ALAN KASPRAK

U.S. Environmental Protection Agency • Pacific Ecological Systems Division
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CURRENT POSITION

Research Physical Scientist **January 2024 - Present**
U.S. Environmental Protection Agency, Office of Research and Development
Pacific Ecological Systems Division, Freshwater Ecology Branch

Courtesy Faculty Appointment **January 2024 - Present**
Oregon State University
Department of Geography
College of Earth, Ocean, and Atmospheric Sciences

EDUCATIONAL BACKGROUND

Doctor of Philosophy in Watershed Sciences **October 2015**
Emphasis in Geomorphology and Earth Surface Processes
Utah State University – Logan, Utah
Ph.D. Dissertation: *Linking Form and Process in Braided Rivers Using Physical and Numerical Models*

Master of Science in Earth Sciences **June 2010**
Dartmouth College – Hanover, New Hampshire
M.S. Thesis: *Stream Channel and Riparian Response to Land-Use in Northern New England*

Bachelor of Science in Geology and Geophysics **May 2008**
Boston College – Chestnut Hill, Massachusetts
B.S. Thesis: *Measuring Sedimentation Rates and Land-Use Change in a Dam-Influenced Lake Delta*

EMPLOYMENT HISTORY

Assistant Professor **August 2020 – December 2023**
Fort Lewis College – Durango, Colorado
Geosciences Department and Four Corners Water Center

Coordinator, Utah Geospatial Consortium **July 2019 – July 2020**
Quinney College of Natural Resources
Utah State University – Logan, Utah

Hydrologist **October 2018 – June 2019**
U.S. Geological Survey
Central Midwest Water Science Center – Iowa City, Iowa

Mendenhall Postdoctoral Research Fellow **November 2015 – October 2018**
U.S. Geological Survey, Grand Canyon Monitoring and Research Center - Flagstaff, Arizona

SCHOLARLY CONTRIBUTIONS

Also see Google Scholar profile

PEER-REVIEWED PUBLICATIONS

Kasprak A, Bowen B, DeHoff M, Dott C, Gianniny G, Johnson C, Sankey J, Scott M. *In Preparation.* Decadal-scale trajectories of land cover change along the Colorado and San Juan Rivers in response to drawdown of Lake Powell Reservoir. *Journal of Geophysical Research: Biogeosciences.*

Kasprak A, Sankey JB, Caster J. 2024. Landscape-Scale Modeling to Forecast Fluvial-Aeolian Sediment Connectivity in River Valleys. *Geophysical Research Letters. DOI:* 10.1029/2024GL110106.

Tango LT, Sankey TS, Leonard J, Sankey JB, **Kasprak A**. 2024. Combining terrestrial lidar with single-line transects to investigate geomorphic change: a case study on the Upper Verde River, Arizona. *Geomorphology. DOI:* 10.1016/j.geomorph.2024.109231.

Kaufmann PR, Carlisle DM, Faustini JM, Weber MH, Herlihy AT, Hill RA, **Kasprak A**, Paulsen SG. 2024. Quantifying form resistance is essential for stream survey morphology-based estimates of summer low flow and bankfull discharge. *Geomorphology. DOI:* 10.1016/j.geomorph.2024.109360.

Jackson PR, Cigrand CV, Kocovsky PM, King N, **Kasprak A**, Lindroth EM, Doyle HF, Song Q, Mayer CM. 2024. Reproduction of Grass Carp (*Ctenopharyngodon idella*) in the Maumee River, Ohio: Part 1—Spawning area identification using bidirectional drift modeling. *Journal of Great Lakes Research. DOI:* 10.1016/j.jglr.2024.102347.

Caster J, Sankey JB, Sankey TS, **Kasprak A**, Bowker M, Joyal T. 2024. Do topographic changes tell us about variability in aeolian sediment transport and dune mobility? Analysis of monthly to decadal surface changes in a partially vegetated and biocrust covered dunefield. *Geomorphology*. DOI: 10.1016/j.geomorph.2023.109021.

Sankey JB, East AE, Fairley HC, Caster J, Dierker J, Brennan E, Pilkington L, Bransky N, **Kasprak A.** 2023. Archaeological sites in Grand Canyon National Park along the Colorado River are eroding owing to six decades of Glen Canyon Dam Operations. *Journal of Environmental Management*. DOI: 10.1016/j.jenvman/2023.118036.

Sankey JB, Caster J, **Kasprak A**, Fairley, H. 2022. The influence of drying on the aeolian transport of river-sourced sand. *Journal of Geophysical Research: Earth Surface.* DOI: 10.1029/2022JF006816.

Dott C, Bombaci S, **Kasprak A**, Korb J. 2022. A Tale of Two Rivers: Dam-Induced Hydrologic Drought on the Lower Dolores River and its impact on Tamarisk establishment. *Ecohydrology*. DOI: 10.1002/eco.2429.

Sankey JB, **Kasprak A**, Chojnacki M, Titus T, Caster JC, Debenedetto G. 2022. Can we accurately predict sediment budgets on Mars? *Earth and Planetary Science Letters*. DOI: 10.1016/j.epsl.2022.117682.

Kasprak A, Jackson PR, Lindroth EM, Lund JW, Ziegeweid JR. 2022. The role of hydraulic and geomorphic complexity in predicting invasive carp spawning potential: St. Croix River, Minnesota and Wisconsin, United States. *PLoS ONE*. DOI: 10.1371/journal.pone.0263052.

PEER-REVIEWED PUBLICATIONS- CONTINUED

Ferdowsi B, Gartner JD, Johnson K, **Kasprak A**, Miller KL, Nardin W, Ortiz AC, Tejedor A. 2021. Earthcasting: geomorphic forecasts for society. *Earth's Future*. DOI: 10.1029/2021EF002088.

Lane B, Guillon H, Byrne C, Pasternack G, **Kasprak A**, Sandoval-Solis S. 2021. Channel reach morphology and landscape properties are linked across a large heterogeneous region. *Earth Surface Processes and Landforms*. DOI: 10.1002/esp.5246.

Kasprak A, Sankey JB, Butterfield BJ. 2021. Future regulated flows of the Colorado River in Grand Canyon foretell increases in riparian vegetation and decreased areal extent of sediment. *Environmental Research Letters*. DOI: 10.1088/1748-9326/abc9e4.

Sankey JB, Sankey TT, Li J, Ravi S, Wang G, Caster JC, **Kasprak A.** 2021. Quantifying plant-soil-nutrient dynamics in rangelands: Fusion of UAV hyperspectral-LiDAR, UAV multispectral photogrammetry, and ground-based LiDAR-digital photography in a shrub-encroached desert grassland. *Remote Sensing of Environment*. DOI: 10.1016/j.rse.2020.112223.

Grams PE, Dean DJ, Walker AE, **Kasprak A**, Schmidt JC. 2020. The roles of flood magnitude and duration in controlling channel width and complexity on the Green River in Canyonlands, Utah USA. *Geomorphology*. DOI: 10.1016/j.geomorph.2020.107438.

Kasprak A, Brasington J, Hafen K, Williams R, Wheaton JM. 2019. Modelling braided river morphodynamics using a particle travel distance framework. *Earth Surface Dynamics (ESurfD)* DOI: 10.5194/esurf-2018-17.

Kasprak A, Bransky N, Caster JC, Sankey TT, Sankey JB. 2019. The effect of topographic survey technique and data resolution on the interpretation of geomorphic change in river valleys. *Geomorphology*. DOI: 10.1016/j.geomorph.2019.02.020.

Kasprak A, Sankey JB, Buscombe D, Caster JC, East AE, Grams PE. 2018. Quantifying and Forecasting Changes in the Areal Extent of River Valley Sediment in Response to Altered Hydrology and Land Cover. *Progress in Physical Geography*. DOI: 10.1177/0309133318795846.

Sankey JB, **Kasprak A**, Caster JC, East AE, Fairley HC. 2018a. The response of source-bordering aeolian dunefields to sediment-supply changes 1: Effects of wind variability and river-valley morphodynamics. *Aeolian Research*. DOI: 10.1016/j.aeolia.2018.02.005.

Sankey JB, **Kasprak A**, Caster JC, East AE, Fairley HC. 2018b. The response of source-bordering aeolian dunefields to sediment-supply changes 2: Controlled floods of the Colorado River in Grand Canyon, Arizona, USA. *Aeolian Research*. DOI: 10.1016/j.aeolia.2018.02.004.

Kasprak A, Caster J, Bangen S, Sankey J. 2017. Geomorphic Process from Topographic Form: Automating the Interpretation of Repeat Survey Data in River Valleys. *Earth Surface Processes and Landforms*. DOI: 10.1002/esp.4143.

PEER-REVIEWED PUBLICATIONS- CONTINUED

Kasprak A, Hough-Snee N, Beechie T, Bouwes N, Brierley GJ, Camp R, Fryirs KA, Imaki H, Jensen ML, O'Brien G, Rosgen DL, Wheaton JM. 2016. The blurred line between form and process: a comparison of stream channel classification frameworks. *PLoS ONE*. DOI: 10.1371/journal.pone.0150293.

Hough-Snee N, **Kasprak A**, Rossi RK, Bouwes N, Roper BB, Wheaton JM. 2015. Hydrogeomorphic and biotic drivers of instream wood differ across sub-basins of the Columbia River Basin, USA. *River Research and Applications*. DOI: 10.1002/rra.2968.

Kasprak A, Wheaton JM, Ashmore PE, Hensleigh JW, Peirce SA. 2015. The relationship between particle travel distance and channel morphology: results from physical models of braided rivers. *Journal of Geophysical Research: Earth Surface* 120: 55-74. DOI: 10.1002/2014JF003310.

Hough-Snee N, **Kasprak A**, Roper BB, Meredith CS. 2014. Direct and indirect drivers of instream wood in the interior Pacific Northwest, USA: decoupling climate, vegetation, disturbance, and geomorphic setting. *Riparian Ecology and Conservation* 2: 14-34. DOI: 10.2478/remc-2014-0002.

Wheaton JM, Brasington J, Darby SE, **Kasprak A**, Sear D, Vericat D. 2013. Morphodynamic signatures of braiding mechanisms as expressed through change in sediment storage in a gravel-bed river. *Journal of Geophysical Research: Earth Surface* 118: 1-21. DOI: 10.1002/jgrf.20060.

Kasprak A, Magilligan FJ, Nislow KH, Renshaw CE, Snyder NP, Dade WB. 2013. Differentiating the relative importance of land cover change and geomorphic processes on fine sediment sequestration in a logged watershed. *Geomorphology* 185: 67-77. DOI: 10.1016/j.geomorph.2012.12.005.

Kasprak A, Magilligan FJ, Nislow KH, Snyder NP. 2012. A lidar-derived evaluation of watershed scale large woody debris sources and recruitment mechanisms: coastal Maine, USA. *River Research and Applications* 28: 1462-1476. DOI: 10.1002/rra.1532.

SCIENTIFIC REPORTS AND WHITE PAPERS

Yackulic C, Bair L, Eppenhimer DE, Salter GL, Deemer B, Butterfield BJ, **Kasprak A**, Caster J, Fairley HC, Grams P, Mihalevich BA, Palmquist EC, Sankey JB. 2024. Modeling the impacts of Glen Canyon Dam operations on Colorado River resources. U.S. Bureau of Reclamation.

Wheeler K, Kuhn E, Bruckerhoff L, Udall B, Wang J, Gilbert L, Goeking S, **Kasprak A**, Mihalevich B, Neilson B, Salehabadi H, Schmidt JC. 2021. Alternative management paradigms for the future of the Colorado and Green Rivers. USU Center for Colorado River Studies.

Kasprak A and Schmidt JC. Sedimentation of Lake Powell's tributary canyons, 1959 – 2017. 2020. USU Center for Colorado River Studies.

East AE, Sankey JB, Fairley HC, Caster JC, **Kasprak A**. 2017. Modern landscape processes affecting archaeological sites along the Colorado River, Glen Canyon National Recreation Area, Arizona. USGS Scientific Investigations Report. DOI: 10.3133/sir20175082.

THESES AND DISSERTATIONS

Kasprak A. 2015**.** Linking form and process in braided rivers using physical and numerical models. Ph.D. Dissertation. Utah State University, Logan UT. DOI: 10.26076/232e-885b.

Kasprak A. 2010. Stream channel and riparian response to land-use in northern New England watersheds. M.S. Thesis. Dartmouth College, Hanover NH.

Kasprak A. 2008. Measuring Sedimentation Rates and Land-Use Change in a Dam-Influenced Lake Delta: Narraguagus River, Maine. B.S. Thesis. Boston College, Chestnut Hill MA.

RECENT SELECTED MEETING ABSTRACTS

ǂ *Indicates Student/Postdoctoral Advisee*

Kasprak A, Bowen B, DeHoff M, Dott C, Gianniny G, Johnson CL, Sankey JB, Scott M. 2024. Revealing the eco-geomorphic dynamics of emergent reservoir landscapes using remote sensing data. *EOS, Transactions, American Geophysical Union.* San Francisco, California – December 11-15, 2023.

Kelley Mǂ, Sankey JB, **Kasprak A**, East AE, Cohn N, Fairley H, Caster J. 2024. Aeolian-fluvial landforms: the influence of supply and transport limiting factors in modeling river-sourced aeolian dunes. *EOS, Transactions, American Geophysical Union.* Washington, D.C. – December 9-13, 2024.

Prior EMǂ, Sankey JB, Caster J, **Kasprak A**. 2024. Grand Canyon dunefields downstream of Glen Canyon Dam and Lake Powell Reservoir. *EOS, Transactions, American Geophysical Union.* Washington, D.C. – December 9-13, 2024.

Sankey JB, Mallia DV, Fischella Mǂ, Caster J, Byerley E, Gushue T, Collin D, Morgan D, Sive BC, **Kasprak A.** 2024. Preliminary investigations of relationships between reservoir water storage and potential dust emissions at Lake Powell and Lake Mead, USA. *EOS, Transactions, American Geophysical Union.* Washington, D.C. – December 9-13, 2024.

Kasprak A, Sankey JB, Caster J. 2023. Modeling fluvial-aeolian sediment connectivity: a comparison of methods and data requirements for informing dryland river dynamics at corridor scales. *EOS, Transactions, American Geophysical Union.* San Francisco, California – December 11-15, 2023.

Koppe Cǂ, Gianniny G, **Kasprak A,** Dott C. 2022. Discharge interactions and controls on the ribbon of green: relating discharge to woody riparian vegetation type, San Juan River, Southeast Utah. *Geological Society of America Annual Meeting.* Denver, Colorado – October 9-12, 2022.

Kasprak A, Sankey JB, Caster JC. 2022. Timing is of the essence: multiple-day release patterns downstream of large dams affect river corridor sediment connectivity. *Transactions, American Geophysical Union*. Chicago, IL – December 12-16, 2022.

Kasprak A, Dott C. 2022. Riparian plant community response to contrasting modes of hydrologic alteration: implications for stream channel planform change on an intensively-managed desert river. *Ecological Society of America Annual Meeting.* Montreal, Quebec – August 14-19, 2022.

RECENT SELECTED MEETING ABSTRACTS – CONTINUED

Kasprak A, Jackson PR, Lindroth EM†, Lund JW, Ziegeweid JR. 2022. The importance of accounting for hydraulic and geomorphic complexity in riverine biophysical drift modeling. *EOS, Transactions, American Geophysical Union.* New Orleans, LA – December 13 -17, 2022.

Arnold J†, Gianniny G, **Kasprak A**, Caster JC, Sankey JB. 2022. Lidar analysis of mud mounts in the Thunder Springs member of the Mississippian (Tournaisian) Redwall limestone, Grand Canyon, Arizona. *Geological Society of America Rocky Mountain Section Meeting.* Las Vegas, NV – March 15-17, 2022.

McCormick W†, **Kasprak A,** Christle K. 2022. Integrating remote sensing and in-situ measurements to produce a cost-effective bathymetric map of Haviland Lake in Durango, Colorado. 2022. *Geological Society of America Rocky Mountain Section Meeting.* Las Vegas, NV – March 15-17, 2022. *Awarded best student presentation at conference.*

Kasprak A and Schmidt JC. 2020. Historic Sedimentation and Projected Future Recovery of Lake Powell's Tributary Canyons. Upper Colorado River Basin Water Forum. Grand Junction, CO – November 4-5, 2020.

Kasprak A, Sankey JB, Buscombe D, Butterfield B, Caster J, Durning L, East AE, Grams PE. 2019. The historic dynamics and future trajectory of sediment availability along the Colorado River in Grand Canyon: results from field surveys and remote sensing. 11th Federal Interagency Sedimentation Conference. Reno, NV - June 24-28, 2019.

Kasprak A, Sankey JB, Buscombe D, Caster J, Durning L, East AE, Grams P. 2018. Flow alteration, river valley morphology, and the influence of Glen Canyon Dam on sediment availability along the Colorado River in Grand Canyon. *EOS, Transactions, American Geophysical Union.* Washington, D.C. – December 10 – 14, 2018.

Kasprak A, Bransky N†, Caster J, Sankey JB, Sankey TT. 2017. The effect of topographic survey technique and resolution on the interpretation of geomorphic change in river valleys. *EOS, Transactions, American Geophysical Union*. New Orleans, LA – December 11-15, 2017.

Kasprak A, Bangen S, Buscombe D, Caster J, Grams PE, Sankey J. Linking fluvial and aeolian morphodynamics in the Grand Canyon, USA. 10th Symposium on River, Coastal, and Estuarine Morphodynamics. Padova, Italy – September 18-22, 2017.

Kasprak A, Buscombe D, Caster J, East AE, Grams PE, Sankey J. 2017. Linking fluvial and aeolian sediment transport in the Grand Canyon. 14th Biennial Conference of Science and Management on the Colorado Plateau. Flagstaff, AZ – September 11-14, 2017.

Kasprak A, Buscombe D, Caster J, Grams PE, Sankey JB. 2016. The Individual and Additive Effects of Vegetation Encroachment and Hydrologic Alteration on Sediment Connectivity in Grand Canyon. *EOS, Transactions, American Geophysical Union*. San Francisco, CA – December 12-16, 2016.

RECENT SELECTED MEETING ABSTRACTS – CONTINUED

Kasprak A, Brasington J, Hafen K[1], Wheaton JM. 2015. An efficient and imperfect model for gravel bed braided river morphodynamics: numerical simulations as exploratory tools. *EOS, Transactions, American Geophysical Union*. San Francisco, CA - December 14-18, 2015.

Kasprak A, Hafen K[1], Wheaton JM. 2015. A simplified morphodynamic model for gravel-bed rivers. 10th Federal Interagency Sedimentation Conference. Reno, NV - April 19-23, 2015. *Awarded Best Student Technical Paper*.

Kasprak A, Wheaton JM, Ashmore P, Peirce S. 2013. The sensitivity of sediment path-lengths to channel morphology: results from physical models of braided rivers. Braided Rivers Workshop. Die, France - June 23-27, 2014.

Kasprak A, Wheaton JM, Bouwes N, Weber NP, Trahan NC, Jordan CE. 2012. Toward a rapid synthesis of field and desktop data for classifying streams in the Pacific Northwest: guiding the sampling and management of salmonid habitat. *EOS, Transactions, American Geophysical Union*. San Francisco, CA - December 3-7, 2012.

Kasprak A, Wheaton JM. 2011. Modeling gravel bed river morphodynamics using a step-length-based approach. Community Surface Dynamics Modeling System 2011 Meeting: Impact of Time and Process Scales. Boulder, CO - October 28-30, 2011.

Kasprak A, Wheaton JM. 2011. A new step-length-based morphodynamic model of gravel-bed river evolution. *Abstracts with Programs*. Geological Society of America. Minneapolis, MN - October 8-12, 2011.

Kasprak A, Magilligan FJ, Nislow KH, Snyder NP. 2010. A lidar-derived evaluation of watershed-scale large woody debris sources and recruitment mechanisms: coastal Maine, USA. *EOS, Transactions, American Geophysical Union*. San Francisco, CA - December 13- 17, 2010.

RESEARCH FUNDING

U.S. National Park Service $5,000
Research Grant (2023)
'Geomorphic Monitoring of Stream Restoration in Mesa Verde National Park'

U.S. National Aeronautics and Space Administration *(withdrawn due to position change)* $273,000
Research Grant (2023)
'A blank slate: revealing the eco-geomorphic dynamics of emergent reservoir landscapes'

U.S. National Science Foundation *(declined)* $292,127
Research Grant (2022)
'Sticky Landscapes, Smooth Landscapes, and all the Sediment Transport we don't Measure'

University of New Mexico $5,000
Research Grant (2021)
'Tracking Material Fluxes through Dryland Ecosystems'

RESEARCH FUNDING - CONTINUED

Colorado Water Conservation Board $241,000
Research Grant (2020); with PI Gigi Richard, FLC
'Dolores River Adaptive Management Support'

Glen Canyon Institute $16,111
Research Grant (2020; with PI Jack Schmidt, Utah State University)
'Sediment Remobilization in Lake Powell Reservoir'

Minnesota Department of Natural Resources $30,000
Research Grant (2018) – 'Asian Carp Habitat Suitability Modeling: St. Croix River'

University of Wyoming/U.S. National Park Service $5,000
Research Grant (2017) – The Eco-geomorphic Importance of Wood in Braided Rivers'

National Center for Earth Surface Dynamics $100,000
Synthesis Postdoctoral Fellowship (2016 & 2017)

NASA/Northern Arizona University $2,200
Space Grant Undergraduate Research Funding (2016)
Co-authored with T.T. Sankey

United States Geological Survey $115,000
Mendenhall Postdoctoral Research Fellowship (2015)

Utah State University $40,000
Doctoral Dissertation Completion Award (2015)

National Science Foundation $271,000
Research Grant (2012) – 'Sensitivity of Braided River Morphodynamics to Sediment Supply'
Co-authored with PI J.M. Wheaton

TEACHING BACKGROUND

INSTRUCTOR – Full Length Courses

Fort Lewis College
- GEOG 325, Introduction to Remote Sensing Spring 2021-23
- BIO/GEO/ENVS 476, River Eco-Geomorphology Fall 2022
- GEOG 315, GIS Programming and Web Mapping Fall 2020-23
- GEOG 400, Advanced GIS – Raster Fall 2020-22
- GEOG 310, Introduction to GIS and Computer Mapping Spring 2021-23

Utah State University
- NR 6930, Advanced GIS for Natural Resources Management Fall 2019
- NR 6920, Python Programming for GIS Spring 2020

INSTRUCTOR – Short Courses

National Center for Earth Surface Dynamics

Summer Institute for Earth Surface Dynamics 2016 & 2017

Intermountain Center for River Restoration and Rehabilitation

Geomorphic Change Detection: Restoration Monitoring 2011 & 2014

Utah State University Watershed Sciences Graduate Induction Course

An Introduction to Stream and Landscape Classification 2013 & 2014

GRADUATE STUDENT INSTRUCTOR/TEACHING ASSISTANT

Utah State University – Watershed Sciences Department

Watershed Sciences Graduate Induction Course 2012

Intermountain Center for River Restoration and Rehabilitation

Geomorphology and Sediment Transport in Channel Design 2011

Dartmouth College Department of Earth Sciences

Introduction to Earth Science 2008 & 2010
Off-Campus Program (Western U.S. Geology) 2009
Oceanography 2009
Earth's Past, Present, and Future Climate 2009

POSTDOCTORAL ADVISEES

Dr. Madeline Kelley (2024 - present):

Numerical modeling of fluvial-aeolian processes along the Colorado River in Grand Canyon

Dr. Michael Fischella (2024 - present):

Dust emissions from shorelines of Lakes Powell/Mead under long-term hydrologic drought

GRADUATE STUDENT COMMITTEE MEMBER

Northern Arizona University

Lauren Tango, M.S. in Environmental Science and Policy – 2021-2023

Utah State University

Madeline Friend, M.S. in Watershed Sciences – 2019-2020

STUDENTS SUPERVISED OR MENTORED

Oregon State University

Emily Dye, B.S. in Environmental Science - 2025

Fort Lewis College

Claire Sullivan, B.S. in Environmental Science - 2023
Emily Wieser, Postbaccalaureate - 2023
Gabie Smith, B.S. in Geology – 2022
Rachel Marti, Postbaccalaureate – 2022
Emma Teering, Postbaccalaureate -2022
Carly Koppe, B.S. in Geology - 2022
Mathew McCormick, B.S. in Geology – 2022
Scott Thomas, B.S. in Geology - 2022
Nathan Hunter, B.S. in Geology - 2021
Mike Ward, B.S. in Environmental Studies - 2021
Kara Tschirhart, B.S. in Environmental Studies - 2021
Madeline Roberts, B.S. in Environmental Studies - 2021
Charles Brockway, B.S. in Environmental Studies – 2020

STUDENTS SUPERVISED OR MENTORED - CONTINUED

Fort Lewis College
Ethan Cranmer, GIS Certificate – 2020

University of Illinois
Evan Lindroth, M.S. in Geography – 2019

Northern Arizona University
Nathaniel Bransky, B.S. in Environmental Science – 2016 to 2018

Utah State University
Konrad Hafen, B.S. in Watershed Sciences – 2014

INVITED LECTURES AND SEMINARS

Oregon State University
Flow alteration, river valley morphology, and the influence of Glen Canyon Dam on sediment availability along the Colorado River in Grand Canyon 2024

The College of William and Mary
State University of New York, College of Environmental Science and Forestry
Hydrologic Change and the Uncertain Future of Eastern Watersheds 2023

USGS Astrogeology Science Center
Can we trust measurements of landscape change in places we can't visit? 2021

Fort Lewis College and *Four Corners Geological Society*
Flow alteration, river valley morphology, and the influence of Glen Canyon Dam on sediment availability along the Colorado River in Grand Canyon 2020

USU Center for Colorado River Studies, Moab Lecture Series
Sedimentation of Lake Powell's Tributary Canyons, 1959 – 2017 2020

Colorado Mountain College, Leadville
Using Geographic Information Systems to Guide Natural Resources Management 2018

University of Virginia
University of Colorado, Boulder
Technological Innovation and the Forefront of River Science 2018

The Nature Conservancy
River Science at the Interface of the Physical, Biological, and Anthropogenic 2017

National Center for Earth Surface Dynamics
Connecting Life and Landscape Using Ecohydraulic Models 2016

USGS Grand Canyon Monitoring and Research Center
Linking Sediment Transport and Channel Morphology in Braided Rivers 2015

Utah State University, Fluvial Hydraulics and Ecohydraulics Seminar
An Introduction to Two-Dimensional Ecohydraulic Modeling 2014

SERVICE AND OUTREACH ACTIVITIES

PANELIST AND COMMITTEE MEMBER

- 2023-present: Independent Science Advisory Committee, Platte River Recovery Implementation Program
- 2022: Fort Lewis College, Assistant Professor of GIS Search Committee
- 2021: Fort Lewis College, GIS Lecturer Search Committee
- 2020: Fort Lewis College, Fort Lewis on the Water (FLOW) Program Director Search Committee

EDITORIAL POSITIONS
Associate Editor, 2021 – present. *Journal of Geophysical Research: Earth Surface*

CONFERENCE SYMPOSIA CONVENED
Biophysical Processes in Changing Reservoir Landscapes. *With* Cari Johnson, University of Utah, Joel Sankey, U.S. Geological Survey, and Desirée Tullos, Oregon State University. *EOS, Transactions, American Geophysical Union*. Washington, D.C. – December 9-13, 2024.

CONFERENCE SYMPOSIA CONVENED - CONTINUED
Physical and biological processes, interactions, and restoration in river systems. *With* Sharon Bywater-Reyes, University of Northern Colorado, Katherine Lininger, University of Colorado at Boulder, and Anna Marshall, Colorado State University. *Geological Society of America Annual Meeting*. Denver, CO – October 9-12, 2022.

Biophysical interactions in rivers: processes, feedbacks, and restoration. *With* Sharon Bywater-Reyes, University of Northern Colorado, Katherine Lininger, University of Colorado at Boulder, and Derek Schook, U.S. National Park Service. *EOS, Transactions, American Geophysical Union*. New Orleans, LA – December 13-17, 2021.

The influence of vegetation and large wood on water, sediment, and nutrient dynamics in fluvial and coastal environments. *With* Katherine Lininger, University of Colorado at Boulder, Matthew Hiatt, Louisiana State University, and Anstasia Piliouras, Los Alamos National Laboratory. *EOS, Transactions, American Geophysical Union*. Washington, DC – December 10-14, 2018.

Morphodynamics of fluvial, aeolian, hillslope, and coastal environments characterized using high-resolution topography and bathymetry. 2015. *With* Paul E. Grams and Joel B. Sankey, U.S. Geological Survey, and Devin M. Lea, University of Oregon. *EOS, Transactions, American Geophysical Union*. San Francisco, CA - December 14-18, 2015.

Using predictive models to inform river management and restoration. 2013. *With* Gregory Pasternack, UC Davis. *EOS, Transactions, American Geophysical Union*. San Francisco, CA - December 9-13, 2013.

MEDIA COVERAGE
- KJZZ Arizona Public Radio (2021): New study examines Colorado River Flows, Loss of Beaches
- KNAU Arizona Public Radio (2021): Grand Canyon is Losing Bare Sand
- Utah Public Radio (2016): Classification Systems for Rivers More Complementary than Expected
- Utah State Today and phys.org (2016): USU Scholars Forge Unprecedented Common Ground in River Classification
- Utah State Today (2013): USU Scientists' Work Highlighted in AGU Journal

OUTREACH AND SYNTHESIS ACTIVITIES

- ESRI GIS Education Summit (2022): attendee at multi-day workshop on effectively integrating GIS education into the undergraduate classroom
- Fort Lewis College (2022): served as subject matter expert on Colorado River hydrologic and geomorphic change during FLC Foundation Grand Canyon river trip
- Fort Lewis College (2022): earned "Designing for Impact" certification to deliver GIS courses in online/remote format to increase student enrollment and learning modalities.
- Mountain Middle School, Durango (2020): provided guest lecture to middle school students on river processes and watershed science
- Dartmouth College (2016 – 2019): provided guest seminars on western water management and geomorphology of the Colorado River in Grand Canyon National Park
- Grand Canyon Youth (2016 & 2017): instructor on Partners-in-Science Grand Canyon river trip; led students ages 15-19 in structure-from-motion topographic surveys along Colorado River

AD-HOC REVIEWER

Geomorphology, Ecohydrology, Earth Surface Processes and Landforms, eSurfD, Hydrological Processes, Icarus, International Journal of Geo-Information, Journal of Geophysical Research: Earth Surface, Progress in Physical Geography, River Research and Applications, Sustainability, U.S. Department of Energy, U.S. National Science Foundation, Water