



COLLEGE of CHARLESTON

DEPARTMENT OF GEOLOGY AND
ENVIRONMENTAL GEOSCIENCES

Faculty and student activity at the

American Geophysical Union Annual Meeting

December 13-17, 2021 – New Orleans, LA

and online <https://www.agu.org/Fall-Meeting>

Click each project title to view abstracts.

Monday, 13 December, 2:00 PM – 2:05 PM EST (1:00 PM– 1:05 PM CST)

Convention Center - Room 291-292

ED13B-03 - Exploring the 2023 and 2024 eclipses through accessible resources.

Cassandra R Runyon¹, Jobi Cook², Caitlin Nolby³, Tori McIntosh³, Marissa Saad³, **Maria Royle**¹, Joseph Minafra⁴ and David Hurd⁵, (1)College of Charleston, Charleston, SC, United States, (2)NC State University, Raleigh, NC, United States, (3)University of North Dakota, Grand Forks, ND, United States, (4)NASA, Washington, DC, United States, (5)Edinboro University of Pennsylvania, Geosciences, Edinboro, PA, United States

Abstract

Monday, 13 December, 5:00 PM – 7:00 PM EST (4:00 PM – 6:00 PM CST)

Convention Center - Poster Hall, D-F, Board 1301

H15V-1301 - Time and Tide: Hydrology, Biogeochemistry and Water Quality in an Estuary Headwaters

Timothy James Callahan, College of Charleston, Geology and Environmental Geosciences, Charleston, SC, United States, Craig J Allan, University of North Carolina at Charlotte, Geography and Earth Sciences, Charlotte, NC, United States, Carl Trettin, USDA Forest Service Southern Research Station, Cordesville, SC, United States and Devendra Man Amatya, US Forest Service Cordesville, Cordesville, SC, United States; US Forest Service, Southern Research Station, Cordesville, SC, United States

Abstract

Monday, 13 December, 5:00 PM – 7:00 PM EST (4:00 PM – 6:00 PM CST)

Convention Center - Poster Hall, D-F, Board 1302

H15V-1302 - Tracing nitrate sources to Saginaw Bay using environmental isotopes ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$) implication for Harmful Algal Blooms

William C Creviston¹, Zelalem K Bedaso², **K. Adem Ali³**, **Camille Sullivan⁴**, David S. Karpovich⁵ and Rebecca Bowen⁵, (1)University of Dayton, Dayton, OH, United States, (2)University of Dayton, Geology and Environmental Geosciences, Dayton, OH, United States, (3)College of Charleston, Department of Geology and Environmental Geosciences, Charleston, SC, United States, (4)College of Charleston, Geology and Environmental Geosciences, Charleston, SC, United States, (5)Saginaw Valley State University, Chemistry, Saginaw, MI, United States

Abstract

Tuesday, 14 December, 5:00 PM – 6:15 PM EST (4:00 PM – 5:15 PM CST)

Online Only

T25E-09 - Temporal variations in magmatic regime during the opening of the Gulf of Mexico

Irina Filina, University of Nebraska Lincoln, Department of Earth and Atmospheric Sciences, Lincoln, NE, United States and **Erin K Beutel**, College of Charleston, Department of Geology and Environmental Geosciences, Charleston, SC, United States

Abstract

Tuesday, 14 December, 9:05 AM – 9:10 AM EST (8:05 AM – 8:10 AM CST)

Convention Center - Room 228-230

EP21B-02 - Barrier island stability and segmentation in micro-tidal environments

Mary Elizabeth Kule, College of Charleston, Charleston, SC, United States, Andrew D Ashton, WHOI, Geology and Geophysics, Woods Hole, MA, United States and Rose Palermo, University of Texas at Austin, Austin, TX, United States

Abstract

Wednesday, 15 December, 2:30 PM – 2:38 PM EST (1:30 PM – 1:38 PM CST)

Convention Center - Room 225-227

PP33A-06 - Multiple fluctuations in marine oxygen associated with the Late Ordovician mass extinction

Nevin Kozik¹, Mu Liu², Emma Ulrika Hammarlund³, David Bond⁴, **Theodore R Them II⁵**, Sean Newby⁶, Jeremy D Owens⁷ and Seth A Young¹, (1)Florida State University, Tallahassee, FL, United States, (2)Chinese Academy of Sciences, Institute of Geology and Geophysics, Beijing, China, (3)Translational Cancer Research, Laboratory Medicine, Lund University, Lund, Sweden, (4)University of Hull, Department of Geography, Geology and Environment, Hull, United Kingdom, (5)College of Charleston,

Geology and Environmental Geosciences, Charleston, SC, United States, (6)Florida State University, Department of Earth, Ocean, and Atmospheric Science, Tallahassee, FL, United States, (7)Florida State University, Tallahassee, FL, United States

Abstract

Thursday, 16 December, 5:00 PM – 7:00 PM EST (4:00 PM – 6:00 PM CST)

Convention Center - Poster Hall, D-F, Board 0351

S45E-0351 - Utilizing Machine Learning and Matched Filter Techniques to Expand the 2011-2012 Summerville, South Carolina Earthquake Catalog

Amanda Jackson¹, Clara Daniels², Lindsay Yuling Chuang², Zhigang Peng², Martin C Chapman³, Qimin Wu⁴ and **Steven C Jaume**⁵, (1)University of Washington Seattle Campus, Earth and Space Sciences, Seattle, WA, United States, (2)Georgia Institute of Technology, Earth and Atmospheric Sciences, Atlanta, GA, United States, (3)Virginia Polytech Inst & St Un, Blacksburg, VA, United States, (4)Letis Consultants International Inc., Concord, CA, United States, (5)College Charleston, Department of Geology and Environmental Geosciences, Charleston, SC, United States

Abstract

Friday, 17 December, 5:00 PM – 7:00 PM EST (4:00 PM – 6:00 PM CST)

Convention Center - Poster Hall, D-F, Board 0706

OS55A-0706 - Modelling Harmful Algal Blooms in Saginaw Bay using Sentinel-2 MSI Data

Camille Sullivan¹, **K. Adem Ali**², Zelalem K Bedaso³, William C Creviston⁴, David S. Karpovich⁵ and Rebecca Bowen⁵, (1)College of Charleston, Geology and Environmental Geosciences, Charleston, SC, United States, (2)College of Charleston, Department of Geology and Environmental Geosciences, Charleston, SC, United States, (3)University of Dayton, Geology and Environmental Geosciences, Dayton, OH, United States, (4)University of Dayton, Dayton, OH, United States, (5)Saginaw Valley State University, Chemistry, Saginaw, MI, United States

Abstract