

Ben L. O'Connor
Environmental Science Division
Argonne National Laboratory

Education:

Ph.D. University of Minnesota, Civil Engineering, 2006
M.S. University of Minnesota Civil Engineering, 2002
B.C.E. University of Minnesota, Civil Engineering, 1997

Professional Experience:

2012-Present Ecological and Hydrologic Modeling Team Lead
2009-Present Environmental Scientist - Hydrologist
 Environmental Science Division
 Argonne National Laboratory

Principal activity is the application of applied and basic research regarding hydrology and ecology relating to environmental assessments. Previous and ongoing activities include (1) the examination of river hydraulics, sediment transport, fish habitats, and environmental flow components in regulated rivers; (2) intermittent stream analyses, surface water-groundwater connectivity, and groundwater modeling relating to potential impacts from solar energy development in arid environments; (3) development of long term monitoring and modeling applications for surface waters and groundwater associated with energy development; and (4) feasibility analyses of alternative water sources for renewable energy.

Summary of Previous Experience:

2006-2009 U.S. Geological Survey, Reston, VA

Conducted research as a National Research Council Postdoctoral Fellow examining the eco-hydraulics of streams and wetlands, surface water-groundwater exchange, and stream metabolism.

2002-2006 University of Minnesota - St. Anthony Falls Laboratory, Minneapolis, MN

Studied the interaction of fluid motion and biogeochemical processes as a part of the National Center for Earth-surface Dynamics. Specific focus was on mass transfer processes, sediment oxygen demand, and nitrogen cycling.

1999-2002 University of Minnesota – Water Resources Center, Minneapolis, MN

Carried out field-based research on the spatial variability of water quality parameters, identifying sources of suspended sediments, and the physical controls on denitrification rates in agricultural streams of the Minnesota River Basin.

Research Interests:

Hydrology
Environmental fluid dynamics and eco-hydraulics
Fluvial geomorphology

Coupled field- and simulation-based assessments of aquatic ecosystems
Nutrient cycling and biogeochemical processes in aquatic ecosystems
Aquatic habitat characterization and restoration

Professional Activities:

Reviewer for Water Resources Research, Journal of Geophysical Research, Limnology and Oceanography, Environmental Science & Technology, Hydrological Processes, Journal of Environmental Engineering, Hydrological Processes, Advances in Water Resources, and Hydrobiologia

Member of the American Geophysical Union (AGU) and Association for the Sciences of Limnology and Oceanography (ASLO)

Publications:

Author or co-author of over 25 journal, book, report, and conference publications and presentations.