

JOHN PITLICK

Department of Geography
University of Colorado, Boulder, CO
80309-0260

[Phone:303-492-5906; E-mail: pitlick@colorado.edu]

EDUCATION

- Ph.D. - Earth Resources, Colorado State University, 1988
- M.S. - Earth Resources, Colorado State University, 1985
- B.S. - Geology, University of Washington, 1975

POSITIONS HELD

2007-present: Professor, Geography Department, University of Colorado-Boulder
1997-2007: Associate Professor, Geography Department, University of Colorado-Boulder
1998-present: Faculty Affiliate, Environmental Studies Program, University of Colorado-Boulder
1992-present: Research Affiliate (Geophysics), INSTAAR, University of Colorado-Boulder
1990-1997: Assistant Professor, Geography Department, University of Colorado, Boulder
1988-1990: Post-Doctoral Research Associate, U.S. Geological Survey Cascades Volcano Observatory, Vancouver, WA
1984-1988: Graduate Research Assistant, Earth Resources Department, Colorado State University, Fort Collins, CO
1982-1984: Graduate Teaching Assistant, Earth Resources Department, Colorado State University, Fort Collins, CO
1979-1982: Geologist, Redwood National Park, Arcata, CA

AWARDS

- Fellow, Geological Society of America, 2012
- Visiting Scientist, Hokkaido Development Bureau, Hokkaido, JAPAN, 1995
- Editor's Citation for Excellence in Refereeing, Water Resources Research, 1993, 2010
- National Research Council Postdoctoral Associate, 1988-90

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Geophysical Union
- Geological Society of America
- Ecological Society of America

PEER-REVIEWED PAPERS, BOOK CHAPTERS and REPORTS

- Rue, G. P., N. Rock, R. S. Gabor, J. Pitlick, M. Tfaily, and D. M. McKnight, 2107, Concentration-discharge relationships during an extreme event: Contrasting behavior of solutes and changes to chemical quality of dissolved organic material in the Boulder Creek Watershed during the September 2013 flood, *Water Resources Research*, v. 53, p. 5276–5297, doi:10.1002/2016WR019708.
- Mosbrucker, A. R., J. J. Major, K. R. Spicer, and J. Pitlick, 2017, Camera system considerations for geomorphic applications of SfM photogrammetry, *Earth Surface Processes and Landforms*, v. 42, p. 969–986, doi:10.1002/esp.4066.
- Zhang H., E. Kirby, J. Pitlick, and R. S. Anderson, P. Zhang, 2017, Characterizing the transient geomorphic response to base level fall in the northeastern Tibetan Plateau, *Journal of Geophysical Research-Earth Surface*, v. 122, p. 546–572, doi: 10.1002/2015JF003715.
- Mueller, E.R., M.E. Smith, and J. Pitlick, 2016, Lithology-controlled evolution of stream bed sediment and basin-scale sediment yields in adjacent mountain watersheds, Idaho, USA, *Earth Surface Processes and Landforms*, v. 41, p. 1869-1883, doi: 10.1002/esp.3955.
- Segura, C. and J. Pitlick, 2015, Coupling fluvial-hydraulic models to predict gravel transport in spatially variable flows, *Journal of Geophysical Research-Earth Surface*, v. 120, p. 834–855, doi:10.1002/2014JF003302.
- Lackey, G., R. Neupauer, and J. Pitlick, 2015, Effects of streambed conductance on stream depletion, *Water*, v. 7, p. 271-287, doi:10.3390/w7010271.
- Mueller, E.R. and J. Pitlick, 2014, Sediment supply and channel morphology in mountain river systems: 2. Single thread to braided transitions, *Journal of Geophysical Research-Earth Surface*, v. 119, p. 1516–1541, doi: 10.1002/2013JF003045.
- Anderson, S., and J. Pitlick, 2014, Using repeat lidar to estimate sediment transport in a steep stream, *Journal of Geophysical Research-Earth Surface*, v. 119, p. 621-643, doi:10.1002/2013JF002933.
- Mueller, E.R., and J. Pitlick, 2013, Sediment supply and channel morphology in mountain river systems: 1. Relative importance of lithology, topography, and climate, *Journal of Geophysical Research-Earth Surface*, v. 118, p. 2325–2342, doi:10.1002/2013JF002843.
- Pitlick, J., J. Marr, and J. Pizzuto, 2013, Width adjustment in experimental gravel-bed channels in response to overbank flows, *Journal of Geophysical Research-Earth Surface*, v. 118, p. 553-570, doi: 10.1002/jgrf.20059.
- Recking, A. and J. Pitlick, 2013, Shields versus Isbash, *Journal of Hydraulic Engineering*, v. 139, p. 51-54, doi: 10.1061/(ASCE)HY.1943-7900.0000647.
- Pitlick, J., E. R. Mueller, and C. Segura, 2012, Differences in sediment supply to braided and single-thread river channels: What do the data tell us? in *Gravel-bed Rivers: Processes, Tools, Environments*, edited by Church, M., Biron, P. and Roy, A.G., Chichester, John Wiley & Sons: 563 pp. ISBN 978-0-470-68890-8.

- Segura C., J. H. McCutchan, W. M. Lewis, and J. Pitlick, 2011, The influence of channel bed disturbance on algae biomass in a Colorado mountain stream, *Ecohydrology*, v. 4, p. 411-421, doi: 10.1002/eco.142.
- Segura, C. and J. Pitlick, 2010, Scaling frequency of channel-forming flows in snowmelt-dominated streams, *Water Resources Research*, v. 46, doi:10.1029/2009WR008336.
- Rosenberry, D. and J. Pitlick, 2009, Local-scale variability of seepage and hydraulic conductivity in a shallow gravel-bed river, *Hydrological Processes*, v. 23, p. 3306-3318, doi: 10.1002/hyp.7433.
- Rosenberry, D. and J. Pitlick, 2009, Effects of sediment transport and seepage direction on hydraulic properties at the sediment–water interface of hyporheic settings, *Journal of Hydrology*, v. 373, p. 377–391, doi:10.1016/j.jhydrol.2009.04.030.
- Pitlick, J., Y. Cui, and P. R. Wilcock, 2009, Manual for computing bed load transport using BAGS (Bedload Assessment for Gravel-bed Streams) Software, Gen. Tech. Rep. RMRS-GTR-223, *USDA Forest Service Rocky Mountain Research Station*, Fort Collins, 45 pp.
- Wilcock, P.R., J. Pitlick, and Y. Cui, 2009, Sediment transport primer: estimating bed-material transport in gravel-bed rivers, Gen. Tech. Rep. RMRS-GTR-226, *USDA Forest Service Rocky Mountain Research Station*, Fort Collins, CO, 78 pp.
- Pitlick, J., E.R. Mueller, C. Segura, R. Cress, and M. Torizzo, 2008, Relation between flow, surface-layer armoring and sediment transport in gravel-bed rivers, *Earth Surface Processes and Landforms*, v. 33, doi: 10.1002/esp.1607, p. 1192-1209.
- Clayton, J. A. and J. Pitlick, 2008, Persistence in the surface texture of a gravel-bed river during a large flood, *Earth Surface Processes and Landforms*, v. 33, doi: 10.1002/esp.1567, p. 661-673.
- Pitlick, J., 2007, Channel monitoring to evaluate geomorphic change on the main stem of the Colorado River, Final Report, Project Number 85A, *U.S. Fish and Wildlife Service Upper Colorado River Endangered Fish Recovery Program*, Denver, CO, 71 pp.
- Parker, G., P.R. Wilcock, C. Paola, W.E. Dietrich, and J. Pitlick, 2007, Physical basis for quasi-universal relations describing bankfull hydraulic geometry of single-thread gravel-bed rivers, *Journal of Geophysical Research-Earth Surface*, v. 112, F04005, doi: 10.1029/2006JF000549.
- Cronin, G., J. H. McCutchan, Jr., J. Pitlick, and W. M. Lewis, Jr., 2007, Use of Shields stress to reconstruct and forecast changes in river metabolism, *Freshwater Biology*, v. 52, p. 1587-1601.
- Clayton, J. A. and J. Pitlick, 2007, Spatial and temporal variations in bed load transport intensity in a gravel bed river bend, *Water Resources Research*, v. 43, W02426, doi:10.1029/2006WR005253.
- Mueller, E. R., and J. Pitlick, 2005, Morphologically based model of bed load transport capacity in a headwater stream, *Journal of Geophysical Research-Earth Surface*, v. 110,

F02016, doi:10.1029/2003JF000117.

- Heldmann, J. L., O. B. Toon, W. H. Pollard, M. T. Mellon, J. Pitlick, C. P. McKay, and D. T. Andersen, 2005, Formation of Martian gullies by the action of liquid water flowing under current Martian environmental conditions, *Journal of Geophysical Research-Planets*, v.110, E05004, doi:10.1029/2004JE002261.
- Mueller, E. R., J. Pitlick, and J.M. Nelson, 2005, Variation in the reference Shields stress for bed load transport in gravel-bed streams and rivers, *Water Resources Research*, v. 41, W04006, doi:10.1029/2004WR003692
- Regonda, S.K., B. Rajagopalan, M. Clark, and J. Pitlick, 2005, Seasonal cycle shifts in hydro-climatology over the western US, *Journal of Climate*, v. 18, p. 372-384.
- Torizzo, M. and J. Pitlick, 2004, Magnitude-frequency of bed load transport in mountain streams in Colorado, *Journal of Hydrology*, v. 290, p. 137-151.
- Pitlick, J. and R. Cress, 2002, Longitudinal trends in the channel characteristics of a large gravel-bed river, *Water Resources Research*, v. 38(10), 1216, doi:10.1029/2001WR000898
- Osmundson, D.B., R.J. Ryel, V.L. Lamarra, and J. Pitlick, 2002, Flow-sediment-biota relations: Implications for river regulation effects on native fish abundance, *Ecological Applications*, v. 12, p. 1719–1739.
- Pitlick, J., 2002, Chapter 7. Surface Water Hydrology, in *Physical Geography of North America*, edited by A. Orme, Oxford University Press, New York, p. 130-145.
- Newson, M., Pitlick, J., and Sear, D.A., 2002, Chapter 8. Running water: Fluvial geomorphology and river restoration, in *Handbook of Restoration Ecology*, edited by M.R. Perrow and A.J. Davy, Cambridge University Press, Cambridge, p. 133-152.
- Schmeeckle, M.W., J.M. Nelson, J. Pitlick, and J.P. Bennett, 2001, Interparticle collision of natural sediment grains in water, *Water Resources Research*, v. 37, p. 2377-2392.
- Pitlick, J. and P.R. Wilcock, 2001, Flow, sediment transport, and aquatic habitat in large rivers, in *Geomorphic Processes and Riverine Habitat*, edited by J. Dorava, F. Fitzpatrick, D. Montgomery and B. Palcsak, pp. 185-198, AGU, Washington, D.C.
- Pitlick, J., R. Cress, and M.M. Van Steeter, 2001, Geomorphic Assessment of the Potential for Expanding the Range of Habitat Used by Native Fishes in the Upper Colorado River, in *Applying Geomorphology to Environmental Management*, edited by D.J. Anthony, M.D. Harvey, J.B. Laronne, and M.P. Mosley, p. 335-360, Water Resources Publications, Golden.
- Lisle, T.E., J.M. Nelson, J. Pitlick, M.A. Madej, and B.L. Barkett, 2000, Variability of bed mobility in natural, gravel-bed channels and adjustments to sediment load at local and reach scales, *Water Resources Research*, v. 36, p. 3743-3756.

- Pitlick, J. and R. Cress, 2000, Longitudinal Trends in Channel Characteristics of the Colorado River and Implications for Food-Web Dynamics, Final Report, *U.S. Fish and Wildlife Service*, Grand Junction, 57 pp.
- Pitlick, J., M. Van Steeter, R. Cress, B. Barkett, and M. Franseen, 1999, Geomorphology and hydrology of the Colorado and Gunnison Rivers and implications for habitats used by endangered fishes, Final Report, *U.S. Fish and Wildlife Service*, Grand Junction, 64 pp.
- Johnston, C.E., E.D. Andrews, and J. Pitlick, 1998, In situ determination of particle friction angles of fluvial gravels, *Water Resources Research*, v. 34, p. 2017-2030.
- Van Steeter, M.M. and J. Pitlick, 1998, Geomorphology and Endangered Fish Habitats of the Upper Colorado River 1. Historic Changes in Streamflow, Sediment Load and Channel Morphology, *Water Resources Research*, v. 34, p. 287-302.
- Pitlick, J. and M.M. Van Steeter, 1998, Geomorphology and Endangered Fish Habitats of the Upper Colorado River 2: Linking Sediment Transport to Habitat Maintenance, *Water Resources Research*, v. 34, p. 303-316.
- Pitlick, J., 1997, A regional perspective of the hydrology of the 1993 Mississippi River basin floods, *Annals of the Association of American Geographers*, v. 87, p. 135-151.
- Wilcox, B.P, Pitlick, J., Allen, C.D. and Davenport, D.W., 1996, Runoff and erosion from a rapidly eroding pinyon-juniper hillslope, in *Advances in Hillslope Processes*, edited by M.G. Anderson and S. Brooks, p. 61-77, J. Wiley and Sons, Chichester.
- Wilcock, P.R., Barta, A.F., Shea, C.C., Kondolf, G.M., Matthews, W.V.G., and Pitlick, J., 1996, Observations of flow and sediment entrainment on a large gravel-bed river, *Water Resources Research*, v. 32, p. 2897-2909.
- Pitlick, J., 1995, Sediment routing in tributaries of the Redwood Creek basin, *U.S. Geological Survey Professional Paper 1454-K*, 10 pp.
- Kelsey, H.M., Coghlan, M., Pitlick, J. and Best, D.W. 1995, Geomorphic analysis of streamside landsliding in the Redwood Creek basin, *U.S. Geological Survey Professional Paper 1454-J*, 12 pp.
- Pitlick, J., Levish, D.R. and Ostenaar, D., 1995, Flood-frequency analysis for the Santa Ynez River and adjacent regions, *Physical Geography*, v. 16, p. 419-431.
- Pitlick, J., 1994, Relation between peak flows, precipitation, and physiography for five mountainous regions in the western USA, *Journal of Hydrology*, v. 158, p. 219-240.
- Pitlick, J., 1993, Response and recovery of a subalpine stream following a catastrophic flood, *Geological Society of America Bulletin*, v. 105, p. 657-670.
- Pitlick, J., 1993, Geomorphic response of Fall River, in *Ecological Effects of the Lawn Lake Flood of 1982, Rocky Mountain National Park*, edited by H.E. McCutchen, D.A. Stevens, and R. Herrmann, p. 18-32, *Scientific Monograph NPS/NRROMO/NRSM-93/21*.

- Pitlick, J., 1993, Reply to "Comment on Flow resistance under conditions of intense gravel transport" by G.A. Griffiths, *Water Resources Research*, v. 29, p. 2459.
- Pitlick, J., 1992, Flow resistance under conditions of intense gravel transport, *Water Resources Research*, v. 28, p. 891-903.
- Pitlick, J., 1988, Variability of bed load measurement, *Water Resources Research*, v. 24, p. 173-177.
- Pitlick, J. and Thorne, C.R., 1987, Sediment supply, movement and storage in an unstable gravel-bed river, in *Sediment Transport in Gravel-Bed Rivers*, edited by C.R. Thorne, J.C. Bathurst, and R.D. Hey, p. 151-183, J. Wiley and Sons, Chichester.
- Thorne, C.R., Zevenbergen, L.W., Pitlick, J., Rais, S., Bradley, J., and Julien, P., 1985, Direct measurements of secondary currents in a meandering sand-bed river, *Nature*, 316(6022): 746-747.

PEER REVIEWED COMMITTEE REPORTS

- National Research Council Board on Environmental Sciences and Toxicology, 2008, Hydrology, Ecology, and Fishes of the Klamath River Basin, National Academy Press, Washington, DC, 272 pp.
- National Research Council Water Science and Technology Board, 2007, River Science at the U.S. Geological Survey, National Academy Press, Washington, DC, 214 pp.

OTHER REPORTS

- Pitlick, J., Van Steeter, M. and Franseen, M., 1996, Effects of Recent High Flows on Selected Reaches of the Upper Colorado River, Interim Report, U.S. Fish and Wildlife Service, Grand Junction, CO, 24 pp.
- Van Steeter, M.M., Pitlick, J. and Cress, R., 1995, Aerial Photograph/GIS Analysis and Field Studies of the Grand Valley and Ruby-Horsethief Canyon of the Colorado River, Interim Report, U.S. Fish and Wildlife Service, Grand Junction, CO, 93 pp.
- Pitlick, J., and Van Steeter, 1994, Changes in Morphology and Endangered Fish Habitat of the Colorado River, *Colorado Water Resources Research Institute*, Completion Report No. 188, Fort Collins, Colorado, 24 pp.
- Van Steeter, M. and Pitlick, J., 1994, Aerial Photograph/GIS Analysis and Field Studies of the 15 and 18 Mile Reach of the Colorado River, Interim Report, U.S. Fish and Wildlife Service, Grand Junction, CO, 63 pp.
- Pitlick, J., 1994, Hydrology and geomorphology of the upper Mississippi River basin, report to the Scientific Assessment and Strategy Team (SAST).
- Pitlick, J., 1994, Regional flood-frequency analysis for the Santa Ynez River Basin and Adjacent Regions, report for U.S. Bureau of Reclamation, contract no. 1425-4-PG-81-08190, 11 pp.

Pitlick, J., 1994, Observations of runoff and sediment yield in a Pinyon-Juniper watershed in Bandelier National Monument, report to Los Alamos National Laboratory, 21 pp.

GUIDEBOOKS AND PAPERS PUBLISHED IN CONFERENCE PROCEEDINGS

Foster, M.A., Anderson, R.S., Rindfleisch, P.R., Birkeland, P.W., Redwine, J.R., Pitlick, J., and Glade, R.C., 2016, The 2016 Kirk Bryan field trip: Quaternary landslides, fluvial terraces, and recent geomorphic events along the Colorado Front Range, in Keller, S.M., and Morgan, M.L., eds., *Unfolding the Geology of the West, Geological Society of America Field Guide 44*, p. 267–289, doi:10.1130/2016.0044(12).

Lackey, G., R. Neupauer, and J. Pitlick, 2013, Effects of varying stream channel conductance on siting new pumping wells in an aquifer, *World Environmental and Water Resources Congress 2013*, pp. 426-432, doi: 10.1061/9780784412947.041

Verplanck, P.L., Murphy, S.F., Birkeland, P.W., Pitlick, J., Barber, L.B., and Schmidt, T.S., 2008, Boulder Creek: A stream ecosystem in an urban landscape, in Reynolds, R.G., ed., *Roaming the Rocky Mountains and Environs: Geological Field Trips: Geological Society of America Field Guide 10*, p. 217-234, doi:10.1130/2008.fl d010(11).

Birkeland, P.W., E.E. Larson, C.S.V. Barclay II, E. Evanoff, and J. Pitlick, 2004, Eco-geo hike along the Dakota Hogback, north of Boulder, Colorado, in *Field Trips in the southern Rocky Mountains, USA*, edited by E.P. Nelson and E.A. Erslev, Geological Society of America Field Guide 5, Boulder, CO.

Pitlick, J., 2000, Physiographic and hydrologic aspects of the Upper Mississippi River basin, in *Selected studies on natural and human factors related to flood management in the Upper Mississippi River basin*, edited by A.G. Frazier and G.E. Freeman, p. 59-68, Scientific Assessment and Strategy Team (SAST).

Pitlick, J., 1998, Coarse sediment transport and the maintenance of fish habitats in the upper Colorado River, in *Proceedings of the International Conference on River Restoration in Cold Regions*, edited by H. Baba, Trondheim, Norway.

Schmeeckle, M.W., J.M., Nelson and J. Pitlick, 1998, Direct numerical simulation of bed load sediment transport, in *12th Annual Engineering Mechanics Conference*, edited by H. Murakami and J.E. Luco, American Society of Civil Engineers, San Diego, CA.

Graf, W.L., K.K. Hirschboeck, R.A. Marston, J. Pitlick, and J.C. Schmidt, 1997, Sustainability and changing physical landscapes, in *Aquatic Ecosystem Symposium*, edited by W.L. Minckley, p. 3-13, report to the Western Water Policy Review Advisory Commission, Denver, CO.

Wilcox, B.P., Allen, C.D, Newman, B.D., Reid, K.D., Brandes, D., Pitlick, J., Davenport, D., W., 1996, Runoff and erosion on the Pajarito Plateau, in *New Mexico Geological Society Guidebook*

Pitlick, J. 1994, Coarse sediment transport and the maintenance of fish habitat in the upper Colorado River, in *Special Session on Hydraulics of Mountain Rivers, 1994 Conference on Hydraulic Engineering*, American Society of Civil Engineers, Buffalo, NY, p. 855-859.

- Pitlick, J., 1992, Geomorphology of Rocky Mountain National Park, in *Colorado Field Studies*, edited by A.D. Hill, pp. 7-20, Center for Geographic Education, Boulder, CO.
- Pitlick, J., Blair, T., Anthony, D., Harvey, M. D., 1987, Sedimentology of Lawn Lake flood deposits and geomorphic processes in Fall River, Rocky Mountain National Park, Colorado, *Guidebook No. 3, Regional Meeting Rocky Mountain Section, Geological Society of America*, Boulder, CO, 37 pp.
- Harvey, M.D., Pitlick, J., and Laird, J., 1987, Temporal and spatial variability of sediment storage and erosion in Ash Creek, Arizona, in *Erosion and Sedimentation in the Pacific Rim*, International Association of Hydrologic Sciences Publication No. 165, p. 281-282.
- Harvey, M.D., Crews, S.C., Pitlick, J., and Blair, T.C., 1985, Holocene braided rivers in eastern Colorado and the sedimentologic effects of the Lawn Lake flood, Rocky Mountain National Park, *Society of Economic Paleontologists and Mineralogists Guidebook*, 52 pp.
- Kelsey, H.M., M.A. Madej, J. Pitlick, P. Stroud and M. Coghlan, 1981, Major sediment sources and limits to effectiveness of erosion control techniques in the highly erosive watersheds of northern coastal California, in *Erosion and Sediment Transport in Pacific Rim Steeplands*, edited by T.R.H. Davies and A.J. Pearce, International Association of Hydrological Sciences Publication 132, p. 493-509.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

- Neupauer, R.M., G. Lackey, and J. Pitlick, Effect of spatio-temporal variability of streambed hydraulic conductivity on stream depletion (submitted to *Water Resources Research*, July 14, 2015).
- Pitlick, J., A. Recking and F. Liébault, Sediment production in French alpine rivers (in preparation for *Water Resources Research*).
- Cullis, J.D.S., D.M. McKnight, and J. Pitlick, The significance and spatial variation in bed disturbance in maintaining patch dynamics and diversity at the reach scale in streams impacted by *Didymosphenia Geminata*, submitted to *Journal of Geophysical Research-Earth Surface*.
- Logan, B., J.D. Smith and J. Pitlick, Modeling flow dynamics of submerged and partially submerged vegetation (in preparation for *Water Resources Research*).
- Wynne, K.K. and J. Pitlick, Response of the New Zealand Mudsail to disturbance caused by sediment transport, Boulder Creek Colorado (in preparation for *Freshwater Biology*).

RECENT ABSTRACTS AND PRESENTATIONS (2010-pres.)

- Pitlick, J., S. Bizzi, R. Schmitt (2017), Modeling the effects of reservoir releases on the bed material sediment flux of the Colorado River in western Colorado and eastern Utah, *Abstract EP43F-08 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.*
- Pitlick, J., S. Bizzi, R. Schmitt (2017), Modeling changes in the flux and grain size distribution of the bed sediment in a large gravel-bed river, *Geological Society of America Abstracts with Programs*, 49(6), doi: 10.1130/abs/2017AM-304586

- Pitlick, J., 2016, Dams and dam removal in the United States, **invited** presentation given at the first meeting of the Consortium for Ecohydraulics and Dam Removal, held in Chinon, FR, June 13-17.
- Pitlick, J., 2015, Linking criteria for incipient motion to field-based measures of bed load transport capacity (**Invited**), abstract EP24A-05, presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec., 2015.
- Zhang, H., P. Zhang, E. Kirby, J. Pitlick, R. Anderson, 2015, Characterizing the transient geomorphic response to base level fall in the northeastern Tibetan Plateau, abstract EP41A-0900, presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec., 2015.
- Schutte, M., J. Pitlick, L. Rossi, and R. Neupauer, 2014, Geomorphic response of Roaring River and Fall River to the September 2013 flood, abstract EP53C-3672, presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.
- Segura, C. and J. Pitlick, 2014, A model to predict annual bed load transport in ungauged watersheds, abstract EP33A-3618, presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.
- Pitlick, J., A. Recking and F. Liébault, 2013, Regional estimates of bed load sediment yield in the French Alps, Abstract EP53A-0716, presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Pitlick, J., Recking, A., Liebault, F., 2013, Linkages between sediment supply and channel morphology in gravel-bed river systems, Geophysical Research Abstracts, Vol. 15, EGU2013-3073, EGU General Assembly 2013 (**invited**).
- Pitlick, J., A. Recking, and F. Liebault, 2012, Evaluation of the Bed Load Transport Capacity of French Alpine Rivers, presentation at GESTRANS Annual Meeting, Grenoble, FR, 21-23 Nov. 2012.
- Pitlick, J. 2012, Interactions between sediment transport and ecosystem dynamics on large river systems, presentation at the Séminaire scientifique de l'Observatoire des Sédiments du Rhône, Lyon, FR, 22 Oct. 2012 (**invited**).
- Pitlick, J., 2012, Development of reach-average models for coarse sediment transport in large alluvial rivers: A case study of the Colorado River, conference on 'Morphodynamique et transport solide en rivière: du terrain aux modèles', University of Tours, Tours, FR, 16-17 Oct. 2012. (**keynote speaker**).
- E.R. Mueller, M.E. Smith and J. Pitlick, 2012, Using stream sediment lithology to explore the roles of abrasion and channel network structure in shaping downstream sediment yields, Abstract EP23B-0802 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- S. Anderson, P. Kennard and J. Pitlick, 2012, Geomorphic Response to Significant Sediment Loading Along Tahoma Creek on Mount Rainier, WA, Abstract EP53C-1055 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

- Mueller, E.R. and J. Pitlick, 2011, Braided streams in the greater Yellowstone region: linking geology, sediment supply, and channel morphodynamics, Abstract EP33D-01 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Gleason, M.J., J. Pitlick, and B.P. Battenfield, 2011, Filtering raw terrestrial laser scanning data for efficient and accurate use in geomorphologic modeling, Abstract EP41A-0594 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Pitlick, J., 2011, Sediment transport, hydraulic geometry and implications for fluvial incision of landscapes, **invited** presentation given at the State Key Laboratory of Earthquake Dynamics, Institute of Geology, Beijing, PRC, June 17, 2011.
- Pitlick, J., 2011, Coupling sediment supply, transport capacity and channel geometry, **invited** presentation given at the Institut de Physique du Globe de Paris, Paris, FR, May 13, 2011.
- Pitlick, J., C.M. Meertens, J.J. Major, J. Normandeau, and K. R. Spicer, 2010, Identifying sediment sources and quantifying rates of erosion along the North Fork Toutle River near Mount St. Helens, WA, Abstract G21A-0789 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.
- Pitlick, J., E.R. Mueller, C. Segura, 2010, Differences in sediment supply to braided and single-thread river channels: What do the data tell us? Paper presented at the 7th Conference on Gravel-Bed Rivers, Tadoussac, Ontario, CA (**invited**).
- Swanson, B.J., G.A. Meyer, and J. Pitlick, 2010, The influence of tributary confluences on channel form and sediment transport: Rio Chama, NM, Geological Society of America *Abstracts with Programs*, Vol. 42, No. 5, p. 520.
- Pitlick, J., C. Segura and E.R. Mueller, 2010, Influence of sediment transport intensity and hydrology on the bankfull hydraulic geometry of gravel bed rivers, *EOS Transactions of the American Geophysical Union*, 91(26), Western Pacific Geophysics Meeting Supplement, Abstract H52A-05 (**invited**).
- Pitlick, J., 2010, Balancing Science and Policy in the Management of River Flows for Endangered Species, presented as part of the CU Science Sampler Series, Denver, CO, Apr. 8, 2010.

SPONSORED RESEARCH

- Geomorphic Response of Roaring River and Fall River to the September 2013 Flood, Rocky Mountain National Park, administered through the Rocky Mountains Cooperative Ecosystem Studies Unit, 2014-2015 (\$67,419)
- RAPID - Quantifying the effects of a catastrophic flood on ecosystem components of Colorado mountain streams, National Science Foundation, 2014-2015 (co-PI with James McCutchan and William Lewis, CIRES Center for Limnology; \$61,330)
- Sediment Transport Technology, U.S. Forest Service, 2003-2008 (\$70,000)
- Effects of High Streamflow on the New Zealand Mudsail. Council on Research and Creative Work, University of Colorado, 2005 (\$4,500)

- Collaborative Research: Width Adjustment in Mixed-Load Channels, National Science Foundation, 2000-2005 (co-PI with Jim Pizzuto, Univ. Delaware; \$224,000)
- Hydraulic Geometry of Mountain Streams, U.S. Forest Service, 2001-2003 (\$40,000)
- Channel Monitoring to Evaluate Geomorphic Changes on the Mainstem Colorado River, U.S. Fish and Wildlife Service, 1997-2003 (\$109,00)
- Relationships Between Flow Variability and Substrate Characteristics, Environmental Quality Component, Western Water Assessment, NOAA Office of Global Programs (William Lewis and Jim Saunders, co-PIs)
- Vertical Integration of Technology into the Geography Curriculum, University of Colorado, 1999-2000 (Mark Williams, PI; \$49,000)
- Impact of Flows and Geomorphology on Food-Web Dynamics of the Colorado River Native Fish Community, U.S. Fish and Wildlife Service, 1994-96 (\$135,000)
- Flow and Sediment Transport in Mountain Streams in Colorado, U.S. Forest Service, 1995-96 (\$44,000)
- Geomorphology and Sediment Transport Studies of the Colorado and Gunnison Rivers, U.S. Fish and Wildlife Service, 1993-96 (\$74,500)
- Changes in Channel Morphology and Endangered Fish Habitats, Colorado River, National Science Foundation, 1993-94 (\$9,500)
- Changes in Channel Morphology and Endangered Fish Habitats, Colorado River, Colorado Water Resources Research Institute, 1993-94 (\$14,000)
- Flow and Sediment Transport, South Platte River, CO, University of Colorado, Council on Research and Creative Work, 1991 (\$3,500)

MISCELLANEOUS CONTRACTS

- Development of Basin-Scale Models to Estimate Bed Load Sediment Flux, annual stipend to support collaborative research with scientists at the National Research Institute of Science and Technology for Environment and Agriculture (IRSTEA), Grenoble, FR.
- Technical Review, Erosion and Sediment Analysis, Mount St. Helens Project, U.S. Army Corps of Engineers, Portland, OR, May, 2009.
- Peer Review Panel Member, Platte River Recovery Implementation Program, 2009
- Peer Review Panel, Recovery Implementation Program for Endangered Fishes in the San Juan River Basin, Bureau of Reclamation, 2001-pres.
- Review of Flow Recommendations to Benefit Endangered Fishes in the Gunnison River, U.S. Fish and Wildlife Service, 2001-02

- Review of Procedures for Establishing Channel Maintenance Flows, U.S. Forest Service (on-going)
- Technical Review of San Juan River Fish Habitat Studies, U.S. Department of Justice, 1995-97.
- Sediment Yield from Pinyon-Juniper Watersheds of the Pajarito Plateau, northern New Mexico, Los Alamos National Laboratory, 1993-96
- Flood-Frequency Analysis for the Santa Ynez River Basin, U.S. Bureau of Reclamation, 1994
- Hydrology and Geomorphology of the Upper Mississippi River Basin, Scientific Assessment and Strategy Team (SAST), 1994

TEACHING

- Courses Taught

GEOG 1011	LANDSCAPES AND WATER
GEOG 2043	ENVIRONMENTAL FIELD TECHNIQUES
GEOG 3511	PHYSICAL HYDROLOGY
GEOG/GEOL 4241	PRINCIPLES OF GEOMORPHOLOGY
GEOG 5251	FLUVIAL GEOMORPHOLOGY
GEOG 5241	SPECIAL TOPICS; REGULATED RIVERS
	SURFACE WATER HYDROLOGY
ENVS 5810	WATER RESOURCES AND ENVIRONMENTAL SUSTAINABILITY
GEOG 6241	GEOMORPHOLOGY/HYDROLOGY FIELD TRIP

- Teaching Materials

Lab Manuals:

Pitlick, J., and J. Clayton, 2002. *Laboratory Manual for Environmental Systems: Landforms and Soils*, Pearson Custom Publishing, Boston, MA, 93 pp.

Pitlick, J., 1993. *Laboratory Manual for Environmental Systems: Landforms and Soils*, Burgess International, Edina, MN, 101 pp.

- Student Supervision

PhD, Primary Advisor

Erich Mueller (GEOG, 2012), Postdoctoral Researcher, Grand Canyon Monitoring and Research Center, Flagstaff, AZ

Catalina Segura (GEOG, 2008), Assistant Professor, Oregon State University, Corvallis, OR

Donald Rosenberry (GEOG, 2007), Hydrologist, U.S. Geological Survey Water Resources Division, Denver, CO

Jordan Clayton (GEOG, 2005), Hydrologist, Natural Resources Conservation Service, Utah Snow Survey Office, Salt Lake City, UT

Mark Schmeckle (GEOG, 1998), Associate Professor, Geography Department, Arizona State University, Tempe, AZ; recipient of NSF CAREER award

Gary Fleener (GEOG, 1995), Associate Professor of Biology and Natural Resources, Principia College, Elsau, IL

Mark Van Steeter (GEOG, 1995), Associate Professor, Geography Department, Western Oregon University, Monmouth, OR

PhD, External Advisor

Sarah Davidson (2016, University of British Columbia)

Rafael Schmitt (2016, Politecnico di Milano), Postdoctoral Researcher, UC Berkeley

Ben Swanson (2012, University of New Mexico), Fluvial Geomorphologist, Inter-Fluve, Madison, WI

Joshua Theule (2012, Université Joseph Fourier), Postdoctoral Researcher, Free University of Bolzano, Bolzano, IT

Kyungrock Paik (2006, University of Illinois Urbana-Champaign), Associate Professor, School of Civil, Environmental, and Architectural Engineering, Korea University, Seoul, South Korea

MA:

Will Wicherski (GEOG, in progress)

Garrett Sprouse (CVEN, 2016)

Mark Schutte (CVEN, 2015), currently Assistant Engineer, Olsson Associates, Golden, CO

Luca Rossi (Civil Engineering, U. Trento, IT, 2014), currently Engineer, SWS Engineering, Mattarello, IT

Scott Anderson (GEOG, 2013), currently Hydrologist, U.S. Geological Survey Washington Water Science Center, Tacoma, WA

Tony LaGreca (GEOG, 2010), currently Restoration Project Coordinator, Klamath Basin Rangeland Trust, Klamath Fall, OR

Brandy Logan (GEOG, 2006), currently Water Resource Specialist, Colorado Water Conservation Board, Denver, CO

Kristina Wynne (GEOG, 2006), currently Hydrologist, Bishop-Brogden Associates, Denver, CO

Eileen Field (ENVS, 2005), address unknown

Ingrid Corson (GEOG, 2004), currently Environmental Scientist, HDR Alaska, Inc., Anchorage, AK

Erich Mueller (GEOG, 2002), currently Postdoctoral Researcher, Grand Canyon Monitoring and Research Center, Flagstaff, AZ

Brent Barkett (GEOG, 1998), currently Senior Consultant, Summit Blue Consulting, Boulder, CO

Margaret (Franseen) Torizzo (GEOG, 1998), Floodplain Management Coordinator, Vermont Department of Environmental Conservation, Waterbury, VT

Bob Cress (GEOG, 1997), Electrical Systems Consultants, Fort Collins, CO

Christopher Johnston (GEOG, 1995), address unknown

Undergraduate Honors Thesis:

Natalie Gillard (GEOG, 2016)

John Tarricone (GEOG, 2016)

Undergraduate Students Employed as Part of Research Activities (since 1998):

Jillian Aldrin (2000), Aaron Cloud (2001), Doug Dickins (2004), Jaclyn Francesca (2005), Wade Grewe (2008), Tony LaGreca (2002), Aaron Zettler-Mann (2009), William McAslin (1998), Michael McGowan (2003), Jennifer Nissenbaum (1999), Sarah Prudden (2003), John Schrader (2008), Casey Ward (2001), Lucas Zukiewicz (2004)

SERVICE

- University of Colorado, Geography Department
 - Associate Chair, Graduate Studies, 2014-pres.
 - Associate Chair, Undergraduate Studies, 1994, 2008-2012.
 - Chair, tenure and promotion committee for H. Barnard, 2016
 - Chair, promotion committee for S. Anderson, 2015
 - Chair, reappointment committee for N. Molotch, 2013

- Chair, Hydrology/Surface Processes Search Committee, 2008-09
- Chair, tenure and promotion committee for S. Anderson, 2008
- Chair, reappointment committee for S. Anderson, 2007
- Chair, tenure and promotion committee for P. Blanken, 2004
- Chair, reappointment committee for P. Blanken, 2001
- Chair, Colloquium Committee, 1999-00, 1993, 2000
- Member, promotion committee for P. Blanken, 2015
- Member, GEOG Environment and Society Search Committee, 2002-03
- Member, CIRES Geomorphologist Search Committee, 2002-03
- Member, graduate committee, 1997, 2002-2004, 2009
- Member, post-tenure review committees for Nel Caine (2002), Mark Williams (2003), Susan Beatty (2004), Barbara Buttnefield (2008), Peter Blanken (2010), Tom Veblen (2011), Mark Serreze (2014), Suzanne Anderson (2014), William Travis (2015)
- Member, GEOG GIS Search Committee, 2000-01
- Member, ENVS/GEOG Climatologist Search Committee, 1997-98
- Member, Colloquium Committee, 1995, 1996
- Member, Personnel Committee, 1992, 2007, 2008
- University of Colorado, College of Arts and Sciences
 - Affiliate Faculty, Environmental Studies Program, 1995-pres.
 - Member, Internal Program Review Committee, Geology Department PRP, 2004
 - Member, tenure committee for S. Collinge (EPOB & ENVS), 2002
 - Environmental Studies Graduate Committee, 2002
 - Environmental Studies/Political Science Search Committee, 1999
 - Environmental Studies Curriculum Committee, 2000-01
 - Keck Fellowship Committee, 1993-1998.
 - University of Colorado
 - Member, Civil and Architectural Engineering, ARPAC Internal Review Committee, 2018
 - Member, CIRES ARPAC Internal Review Committee, 2010

Co-director, Graduate Program in Hydrologic Sciences (w/ Michael Gooseff), 2006-pres.

Research Affiliate, Institute of Arctic and Alpine Research, 1995-pres.

- Service outside the University of Colorado, including National Committees and Editorial Boards

National Research Council, Board on Environmental Studies and Toxicology, Committee on Hydrology, Ecology, and Fishes of the Klamath River Basin, 2006-pres.

National Research Council, Water Science and Technology Board, Committee on River Science at the US Geological Survey, 2004-pres.

US Fish and Wildlife Service San Juan River Basin Recovery Implementation Program, Peer Review Panel, 2001-pres.

External reviewer for hiring, promotion and tenure cases: 10 universities since 2009

Associate Editor, Water Resources Research, 1994-1999

Associate Editor, Journal of Geophysical Research-Earth Surface, 2009-2013

Member, AGU Erosion and Sedimentation Committee, 1991-95

Session Chair, AGU Fall meeting, 1995, 1996, 2004, 2005; Spring Meeting, 1994

Trustee, Rocky Mountain Hydrologic Research Center, 1997-pres.