



## Andrew Reeve, Ph.D.

*Professor of Earth Sciences, School of Earth and Climate Sciences, University of Maine  
Researcher, Sustainability Solutions Initiative*

### Profile:

Andrew Reeve is a hydrogeologist and faculty member at the University of Maine. His current research activities include studying peatland hydrology with a focus on the role of hydrology in carbon-dynamics in peatlands, assessing groundwater interaction with surface water systems, and exploring the hydrogeologic use of bore-hole geophysics. In all these activities, Reeve uses computer modeling and other computational tools to integrate and interpret field data.

Reeve's SSI project (Safeguarding a Vulnerable Watershed) involves developing a computer model that integrates river discharge with lake level fluctuation, with a focus on the Sebago Lake Watershed in southern Maine. The Sebago team is creating an interactive virtual watershed that will allow users to simulate how changing weather patterns, human changes to the landscape, and other management practices influence flow to and water level in Sebago Lake. This computer model, delivered to users through the internet, will serve as an educational and outreach tool.

### Degrees:

Syracuse University, Ph.D. (Earth Sciences)  
Northern Illinois University, M.S. (Earth Sciences)  
University of Illinois, B.S. (Geology)

### Courses:

Fresh-Water Flows  
Hydrogeology  
Computer Scripting for Data Analysis  
Geology Applied to Engineering

### Office Address:

Bryand Global Science Center,  
Room 220

### Mailing Address:

Earth and Climate Science  
5790 Bryand Global Science Ctr  
University of Maine  
Orono, ME 04469-5790

### Contact Information

Phone: 207/581-2353  
Email: [asreeve@maine.edu](mailto:asreeve@maine.edu)

### Research Interests:

Groundwater Flow and Solute  
Transport in Wetland Systems  
Surface Water Interaction with  
Groundwater  
Computer Simulation of  
Groundwater Processes  
Hydrogeologic Application of  
Borehole Geophysics



## Media Expertise:

Groundwater Hydrology and Geochemistry

Peatland Systems

Computer Modeling

Python Scripting for Data Analysis

## SSI Project:

Safeguarding a Vulnerable Watershed

## Student Opportunities

See departmental web page for current research activities:  
<http://umaine.edu/earthclimate/faculty-staff/faculty-and-staff/andrew-reeve/>

Senator George J. Mitchell  
Center and the Sustainability  
Solutions Initiative

5710 Norman Smith Hall  
Orono, Maine 04469  
207/581-3244  
207/518-3320 fax  
UMGM@maine.edu  
[www.umaine.edu/mitchellcenter](http://www.umaine.edu/mitchellcenter)

## Selected Publications:

C.E. Bon, A.S. Reeve, L. Slater, and X. Comas, "Using Hydrologic Measurements to Investigate Free Phase Gas Ebullition in a Maine Peatland, USA," *Hydrology and Earth System Sciences*, in press.

A.S. Reeve, P.H. Glaser, and D.O. Rosenberry, "Seasonal Changes in Peatland Surface Elevation Recorded with GPS Stations in the Red Lake Peatlands, Northern Minnesota, USA," *Journal of Geophysical Research: Biogeosciences* 118 (2013): 1616-1626.

J.R. Sawdey and A.S. Reeve, "Automated Inverse Computer Modeling of Borehole Flow Data in Heterogeneous Aquifers," *Computers & Geosciences* 46 (2012): 219-228.

X. Comas, L. Slater, and A.S. Reeve, "Atmospheric Pressure Drives Changes in the Vertical Distribution of Biogenic Free-Phase Gas in a Northern Peatland," *Journal of Geophysical Research* 116 (2011).

T.R. Morley, A.S. Reeve, and A. Calhoun, "The Role of Headwater Wetlands in Altering Stream Flow and Chemistry in a Maine, USA Catchment," *Journal of the American Water Resources Association* 47 (2011): 337-349.

A.S. Reeve, Z.D. Tyczka, X. Comas, and L.D. Slater, "The Influence of Permeable Mineral Lenses on Peatland Hydrology," in *Carbon Cycle in Northern Peatlands*, eds. Andrew J. Baird, Lisa R. Belyea, Xavier Comas, A.S. Reeve, and Lee D. Slater (Geophysical Monograph Series, 184, 2009).

A.S. Reeve and M. Gracz, "Simulating the Hydrogeologic Setting of Peatlands in the Kenai Peninsula Lowlands," *Wetlands* 28 (2008): 92-106.

Xavier Comas, Lee Slater, and A.S. Reeve, "Seasonal Geophysical Monitoring of Biogenic Gases in a Northern Peatland: Implications for Temporal and Spatial Variability in Free Phase Gas Production Rates," *Journal of Geophysical Research* (2008).

X. Comas, L. Slater, and A. Reeve, "In Situ Monitoring of Free-Phase Gas Accumulation and Release in Peatlands Using Ground Penetrating Radar (GPR)," *Geophysical Research Letters* 34 (2007).

G. Lipfert, W.C. Sidle, A.S. Reeve, R.A. Ayuso, and A.J. Boyce, "High Arsenic Concentrations and Enriched Sulfur and Oxygen Isotopes in a Fractured-Bedrock Ground-Water System," *Chemical Geology* 242 (2007): 385-399.

L. Slater, X. Comas, A. Reeve, and H. Jol, "Surveying Hydrology, Ecology, and Climate Effects of Northern Peatlands," *Eos Transactions American Geophysical Union* 88, no. 42 (2007): 428.

G. Lipfert, A. Reeve, W. Sidle, and R. Marvinney, "Geochemical Patterns of Arsenic-Enriched Ground Water in Fractured, Crystalline Bedrock, Northport, Maine, USA," *Applied Geochemistry* 21 (2006): 528-545.

A.S. Reeve, R. Evensen, P.H. Glaser, D.I. Siegel, and D. Rosenberry, "Flow Path Oscillations in Transient Ground-Water Simulations of Large Peatland Systems," *Journal of Hydrology* 316 (2006): 313-324.