

Jason P. Julian

Assistant Research Scientist

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RESEARCH INTERESTS

Earth Systems Science: hydrologic and geomorphic controls on ecosystem processes; basin-scale GIS models; water resource management

Ecohydrology: light availability in aquatic ecosystems; spatiotemporal trends in water quality; biogeochemical responses to flow variability and watershed disturbances; watershed restoration

Fluvial Geomorphology: sediment erosion; suspended sediment transport; channel evolution

Landscape Ecology: basin-scale responses to land-use and climate change; ecosystem process scaling relationships

EDUCATION

Ph.D. Geography Department of Geography, University of North Carolina, Chapel Hill, NC, **2007**, Dissertation: "Hydrogeomorphic Controls on Light Availability in Rivers"

M.S. Geology Department of Geological Sciences, University of South Carolina, Columbia, SC, **2004**, Thesis: "Fluvial Erosion of Cohesive Riverbanks"

B.S. Geography Department of Geography, University of South Carolina, Columbia, SC, **2001**

RESEARCH AND PROFESSIONAL EXPERIENCE

2007 – Present	Assistant Research Scientist, Potomac River Ecosystem Project (Univ. of Maryland Center for Environmental Science, Appalachian Laboratory)
2004 – 2007	Research Assistant, Downstream geomorphic and ecological effects of dam removal (Univ. of North Carolina)
2004 – 2005	Research Assistant, Pre-urbanization impact assessment of river channel morphology (Univ. of North Carolina)
2002 – 2004	Research Assistant, Effects of urbanization on river channel processes (Univ. of South Carolina)
2001 – 2004	Consultant, Sand River Restoration Project (Hitchcock Woods, Aiken, SC)
2000 – 2001	Surface Processes Lab Assistant (Geology Dept., Univ. of South Carolina)
1996 – 1999	United States Air Force (Minot, ND)

REFEREED PUBLICATIONS

Julian, J.P., Stanley, E.H., and Doyle, M.W. (In press). Basin-scale consequences of agricultural land use on benthic light availability and primary production along a 6th-order temperate river. *Ecosystems*.

- Julian, J.P., Doyle, M.W., and Stanley, E.H. (2008). Empirical modeling of light availability in rivers. *Journal of Geophysical Research – Biogeosciences* 113: G03022, doi:10.1029/2007JG000601.
- Julian, J.P., Doyle, M.W., Powers, S.M., Stanley, E.H., and Riggsbee, J.A. (2008). Optical water quality in rivers. *Water Resources Research*, doi:10.29/2007WR006457.
- Riggsbee, J.A., Julian, J.P., Doyle, M.W., and Wetzel, R.G. 2007. Suspended sediment, dissolved organic carbon, and dissolved nitrogen export during the dam removal process. *Water Resources Research* 43: W09414, doi:10.1029/2006WR005318.
- Julian, J.P. and Torres, R. 2006. Hydraulic erosion of cohesive riverbanks. *Geomorphology* 76: 193-206.
- Doyle, M.W. and Julian, J.P. 2005. The most-cited works in *Geomorphology*. *Geomorphology* 72: 238-249.

MANUSCRIPTS IN PREPARATION

- Julian, J.P., Powers, S.P., Zahn, S.E., Stanley, E.H., and Doyle, M.W. Fluvial connections between benthic light availability, aquatic macrophytes, hydraulics, and sedimentation. *Ecohydrology*.
- Julian, J.P., Riggsbee, J.A., Powers, S.P., and Doyle, M.W. Spatial and temporal trends in suspended sediment transport following dam removal. *Earth Surface Processes & Landforms*.
- Julian, J.P., Powers, S.P., Lottig, N.R., Stanley, E.H., and Doyle, M.W. Long-term nutrient storage in a dewatered reservoir, Big Spring Creek, WI. *River Research and Applications*.

TEACHING EXPERIENCE

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| Fall 2007 | Co-Instructor for “Classic Readings in Ecology” seminar (Appalachian Laboratory, Univ. of Maryland Center for Environmental Science) |
| Fall 2003 | Teaching Assistant for “Environment of the Earth” (Geology Dept., Univ. of South Carolina) |
| Spring 2003 | Teaching Assistant for “A View of the River” (Geology Dept., Univ. of South Carolina) |
| Fall 2002 | Teaching Assistant for “Environment of the Earth” (Geology Dept., Univ. of South Carolina) |

PRESENTATIONS TO PROFESSIONAL SOCIETIES AND INSTITUTES

- Julian, J.P., Stanley, E.H., and Doyle, M.W. 2008. "Benthic Light Availability Model (BLAM): Application to basin-scale gross primary productivity in rivers." *Ecological Society of America*, Annual Meeting, Milwaukee, WI.
- Julian, J.P., Doyle, M.W., and Stanley, E.H. 2008. "Basin-scale hydrogeomorphic controls on riverine light availability." *Association of American Geographers*, Annual Meeting, Boston, MA.
- Gardner, R.H., Julian, J.P., Elmore, A., and Lookingbill, T. 2008. “Assessing the Consequences of Land Use Change in the Upper Potomac.” *Metropolitan Washington Council of Governments*, Potomac Monitoring Forum, Berkeley Springs, WV.

- Julian, J.P., Lookingbill, T., Elmore, A., and Gardner, R.H. 2007. "Potomac River Ecosystem Project: Basin-scale controls on ecosystem processes." *Maryland Water Monitoring Council*, 13th Annual Meeting, Baltimore, MD.
- Julian, J.P. 2007. "How wide does my channel need to be?: Incorporating bank shear stress into natural channel design." *Canaan Valley Institute*, Mid-Atlantic Stream Restoration Conference, Cumberland, MD.
- Riggsbee, J.A., Julian, J.P., Doyle, M.W., and Wetzel, R.G. 2007. "Dam Removal as River Restoration: Biological, Physical, and Chemical Responses." *River Restoration Northwest*, Stream Restoration Design Symposium, Stevenson, WA.
- Julian, J.P., Doyle, M.W., and Stanley, E.H. 2007. "Light in Rivers: Hydrogeomorphic Controls and Spatial Trends." *North American Benthological Society*, 55th Annual Meeting, Columbia, SC.
- Riggsbee, J.A., Julian, J.P., Doyle, M.W., and Wetzel, R.G. 2007. "Effects of Suspended Sediments on Downstream Biogeochemistry following Dam Removal." *North American Benthological Society*, 55th Annual Meeting, Columbia, SC.
- Julian, J.P., Doyle, M.W., and Stanley, E.H. 2006. "BLAM (Benthic Light Availability Model): A proposed model of hydrogeomorphic controls on light in rivers." *American Geophysical Union*, Fall Meeting, San Francisco, CA.
- Julian, J.P., Riggsbee, J.A., Doyle, M.W., Stanley, E.H., and Zahn, S.E. 2006. "Hydrogeomorphic controls and anthropogenic influences on light availability in rivers." *Binghamton Geomorphology Symposium*, 37th International Meeting, Columbia, SC.
- Julian, J.P. and Torres, R. 2006. "Predicting Erosion Rates of Cohesive Riverbanks." *NC Stream Restoration Institute*, Southeast Regional Stream Restoration Conference, Charlotte, NC.
- Riggsbee, J.A., Julian, J.P., Doyle, M.W., and Wetzel, R.G. 2006. "Sediment and nutrient fluxes following dam removal." *NC Stream Restoration Institute*, Southeast Regional Stream Restoration Conference, Charlotte, NC.
- Riggsbee, J.A., Doyle, M.W., Julian, J.P., and Wetzel, R.G. 2005. "Channel Adjustment and Riparian Zone Recovery Following the Removal of a Low-Head Dam in North Carolina." *American Society of Civil Engineers*, Watershed Management Conference, Williamsburg, VA.
- Riggsbee, J.A., Wetzel, R.G., Doyle, M.W., and Julian, J.P. 2005. "Floodplain, Wetland, and Channel Biogeochemical Relationships following Dam Removal on a Coastal Plain River." *Society of Wetland Scientists*, 26th Annual Meeting, Charleston, SC.
- Julian, J.P. and Torres, R. 2005. "Hydraulic Erosion of Cohesive Riverbanks in Response to Urban Runoff." *American Geophysical Union – North American Benthological Society*, Joint Assembly, New Orleans, LA.

INVITED ACADEMIC SEMINARS

Integration & Application Network, Univ. of Maryland Center for Environmental Science, 2008
 Chesapeake Bay Laboratory, University of Maryland Center for Environmental Science, 2008
 Appalachian Laboratory, University of Maryland Center for Environmental Science, 2007
 Horn Point Laboratory, University of Maryland Center for Environmental Science, 2007
 University of North Carolina, Geography Department, 2007

ACADEMIC HONORS AND AWARDS

Delegate for Meeting of Young Researchers in Earth Sciences (2008)

Department of Geological Sciences Fellowship (2002), Univ. of South Carolina
Julian J. Petty Award for top graduate in Geography Department (2002), Univ. of South Carolina
Magna cum laude (2001), Univ. of South Carolina

PROFESSIONAL SOCIETY MEMBERSHIP

American Geophysical Union (Hydrology)
Ecological Society of America (Biogeosciences)
Association of American Geographers (GIS, Geomorphology, Water Resources)
North American Benthological Society (Environmental Impact/Assessment)

PROFESSIONAL ACTIVITIES

Reviewer for The Professional Geographer
Reviewer for Journal of the American Water Resources Association
Reviewer for Geomorphology
Reviewer for Journal of Environmental Management
Reviewer for Earth Surface Processes and Landforms
Reviewer for Journal of the North American Benthological Society
Reviewer for Journal of Geophysical Research - Biogeosciences

REFERENCES

Martin W. Doyle (Ph.D. Advisor) – Dept. of Geography, Univ. of North Carolina
Email: mwdoyle@email.unc.edu; Phone: 919-962-3876
Emily H. Stanley (Ph.D. Committee Member) – Center for Limnology, Univ. of Wisconsin
Email: ehstanley@wisc.edu; Phone: 608-263-2567
Lawrence E. Band (Ph.D. Committee Member) – Dept. of Geography, Univ. of North Carolina
Email: iband@email.unc.edu; Phone: 919-962-3921
Robert H. Gardner (Current supervisor) – Appalachian Lab, Univ. of MD Center for Env. Sci.
Email: gardner@al.umces.edu; Phone: 301-689-7125