Georgia Coastal Management Program

Brownbag Presentation

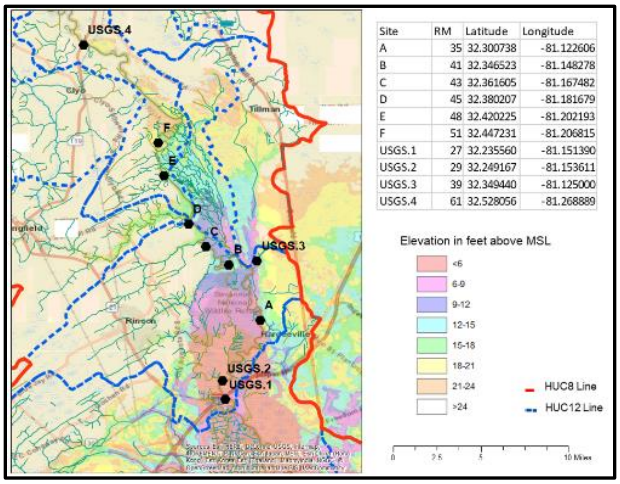
Please join us for the following presentation at the Susan Shipman Environmental Learning Center located in the Northeast corner of the parking lot at DNR's Coastal Regional Headquarters in Brunswick Georgia. Please feel free to bring your lunch.
For questions contact Kelly Hill at (912) 264-7218.

Presentations Begin at Noon

January 7th, 2019

Tidal Reach in the Savannah River

Dr. Shawn Rosenquist, Savannah State University



Site	RM	Latitude	Longitude
A	35	32.300738	-81.122606
B	41	32.346523	-81.148278
C	43	32.361605	-81.167482
D	45	32.380207	-81.181679
E	48	32.420225	-81.202193
F	51	32.447231	-81.206815
USGS.1	27	32.235560	-81.151390
USGS.2	29	32.249167	-81.153611
USGS.3	39	32.349440	-81.125000
USGS.4	61	32.528056	-81.268889

Increasing our understanding of the timing, impacts, extent of tidal reach, and storm tide impacts on Georgia rivers is a significant research opportunity with the potential to have positive impacts for regulators and state agencies, local municipalities, coastal residents, and other regional stakeholders. This study leveraged existing United States Geological Survey (USGS) river state data for the Savannah River, added additional water level gauges in key areas for less than one year, and analyzed these combined large data sets with waveform analysis and Fourier analysis. We will present information on head of tide under various conditions including confirmation of historic estimates of RM45 at an area historically referred to as Ebenezer Landing. We also provide information on the dynamics of wave propagation through the near-coastal area of the Savannah River, give indication of critical areas of concern for flooding resulting from interactions between elevated upstream flows and storm tides, and discuss relevance of study results for various stakeholders. We believe that anyone interested in coastal water resources, especially hydrology of near-coastal rivers, will find the information presented here of significant interest. Please join us.

BIOS

Dr. Shawn Rosenquist joined the faculty of Savannah State University in fall of 2016 as an Instructor in the Environmental Science Program. In addition to teaching, Dr. Rosenquist has worked on course redesign for two courses, served as a faculty writing fellow, and coordinated the First Year Experience course. Prior to coming to SSU, Dr. Rosenquist worked as a post-doctoral research scientist at Phinizy Center for Water Sciences, in Augusta, GA. He conducted water quality and hydrology research on the Savannah River and its tributaries including significant work on oxygen and carbon dioxide dynamics in the river and pathogen contamination in tributaries. He is a graduate of Virginia Tech (Ph.D. Biological Systems Engineering, 2010) and NC State (B.S. Mechanical Engineering, 2004). His doctoral research at Virginia Tech was on the management of phosphorus in runoff through engineered media and biochemical processes in constructed wetlands. He has had the opportunity to travel extensively both professionally and independently including most of the US and also various locations in Asia, Europe, and Latin America.

Dr. Christopher Hintz is an associate professor of Marine Sciences Savannah State University. Hintz graduated from Rose-Hulman Institute of Technology with a B.S. and M.S. in Chemical Engineering in 1995 and 1998, respectively. Dr. Hintz earned his Ph.D. in Marine Sciences at the University of South Carolina in 2004, where he developed specialized culture techniques replicating high-purity deep-sea environments to culture benthic communities. During his post-doctoral research, Hintz developed a state-of-the-art CO2 control system able to strictly poise long-term (6-12 month) culture systems replicating pre-industrial revolution or near-future seawater environments with ± 2 µatm pCO2 precision. Dr. Hintz was hired by Savannah State University in 2009 to develop the Aquarium Certificate Program. From 2012-2014, Hintz held to a two-year Research Associate appointment at the University of St. Andrews (St. Andrews, Scotland, UK), where he aided colleagues in establishing a long-term culture system for tropical corals maintained in pre-industrial-revolution seawater environments. Dr. Hintz has multiple patented inventions in areas of pCO2-controlled culture, micro-biomass separation from culture media, and low-volume, high-precision analysis of seawater alkalinity. Recently, Hintz' research at Savannah State University is developing low-cost high-precision pCO2-controlled coral culture techniques, investigating highly-variable DIC export mechanisms from Georgia salt marsh estuaries, and complex interactions of upland riverine and tidal flows. Hintz specializes in environmental chemical analysis and technique development; high-fidelity experimental laboratory culture; and field-based sampling, long-term field sensor development, and data analysis. In 2017, Dr. Hintz with honored with Savannah State University President's Faculty Award for Innovation and Excellence.