

Patricia Spellman
Curriculum Vitae 2017

Post-Doctoral Researcher
University of Florida
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EDUCATION

Michigan Technological University	<i>Ph.D. Civil Engineering</i>	2013-2016
University of Florida	<i>M.S. Geology</i>	2010-2012
University of South Florida	<i>B.S. Geology; Minor: Mathematics</i>	2005-2009

APPOINTMENTS

Post-Doctoral Researcher <i>University of Florida</i>	2017-Present
Post-Doctoral Researcher <i>School of Geosciences, University of South Florida</i>	2017
National Science Foundation GK12 Ph.D. Fellowship <i>Michigan Technological University</i>	2014-2016
Graduate Research Assistant <i>Civil Engineering, Michigan Technological University</i>	2013-2014
Graduate Teaching Assistant, <i>Geological Sciences, University of Florida</i>	2011
Graduate Research Assistant <i>Geological Sciences, University of Florida</i>	2010-2012

PUBLICATIONS

In Review

1. **Spellman, P.**, Webster, V., Watkins, D. (2017) Bias correcting peak flow series data from Soil and Water Assessment Tool (SWAT) model output. *Journal of Flood Risk Management*
2. **Spellman, P.**, Webster V. (2017) The significance of baseflow across the flood frequency curve. *Hydrological Processes*.

3. **Spellman, P.**, Webster, V. (2017) Influence of climatic variability on US annual maximum flood series. *Journal of Flood Risk Management*.
4. **Spellman P.**, Webster V., Mayer, A.S. (2017) Subsurface heterogeneity and its impact on flood risk estimation. *Hydrological Processes*

In preparation or near submission

1. **Spellman P.**, Gulley, J.D., Martin J.B., Loucks, J. (near submission) Controls on surface and groundwater interactions on a karst watershed. *Earth Surface Processes and Landforms*.
2. **Spellman P.** (near submission) Timing and magnitude of recharge and subsequent effects on freshwater lens dynamics across the Northern Guam Lens Aquifer (NGLA). *Groundwater*
3. **Spellman, P.**, Webster, V. (in prep). Developing a new regional skew for the Suwannee River Basin: Drainage area vs. geomorphic similarity. *Water Resources Research*.

Peer-reviewed

1. Gulley, J. D., Martin, J. B., Moore, P. J., Brown, A., **Spellman, P.**, and Ezell, J. (2015) Heterogeneous distributions of CO₂ may be more important for dissolution and karstification in coastal eogenetic limestone than mixing dissolution. DOI: 10.1002/esp.3705. *Earth Surface Processes and Landforms*, v. 40: pp. 1057–1071.
2. Brown, A Martin, J. B., Sreaton, Elizabeth, Ezell, J, **Spellman, P.**, Gulley, J. D. (2014) Bank storage in karst aquifers: The impact of temporary intrusion of river water on carbonate dissolution and trace metal mobility. *Chemical Geology*, v. 385: pp. 56-69.
3. Gulley, J. D., **Spellman, P.**, Covington, M. D., Martin, J. B., Benn, D. I. Catania, G. (2014) Large values of hydraulic roughness in subglacial conduits during conduit enlargement: Implications for modeling conduit evolution. *Earth Surface Processes and Landforms*, v. 39: pp. 296–310.
4. Gulley, J. D., Martin, J. B., **Spellman, P.**, Moore, P. J., Sreaton, E. J. (2014) Influence of partial confinement and Holocene river formation on groundwater flow and dissolution in the Florida carbonate platform. DOI: 10.1002/esp.3447. *Hydrological Processes*, v. 28: pp. 705-717.
5. LaFond, K., Griffis, V., and **Spellman, P.** (2014) Forcing hydrologic models with GCM output: Bias correction vs. the "Delta Change" method. DOI: 10.1061/9780784413548.214. *World Environmental and Water Resources Congress*. pp. 2146-2155.

6. Martin J.B., Gulley J.D., **Spellman, P.** (2011) Tidal pumping of water between Bahamas blue holes, the aquifer and the ocean. *Journal of Hydrology*, v. 416: pp. 28-38.

*Conference Abstracts
(Posters and Talks)*

1. **Spellman, P.**, Webster, V. Comparative effects of land use and climate change on flood risk. Environmental and Water Resources (EWRI) Congress 2017
2. **Spellman P.**, Webster V. Differential impacts of baseflow on the flood frequency curve. American Geophysical Union (AGU) Annual Meeting 2016
3. **Spellman P.** (*Speaker**), Webster, V. Bias correcting flood series data from SWAT model output: A comparison of methods. Environmental and Water Resources (EWRI) Congress 2016
4. **Spellman P.**, Martin, J., Mayer, A. A teaching unit engineered to bring water resources problems into the middle school classroom. Geological Society of America (GSA) Annual Meeting 2015
5. **Spellman P.**, Griffis, V. The role of basin interactions on flood frequency analysis. Environmental and Water Resources (EWRI) Congress 2014
6. **Spellman P.**, Griffis, V. Streamflow across physiographic boundaries: Implications for flood frequency analysis in karst terrain. Geological Society of America (GSA) Annual Meeting 2013
7. **Spellman, P.**, Martin, J., Sreaton, E., Gulley, J., and Brown, A. Using MODFLOW with CFP to understand conduit-matrix exchange in a karst aquifer during flooding. American Geophysical Union (AGU) Annual Meeting 2011.
8. **Spellman P.**, Sreaton, E.J., Martin J.B. Gulley J.D., Brown A. Using MODFLOW-2005 and CFP to understand the dynamics of groundwater flow in a karst springshed during floods. Geological Society of America (GSA) Annual Meeting 2011
9. Brown, A., Martin, J., Sreaton, E.J., **Spellman, P.**, and Gulley, J. The impact of river water intrusion on trace metal cycling in karst aquifers: an example from the Floridan Aquifer System at Madison Blue Spring, Florida. American Geophysical Union (AGU) Annual Meeting 2011
10. **Spellman P.**, Sreaton E.J., Martin J.B. The role of a river in a mixed siliciclastic-carbonate environment Geological Society of America (GSA) Annual Meeting 2010

Seminar Talks

2016

Michigan Technological Environmental Engineering Seminar
“Going to extremes: Floodwater storage effects on flood risk estimation”

TEACHING EXPERIENCE

2014-2016	L'Anse Middle School Science (GK12 Fellow)
2011	Physical Geology Honors (Lab)
2009	Sanford Brown Algebra Teacher

SERVICE AND OUTREACH

- **REEF** Survey Participant
- Science Fair Judge Copper Country District, Houghton, MI 2016
- Science Fair Judge Copper Country District, Houghton, MI 2015
- Science Olympiad Judge, Orlando State Competition 2011
- Science Olympiad Mentor (McLane Middle School) 2011
- Student education on groundwater at Lakewood Middle School
- Science Olympiad Mentor 2010 (McLane Middle School)
- Groundwater quality outreach at "Springs Celebration" 2010

