

**JEANNIE R.B. BARLOW**  
Hydrologist/Groundwater Specialist  
U.S. Geological Survey, Mississippi Water Science Center  
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**Education:**

**Doctoral Degree**, Mississippi State University, Starkville, MS, **December 2013**  
Major: College of Forest Resources, Wildlife, Fisheries and Aquaculture  
Dissertation Title: The effect of groundwater withdrawals from the Mississippi River Valley alluvial aquifer on water quantity and quality in the Mississippi Delta

**Master's Degree**, University of Arizona, Tucson, AZ, **December 2005**  
Major: Hydrology and Water Resources  
Thesis Title: Determination of Ground-water Flow Paths Using Stable Isotopes as Geochemical Tracers: Upper and Middle Verde Watersheds, Arizona, USA

**Bachelor's Degree**, Millsaps College, Jackson, MS, **May 2003**  
Major: Geology Honors: Magna Cum Laude, With Honors  
Honors Project: An investigation of the origin and extent of a hill-slope wetland, Millsaps College, Jackson, Mississippi

**Recent Professional Experience:**

March 1, 2013 to Present: **National Water Quality Assessment (NAWQA) Program Groundwater Assessment Team, Principal Aquifer Analyst for the Gulf Region, USA**

The NAWQA Program supports monitoring and modeling of water-quality conditions over varying spatiotemporal scales with the goal to provide Local, State, Tribal, and national stakeholders necessary information to understand and manage their water resources. I serve as the Principal Aquifer Analyst for the Gulf region of the United States, an area which covers 10 states stretching from Kansas to Florida. Through this role, I work with the Water Science Centers within the Gulf region on the development and implementation of NAWQA groundwater studies, which include an array of sampling networks at varying spatial and temporal scales. I review and ensure the quality of all data, report out data, and collaborate on interpretive products which communicate results from these studies in a manner that emphasizes their relevance to stakeholders.

July 1, 2008 to Present: **U.S. Geological Survey, Mississippi Water Science Center, Groundwater Specialist and Project Manager for Groundwater/Surface-Water Interactions in Watersheds (GSIW) studies**

The MS Water Science Center is involved in an array of projects focused on the role of groundwater/surface-water interactions in hydrologic and biogeochemical processes within watersheds. I serve as the groundwater specialist for the Mississippi Water

Science Center and project manager for GSIW studies, and am responsible for all groundwater related activities and communications in MS as well as the development of groundwater and groundwater/surface-water related projects. Through this role, I have worked in collaboration with U.S. Geological Survey National Research Program scientists to develop new methodologies for the assessment of groundwater/surface-water interaction, such as recent participation in a pilot study to ascertain the feasibility of coupled groundwater/surface-water gaging stations..

### **Selected Publications:**

**Barlow, J.R. B.**, Kröger, R., 2013, Nitrogen transport within an agricultural landscape: Insights on how hydrology, biogeochemistry, and the landscape intersect to control the fate and transport of nitrogen in the Mississippi Delta, *Journal of Soil and Water Conservation*, 69(1), 11A–16A.

Coupe, R.H., **Barlow, J.R.B.**, and Capel, P.D., 2012, Complexity of human and ecosystem interaction in an agricultural landscape, *Environmental Development*, Vol. 4, p. 88-104.

Constantz, J., **Barlow, J.**, Eddy-Miller, C., Caldwell, R., and Wheeler, J., 2012, Expanded streamgaging includes groundwater data and trends: *Eos, American Geophysical Union Transactions*, v. 93, no. 49, p. xx.

**Barlow, J.R.B.**, Kingsbury, J.A., and Coupe, R.H., 2012, Changes in shallow groundwater quality beneath recently urbanized areas in the Memphis, Tennessee Area, *Journal of the American Water Resources Association*, vol. 48, no. 2, p. 336-354.

**Barlow, J.R.B.**, and Coupe, R.H., 2012, Groundwater and surface-water exchange and resulting nitrate dynamics in the Bogue Phalia Basin in northwestern Mississippi. *J. Environ. Qual.* 41:155-169.

**Barlow, J.R.B.**, and Coupe, R.H., 2009, Use of heat to estimate streambed fluxes during extreme hydrologic events. *Water Resources Research*. Vol. 45, W01403, DOI: 10.1029/2007WR00612.

**Bryson, J.R.**, Blasch, K.W., Hoffmann, J.P., 2006, A Local Meteoric Water line and Isotope-Elevation Gradient Relations for the Upper and Middle Verde River Watersheds: *Southwest Hydrology*, January/February 2007.

Blasch, K.W., and **Bryson, J.R.**, 2006, Distinguishing Sources of Ground-water Recharge in Central Arizona Using  $\delta^2\text{H}$  and  $\delta^{18}\text{O}$ : *Ground Water*, Vol. 45, No. 3: 294-308.