



US Army Corps of Engineers



Research Interest

- Biogeochemistry and ecosystem functionality of wetlands
- Identification of wetlands and assessment of wetland condition for jurisdictional purposes
- Wetland restoration, impact mitigation, and reference wetlands

Professional Experience

Research Soil Scientist, U.S. Army Corps of Engineers, Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS., June 2008 to present.

- Basic and applied research addressing challenges in the identification, regulation, and evaluation of wetland ecosystems
- Ecological functional assessment models developed using the Hydrogeomorphic (HGM) Approach
- Technical support to Corps Districts, military installations, and interagency partners through teaching, problematic wetland delineation, publication of technical manuals and papers, and enforcement of environmental violations
- Approximately \$460K of work managed annually

Hydrologic and Biological Technician, U.S. Forest Service, Forestry Sciences Laboratory, Pacific Northwest Research Station, Juneau, AK., May 2005 to June 2008.

- Biogeochemical flux of nutrients evaluated in wetlands throughout Alaska, effects of climate change, and impacts of salmon derived nutrients on terrestrial environments
- Forest productivity examined in various hydrologic regimes
- Soil field crew leader and analytical laboratory manager

Graduate Research Fellow, University of California, Soil and Water Science Department, Riverside, CA., August 2003 to May 2005.

- Thesis: Aquatic chemistry and mineralogy following alum additions to two southern California lake waters

Jacob F. Berkowitz



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Education

- **M.S.** Soil and Water Sciences, 2005 University of California, Riverside, CA
- **B.S.** Environmental Sciences Chemistry, 2003 University of North Carolina, Asheville, NC

Teaching and training courses

- U.S. Army Engineers, Basic Hydric Soils
- U.S. Army Engineers, Regionalization of the 1987 Corps of Engineers Wetland Delineation Manual,
- U.S. Army Engineers, Regulatory IV: Wetland Delineation

Awards/Honors

- 2010 Department of the Army Achievement Medal for Civilian Service
- 2008 ERDC Research and Development Award for Outstanding Performance in teaching and interagency support
- 2007 US Forest Service Outstanding Performance Award
- 2005 University of California Deans Fellowship
- 2005 University of North Carolina Asheville Analytical Chemistry Student of the Year
- 2005 University of North Carolina Asheville Ida May Friday Award for Community Service

Other Professional Activities

- National Advisory Team for Wetland Delineation, member and incoming chair
- U.S. Army Corps Engineers Leadership Development Program (LDP), participant and graduate
- Society of Wetland Scientists, member and presenter



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Selected Publications & Conference Presentations

- Berkowitz, J.F. and A.F. Casper. 2010. *A multiple watershed field test of hydrogeomorphic functional assessment of headwater streams—variability in field measurements between independent teams*. Ecological Indicators. Under Review
- Anderson, M.A. and J.F. Berkowitz. 2010. *Aluminum polymers formed following alum treatment of lake water*. Chemosphere. In Press.
- U.S. Army Engineers. 2010 *Operational Draft Regional Guidebook for the Functional Assessment of High-Gradient Ephemeral and Intermittent Headwater Streams in Western West Virginia and Eastern Kentucky*, ed. C.V. Noble, J.F. Berkowitz and J. Spence. ERDC/EL TR-10-11. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- D'Amore, D.V., N.S. Bonzey, J.F. Berkowitz, L. Ruegg, and S.B. Bridgham. 2010. *Holocene soil-geomorphic surfaces influence the role of salmon-derived nutrients in the coastal temperate rainforest of Southeast Alaska*. Geomorphology. In Press.
- Berkowitz, J.F. 2010. Symposium Chairman, *Hydric soils: Indicators, standards, and applications*. Society of Wetland Scientist Annual Meeting. Salt Lake City, UT.
- Berkowitz, J.F. 2010. *National survey of field indicators of hydric soils in the United States—usage and problematic determinations*. Society of Wetland Scientist Annual Meeting. Salt Lake City, UT.
- Noble, C.V. and J.F. Berkowitz. 2010. *Hydrogeomorphic (HGM) guidebooks for ecosystem assessment*. Society of Wetland Scientist Annual Meeting. Salt Lake City, UT.
- Berkowitz, J.F. and J. Wakeley. 2010. *Regional supplements to the Corps of Engineers wetland delineation manual: 2010 update*. Society of Wetland Scientist Annual Meeting. Salt Lake City, UT.
- U.S. Army Engineers. 2010 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region*, ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-10-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Engineers. 2010 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Hawai'i and Pacific Island Regions*, ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-10-6. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Berkowitz, J.F. 2009. *Using IRIS tubes to monitor reduced conditions in soil - Project design*. ERDC TN-WRAP-09-1. <http://el.erdc.usace.army.mil/elpubs/pdf/tnwrap09-1.pdf>
- Berkowitz, J.F. and J. Wakeley. 2009. *Regional supplements to the Corps of Engineers wetland delineation manual: 2009 update*. Society of Wetland Scientist Annual Meeting. Madison, WI.
- Berkowitz, J.F., M.A. Anderson, and C. Amrhein. 2006. *Influence of age on phosphorous sorption to alum floc in lake water*. Water Research 40.pp.911-916.
- Berkowitz, J.F., M.A. Anderson, and R.C. Graham. 2005. *Laboratory investigation of aluminum solubility and solid-phase properties following alum treatment*. Water Research 39.
- Mass., R.P., S.C. Patch, J.F. Berkowitz, and H.O. Johnson. 2004. *Determination of the solids retention potential of selected brands of disposable swim diapers*. J. Environ. Health 66.
- Mass., R.P., S.C. Patch, J.F. Berkowitz. 2004. *Integrated Studies of the dynamics of arsenic release and exposure from CCA-treated lumber. Environmental impacts of preservative-treated wood*. Orlando, FL.
- Maas, R.P., S.C. Patch, and J.F. Berkowitz. 2003. *Update on health effects related to use of CCA treated lumber*. Chemistry in New Zealand. 25-31.