

**Stephen R. Kraemer, Research Hydrologist, in EPA's National Exposure Research Laboratory**

Systems Exposure Division

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**Area of Expertise:** My research has been directed at developing and testing multi-scale ground water flow computer modeling techniques to support EPA goals in Clean and Safe Water. Specific topic support has included Wellhead Protection, Hydraulic Fracturing, Deep Carbon Geologic Sequestration, Sustainability, Integrated Assessments, Nonpoint Source Nitrogen, Coastal Aquifers Modeling, Watershed Modeling, and Groundwater Modeling.

**Select Publications:**

Sullivan, Kathleen, Michael Cyterski, Stephen R. Kraemer, Chris Knights, Katie Price, Keewook Kim, Lourdes Prieto, Mark Gabriel, Roy C. Sidle, 2015. Case Study Analysis of the Impacts of Water Acquisition for Hydraulic Fracturing on Local Water Availability, US Environmental Protection Agency Research Report, EPA 600/R-14/179 (May 2015).

Varadharajan, C., Birkholzer, J., Kraemer, S., Porse, S., Carroll, S., Wilkin, R., Maxwell, R., Bachu, S., Hovorka, S., Daley, T., Digiulio, D., Carey, B., Strasizar, B., Huerta, N., Gasda, S., Crow, W., 2012. Summary Report on 2011 CO<sub>2</sub> Geologic Sequestration & Water Resources Workshop, Lawrence Berkeley National Laboratory Report, LBNL-5346E, January 2012, 79 pages.

Bandilla, K., S. Kraemer, and J.T. Birkholzer, 2012. Using semi-analytic solutions to approximate the area of potential impact for carbon dioxide injection, *International Journal of Greenhouse Gas Control*, 8:196-204

Birkholzer, J.T., J.P. Nicot, C.M. Oldenburg, Q. Zhou, S. Kraemer, K. Bandilla, 2011. Brine flow up a well caused by pressure perturbation from CO<sub>2</sub> storage: static and dynamic evaluations, *International Journal of Greenhouse Gas Control*, 5:850-861, doi:10.1016/j.ijggc.2011.01.003.

Kraemer, Stephen R., Henk M. Haitjema, and Victor A. Kelson, 2007. Working with WhAEM2000: Capture Zone Delineation for a City Wellfield in a Valley Fill Glacial Outwash Aquifer Supporting Wellhead Protection, US Environmental Protection Agency Report, EPA/600-05/151, update July 2007.

Spruill, T.B., A.J. Tesoriero, H.E. Mew Jr., K.M. Farrell, S.L. Harden, A.B. Colosimo and S.R. Kraemer. 2005. Geochemistry and characteristics of nitrogen transport at a confined animal feeding operation in a Coastal Plain agricultural watershed, and implications for nutrient loading in the Neuse River Basin, North Carolina, 1999-2002, U.S. Geological Survey Scientific Investigations Report 2004-5283, 57pp.

View more research publications by [Stephen Kraemer](#).

**Education:**

- Ph.D. Environmental Science, Indiana University, 1990
- M.S. Environmental Science, Indiana University, 1985
- B.S. Engineering Science, University of Notre Dame, 1982

**Professional Experience:**

- Research Hydrologist, USEPA, ORD, NERL-ERD, Athens, GA, 2013–present
- Research Hydrologist, USEPA, ORD, OSP, Washington, DC, 2011-2012
- Research Hydrologist, USEPA, ORD, NERL-ERD, Athens, GA, 2003–present
- Research Hydrologist, USEPA, ORD, NERL-ESD, RTP, NC, 2001–2002
- Research Hydrologist, USEPA, ORD, NERL-ERD, Athens, GA, 1997–2001
- Research Hydrologist, USEPA, NRMRL, SPRD, Ada, OK, 1990–1997
- Lecturer in Hydrology, University of Virginia, Charlottesville, VA, 1988-1989