BIOGRAPHICAL INFORMATION: ELLEN E. WOHL

PRESENT POSITION: Professor of Geology and University Distinguished Professor
Dept of Geosciences
Colorado State University
Ft. Collins, CO 80523
WEBSITES: https://sites.warnercnr.colostate.edu/ellenwohl/
https://sites.warnercnr.colostate.edu/fluvial-geomorphology/

DEGREES: Arizona State University, Tempe, Arizona
BS in Geology, 1984
University of Arizona, Tucson, Arizona
PhD in Geosciences, 1988

OTHER POSITIONS:

1989-1989 Faculty Research Associate, Dept of Geosciences, University of Arizona
1989-1995 Assistant Professor, Dept of Earth Resources, Colorado State University
1995-2000 Associate Professor, Dept of Earth Resources, Colorado State University

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Geological Society of America (Fellow)
American Geophysical Union (Fellow)

SCHOLARSHIPS, AWARDS, AND HONORS:

Graduation with honors from Arizona State University, magna cum laude
Sulzer Scholarship (University of Arizona), 1984-1985
Graduate Academic Scholarship (University of Arizona), 1984-1985, 1987-1988
SOCAL Fund Grant (University of Arizona), 1986-1987
Sigma Xi Grant-in-Aid-of-Research, 1986-1987
Geological Society of America Research Grant, 1986-1987
Fulbright-Hays Postgraduate Research Grant, 1986-1987
Butler Scholarship (University of Arizona), 1987-1988
Gladys W. Cole Memorial Award, Geological Society of America, 1995
Fellowship, Japan Society for the Promotion of Science, 1995-1996
Water Center Award for Outstanding Contributions to Interdisciplinary Water Education, Research, and Outreach (Colorado State University), 2001
G.K. Gilbert Award, Association of American Geographers, 2000 and 2003
Kirk Bryan Award, Geological Society of America, 2009
Distinguished International Fellow, Department of Geography, Durham University, England, 2010
Scholarship Impact Award, Colorado State University, 2015
Outstanding Mentor Award, Warner College of Natural Resources, Colorado State University, 2015

Ralph Alger Bagnold Medal, European Geosciences Union, 2017
CSU University Distinguished Professor, 2017
Member of Phi Beta Kappa, Phi Kappa Phi, Sigma Xi

Theses and dissertations supervised and completed: 49 MS theses, 26 PhD dissertations

EXTERNAL GRANTS:

62. Assessing the potential for beaver restoration and likely environmental benefits (2017-2018)
    $19,880 from the City and County of Boulder, Colorado
61. Quantifying and predicting the attenuation of downstream fluxes associated with beaver meadows (2016-2018)
    $279,066 from the National Science Foundation (co-PI T. Covino, CSU)
60. Longitudinal patterns of organic carbon storage in mountainous river networks (2016-2019)
    $257,828 from the National Science Foundation
59. Collaborative Research: RAPID: Calibrating Shallow Geophysical Techniques to Detect Large Wood Buried in River Corridors (2016)
    $14,619 from the National Science Foundation (co-PI K. Sinha, CO School of Mines)
58. The 47th Annual Binghamton geomorphology Symposium (2016)
    $42,000 from the National Science Foundation (co-PIs S. Rathburn, CSU, F. Magilligan, Dartmouth)
57. Floodplain carbon storage in mountain rivers (2016-2017)
    $15,749 from the National Science Foundation (DDRI for Nicholas Sutfin)
56. Geophysical characterization of the Sand Creek site
    $27,000 from the National Park Service
55. The active channel and the ordinary high water mark (2015-2016)
    $27,834 from DOD-Army Corps of Engineers
54. Organic carbon storage in beaver meadows (2015-2016)
    $7,270 from the National Geographic Society
53. Floodplain-instream wood interactions in the Central Yukon River Basin (2014-2015)
    $15,810 from the National Geographic Society
52. Carbon fluxes to the Arctic Ocean via wood export from the Mackenzie River drainage basin (2012-2013)
    $9,575 from the National Geographic Society
51. Leaky Rivers: Nutrient Retention and Productivity in Rocky Mountain Streams Under Alternative Stable States (2012-2015)
    $633,745 from National Science Foundation (co-PI D. Walters, USGS)
51. Tropical Hydrology Workshop (2011)
    $13,070 from the US Army Research Office
50. Landscapes in the Anthropocene: Exploring the human connections (2010)
    $49,558 from National Science Foundation (co-PI A. Chin, University of Colorado)
49. Environmental flow strategy validation (2010-2012)
    $45,000 from USDA Forest Service
48. White River analysis (2009-2012)
    $75,000 from USDA Forest Service

47. Watershed to local scale characteristics and function of intermittent and ephemeral streams on military lands (2010-2014)
    $1,499,657 from U.S. Army Strategic Environmental Research and Development Program (co-PIs D.
    Cooper, S. Kampf, CSU)
46. RAPID: Pre-disturbance surveys of wood loads in headwater streams of the Colorado Front Range (2009-2010)
    $30,435 from National Science Foundation
45. SGER: Influence of postglacial rebound on river longitudinal profiles in Sweden (2007-2009)
    $35,000 from National Science Foundation
44. Development of a national protocol for riparian assessment (2007-2009)
    $117,500 from USDA Forest Service
43. Wood loading in headwater neotropical forest streams (2007-2010)
    $283,030 from National Science Foundation
42. Measurements of roughness coefficient for steep channels (2007-2009)
    $257,204 from National Science Foundation
41. Mapping longitudinal distribution of wood along forest streams (2005-2006)
    $21,071 from USDA Forest Service
40. Testing the existence of a threshold discharge in bedrock channels (2005-2008)
    $203,617 from National Science Foundation
39. Develop service-wide concepts for riparian habitat and stream restoration (2004-2007)
    $303,692 from National Park Service (co-PI D. Cooper, CSU)
38. Assessing snow-making impacts to stream channels (2004-2006)
    $75,004 from USDA Forest Service (co-PI B. Bledsoe, CSU)
37. Geomorphic effects of a jokulhlaup (2004-2005)
    $61,474 from National Science Foundation
36. Rivers, roads, and people: Complex interactions of overlapping networks in watersheds (2003-2007) $1,700,000 from National Science Foundation (co-PIs, J. Loomis, J. Ramirez, M. Laituri, CSU)
35. International Collaboration: Flow hydraulics along step-pool channels (2003-2004)
    $6804 from National Science Foundation
34. Assessment of historical and contemporary land-use impacts on pool habitat in the Upper South Platte River drainage basin (2003-2006)
    $73,212 from USDA Forest Service
33. Anabranching channels in jointed bedrock: an integrated flume and field study (2003-2005)
    $124,781 from National Science Foundation (co-PI G. Springer, Ohio University)
32. Flow hydraulics along step-pool channels (2003-2004)
    $8,000 from National Science Foundation
31. Gradient-related trends in mountain channel geometry (2003)
    $11,300 from National Science Foundation
30. Quantifying historical and contemporary coarse sediment input and storage and fine sediment storage along Black Canyon (2002-2003)
    $50,012 from US National Park Service
29. Hierarchical physical classification of western streams (2000-2004)
    $788,144 from EPA (co-PIs B. Bledsoe, L. Poff, C. Watson, CSU)

28. Wetland, Aquatic and Riparian Protocols (2000-2005)
    $142,550 from USDA Forest Service (co-PIs D. Cooper and L. Poff, CSU)
27. North Fork Gunnison River Improvement Project (2000-2001)
    $50,000 from the North Fork River Improvement Association (co-PI D. Cooper, CSU)
26. Quantitative modeling of channelized flow within a karst stream (2000-2002)
    $102,185 from National Science Foundation
25. Hydraulic resistance of large woody debris in step pool channels (2000-2001)
    $2175 from the National Science Foundation (REU supplement)
24. Characterizing channel disturbance regimes in hydroclimatically extreme regions (2000-2003)
    $162,639 from the US Army Research Office
23. Chemical weathering in granitic channels of India and the United States (1999-2001)
    $12,192 from the National Science Foundation
22. Hydraulic resistance of large woody debris in step pool channels (1999-2001)
    $78,200 from the National Science Foundation
21. Acquisition of hydraulics instrumentation for field-based research (1999-2004)
    $54,068 from the National Science Foundation
20. Instrumentation for disturbance regimes of hydrologically extreme regions (1999-2000)
    $122,562 from US Army Research Office
19. Modeling flows for fish habitat maintenance (1998-2000)
    $45,000 from the Colorado Division of Wildlife
18. Inventory of current and historic erosion-control projects in the Rio Puerco basin and quantification of sediment yields (1998-2000)
    $45,150 from the US Bureau of Land Management
17. Mitigation of mountain-channel sedimentation resulting from reservoir sediment releases (1998- 2000)
    $72,670 from the National Science Foundation
16. Channel response to reservoir sedimentation (1997-1998)
    $25,000 from Colorado Water Conservation Board, Trout Unlimited, and U.S. Bureau of Reclamation
15. Flow resistance of large woody debris in headwater streams (1997-1999)
    $70,400 from NCASI (Ntnl Council of the Paper Industry for Air and Stream Improvement)
14. Lithologic controls on bedrock channel morphology (1995-1996)
    $35,000 from the Japan Society for the Promotion of Science
13. Flood hazards associated with glacier-lakes in the eastern Himalaya Mountains (1994-1997)
    $82,756 from the National Science Foundation
12. Energy expenditure in deep, narrow bedrock canyons (1994)
    $7000 from the Geological Society of America
11. Integrative riparian ecosystem modeling along the Yampa River, Colorado (1994-1996)
    $39,777 from The Nature Conservancy's Ecosystem Research Program
10. Integration of palynological and geomorphological analyses to determine paleoenvironmental conditions at the Hudson-Meng site (1993)
    $11,925 from the USDA Forest Service (co-investigator E. Kelly, CSU)
9. Reconstruction of past river discharge in central Russia (1992)
    $3400 from the National Research Council and the National Academy of Science

8. Regional flood hazard analysis (1991-1993)
   $299,930 from the National Science Foundation (co-investigator J. Salas, CSU)
7. Validation of water yield thresholds on the Kootenai National Forest (1992-1994)
   $110,745 from the USDA Forest Service (co-investigator L. MacDonald, CSU)
6. Paleoflood records in the southern Negev Desert (1991-1992)
   $7200 from the US-Israel Educational Foundation
5. An evaluation of flooding in the vicinity of Harpers Ferry, West Virginia (1991-1992)
   $40,000 from the USDI National Park Service
4. Controls on subalpine channel morphology (1991-1992)
   $20,000 from the USDA Forest Service
3. Fluvial terraces: A tool for integrating geomorphic processes, climatic and tectonic events, and landscape development (1990-1992)
   $102,608 from the National Science Foundation (co-investigator D. Merritts, F&M College)
2. Holocene paleofloods of northern Australia (1989-1991)
   $24,050 from the National Geographic Society (co-investigator V. Baker, U. Az.)
1. Paleoflood history of Redfield Canyon, Arizona (1989)
   $5711 from the Arizona Department of Water Resources

BIBLIOGRAPHY:
Refereed Publications

207. Herdrich AT, DL Winkelman, MP Venarsky, DM Walters and E **Wohl**. in press. The loss of large wood affects Rocky Mountain trout populations. Ecology of Freshwater Fishes.
206. Venarsky MP, DM Walters, RO Hall, B Livers, B. and E **Wohl**. in press. Shifting stream planform state decreases stream productivity yet increases riparian animal production. Oecologia.
205. **Wohl** E and A Pfeiffer. in press. Organic carbon storage in floodplain soils of the U.S. prairies. River Research and Applications.
204. **Wohl** E, D Cadol, A Pfeiffer, K Jackson, and D Laurel. in press. Distribution of large wood within river corridors in relation to flow regime in the semiarid western US. Water Resources Research.
203. Lininger KB, E **Wohl**, and JR Rose. in press. Geomorphic controls on floodplain soil organic carbon in the Yukon Flats, interior Alaska, from reach to river basin scales. Water Resources Research.
202. Pfeiffer A and E **Wohl**. 2018. Where does wood most effectively enhance storage? Network-scale distribution of sediment and organic matter stored by instream wood. Geophysical Research Letters 45. https://doi.org/10.1002/2017GL076057.
201. **Wohl** E, KB Lininger and DN Scott. in press. River beads as a conceptual framework for building carbon storage and resilience to extreme climate events into river management. Biogeochemistry.
200. Livers B, E **Wohl**, KJ Jackson and NA Sutfin. 2018. Historical land use as a driver for alternative states of stream form and function in forested mountain watersheds of the Southern Rocky Mountains. Earth Surface Processes and Landforms 43: 669-684.

199. **Wohl** E, KB Lininger, M Fox, B Baillie and WD Erskine. 2017. Instream large wood loads across bioclimatic regions. Forest Ecology and Management 404: 370-380.
198. Wegener P, T Covino and E **Wohl**. 2017. Beaver-mediated lateral hydrologic connectivity, fluvial carbon and nutrient flux, and aquatic ecosystem metabolism. Water Resources Research 53: 4606-4623.
197. **Wohl** E, KB Lininger and JS Baron. 2017. Land before water: the relative temporal sequence of human alteration of freshwater ecosystems in the conterminous United States. Anthropocene 18: 27-46.
196. **Wohl** E. 2017. Connectivity in rivers. Progress in Physical Geography 41: 345-362.
195. Righini M, N Surian, E **Wohl**, L Marchi, F Comiti, W Amponsah, and M Borga. 2017. Geomorphic response to an extreme flood in two Mediterranean rivers (northeastern Sardinia, Italy): analysis of controlling factors. Geomorphology 290: 184-199.
194. **Wohl** E. 2017. The significance of small streams. Frontiers of Earth Science 11: 447-456.
193. Garrett KK and EE **Wohl**. 2017. Climate-invariant area-slope relations in channel heads initiated by surface runoff. Earth Surface Processes and Landforms 42: 1745-1751.
192. Sutfin NA and E **Wohl**. 2017. Substantial soil organic carbon retention along floodplains of mountain streams. Journal of Geophysical Research Earth Surface 122: 1325-1338.
191. **Wohl** E, RO Hall, KB Lininger, NA Sutfin, and DM Walters. 2017. Carbon dynamics of river corridors and the effects of human alterations. Ecological Monographs 87: 379-409.
190. **Wohl** E and D Scott. 2017. Transience of channel head locations following disturbance. Earth Surface Processes and Landforms 42: 1132-1139.
189. Scott DN and EE **Wohl**. 2017. Evaluating carbon storage on subalpine lake deltas. Earth Surface Processes and Landforms 42: 1472-1481.
188. Rathburn SL, GL Bennett, EE **Wohl**, C Briles, B McElroy and N Sutfin. 2017. The fate of sediment, wood, and organic carbon eroded during an extreme flood, Colorado Front Range, USA. Geology 45: 499-502.
187. Lininger KB, E **Wohl**, NA Sutfin and J Rose. 2017. Floodplain downed wood volumes: a comparison across three biomes. Earth Surface Processes and Landforms 42: 1248-1261.
186. Kramer N, E **Wohl**, B Hess-Homeier and S Leisz. 2017. The pulse of driftwood over multiple timescales in a great northern river. Water Resources Research 53: 1928-1947.
185. Kramer N and E **Wohl**. 2017. Rules of the road: A qualitative and quantitative synthesis of large wood transport through drainage networks. Geomorphology 279: 74-97.
184. Ortega J, M Gómez-Heras, R Fort and E **Wohl**. 2017. How does anisotropy in bedrock river granitic outcrops influence pothole genesis and development? Earth Surface Processes and Landforms 42: 956-968.
183. Laurel D and E **Wohl**. 2017. Examining the effect of geomorphic characteristics on pool temperatures for native fish habitat management in mountainous stream networks. Earth Surface Processes and Landforms 42: 1299-1307.
182. Ortega-Becerril JA, A Jorge-Coronado, G Garzon and E **Wohl**. 2017. Sobrarbe Geopark: an example of highly diverse bedrock rivers. Geoheritage 9: 533-548.
181. **Wohl** E. 2016. River geomorphic complexity. Progress in Physical Geography 40, 598-615.

180. Records R, E **Wohl** and M Arabi. 2016. Phosphorus in the river corridor. Earth-Science Reviews 158: 65-88.
179. **Wohl** E, S Rathburn, S Chignell, K Garrett, D Laurel, B Livers, et al. 2017. Mapping longitudinal stream connectivity in the North St. Vrain Creek watershed of Colorado. Geomorphology 277: 171-181.
178. **Wohl** E. 2017. Bridging the gaps: an overview across time and space of wood in diverse rivers. Geomorphology 279: 3-26.
177. Livers B and E **Wohl**. 2016. Sources and interpretation of channel complexity in forested subalpine streams of the Southern Rocky Mountains. Water Resources Research 52, 3910-3929.
176. **Wohl** E and DN Scott. 2017. Wood and sediment storage and dynamics in river corridors. Earth Surface Processes and Landforms 42, 5-23.
175. **Wohl** E, BP Bledsoe, KD Fausch, N Kramer, KR Bestgen, and MN Gooseff. 2016. Management of large wood in streams: an overview and proposed framework for hazard evaluation. Journal of the American Water Resources Association 52, 315-335.
174. Chin A, L An, JR Florsheim, LR Laurencio, RA Marston, AP Solverson, GL Simon, E Stinson, and E **Wohl**. 2016. Investigating feedbacks in human-landscape systems: lessons following a wildfire in Colorado, USA. Geomorphology 252, 40-50.
173. **Wohl** E, SN Lane, and AC Wilcox. 2015. The science and practice of river restoration. Water Resources Research 51, 5974-5997.
172. Sutfin N, E **Wohl**, and K Dwire. 2016. Banking carbon: a review of organic carbon reservoirs in river systems. Earth Surface Processes and Landforms 41, 38-60.
171. Kramer N and E **Wohl**. 2015. Driftcretions: the legacy impacts of driftwood on shoreline morphology. Geophysical Research Letters 42, 5855-5864.
170. **Wohl** E. 2015. Particle dynamics: the continuum of bedrock to alluvial river segments. Geomorphology 241, 192-208.
169. **Wohl** E. 2015. Legacy effects on sediments in river corridors. Earth-Science Reviews 147, 30-53.
168. **Wohl** E. 2015. Of wood and rivers: bridging the perception gap. WIREs Water 2, 167-176.
167. Jackson KJ and E **Wohl**. 2015. Instream wood loads in montane forest streams of the Colorado Front Range, USA. Geomorphology 234, 161-170.
166. **Wohl** E, BP Bledsoe, RB Jacobson, NL Poff, SL Rathburn, DM Walters, and AC Wilcox. 2015. The natural sediment regime: broadening the foundation for ecosystem management. BioScience 65, 358-371.
165. Livers B and E **Wohl**. 2015. An evaluation of stream characteristics in glacial versus fluvial process domains in the Colorado Front Range. Geomorphology 231: 72-82.
164. Caskey ST, TS Blaschak, E **Wohl**, E Schnackenberg, DM Merritt, and KA Dwire. 2015. Downstream effects of stream flow diversion on channel characteristics and riparian vegetation in the Colorado Rocky Mountains, USA. Earth Surface Processes and Landforms 40, 586-598.
163. **Wohl** E. 2014. A legacy of absence: wood removal in U.S. rivers. Progress in Physical Geography 38: 637-663.
162. Yochum SE, BP Bledsoe, E **Wohl**, and GCL David. 2014. Spatial characterization of roughness elements in high-gradient channels of the Fraser Experimental Forest, Colorado, USA. Water Resources Research 50: 6015-6029.

161. Sutfin NA, J Shaw, E **Wohl**, and D Cooper. 2014. A geomorphic classification of ephemeral channels in a mountainous, arid region, southwestern Arizona, USA. Geomorphology 221: 164-175.
160. **Wohl** E. 2014. Time and the rivers flowing: fluvial geomorphology since 1960. Geomorphology 216: 263-282.
159. Scott DN, DR Montgomery, and E **Wohl**. 2014. Log step and clast interactions in mountain streams in the central Cascade Range of Washington State, USA. Geomorphology 216: 180-186.
158. Polvi LE, E **Wohl** and DM Merritt. 2014. Modeling the functional influence of vegetation type on streambank cohesion. Earth Surface Processes and Landforms 39, 1245-1258.
157. Kramer N and E **Wohl**. 2014. Estimating fluvial wood discharge using timelapse photography with varying sampling intervals. Earth Surface Processes and Landforms 39, 844-852.
156. Beckman N and E **Wohl**. 2014. Carbon storage in mountainous headwater streams: the role of old-growth forest and logjams. Water Resources Research 50, 2376-2393.
155. Beckman N and E **Wohl**. 2014. Effects of forest stand age on the characteristics of logjams in mountainous forest streams. Earth Surface Processes and Landforms 39, 1421-1431.
154. Chin A, LR Laurencio, MD Daniels, E **Wohl,** MA Urban, KL Boyer, A Butt, H Piegay, and KJ Gregory. 2014. The significance of perceptions and feedbacks for effectively managing wood in rivers. River Research and Applications 30, 98-111.
153. **Wohl** E and N Beckman. 2014. Controls on the longitudinal distribution of channel-spanning logjams in the Colorado Front Range, USA. River Research and Applications 30, 112-131.
152. Chin A, JL Florsheim, E **Wohl**, and BD Collins. 2014. Feedbacks in human-landscape systems. Environmental Management 53, 28-41.
151. Harden CP, A Chin, MR English, R Fu, KA Galvin, AK Gerlak, PF McDowell, DE McNamara, JM Peterson, NL Poff, EA Rosa, WD Solecki, and EE **Wohl**. 2014. Understanding human-landscape interactions in the "Anthropocene." Environmental Management 53, 4-13.
150. **Wohl** E and N Beckman. 2014. Leaky rivers: implications of the loss of longitudinal fluvial disconnectivity in headwater streams. Geomorphology 205, 27-25.
149. Ortega JA, M Gómez-Heras, R Perez-López, and E **Wohl**. 2014. Multiscale structural and lithologic controls in the development of stream potholes on granite bedrock rivers. Geomorphology 204, 588-598.
148. **Wohl** E, AK Gerlak, NL Poff, and A Chin. 2014. Common core themes in geomorphic, ecological, and social systems. Environmental Management 53, 14-27.
147. Cadol D and E **Woh**l. 2013. Variable contribution of wood to the hydraulic resistance of headwater tropical streams. Water Resources Research 49, 4711-4723.
146. **Wohl** E. 2013. Landscape-scale carbon storage associated with beaver dams. Geophysical Research Letters 40, 1-6.
145. Ortega JA, E **Wohl** and B Livers. 2013. Waterfalls on the eastern side of Rocky Mountain National Park, Colorado, USA. Geomorphology 198, 37-44.
144. **Wohl** E. 2013. Migration of channel heads following wildfire in the Colorado Front Range, USA. Earth Surface Processes and Landforms 38, 1049-1053.

143. **Wohl** E. 2013. Floodplains and wood. Earth-Science Reviews 123, 194-212.
142. **Wohl** E. 2013. Wilderness is dead: Whither critical zone studies and geomorphology in the Anthropocene? Anthropocene 2: 4-15.
141. **Wohl** E. 2013. Redistribution of forest carbon caused by patch blowdowns in subalpine forests of the Southern Rocky Mountains, USA. Global Biogeochemical Cycles 27, 1205-1213.
140. Polvi L and E **Wohl**. 2013. Biotic drivers of stream planform – implications for understanding the past and restoring the future. BioScience 63, 439-452.
139. **Wohl** E. 2013. The complexity of the real world in the context of the field tradition in geomorphology. Geomorphology 200, 50-58.
138. Jimenez MA and E **Wohl**. 2013. Solute transport modeling using morphological parameters in step-pool reaches. Water Resources Research 49, 1-15, doi:10.1002/wrcr.20102.
137. **Wohl** E and FL Ogden. 2013. Organic carbon export in the form of wood during an extreme tropical storm, Upper Rio Chagres, Panama. Earth Surface Processes and Landforms 38, 1407-1416.
136. Rathburn SL, ZK Rubin, and EE **Wohl**. 2013. Evaluating channel response to an extreme sedimentation event in the context of historical range of variability: Upper Colorado River, USA. Earth Surface Processes and Landforms 38, 391-406.
135. David GCL, CJ Legleiter, E **Wohl** and SE Yochum. 2013. Characterizing spatial variability in velocity and turbulence intensity using 3-D acoustic Doppler velocimeter data in a plane-bed reach of East St. Louis Creek, Colorado, USA. Geomorphology 183: 28-44.
134. Dubinski IM and E **Wohl**. 2013. Relationships between block quarrying, bed shear stress, and stream power: A physical model of block quarrying in a jointed bedrock channel. Geomorphology 180-181: 66-81.
133. **Wohl** E, K Dwire, N Sutfin, L Polvi and R Bazan. 2012. Mechanisms of carbon storage in mountainous headwater rivers. Nature Communications 3:1263, doi:10.1028/ncomms2274.
132. Ethridge FG, **Wohl** E, Gellis A, Germanoski D, Hayes BR, Ouchi S. 2012. Memorial to Stanley A. Schumm (1927-2011). Geological Society of America Memorials 41, 51-56.
131. Dust D and E **Wohl**. 2012. Characterization of the hydraulics at natural step crests in step-pool streams via weir flow concepts. Water Resources Research W09542, doi:10.1029/2011WR011724.
130. **Wohl** E. 2012. Identifying and mitigating dam-induced declines in river health: Three case studies from the western United States. International Journal of Sediment Research 27, 271-287.
129. **Wohl** E et al. 2012. The hydrology of the humid tropics. Nature Climate Change 2, 655-662.
128. **Wohl** E, S Bolton, D Cadol, F Comiti, JR Goode, and L Mao, 2012. A two end-member model of wood dynamics in headwater neotropical rivers. Journal of Hydrology 462-463, 67-76.
127. Cadol D, S Kampf and E **Wohl**. 2012. Effects of evapotranspiration on baseflow in a tropical headwater catchment. Journal of Hydrology 462-463, 4-14.
126. Sabo JL, K Bestgen, W Graf, T Sinha and E **Wohl**. 2012. Dams in the Cadillac Desert:

downstream effects in a geomorphic context. The Year in Ecology and Conservation Biology 1249, 227-246.
125. Yochum S, GCL David, B Bledsoe, and E **Wohl**. 2012. Velocity prediction in high-gradient channels. Journal of Hydrology 424-425, 84-98.
124. Polvi LE and E **Wohl**. 2012. The beaver-meadow complex revisited – the role of beaver in post-glacial floodplain development. Earth Surface Processes and Landforms 37, 332-346.
123. Rubin Z, SL Rathburn, E **Wohl**, and DL Harry. 2012. Historic range of variability in geomorphic processes as a context for restoration: Rocky Mountain National Park, Colorado, USA. Earth Surface Processes and Landforms 37, 209-222.
122. Dust D and E **Wohl**. 2012. Conceptual model for complex river responses using an expanded Lane's relation. Geomorphology 139-140, 109-121.
121. Kramer NR, E **Wohl**, and D Harry. 2012. Using ground penetrating radar to 'unearth' buried beaver dams. Geology 40, 43-46.
120. **Wohl** E and D Dust. 2012. Geomorphic response of a headwater channel to augmented flow. Geomorphology 138: 329-338.
119. **Wohl** E. 2011. What should these rivers look like? Historical range of variability and human impacts in the Colorado Front Range, USA. Earth Surface Processes and Landforms 36: 1378-1390.
118. Wilcox AC, EE **Wohl,** F Comiti and L Mao, 2011. Hydraulics, morphology, and energy dissipation in an alpine step-pool channel. Water Resources Research 47: W07514, doi: 10.1029/2010WR010192.
117. David GCL, EE **Wohl**, SE Yochum, and BP Bledsoe, 2011. Comparative analysis of bed resistance partitioning in high gradient streams. Water Resources Research 47: W07507, doi:10.1029/2010WR009540.
116. Jaeger KL and E **Wohl**, 2011. Channel response in a semi-arid stream to removal of tamarisk and Russian olive, Water Resources Research 47: W02536, doi:10.1029/2009WR008741.
115. Cadol D and E **Wohl**, 2011. Coarse sediment movement in the vicinity of a logjam in a neotropical gravel-bed stream, Geomorphology 128: 191-198.
114. **Wohl** E. 2011. Threshold-induced complex behavior of wood in streams. Geology 39: 587-590.
113. Henkle JE, E **Wohl** and N Beckman, 2011. Locations of channel heads in the semiarid Colorado Front Range, USA. Geomorphology 129: 309-319.
112. Polvi LE, EE **Wohl**, and DM Merritt, 2011. Geomorphic and process domain controls on riparian zones in the Colorado Front Range. Geomorphology 125: 504-516.
111. **Wohl** E, LE Polvi, and D Cadol, 2011. Wood distribution along streams draining old-growth floodplain forests in Congaree National Park, South Carolina, USA. Geomorphology 126: 108-120.
110. **Wohl** E and D Cadol, 2011. Neighborhood matters: patterns and controls on wood distribution in old-growth forest streams of the Colorado Front Range, USA. Geomorphology 125: 132-146.
109. **Wohl** E. 2010. A brief review of the process domain concept and its application to quantifying sediment dynamics in bedrock canyons. Terra Nova 22: 411-416.
108. Sabo JL, T Sinha, LC Bowling, GHW Schoups, WW Wallender, ME Campana,

KA Cherkauer, PL Fuller, WL Graf, JW Hopkins, JS Kominoski, C Taylor, SW Trimble, RH Webb, and EE **Wohl.** 2010. Reclaiming freshwater sustainability in the Cadillac Desert. Proceedings of the National Academy of Sciences 107: 21263-21270.

107. Goode JR and E **Wohl**, 2010. Coarse sediment transport in a bedrock channel with complex bed topography. Water Resources Research 46: W11524.
106. Graf WL, E **Wohl**, T Sinha and JL Sabo, 2010. Sedimentation and sustainability of western American reservoirs. Water Resources Research 46: W12535.
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American Journal of Science; Arabian Journal of Science and Engineering; Arctic, Antarctic, and Alpine Research; Canadian Journal of Forest Research; Catena; Earth and Planetary Science Letters; Earth-Science Reviews; Earth Surface Processes and Landforms; Ecological Applications; Environmental Management; Forest Ecology and Management; Frontiers in Ecology and the Environment; Geodinamica Acta; Geological Society of America Bulletin; Geological Society of America Special Paper series; Geology; Geomorphology; Geophysical Research Letters; Global and Planetary Change; GSA Today; Hydrological Processes; International Journal of Computers and Applications; International Journal of Sediment Research; Journal of the American Water Resources Association; Journal of Geology; Journal of Geophysical Research; Journal of Hydraulic Engineering; Journal of Hydrology; Journal of Range Management; Journal of Sedimentary Petrology; Journal of Sedimentary Research; Limnology and Oceanography; Mountain Research and Development; National Park Service Proceedings Series; Natural Areas Journal; Polish Journal of Environmental Studies; Quaternary Research; Regulated Rivers; U.S. Geological Survey Professional Papers; U.S. Geological Survey Water-Resources Investigations; Water, Air and Soil Pollution; Water Management; Water Resources Research; Wetlands

Service to Societies and Journals

Editorial board of *Geomorphology*, 1996-present
Associate Editor, *Geological Society of America Bulletin*, 1997-2006
Associate Editor, *Water Resources Research*, 2001-2011
Editorial board of *Environmental Management*, 2007-2013
Editorial board of *Geography Compass*, 2007-present
Editorial board of *Earth Surface Processes and Landforms*, 2008-2009; Associate Editor, 2010-present
Associate Editor, *Journal of Hydrology*, 2010-2013
Editor-in-Chief, Oxford Bibliography of Environmental Science, 2013-present, http://www.oxfordbibliographies.com/obo/page/environmental-science
Board member, Geological Society of America Foundation, 2017-present
Officer, Quaternary Geology & Geomorphology Division, Geological Society of America, 2001-2005 (Chair, 2003-2004)
Member, Ordinary High Water Mark National Technical Committee, 2014-present
Member, Erosion & Sedimentation Committee, Am. Geophys. Union, 2001-2008
Member, Earth and Planetary Surface Process Focus Group, Am. Geophys. Union, 2009-present
Geol. Soc. Am. Committee on Committees, 1996
Geol. Soc. Am. Joint Technical Program Committee, 2004
GSA Quaternary Geology & Geomorphology Division Nominating Committee, 1996
GSA Quaternary Geol. & Geomorph. Division Panel Member, 1996-1998
GSA Quaternary Geol. & Geomorph. Division Abstracts Reviewer, 1993
GSA Quaternary Geol. & Geomorph. Division Mackin/Howard Committee, 1990-91, 1996-98, 2001-02
GSA Session Chair, annual meetings in 1993, 1996, 1997, 2002, 2007
Am. Geophys. Union Session Chair, Hydrology Days, 1992-1994, 1997-1998

AGU Student Presentation Judge, 1998, 2001, 2003, 2007
Member, Colorado Natural Hazards Mitigation Council, 1991-present
Trustee, Rocky Mountain Hydraulic Research Center, 1992-present
Panel member, NSF Hydrologic Sciences Program, 1999-2003
Am. Soc. Civil Engineers Paleoflood Hydrology Committee, 1999
Panel member, NSF Geomorphology and Land-Use Dynamics Program, 2005-2007
Panel member, NSF Geography and Spatial Sciences Doctoral Dissertation Improvement Grant Program, 2016-2017
Member of the National Technical Committee on the Ordinary High Water Mark (Army Corps of Engineers and US EPA), 2014-present

Invited Lectures, Review Panels, Advisory Boards

Invited lectures

US universities
Baylor University
Boise State University
Central Washington University
College of Idaho
Colorado College
Ohio State University
Ohio Wesleyan University
Oregon State University
Skidmore College
St. Louis University
Texas A&M University
University of Arizona
University of California, Berkeley
University of California, Davis
University of California, Santa Barbara
University of Colorado, Boulder
University of Colorado, CO. Springs
University of Denver
University of Illinois
University of Iowa
University of New Mexico
University of North Carolina, Charlotte
University of Oklahoma
University of South Carolina
University of Vermont
University of Washington
University of Wyoming

Other universities
Aberystwyth University (Wales)
Chuo University (Japan)
Durham University (England)
ETH Zurich (Switzerland)
GFZ Potsdam (Germany)
Griffith University (Australia)
Hebrew University (Israel)
Hokkaido University (Japan)
Loughborough University (England)
Mid-Sweden University
Newcastle University (England)
Queen Mary University of London (England)
Umeå University (Sweden)
Universidad Complutense Madrid (Spain)
University of Cambridge (England)
University of Edinburgh (Scotland)
University of Glasgow (Scotland)
University of Hull (England)
University of Lausanne (Switzerland)
University of Nottingham (England)
University of Padova (Italy)
University of Salzburg (Austria)
University of Southampton (England)
University of Tokyo (Japan)
University of Tsukuba (Japan)
University of Western Ontario (Canada)
Pontificia Universidad Católica de Chile
Universidad de los Andes (Colombia)
University of Melbourne (Australia)

University of Wollongong (Australia)

Other
Am. Geophys. Union Gilbert Club
Army Research Office Workshop on Desert Processes
Australian Stream Management Conference, 2016
Chinese-American Frontiers of Science Meeting, 1999, 2000
Colorado Archeological Society
COACh International invited participant (Argentina 2013, Jamaica 2014, Namibia 2015, Rwanda 2016)
Colorado Natural Hazards Mitigation Council
Colorado Scientific Society
Estes Valley Land Trust
Geological Survey of Norway
Institute of Geography (Russia)
National Institute of Water and Atmospheric Sciences (New Zealand)
NSF Workshop on Sediment-Induced Disasters
The Nature Conservancy
U.S. Forest Service
U.S. Geological Survey
Wood Buffalo National Park, Canada

Invited keynote speaker at Binghamton Geomorphology Symposium (1994, 2006, 2012); North American Benthological Society (2000); American Water Resources Association conference (2004); Colorado Riparian Association conference (2004); Second International Symposium on Riverine Landscapes, Sweden (2004); Gravel-Bed Rivers VI Workshop, Austria (2005); 7th IAHR Symposium on River, Coastal and Estuarine Morphodynamics, China (2011); 4th Interagency Conference on Research in the Watersheds (2011); Mid-Atlantic Stream Restoration Conference (2011); MTNCLIM (Consortium for Integrated Climate Research in Western Mountains, 2012); River Restoration Northwest Conference (2012); American Society of Environmental Historians (2013); Southwest Stream Restoration Conference (2014); Wood in World Rivers III (2015); 8th Australian Stream Management Conference (2016); Catskills Environmental Research and Monitoring Conference (2016); RiverFlow (2016); Rocky Mountain Stream Restoration Conference (2016); Sustaining Colorado Watersheds Conference (2016); European Geosciences Union (2017)

Review panels for Upper Colorado River Endangered Fish Recovery Program (1995); San Juan River Recovery Program (1997-2005); Chair, Physical Sciences Review Panel for Grand Canyon Monitoring and Research Center (1998-2000); CALFED Battle Creek Restoration Plan (2003-2004); Building with Nature (The Netherlands, 2013); US Environmental Protection Agency Science Advisory Board Panel for the review of the EPA Water Body Connectivity Report (2013); The New Delta (The Netherlands, 2014)

External PhD examiner for Macquarie University, Australia (2001, 2015); Umea University, Sweden (2004); University of Trento, Italy (2007); Southern Cross University, Australia (2010);

University of Auckland, New Zealand (2014); University of Melbourne, Australia (2014); University of the West Indies, Jamaica (2014); University of Newcastle, Australia (2016); University of Wollongong, Australia (2016)

Advisory board for The Nature Conservancy's Colorado Scientific Advisory Network (1997-present), Grand Canyon Monitoring and Research Center Science Advisors Board (2006-present)

International visitors hosted at Colorado State University

Takashi Oguchi, University of Tokyo, Japan (2001)
Yuichi Hayakawa, University of Tokyo, Japan (2005)
Francesco Comiti, University of Padova, Italy (2007)
Mario Jiménez, Universidad Nacional de Colombia, Colombia (2010)
Jonathan Ryan, University of Nottingham, England (2011)
Jose Ortega, Universidad Autónoma de Madrid, Spain (2012, 2015)
Michaela Wörndl, University of Innsbruck, Austria (2014)
Margherita Righini, University of Padova, Italy (2015)
William Amponsah, University of Padova, Italy (2015)
Fernando Ugalde, Pontificia Universidad Catolica de Chile, Chile (2015)
Lina Polvi Sjöberg, Umeå University, Sweden (2015)
Alfonso Pisabarro, University of Valladolid, Spain (2016)
Tania Santos, Universidad de los Andes, Colombia (2017-18)

Primary advisor for the following graduate students (completion date)

MS (49)
Kathy Adenlof (1992)
Susan Fuertsch (1992)
Mario Mejia-Navarro (1992)
Michael Grimm (1993)
Marsha Hilmes (1993)
Clifford Blizard (1994)
Lauren Hammack (1994)
Michael Martin (1994)
Rebecca Smith (1994)
Douglas Thompson (1994)
Michael Liquori (1995)
Susan Madsen (1995)
Jill Minter (1996)
Jonathan Pruess (1996)
Carolyn Trayler (1997)
Janet Curran (1999)
Jasper Hardison (2000)
Stephanie Phippen (2000)
William MacFarlane (2001)
Gregory Stewart (2001)

PhD (26)
Mario Mejia-Navarro (1995)
Nancy Hoefs (1996)
Brian Cluer (1997)
Mette Jordan (1997)
Douglas Thompson (1997)
Edmund Wick (1998)
Dan Cenderelli (1998)
David Merritt (1999)
Sara Rathburn (2001)
Gregory Springer (2002)
Allen Gellis (2003)
Andrew Wilcox (2005)
Nancy Brown (2006)
Ian Dubinski (2009)
Jaime Goode (2009)
Kristin Jaeger (2009)
Dan Cadol (2010)
Gabrielle David (2011)
Lina Polvi (2011)
Natalie Beckman (2012)

Ronald Zelt (2002)
Chris Jaquette (2003)
Tracy Phelps (2003)
Kurt Sable (2004)
Ian Dubinski (2005)
Jaime Goode (2005)
Francis Rengers (2005)
Dan Cadol (2007)
Gabrielle David (2007)
Amy Nowakowski (2007)
Paul Dante (2009)
Lina Polvi (2009)
Zan Rubin (2010)
Jameson Henkle (2010)
Elizabeth Gilliam (2011)
Natalie Kramer (2011)
Tyanna Schlom (2012)
Nicholas Sutfin (2012)
Jonathan Garber (2013)
Simeon Caskey (2013)
Bridget Livers (2013)
Heidi Klingel (2013)
Karen Jackson (2014)
DeAnna Laurel (2014)
Dena Hicks (2015)
Dan Scott (2015)
Elizabeth Oswald (2015)
Krista Garrett (2016)
Andrew Pfeiffer (2017)
Susan Howe (2013)
Dai Thomas (2014)
Umit Duru (2015)
Nick Sutfin (2015)
Natalie Kramer Anderson (2016)
Bridget Livers (2016)