quantitative hydrology, and to provide students with experience writing about, presenting, and researching water resource issues.

Geog 40: Introduction to Earth Systems Science, Fall 2014, 2015, 2016, Spr 2018: The goals of this introductory Earth System Science course are to achieve a scientific understanding of important problems in global environmental change and to learn how to analyze a complex system using scientific methods. Earth System Science is an interdisciplinary field that describes the cycling of energy and matter between the different spheres (atmosphere, hydrosphere, biosphere, cryosphere, and lithosphere) of the earth system. In addition to the themes of climate change, stratospheric ozone depletion, and biodiversity loss, we will also discuss air and water pollution, fisheries depletion, and science in public policy.

Synergistic teaching activities

Spring 2017: Terrestrial hydrology, Geog c136, was taught as the first Data Science Capstone course for Berkeley's new campus-wide Data Science Initiative. The class, taught in one of Berkeley's innovative Active Learning classrooms, was structured as a project-focused class, in which students explored hydrologic procesess through data manipulation. The capstone assignment was for students to work in teams to improve the hydrologic modeling component of a malaria transmission model produced by Intellectual Ventures, a nonprofit research group seeking to eradicate malaria. For this project, students calibrated their improved models using data from a village in Burkina Faso.

Short courses

Instructor at National Center for Earth Dyamics Summer Insitute (2014, 2015)

1. Patterned Landscapes, What we can Learn from Them, and How to Study Them, Tulane University, 2015.
2. A Process-Oriented Primer on Vegetation-Flow-Sediment Feedbacks, University of Minnesota, 2014
3. Laboratory: Particle Interception During a Flow Release, Outdoor Stream Lab, University of Minnesota, 2014

Resource development

Author of vignettes (peer-reviewed electronic case-study supplements) for Key Concepts in Geomorphology textbook, 2013, Bierman and Montgomery (Eds.), W. H. Freeman:

1. Larsen, L. When streams unravel: the tale of Plum Creek, CO. http://serc.carleton.edu/vignettes/collection/68181.
2. Larsen, L. How is Everglades geomorphology like that of arid Australian rivers and boreal bogs? http://serc.carleton.edu/vignettes/collection/68180.

Software and data

1. Directional Connectivity Analysis software. Available: http://www.esdlberkeley.com/software/.
2. Package for transfer entropy analysis (a method of resolving functional and process connectivity): https://gitlab.com/esdl/TransEnPackage
3. Access to code used in support of published analyses from all ongoing Environmental Systems Dynamics Laboratory work: https://gitlab.com/esdl/

STUDENTS ADVISED OR CO-ADVISED

At UC Berkeley (Note: Geography has no Master's degree granting program):

Postdoctoral scholars:	Danielle Watts (2013-2015) Christopher Tennant (2015-2019) Dino Bellugi (2016-present; now Project Scientist) William Nardin (2016-2017) Edom Moges (2018-2023) Sheila Trampush (2018-2021) Galen Gorski (2021-2021) Omar Wani (2021-2022)
Ph.D students (primary adviser):	Saalem Adera (2013-2021) Morgan Williams (2013-2019) Mollie van Gordon (2014-2018) Erin Beller (2015-2019) Hongxu Ma (2015-2019) Rosanna Neuhausler (2015-present) Samuel Stein (2018-present) Liang Zhang (2018-present)
Ph.D students co-advised:	Jennifer Natali, Landscape Architecture & Planning (2013-pres.) Cleo Woelfle-Erksine, Energy Resources Group (2013-2017) Teresa Oehmke, Civil Engineering (2016) Jenna Baughman, Integrative Biology (2016) Katherine Siegel, Environ. Sci., Policy & Mgmt. (2018-pres.)
M.S. students advised	Jan Hildebrand (2014-2015, visiting scholar, TU Munich) Rebecca Serata, Civil Engineering (2021-present)
Committee member:	Thomas Moran, Civil Engineering (2013-2017) Dylan Chapple, ESPM (2014-2017) Keith Bouma-Gregson, Integrative Biology (2014-2019) Helen Kurkjian, Integrative Biology (2014-2018) Andrés Muñoz-Saez, ESPM (2014) Jungsu Park, Civil Engineering (2014) David Dralle, Civil Engineering (2015-2016)

Alexander Bryk, Earth and Planetary Sciences (2015-present)
Kristen Fauria, Earth and Planetary Sciences (2015-2017)
Daniella Hirschfeld, Landscape Architecture (2015-2019)
Rachel Allen, Civil Engineering (2015-2018)
Madeline Foster-Martinez, Civil Engineering (2016-2017)
Rachael Olliff Yang, Integrative Biology (2016-2020)
Joan Dudney, ESPM (2016)
Alexander Thomas, ESPM (2017)
Olivia Hoang, Civil Engineering (2017)
Arturo Fernandez, Statistics (2017)
Kari Norman, ESPM (2017-2019)
Jiancong Chen, Environmental Engineering (2017-present)
Heng Huang, ESPM (2017-present)
Kimberly Huynh, Civil Engineering (2018-2021)
Theresa Oehmke, Civil Enginering (2019-2021)
Patcharaporn Maneerat, Earth and Planetary Sci (2018-2022)
Lukas WinklerPrins, Civil Engineering (2021-present)
Paul Seibert, Civil Engineering (2023-present)
Huiqi Wang, Civil Engineering (2022-present)
Tianjiao Pu, Civil Engineering (2022-present)

Exteral institution committee member:

Desneiges Murray, University of New Hampshire, Natural Resources and the Environment (PhD, 2022-present)
Nicola Dodd, University of Leeds, Geography Dept. (2013)
Alex Christensen, Louisiana State University, Oceanographic and Coastal Studies (MS 2016, PhD 2019)
Nicole Strickland, Florida International University, Dept. of Biology (PhD, 2019-present)

Undergraduate students:
(* denotes undergraduate honors thesis
** denotes URAP student)

Josephine Fong, Mathematics (2013)
Marissa Goodman**, Civil & Environ. Engineering (2013-2014)
Kristin Isom**, ESPM (2013)
Jennifer Marion**, Civil & Environ. Engineering (2013)
Clothilde Labrousse**, Geography (2013)
Maegan Blansett*, Geography (2013-2014)
Erica Ta**, EPS (2014-2015)
Brittany Burson**, Geography (2014-2015)
Aayush Khurana, Chemical Engineering (2014-2015)
Jessica Anderson, Geography and EPS (2014-2016)
Jie Ma**, EPS (2014-2015)
Rosanna Neuhausler, LAEP (2014-2015)
Joonhee (Mandy) Kim**, EPS (2014-2015)
Lily Haine, Mathematics (2014-2015)
Manon von Kaenel*, Geography (2014-2015)
Aviva Tang**, Civil Engineering (2015)
Stephanie Kinser*, CRS (2015-2016)
Corey Scher**, EPS (2015-2017)
Zachary Weiner, Geography**, (2016-2017)
Erina Szeto**, (2016-2017)
Jack Sullivan**, Computer Science (2016-2017)
Claudia Herbert*, CRS (2016-2017)

Amy Huynh*, Geography (2016-2017)
Katrina Ginsberg, CRS (2017-2019)
Jacob Amme, EPS (Washington U., 2017)
Sydney Moss, Geography (2017-2018)
Justin Nghiem**+*, (2017-2019)
Roxi Shiu**, CRS (2017-2018)
b Martin**, Geography (2018)
Gemma Searle*, (2018-2019)
Candace Yee**, (2018-present)
Lucy Wang**, (2018-2019)
Yayla Sezginer, (2018-2019)
Nicole Ulakovic, Civil Engineering (2019)
Jason Lin, Civil Engineering (2019)
Danielle Satin, EPS (2019)
Lizzy Coda** (2019-2021)
Tianchi Liu (2019-2021)
Elle Chen (2019-2020)
Tu Lan (2020-2021)
Shufan Li (2021-2022)
Ayush Kamat (2021-2022)
Justin Kadi (2020-2021)

Laboratory managers:

Aaron Hurst (2015-2016)
Colin Keating (2017-2018)
Jordan Wingenroth (2018-2021)

At USGS:

Research associates:

Geoff Sinclair, Ph.D (2011-present)
Jai Singh, B.S. (2011-2012)
Jay Choi, Ph.D (2010-present)
Morgan Maglio, M.S. (2009-2011)
Trevor Langston, B.S. (2009-2011)
Lauren McPhillips, BS (2008-2009)

Undergraduate students supervised at U.S. Geological Survey:

Ryan Gillooly, James Madison University (2011)
Melissa Reardon, University of Virginia (2011)
Craig Schneider, University of Massachusetts (2011-2012)
William Lukens, Temple University (2010)
Daniel Cazenas, Virginia Tech (2010-2011)

High school interns:

Kat Pfleeger, The Madeira School, (2011)
Melissa Reardon, Thomas Jefferson High School of Science and Technology (2009)

PROFESSIONAL SERVICE

Editorial Boards:

2020-present	State of Bay-Delta Science

Committee and Working Group Membership:

2023-present	Steering Committee, California Water Data Consortium
2022-present	Young Scientist Award (Donath Medal) Committee, Geological Society of America
2021-present	San Francisco Estuary Wetlands Regional Monitoring Program Working Group and Technical Advisory Committee
2021-present	Critical Zone Collaborative Network Hub Advisory Committee
2021-present	Brown-Nichols Service Award Committee, Delta Stewardship Council
2017-2018	Chair, Langbein Lecture Committee, Hydrology Division, American Geophysical Union
2016-2017	Surface Earth Processes infrastructure working group, National Science Foundation
2015-present	Hertz Foundation Fellowship Interview Board
2015-2018	Langbein Lecture Committee, Hydrology Division, American Geophysical Union
2014-2016	Kohout Award Committee, Hydrogeology Division, Geological Society of America
2010-2013	Ecohydrology Technical Committee member, American Geophysical Union
2010	National Research Program Deepwater Horizon Oil Spill response team, USGS
2007-present	Member, Community Surface Dynamics Modeling System Terrestrial working group
2007-2017	Member, Decompartmentalization Physical Model working group, Comprehensive Everglades Restoration Plan. Leader of USGS-National Research Program efforts in a large-scale flow release experimentation, including installation and operation of a network of 13 hydrologic/biogeochemical monitoring stations
2006-2008	Student member, American Geophysical Union Sediment and Landscape Dynamics technical committee

Meeting Chair and Planning Committee:

2023	Chair, Just Transitions in Salinity Management Summer Institute. June 26-28, 2023.
2021-2023	Co-chair and Chair, Delta Salinity Management Workshops, Delta Stewardship Council. Two workshops focused on salinity management during extreme drought. April 2022 (co-chair) and October 2023 (chair)
2021-2023	Chair, One Delta, One Science, One Monitoring Framework workshop, Delta Stewardship Council. February-March 2023.
2019	Chair, Second workshop on Improved hydrologic forecasting through synthesis of critical storage components and timescales across watersheds worldwide, 4-8 November 2019, USGS Powell Center, Ft. Collins, CO
2019	Chair, First workshop on Critical Timescales of Hydrologic Transport, 22-24 May 2019, Berkeley Institute for Data Sciences, Berkeley, CA
2019	Chair, Workshop on Improved hydrologic forecasting through synthesis of critical storage components and timescales across watersheds worldwide, 11-14 February 2019, USGS Powell Center, Ft. Collins, CO
2017	Co-chair, Appropriate Complexity Modeling of the Impacts of Global Change on Ecosystems, 27-29 March 2017, Berkeley, CA. (Part of the DIMACS Mathematics of Planet Earth 2013+ program)
2013-2016	Co-host, Annual Berkeley Catchment Science Symposium
2013	Chair, The Art and Science of Reduced-Complexity Modeling Workshop, 27-29 March 2013, Boulder, CO
2010-2011	Organizing committee, 2011 National Surface-Water Conference and Hydroacoustic Workshop
2007	Co-chair, 2nd annual Hydrologic Sciences Student Symposium, University of Colorado
2006	Chair, 1st annual Hydrologic Sciences Student Symposium, University of Colorado

Chaired Sessions in Conferences:

2022	Adapting Restoration for a Changing Climate Symposium Closing Session, 3 February, 2022, Virtual conference.
2021	Bay-Delta Integration. State of the Estuary Summit, 1 October 2021, Virtual conference.
2021	Physical Processes. Biennial Bay-Delta Science Conference, 6-9 April 2021, Virtual conference.
2017	Ecohydraulics and ecogeomorphology: From basic interactions to management techniques. American Geophysical Union fall meeting, 11-15 September 2017, New Orleans, LA.
2016	Ecohydrologic and ecogeomorphological processes at the intersection of landscapes and ecosystems. American Geophysical Union fall meeting, 12-16 September 2016, San Francisco, CA.
2015	Snapshot Ecology: Inferring Ecosystem Dynamics from a Single Point in Time or Space, Ecological Society of America, Baltimore, MD, 10 August 2015.
2014	Coastal Geomorphology, American Geophysical Union fall meeting 2014, San Francisco, CA
2012	Ecohydrological systems, ecosystem services, and freshwater sustainability: Modeling, uncertainty, and organizing principles, American Geophysical Union fall meeting, 3-7 December 2012, San Francisco, CA
2012	Riparian ecohydrology and stream-aquifer interactions: Fluxes across the surface-subsurface interface, Geological Society of America meeting, 4-7 November, Charlotte, NC
2012	Water in four dimensions: The role of flow and hydrologic connectivity in floodplain and wetland ecosystems, 9th International Association for Ecology meeting, 3-8 June 2012, Orlando, FL
2011	Simplifying complexity: Characterization and analysis of ecohydrological systems American Geophysical Union fall meeting, 5-9 December 2011, San Francisco, CA
2008	Multiscale Feedbacks in Ecogeomorphology, American Geophysical Union fall meeting, 14-19 December 2008, San Francisco, CA.
2008	Particulate organic matter transport from headwaters to oceans: Mechanisms and ecological implications, American Society of Limnology and Oceanography summer meeting, 8-13 June 2008, St. John's, Newfoundland, Canada

Ad-hoc Proposal Reviewer:

National Science Foundation, American Chemical Society, Research Foundation Flanders (FWO), Singapore National Research Foundation (NRF), Louisiana RESTORE Act Center of Excellence grant program, USGS Powell Center grant program

Journal Referee:

Advances in Water Reources, The American Naturalist, Annals of the Association of American Geographers, Aquatic Ecology, Chemosphere, Ecohydrology, Ecological Applications, Ecological Engineering, Ecological Monographs, Ecology, Ecosystems, Environmental Chemistry, Freshwater Science, Geomorphology, Geophysical Research Letters, Hydrology and Earth Systems Science, International Journal of Computational Methods and Experimental Measurements (CMEM), Journal of Geophysical Research-Biogeosciences, Journal of Geophysical Research-Earth Surface, Journal of Geophysical Research-Oceans, Journal of Environmental Management, Landscape Ecology, Journal of Hydraulic Research, Limnology and Oceanography, Limnology and Oceanography: Methods, Nature, Nature Geoscience, Proceedings of the National Academy of Sciences, Science Advances, Science of the

Total Environment, SEPM Special Publications series, Water Resources Research, Wetlands, Wetlands Ecology and Management

Grant Review Panels:

2022	Review panelist, Concept proposals for USGS Southwest Regional Priority Ecosystem Science center.
2021	Review panelist, California Proposition 1 grants administered by California Department of Fish and Wildlife.
2012	Scientific Achievement Award (Water Quality) panel member, Environmental Protection Agency
2013-present	Service on four NSF proposal review panels for Geomorphology and Land-use Dynamics and Coupled Natural and Human Systems

Campus and Departmental Service:

2018-2019	Search committee, Geospatial analysis, design, and critical cartography position, Geography Dept.
2018-2019	Physical sciences library committee
2018-2019	Chancellor's Signature Initiatives Working Group on Environment and Sustainability
2018-2019	Committee for Data Science minor
2017-2018	Committee for Data Science major
2017-present	Affiliated faculty, Computational data science and engineering designated emphasis graduate program
2014-2020	DS421 (Data Science for the 21st Century) NSF NRT Program core leadership faculty
2015-2019	Geography colloquium committee, Geography
2013-2018	Undergraduate adviser for Physical Geography
2014-2015	Geography graduate student professionalization series

Other Professional Service/Leadership:

2023	Search committee chair for recruitment of one member to the Delta Independent Science Board
2023	Led a strategic visioning process (in progress) for the Delta Science Program in preparation for the 2024 update to the Delta Science Plan
2023	Oversaw development of Delta Science Program 2023 funding solicitation.
2022	Search committees for Science Deputy Executive Officer, Delta Stewardship Council and Program Manager for Collaborative Science and Peer Review unit of Delta Science Program
2021-2022	Search committee chair for recruitment of three members to the Delta Independent Science Board
2022	Oversaw California Sea Grant/Delta Science Program's request for applications for Delta Science Fellowship, a 2-year research award for graduate students and postdoctoral scholars.
2020-2021	Oversaw Delta Science Program funding solicitation: Chaired review process for 99 received research proposals and directed the award of $10 million in funding.

2020-present	As Delta Lead Scientist, provided monthly Lead Scientist Reports to Delta Stewardship Council members, quarterly reports to the State Water Resources Control Board, monthly reports to the Delta Independent Science Board, and ~annual reports to the Delta Plan Interagency Implementation Committee.
2021-present	Established monthly Delta Lead Scientist Ask-Me-Anything event on Instagram Live.
2021-present	Founded The Delta Breeze, a quarterly Delta science newsletter. See deltacouncil.ca.gov/pdf/science-program/2021-07-14-dsc-science-funding-newsletter.pdf
2020-2022	Oversaw development of the 2022-2026 Science Action Agenda, which identifies science funding priorities for the Sacramento-San Joaquin Delta science community. The 2017-2021 Science Action Agenda guided nearly $37 million in funding.

Volunteer Consulting:

2016-present	U.S. Geological Survey Volunteer for Science
2010	Member of Everglades delegation to Brazil (field work in Pantanal and informational exchange with Brazilian wetland researchers)
2009-10, 2016	Intellectual Ventures malaria eradication project, hydrology consultant

Professional Memberships:

American Geophysical Union, American Society of Limnology and Oceanography, Ecological Society of America, Geological Society of America, Coastal Estuarine Research Federation

Outreach:

2023	Panelist, CESU-LTER Federal Agency Career Forum, 25 April 2023, virtual.
2023	Advised on high school curriculum development on Climate Change and California Water, with Headwaters Science Institute
2022	Planned California legislative briefing on Water Supply Resilience in partnership with California Council on Science and Technology.
2021	Co-organizer and moderator of Cascading Impacts of Drought briefing for the California State Assembly, in partnership with California Council on Science and Technology.
2015-2018	"Trapping sediment" exhibit design at Exploratorium, San Francisco. https://www.exploratorium.edu/publicspaces/blog/modeling-tidal-marsh-pier-15
2011	Invited presentation at LTER Children's Book Series workshop: "Perspectives on development of One Night in the Everglades", Boulder, CO.
2009-2010	Science fair advisor and mentor, Thomas Jefferson High School of Science and Technology, Alexandria, VA
2008-2012	Development of and educational outreach for One Night in the Everglades, 2012, Taylor Trade Publishing. This book, developed as part of the LTER children's book series, is targeted to 4th-5th graders and is integrated into an Everglades unit of the curriculum in south Florida schools.
2006-2008	Science fair advisor and mentor, Forest Hill Community High School, West Palm Beach, FL
2006-2008	Guest lecturer for AP Environmental Science, Forest Hill Community High School, West Palm Beach, FL

WORKSHOP, WORKING GROUPS, AND PANEL INVITATIONS

2023	Panelist, *Building, Infrastructure and Environment Panel*, Silicon Valley Women in Engineering Conference, San Jose State University, San Jose, CA, 18 March 2023
2021	Panelist, *Revisiting the Foundations and Planning for the Future of Adaptive Management*, Adaptive Management Forum (virtual), 3-5 February 2021.
2019	Workshop invitee, *Data Analytics for Climate and Earth (DANCE) Workshop*, UCLA, Arrowhead, CA, 27-29 March 2019.
2019	Workshop invitee, *Advancing Integrated Process-Based Modeling of Complex Socio-Environmental Systems Brainstorming Workshop*, National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD, 25-26 February 2019.
2018	Workshop invitee, *Summit to Sea: Modeling Regional Watersheds and Adjoining Coastal Regions*, University of North Carolina, Chapel Hill, 22-23 August 2018.
2018	Workshop invitee, *Hertz Foundation Summer Workshop*, University of California, Los Angeles, July 2018.
2018	Workshop invitee, *California Heartbeat Initiative Freshwater Science Focus Workshop*, Blue Oak Ranch Reserve, California, 21-22 May 2018.
2018	Workshop invitee, *Inland Water Global HydroBioGeoChemistry Workshop*, University of Colorado, Boulder, 24-25 May 2018.
2016	Workshop invitee, *Tropical Peatlands, Past and Future: Ecosystem Processes and Environmental Change*, Asian School of the Environment and Complexity Institute, Nanyang Technological University, Singapore, 6-14 August 2016.
2016	Workshop invitee, *Operationalizing Ecological Forecasts*. USGS Powell Center Workshop. Ft. Collins, CO, 6-8 January 2016.
2015	Panelist: *Strategic conversations: Stewardship of Parks in a Changing World*. Science for Parks, Parks for Science: The Next Century summit, Berkeley, CA, 25-27 March 2015.
2014	Workshop invitee, *Research Infrastructure in Support of NSF-SEP Grand Challenges*, Chicago, IL, 5-7 October 2014.
2013	Workshop invitee, *STRESS 4: Connectivity, Non-linearity, and Regime Transitions in Future Earthscapes*, Glenbrook, NV, 24-26 April 2013.
2012	Landscape Ecology panel member, Beneficial Effects of Healthy Watersheds on Pollutant Fate and Transport: A Chesapeake Bay Program Scientific and Technical Advisory Committee workshop to examine how natural features protect water quality, Buckeystown, MD
2010	Panelist, *Flow Effects in the Greater Everglades*. Greater Everglades Ecosystem Restoration Meeting, Naples, FL, 12-16 July 2010.
2006	Panel member, Workshop on Restoring the Ridge and Slough Landscape, Greater Everglades Ecosystem Restoration Conference, Lake Buena Vista, FL

INVITED ACADEMIC PRESENTATIONS

Larsen, L. Mending the broken heart: How opening and stitching together social and ecological models of California's Delta region can transform the trajectory of the state's water management. Keynote address at Community Surface Dynamics Modeling System workshop, Boulder, CO. 16 May 2023.

Larsen, L. Harnessing big data, humility, and humans to address California water resilience challenges. Keynote talk for Big Day of Giving, Headwaters Science Institute (Virtual). 4 May 2023.

Larsen, L. Comparative and place-based hydrologic systems analysis in the digital age: Building understanding, promoting inclusivity, and forecasting the future. Invited talk for Electrical and Systems Engineering Department, Washington University in St. Louis, 14 April 2023.

Larsen, L. Comparative and place-based hydrology in the digital age: Building understanding, promoting inclusivity, and forecasting the future. Warren Distinguished Lecture Series, Dept. of Civil, Environmental, and Geo-Engineering, University of Minnesota, Minneapolis, MN (Virtual). 14 October 2022.

Larsen, L. From "complex" to "wicked": A complex system scientist's journey as Delta Lead Scientist. UC Davis Geography Graduate Group Seminar, University of California, Davis. 13 April 2022.

Larsen, L. Comparative and place-based hydrology in the digital age: Building understanding, promoting inclusivity, and forecasting the future. UC Merced Environmental Systems Graduate Program Seminar, University of California, Merced, 30 March 2022.

Larsen, L. and Lininger, K. The hard science of 'soft' geomorphology: flow-vegetation-organic carbon feedbacks in rivers and floodplains. Women Advancing River Research symposium series, virtual. 17 March 2022.

Larsen, L. From "complex" to "wicked": A complex system scientist's journey as Delta Lead Scientist. Berkeley Geography Colloquium Series, University of California Berkeley, 3 March 2022.

Larsen, L. Early detection and rapid response (EDRR): A journey into the unknown, yet foreseeable, future. Plenary at biennial Delta Interagency Invasive Species Coordination Symposium (virtual), 15 December 2021.

Larsen, L. The drought cascade: Linking changes in climate extremes to changes in watershed functions. CITRIS Research Exchange Seminar Series (virtual), 3 November 2021.

Larsen, L. Multiscale flow-vegetation feedbacks in low-gradient landscapes. The Fred L. and Frances J. Oliver Lectureship in Texas Hydrology and Water Resources (virtual), University of Texas-Austin, Jackson School of Geosciences, 4 March 2021.

Larsen, L. Adaptive management in the time of COVID: How a global pandemic can inspire management of the Delta for a resilient future. Plenary talk at Adaptive Management Forum (virtual), 5 February 2021.

Larsen, L., A. Christensen[#], J. Nghiem*, S. Stein**, S. Trampush***, R. Twilley, J. Wingenroth, and C. Yee*, 2020. Understanding sediment interception by macrophytes: Physical drivers and overall importance for coastal sedimentation. Invited talk at Geological Society of America Meeting (virtual), 26-30 October 2020.

Larsen, L. G., 2020. Just pour water on it? Melting the Wicked Witch of the West and other challenges with restoration science. Invited seminar for the Delta Stewardship Council Brown Bag series, 30 March 2020.

Larsen, L. G., 2019. Aquatic ecosystem restoration that works: Collaborating with nature to achieve a sustainable future. Keynote address on Centennial Stage for American Geophysical Union Fall Meeting, 10-14 December 2019, San Francisco.

Larsen, L. G. and C. Woelfle-Erskine**, 2019. Groundwater is key to salmonid survival and recruitment in intermittent streams. Invited talk for Environmental Engineering Seminar, UC Berkeley, 25 January 2019.

Larsen, L. G., 2018. Understanding environmental complexity through data and models. Invited talk at Foundations of Data Science Lunch, Simons Institute for the Theory of Computing, UC Berkeley, 29 November 2018.

Larsen, L. 2018. Young Scientist Award (Donath Medal): Peering through the web of complexity without getting caught: How tools from complex systems theory help identify dominant drivers and feedbacks in curiously behaving aquatic landscapes. Keynote talk for Geological Society of America Annual Meeting, Indianapolis, IN, 11 November 2018.

Larsen, L. G. and C. Woelfle-Erskine**, 2018. Groundwater is key to salmonid survival and recruitment in intermittent streams. Talk at Earth and Environment seminar series, Florida International University, Miami, FL, 2 November 2018.

Larsen, L. G., 2018. Frontiers in water forecasting: merging data-intensive approaches with first principles. Talk at Berkeley Institute for Data Sciences lunch series, Berkeley, CA, 13 September 2018.

Larsen, L. G., 2018. Forecasting, flows, and feedback: Envisioning global water futures. Keynote address at Hertz Foundation Summer Workshop, University of California, Los Angeles, 22 July 2018.

Larsen, L. G., D. Gochis, J. Driscoll, and J. Harvey, 2018. Improved hydrologic forecasting through synthesis of critical storage components and timescales across watersheds worldwide. Invited talk at California Heartbeat Initiative Workshop, Blue Oak Ranch Reserve, CA, 21 May 2018.

Larsen, L. G., 2018. Functional connectivity of flowing-water systems: A comparison of approaches. Invited talk at Inland Waters: Global HydroBioGeoChemistry workshop, University of Colorado, Boulder, 24 May 2018.

Larsen, L. G., 2018. Doing more with less or less with more: Toward a concept of sustainable environmental flows in an era of extremes. Invited talk for School of Environment and Sustainability, University of Michigan, Ann Arbor, Michgan, 19 February 2018.

Larsen, L. G., A. Christensen, J. Harvey, H. Ma, S. Newman, C. Saunders, and R. Twilley, 2017. Probing the gaps: A synthesis of well-known and lesser-known hydrological feedbacks influencing vegetation patterning and long-term geomorphic change in low-gradient landscapes. Invited talk at American Geophysical Union Fall Meeting, New Orleans, LA, 15 December 2017.

Larsen, L. G., 2017. The finer points of sediment transport: Emerging understanding of fine sediment transport and its ecological impacts in diverse aquatic landscapes. Keynote address at Catchment Science Symposium, New Orleans, LA, 13 December 2017.

Larsen, L. G., D. G. Bellugi, H. Ma, and C. Tennant, 2017. The hydrologic pendulum: How data-driven analysis approaches and sensor data can shed new light on the old problem of discharge forecasting. Invited presentation at American Geophysical Union Fall Meeting, New Orleans, LA, 11 December 2017.

Larsen, L. G., 2017. Data vs. physics: Predictive modeling in the earth sciences in an era of change. Berkeley Institute of Data Sciences Distinguished Lecture Series, 21 November 2017.

Larsen, L. G., 2017. Fine sediment in urban streams: Major pollutant or agent of resilience? Annual Woo Water Lecture, Department of Geography and Earth Science, McMaster University, Hamilton, ON, 18 October 2017.

Larsen, L. G., 2017. Appropriate-complexity modeling of landscapes. Departmental seminar, Geography and Earth Science, McMaster University, Hamilton, ON, 18 October 2017.

Larsen, L. G., 2017. The hydrologist's CT scan: Resolving connectivity to plan and evaluation restoration and adaptation strategies for aquatic ecosystems. Environmental Forum talk, Stanford Woods Institute for the Environment, Stanford University CA, 19 May 2017.

Larsen, L. G. 2017. Unraveling complexity from two directions: Hydroecological systems seen through the lenses of modeling and data. Seminar in Dept. of Earth and Planetary Sciences, University of California-Santa Cruz, 9 May 2017.

Larsen, L. G. 2017. Unraveling complexity from two directions: Hydroecological systems seen through the lenses of modeling and data. Seminar in Dept. of Earth and Environment, Boston University, 18 April 2017.

Larsen, L. G. 2017. Unraveling complexity from two directions: Hydroecological systems seen through the lenses of modeling and data. Keynote talk for Hydrologic Sciences Sciences Symposium, University of Colorado, Boulder, 7 April 2017.

Larsen, L. G. 2017. Data-driven research in a nonstationary world: a top-down approach to understanding critical interactions and scales from the catchment to the planet. Neyman Seminar presentation, Department of Statistics, University of California, Berkeley, 8 March 2017.

Larsen, L.G., S. Newman, C. Saunders, and J. W. Harvey. 2017. Complex networks of functional connectivity in an isolated wetland reconnected to its floodplain. Invited talk at American Society of Limnology and Oceanography Aquatic Sciences Meeting, Honolulu, HI, 26 Feb- 3 March 2017.

Larsen, L. G. 2017. Connectivity and landscape function. Invited talk for F&ES 724b, Watershed Cycles and Processes course (lead faculty Peter Raymond), Yale University, 8 February 2017.

Larsen, L., C. Woelfle-Erskine, S. Carlson, and R. Neuhausler. 2017. Effects of extreme drought on the organic carbon dynamics and hydroecology of intermittent, salmon-bearing streams. Invited talk at American Geophysical Union Chapman Conference on Extreme Event Climate Impacts on Aquatic Biogeochemical Cycles and Fluxes. San Juan, Puerto Rico, 22-27 January 2017.

Larsen, L., J. Harvey, C. Saunders, S. Newman, W. Nardin, J. Choi, A. Hurst, and J. Baughman. 2016. The Everglades flow release experiments: A field test of multi-scale ecogeomorphic feedbacks. Invited talk at American Geophysical Union Meeting, San Francisco, CA 12-16 December 2016.

Larsen, L., J. Ma, D. Kaplan, J. Harvey, S. Newman, C. Saunders, and J. Choi. 2016. Role of structural and functional connectivity in wetland ecogeomorphic feedbacks. Invited talk at American Geophysical Union Meeting, San Francisco, CA, 12-16 December 2016.

Larsen, L.G., C. Tennant, E. Beller, S. Adera, and M. Van Gordon. Environmental Systems Dynamics Laboratory. Invited talk for EcoLunch, Department of Integrative Biology, Berkeley, CA, 28 November 2016.

Larsen, L. G. 2016. The role of science in large-scale aquatic restoration. Invited talk for Berkeley Water Group, Berkeley, CA, 10 October 2016.

Larsen, L. G. 2016. Flow-vegetation-sediment feedbacks in a subtropical peatland. Invited talk at Tropical Peatlands Workshop, Nanyang University, Singapore, 6-8 August 2016.

Larsen, L. G. 2016. Feedbacks upon feedbacks upon feedbacks: How aquatic vegetation interfaces set up and reinforce heterogeneity in low-gradient landscapes. Invited talk at Interfaces in Aquatic Systems Symposium, University of Aberdeen, UK, 29-30 August 2016.

Larsen, L. G. 2016. Drought and salmon: What does the future hold for northern California? Invited talk for BEAHRS Environmental Leadership Program, 18 July 2016, Berkeley, CA.

Larsen, L. G. 2016. Taking the pulse of Earth surface systems. Pacific Region Colloquium, U.S. Geological Survey National Research Program, Menlo Park, CA, 6 June 2016. Archived talk available at http://media.wr.usgs.gov/colloquium/PRC_06jun16.mp4

Larsen, L., M. van Gordon, S. Adera, D. Bellugi, H-X.Ma, and T. Oehmke. 2016. Space in the informationscape: Resolution of critical spatial scales and functional connectivity in heterogeneous landscapes. Invited poster at workshop on Information Theory and the Earth Sciences, Garmisch-Partenkirchen, Germany, 24-28 April 2016.

Larsen, L.G. 2016. Ecohydrological forecasting. Invited talk at USGS Powell Center/NEON workshop on Operationalizing Ecological Forecasts, Fort Collins, CO, 4-8 January 2016.

Larsen, L.G., D. Watts, A. Khurana, J. L. Anderson, C. Xu, and D. J. Merritts. 2015. Self-organization in irregular landscapes: Detecting autogenic interactions from field data using descriptive statistics and dynamical systems theory. Invited talk at American Geophysical Union Meeting, San Francisco, CA, 14-18 December 2015. EP32B-03.

Larsen, L. J. Ma, and D. Kaplan. 2015. The role of vegetation patch spatial configuration in landscape-scale flow-vegetation-sediment feedbacks. Invited talk at American Geophysical Union Meeting, San Francisco, CA, 14-18 December 2015. EP21D.

Larsen, L. 2015. The geography of complex flow paths: How their spatial distribution and orientation influence surface-water fluxes and feedbacks in low-gradient landscapes. Earth and Environmental Sciences Colloquium Series, University of Pennsylvania, Philadelphia, PA, 23 October 2015.

Larsen, L. 2015. Introduction to Everglades restoration and BACI experimental design. Jepson Herbarium Workshop on Restoration Ecology, 17-18 October 2015.

Larsen, L. 2015. Organic material fingerprinting provides insight for urban stream restoration and management. UC Berkeley, Environmental Engineering Seminar Series, 30 October 2015.

Larsen, L., B. Buskirk, J. Harvey, K. Butler, G. Aiken, S. Newman, and J. Choi. 2015. Fire and flood: Response of organic matter to extreme events in the DPM footprint. Invited talk at Greater Everglades Ecosystem Restoration Meeting, 21-23 April 2015.

Larsen, L., R. Allen, R. Neuhausler, J. Harvey, J. Choi, S. Newman, and C. Saunders. 2015. Shear stress variability and floc redistribution during a flow release. Invited talk at Greater Everglades Ecosystem Restoration Meeting, 21-23 April 2015.

Larsen, L.G. 2015. What the floc? Understanding the source and fate of organic sediment in the

Anthropocene. UC Berkeley, Dept. of Earth and Planetary Sciences colloquium, 22 January 2015.

Larsen, L. G., J. W. Harvey, and M. M. Maglio. 2014. Biogeochemical patchiness, geomorphic feedbacks, and flow connectivity in river-floodplain corridors. Invited. American Geophysical Union fall meeting.

Larsen, L., D. Kaplan, J. Yuan, J. Choi, J. Ma, and J. Harvey. 2014. Directional landscape connectivity as a predictor of water and material fluxes and indicator of system dynamics in both aquatic and terrestrial landscapes. Invited. American Geophysical Union fall meeting.

Larsen, L. G. 2014. Fluorescence-based source tracking of organic sediment in restored and unrestored Piedmont suburban streams, University of Colorado, INSTAAR seminar, 19 November 2014.

Larsen L. G. 2014. Structural and functional connectivity of complex aquatic landscapes. The Pennsylvania State University, Dept. of Geography seminar, 19 September 2014.

Larsen, L. G. 2014. Hydroecological feedbacks driving form and function of floodplain and wetland landscapes. SEPM Research Conference on Autogenic Dynamics in Sedimentary Systems, 3-6 August 2014, Grand Junction, CO.

Larsen, L. G. 2014. Pattern from process: Simple strategies for understanding complex dynamics in aquatic landscapes. Plenary talk at 2014 Joint Aquatic Sciences Meeting, 18-23 May 2014, Portland, OR.

Larsen, L. G. 2014. Pattern from process: simple strategies for understanding complex dynamics in aquatic landscapes. Dawdy Lecture in Hydrological Sciences, San Francisco State University, 8 April 2014.

Larsen, L. G. 2014. Biogeochemistry as a geomorphic agent in aquatic landscapes. Distinguished Lecture on Earth-Water-Life, Linked Institutions for Future Earth, University of Minnesota, 25 March 2014.

Larsen, L. G. 2014. How hydrologic connectivity regulates and reflects mechanisms of spatial patterning in the Everglades. Syracuse University, Water Science & Engineering Initiative seminar, 27 February 2014.

Larsen, L. G., 2013. Silent destroyer or landscape renewer? The role of fine sediment in ecosystem restoration and resilience. Water and Ecosystems Colloquium, UC Berkeley Dept. of Landscape Architecture and Planning. October 9, 2013.

Larsen, L. G. 2013. From sediment aggregates to patterned landscapes: Complexity and emergence across scales in wetlands. UC Berkeley, Dept. of Integrative Biology seminar, September 26, 2013.

Larsen, L. G. 2013. Structural and functional connectivity of aquatic landscapes. UC Berkeley, Dept. of Environmental Science, Policy, and Management. Geolunch Seminar, September 19, 2013.

Larsen, L. G. 2013. From sediment aggregates to patterned landscapes: Complexity and emergence across scales in wetlands. UC Santa Barbara, Dept. of Evolution and Environmental Microbiology seminar, Aug. 30, 2013.

Larsen, L. G. 2013. Connectivity and catastrophe: Roles of structural connectivity in promoting, indicating, and resisting catastrophic shifts in aquatic ecosystems. STRESS IV Workshop: Complexity, non-linear dynamics, and predictability in hydro-bio-geomorphology. 24-26 April 2013, Lake Tahoe, NV.

Larsen, L.G. 2013. Understanding complexity by reducing it: Physically based, simplified flow models in landscape evolution studies. Environmental Engineering Departmental Seminar, UC Berkeley, 22 March 2013.

Larsen, L. G., Harvey, J. W., Maglio, M. 2012. Dynamic hyporheic exchange at intermediate timescales: Testing the relative importance of ET and water-level fluctuations in low-relief landscapes. AGU Fall Meeting, Abstract H12B-01, San Francisco, CA, Dec 3-7, 2012.

Larsen, L. G., Choi, J., Nungesser, M., and Harvey, J. 2012. Connectivity—A critical component of hydrological and ecological flux assessments. Presentation to the Chesapeake Bay Program's Scientific and Technical Advisory Committee workshop on Beneficial Effects of Healthy Watersheds on Pollutant Fate and Transport, Buckeystown, MD, 7-8 March.

Larsen, L. G., 2012. Characterizing connectivity in complex environmental systems. Seminar at University of Minnesota, Saint Anthony Falls Laboratory, 29 February 2012.

Larsen, L. G., 2012. Connect-the-dots for 21st century ecosystem science: What structural, functional, and

process connectivity in a "unique" landscape can reveal about global environmental dynamics. Seminar at Washington University in St. Louis, Department of Earth and Planetary Sciences, 27 February 2012.

Larsen, L. G., 2011. Urban stream restoration studies in Fairfax County. Seminar at George Mason University, Fairfax, VA, Department of Civil and Environmental Engineering, 28 September 2011.

Larsen, L. G, Harvey, J.W. 2010. Catastrophic shifts in wetland geomorphology and ecology in response to hydrology-vegetation-sediment transport feedbacks. Abstract EP24A-05 presented at 2010 Fall Meeting, AGU, San Francisco, CA. 13-17 December 2010.

Larsen, L. G, Harvey, J.W., Noe, G.B., and Maglio, M. 2010. Sediment vs. subsurface nutrient redistribution as agents of wetland landscape change: Lessons learned from modeling and field studies in the Everglades. Eos Trans. AGU 91(26), Meet. Am. Suppl., Abstract B32A-06, Iguazu Falls, Brazil.

Larsen, L. G., 2010. Flow, floc, and feedback: Studies of fine sediment/water impacts on ecological functioning of the Everglades and mid-Atlantic urban streams. Seminar at University of Maryland, College Park, MD. Department of Geology, October 22, 2010.

Larsen, L. G., 2010. The sediment redistribution feedback and its role in the evolution and restoration of patterned aquatic ecosystems. Seminar at Massachusetts Institute of Technology, Cambridge, MA. Department of Civil and Environmental Engineering, October 13, 2010.

Larsen, L. G., 2010. The sediment redistribution feedback and its role in the evolution and restoration of patterned aquatic ecosystems. Seminar at University of Virginia, Charlottesville, VA. Department of Environmental Science, September 2, 2010.

Larsen, L.G., 2010. How vegetation and sediment transport feedbacks drive Everglades landscape dynamics: A modeling synthesis from decades of observation and experimentation. Seminar at Louisiana State University, Baton Rouge, LA. School of the Coast and Environment, January 15, 2010.

Larsen, L.G., 2009. Biophysical feedback, stability, and catastrophic shifts in a patterned Everglades ecosystem. Cary Institute of Ecosystem Studies, 16 April 2009, Millbrook, NY.

Larsen, L.G., 2009. Hydroecological feedbacks controlling landscape patterning and restoration success in the Everglades. USGS Chief Hydrologist's Seminar, 21 January 2009, Reston, VA.

Harvey, J. W., R. W. Schaffranek, L. G. Larsen, D. Nowacki, G. B. Noe, and B. L. O'Connor, 2008. Controls on flow velocity and flow resistance in the patterned floodplain landscape of the Everglades. American Society of Limnology and Oceanography Ocean Sciences Meeting, 2-7 March, Orlando, FL.

Larsen, L.G., 2007. A complex adaptive systems approach to the prediction of landscape evolution in the Florida Everglades. National Research Program, U.S. Geological Survey, 7 December 2007, Reston, VA.

Larsen, L.G. 2007. Predicting landscape evolution in the Everglades. Seminar at Virginia Polytechnic Institute, Dept. of Biological Systems Engineering, 3 December 2007, Blacksburg, VA.

Larsen, L.G., 2007. Roles of redox and phosphorus biogeochemistry, water level, and flow in the degradation and restoration of the Everglades ridge and slough landscape. USGS Florida Integrated Science Center seminar, 22 October 2007, Ft. Lauderdale, FL.

Larsen, L.G., J.W. Harvey, and J. P. Crimaldi, 2006. Ecohydrological feedbacks controlling microtopography, vegetation diversity, and landscape pattern in low-gradient, lotic peatlands. Geological Society of America Annual Meeting, 22-25 October 2006, Philadelphia, PA. Paper no. 104-4.

Larsen, L.G., 2006. Ecohydrological feedbacks in the ridge and slough landscape and implications for restoration. Seminar at South Florida Water Management District, West Palm Beach, FL.

Larsen, L.G., 2006. Feedback in environmental systems: Why is sawgrass exploding in the Everglades? Keynote address at international Canon Envirothon competition, 23-29 July 2006, Winnipeg, Manitoba.

Larsen, L.G., 2005. A conceptual model of hydrodynamic feedbacks involved in pattern maintenance in the ridge and slough landscape, Florida Everglades. National Research Program, U.S. Geological Survey, Reston, VA.