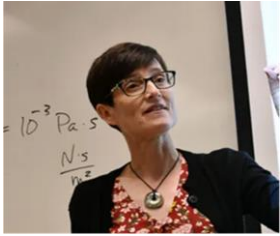


Thursday
May
4th

EARTH AND ENVIRONMENTAL SCIENCES

DEPARTMENT SEMINAR

2023 DARCY LECTURE



**Dr. Alicia
Wilson**

**School of the
Earth, Ocean,
and
Environment**

**University of
South Carolina**

Subseafloor Hydrogeology: Moving beyond watersheds

The field of submarine groundwater discharge (SGD) was launched in the 1990s by the remarkable discovery, via naturally-occurring isotopic tracers, that saline groundwater was discharging to the South Atlantic Bight in very large volumes. Subsequent studies confirmed that saline groundwater discharges to the Atlantic Ocean in volumes that rival river discharge. All available evidence indicates that this saline groundwater is highly enriched in nutrients compared to river water, so the nutrient contributions of this submarine discharge exceed that of river discharge. These findings have been slow to find widespread acceptance, however, because it has been exceedingly difficult to confirm this flow by means other than the original isotropic tracers. This discharge does not occur near the shoreline, and no conceptual models for SGD far from shore existed. This changed recently when new studies using heat as a tracer identified clear pulses of groundwater discharge 10-15 km offshore in the South Atlantic Bight. This talk investigates this 20-year mystery and the recent discoveries that suggest that it may be time to rewrite chemical budgets for the coastal ocean.

Biography: Alicia Wilson is a professor of hydrogeology in the School of the School of the Earth, Ocean, and Environment at the University of South Carolina. She specializes in coastal hydrogeology, with a particular focus on coastal ecohydrology and submarine groundwater exchange. A fellow of the Geological Society of America, Wilson has served as the chair the GSA Hydrogeology Division and the Director of the School of the Earth, Ocean, and Environment. She is a recipient of the University of South Carolina's Mungo Undergraduate Teaching Award. Wilson holds a Ph.D. from the Johns Hopkins University, an MS from Stanford University, and a BA from Dartmouth College. She held a National Research Council Postdoctoral Research fellowship at the USGS in Reston, VA, and held a postdoc at the University of California, Santa Barbara.

WHEN

Thursday, May 4, 2023
2:00 p.m.

WHERE

University of Waterloo
EIT 1015

FREE ADMISSION ~ ALL WELCOME

