THE GEOLOGICAL SOCIETY OF AMERICA®
CONNECTS 2021
10–13 October
Portland, Oregon, USA

Home
Search
T Technical Sessions
D Discipline Sessions
P Pardee Keynote Sessions
T Topical Sessions
N Noontime Lectures
S Special Lectures
N Non-technical Events
S Short Courses
F Field Trips
E Exhibits
Schedule by Day
Presenters
Attendee List
N Networking Corner
Diversity and Ethics
Sponsors
Meeting Resources

59-9 - GEOCHEMICAL PROPERTIES OF SEEPAGE-FILTRATION AND FRACTURE SPRINGS IN WISCONSIN

Sunday, October 10, 2021
2:30 PM - 6:30 PM
Oregon Convention Center - Exhibit Hall A

Booth No. 78

Abstract

The spatial distribution of temperature differs between many seepage-filtration and fracture springs. In this study, we explore if there are also differences in the spatial distribution of geochemical properties between these two spring orifice geometries. To do this, we studied six springs in Wisconsin, three seepage-filtration and three fracture springs. Spring water geochemistry is important because it influences spring habitat. It is also useful in understanding groundwater residence times and aquifer materials.

At each spring orifice, sampling points were set and mapped at 30 cm intervals. Water samples were collected and analyzed for chloride and nitrate using ion-specific electrodes. A sonde was also used to analyze water pH, conductivity, and temperature at each interval. A single water sample was collected near the spring orifice and sent to the UW-Stevens Point Water and Environmental Analysis Lab for analysis of major cations and anions. A FLIR Vue pro camera captured thermal images at the same location.

Summary statistics show that seepage-filtration springs generally have more variation in the geochemical properties measured. On the other hand, fracture springs show less variation in the measurements of each geochemical property. Additionally, GIS maps created using the Inverse Distance Weighted method show that seepage-filtration springs have a greater spatial variation in geochemistry than fracture springs.

The research shows that springs with more variable distribution of temperature, like seepage-filtration springs, may also have more variation in geochemical properties. Some possible explanations

Sign out

Technical Support

Meeting Time - *PDT*

My Time - *CDT*

Click to add an item to 'My Schedule'.

Click to add/remove an item to 'My Favorites'.

Click to add/remove a person to 'My Contacts'.

Click in the menu to access your Schedule

different between seepage-filtration and fracture springs. Fracture springs with less variation may be better indicators of groundwater conditions.

Geological Society of America Abstracts with Programs. Vol 53, No. 6, 2021
doi: 10.1130/abs/2021AM-370439

© Copyright 2021 The Geological Society of America (GSA), all rights reserved.

Author

E

Isabella Ergh
College of Wooster

Authors

M

Maggie Morgan
Macalester College

T

Willow Teipel
Beloit College

T

Phillip Telgen
Whitman College

C

Ocean Clevette
Beloit College

S

Susan Swanson
Beloit College

View Related

Session

59: T47. A Showcase of Undergraduate Research in Hydrogeology (Posters)

Miguel Valencia, *Department of Earth and Environment, Florida International University, Miami, FL,* ***Jacob Clyne***, *School of Earth Sciences, The Ohio State University, Columbus, OH,* ***Samuel Smidt***, *Soil and Water Sciences Department, University of Florida, Gainesville, FL,* ***Tyler V. King***, *Utah State University, Civil and Environmental Engineering, Utah Water Research Laboratory, Logan, UT and* ***Laura***

CD PDT

Sunday, October 10, 2021

2:30 PM - 6:30 PM

Oregon Convention Center - Exhibit Hall A

Topical Sessions

Technical Programs

Similar

SPRING FLUX AS AN INDICATOR OF SOURCE GEOMORPHOLOGY, SUBSTRATA, TEMPERATURE CONDITIONS, AND GEOCHEMICAL CONDITIONS IN SPRINGS

***SWANSON, Susan**, Beloit College, Beloit, WI 53511 and GRAHAM, Grace, Wisconsin Geological and Natural History Survey, University of Wisconsin-Madison, Madison, WI 53705*

USING GEOCHEMICAL AND STATISTICAL ANALYSES TO IDENTIFY LOCAL AND REGIONAL FLOW TO A MULTI-OUTLET SPRING SYSTEM: SAN SOLOMON SPRINGS, TEXAS, USA

***NUNU, Rebecca**[1], BERTETTI, Paul[2], GREEN, Ronald[1] and GAO, Yongli[3], (1)Space Science and Engineering Division, Southwest Research Institute, 6220 Culebra Road, San Antonio, TX 78238, (2)Edwards Aquifer Authority, 900 E Quincy, San Antonio, TX 78215, (3)Department of Geological Sciences, University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249*

IDENTIFYING REGIONAL AND LOCAL CONTRIBUTIONS TO A LARGE KARST SPRING SYSTEM, COMAL SPRINGS, TEXAS, USA

***QUINTANILLA, Jessica**[1], BERTETTI, Franklin[1], GODDARD, Faith[2], BERTETTI, F. Paul[1] and GAO, Yongli[2], (1)Edwards Aquifer Authority, 900 E. Quincy, San Antonio, TX 78215, (2)Department of Geological Sciences, University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249*

WATER CHEMISTRY VARIATIONS IN A KARSTIC AQUIFER SYSTEM: SAN SOLOMON SPRINGS, FAR WEST TEXAS

***LAND, Lewis**, National Cave & Karst Research Institute, New Mexico Tech, 1015 Tijeras Ave NW, Albuquerque, NM 87102 and JONES, Michael, National Cave and Karst Research Institute, New Mexico Tech, 400-1 Cascades Avenue, Carlsbad, NM 88220*

GEOTHERMAL SOURCE CHARACTERISTICS OF MONO HOT SPRINGS, CALIFORNIA

***PLUHAR, Christopher**, Earth & Environmental Sciences Dept, California State University, Fresno, 2576 E. San Ramon Ave., Mail Stop ST-24, Fresno, CA 93740 and DEGRAFF, Jerome V., Earth & Environmental Sciences Dept, California State University, Fresno, 2576 E. San Ramon Ave., Mail Stop ST-24, Fresno, CA 97340*

CD PDT