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EDUCATION **WEST VIRGINIA UNIVERSITY**, MS Geology
COLLEGE OF CHARLESTON, BS Geology

EXPERIENCE **U.S. GEOLOGICAL SURVEY**, 1730 E Parham Rd, Richmond VA
(2009-Present) - Hydrologist

U.S. GEOLOGICAL SURVEY, 5338 Montgomery NE, Albuquerque NM
(2007-2009) - Hydrologist

U.S. GEOLOGICAL SURVEY, 11 Dunbar St, Charleston WV
(2002-2006) -Hydrologist

PUBLICATIONS

- Rankin, Dale R.; McCoy, Kurt J.; More, Geoff J.M.; Worthington, Jeffrey A.; Bandy-Baldwin, Kimberly M., 2013. Groundwater hydrology and estimation of horizontal groundwater flux from the Rio Grande at selected locations in Albuquerque, New Mexico, 2003-9. U.S. Geological Survey Scientific Investigations Report 2012-5007, vii, 66 p.
<http://pubs.usgs.gov/sir/2012/5007/SIR2012-5007.pdf>
- Kozar, M.D., **McCoy, K.J.**, Blake, B.M, and Britton, J.Q., 2012, Hydrogeology, groundwater flow, and groundwater-quality of an abandoned underground coal-min aquifer, Elkhorn area, West Virginia: West Virginia Geological and Economic Survey Bulletin B-46, 103p.
- Kozar, M.D., and McCoy, K.J., 2012, Use of MODFLOW drain package for simulating interbasin transfer of groundwater in abandoned coal mines: Journal of The American Society of Mining and Reclamation, v. 1, no. 1, p. 27-43. <http://www.asmr.us/Publications/Journal/Kozar-WA.pdf>
- McCoy, K.J.**, Kozar, M.D., Yager, R.M., Harlow, G.E., and Nelms, D.L., 2011, Synthesis of multiple scale modeling in the faulted and folded karst of the Shenandoah Valley, Virginia and West Virginia, *In*, Kuniansky, E.L., (ed.) U.S. Geological Survey Karst Interest Group Proceedings, Fayetteville, Arkansas: U.S. Geological Survey Scientific Investigations Report 2011-5031.
<http://pubs.usgs.gov/sir/2011/5031/pdf/sir20115031.pdf>
- Matherne, A.M., Myers, N.C., and **McCoy, K.J.**, 2010, Hydrology of Eagle Creek basin and effects on groundwater pumping on streamflow, 1969-2009: U.S. Geological Survey Scientific Investigations Report 2010-5205. <http://pubs.usgs.gov/sir/2010/5205/pdf/SIR10-5205.pdf>
- McCoy, K.J.**, and Blanchard, P.J., 2008, Precipitation, ground-water hydrology, and recharge, along the eastern slopes of the Sandia Mountains, Bernalillo County, New Mexico: U.S. Geological Survey Scientific Investigations Report 2008-5179. <http://pubs.usgs.gov/sir/2008/5179/pdf/SIR2008-5179.pdf>
- McCoy, K.J.**, and Kozar, M.D., 2008. Use of sinkhole and specific capacity distributions to assess vertical gradients in a karst aquifer, Environmental Geology, v. 54, no. 5, p. 921-935.
<http://link.springer.com/article/10.1007%2Fs00254-007-0889-1#page-1>
- Kozar, M.D., **McCoy, K.J.**, Weary, D.J., Field, M.S., Pierce, H.A., Schill, W.B., and Young, J.A., 2007, Hydrogeology and Water Quality of the Leetown Area, West Virginia: U.S. Geological Survey Open-File Report 2007-1358. <http://pubs.usgs.gov/of/2007/1358/>

- McCoy, K.J.**, and Kozar, M.D., 2006, Evaluation of chlorofluorocarbon ground-water age dates and associated water quality in aquifers of West Virginia: U.S. Geological Survey Scientific Investigations Report 2006-5221. <http://pubs.usgs.gov/sir/2006/5221/>
- Boughton, C.J., and **McCoy, K.J.**, 2006, Geohydrology, ground-water availability, and geochemistry of Morgan County, West Virginia. U.S. Geological Survey Scientific Investigations Report 2006-5198. <http://pubs.usgs.gov/sir/2006/5198/>
- McCoy, K.J.**, Donovan, J.J., and Leavitt, B., 2006, Horizontal Hydraulic Conductivity Estimates for Intact Coal Barriers Between Closed Underground Mines. Environmental and Engineering Geoscience, v. 12, p. 273-282. <http://eeg.geoscienceworld.org/content/12/3/273.full.pdf+html>
- McCoy, K.J.**, Podwysoki, M.H., Crider, E.A., and Weary, D.J., 2005. Fracture trace map and single well aquifer test results of a carbonate aquifer in Jefferson County, West Virginia, USGS Open-File Report 2005.
- McCoy, K.J.**, Podwysoki, M.H., Crider, E.A., and Weary, D.J., 2005. Fracture trace map and single well aquifer test results of a carbonate aquifer in Berkeley County, West Virginia, USGS Open-File Report 2005.
- Evaldi, R.D. and **McCoy, K.J.**, 2004. Water resources in the Wardensville Area, Hardy County, West Virginia, October 2003-May 2004, USGS Open-File Report 2004-1363.
- Kozar, M.D., and **McCoy, K.J.**, 2004. Geohydrology and simulation of ground-water flow in Ohio River alluvial aquifers near Point Pleasant, Lubeck, Parkersburg, Vienna, Moundsville, and Glendale, West Virginia, USGS Scientific Investigations Report 2004-5088.
- Donovan, J.J., Leavitt, B.K., **McCoy, K.J.**, Werner, E., and Steketee, J., 2001. Modeling the Flooding of Below-Drainage Underground Coal Mines, Pittsburgh Coal Basin, WV-PA. 2001 WV Surface Mine Drainage Task Force Symposium, Morgantown, WV.

PROFESSIONAL PRESENTATIONS/ABSTRACTS

- 2011 U.S. Geological Survey Karst Interest Group Proceedings
Synthesis of multiple scale modeling in the faulted and folded karst of the Shenandoah Valley, Virginia and West Virginia
- 2009 National Meeting of the Geological Society of America, Denver, CO
Groundwater circulation in mountain blocks adjacent the Rio Grande Rift
- 2008 New Mexico Water Research Symposium, Socorro, NM.
Timing, distribution, and mechanisms of monsoon recharge to carbonate and clastic aquifers in the Sandia and Manzanita Mountains, NM
- 2008 U.S. Geological Survey Karst Interest Group Proceedings
Conduit-matrix interaction and the rate limiting step of contaminant transport in karst
- 2008 U.S. Geological Survey Karst Interest Group Proceedings
Simulation of Ground-Water Flow in a Fractured-Rock Karst Aquifer, Shenandoah Valley, Leetown, West Virginia
- 2006 Great Valley Water Resources Science Forum Meeting, Winchester, VA
Revisiting the karst continuum concept in the Great Valley
- 2006 National Meeting of the Geological Society of America, Philadelphia, PA
Characterizing faults in a karst aquifer using borehole log and aquifer test analyses
- 2005 Great Valley Water Resources Science Forum Fall Meeting, Winchester, VA

Use of sinkhole and specific capacity distributions to assess flow directionality in a carbonate aquifer

- 2005 National Meeting of the Geological Society of America, Salt Lake City UT
Conceptualizing lithologic and structural controls on a carbonate aquifer in the Great Valley, West Virginia
- 2005 Great Valley Water Resources Science Forum Spring Meeting, Leetown, WV
Multiple well aquifer pump test analysis at Leetown, WV
- 2004 Great Valley Water Resources Science Forum Meeting, Winchester, VA
Relationship of aquifer properties to geologic structure in karst terrain
- 2002 National Meeting of the Geological Society of America, Denver CO.
Estimation of hydraulic conductivity for horizontal flow across coal mine barriers: A large scale field test in West Virginia
- 1999 Southeast Section Meeting of the Geological Society of America, Charleston SC.
Analysis of water quality effluents from abandoned mines of Pittsburgh coal in the Dunkard Creek Basin, WV-PA: A time and depth examination
- 1998 Southeast Section Meeting of the Geological Society of America, Athens GA.
Comparison of modeling boundary conditions for a shallow coastal plain aquifer system at Charleston, South Carolina

**RESEARCH
INTERESTS**

My research has focused on understanding and conceptualizing heterogeneities in fractured rock terrains. I have demonstrated several methods to understand groundwater flow and enhance management of aquifers through research in:

- Geostatistical analysis of spatial and temporal groundwater data
- Contaminant migration in fracture rocks
- Water-availability at watershed to basin scale
- Structural controls on groundwater flow

**PROFESSIONAL
MEMBERSHIPS**

Geological Society of America
National Groundwater Association