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Louisiana Sea Grant Laborde Chair

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Educational Background

PhD in Civil Engineering
University of Notre Dame, Notre Dame, Indiana — April 1998

Bachelor of Science, Engineering (with Honors in Civil Engineering)
University of Iowa, Iowa City, Iowa — May 1993

Professional Certification

State of Florida, PE Number 57469 — Continuous since: July 2001
Diplomate of Coastal Engineering (D.CE) — March 2010
Diplomate of Water Resources Engineering (D.WRE) — April 2010

Academic Appointments

Adjunct Graduate Faculty, TAMU Corpus Christi — February 2018 – Present
Director, LSU Center for Coastal Resiliency — April 2016 – Present
Professor, LSU / Civil and Environmental Engineering — January 2015 – Present
Professor, LSU / Center for Computation & Technology — January 2015 – Present
Fellow, LSU Coastal Studies Institute — March 2015 – Present
Professor, UCF / CECE — August 2012 – January 2015
University of Central Florida / Civil, Environmental, & Construction Engineering
Director, UCF CHAMPS Laboratory (champs.cecs.ucf.edu) — August 2001 – January 2015
Affiliated Research Faculty, UCF Inst. for Simulation and Training — 2008 – 2015
Associate Professor, UCF / CECE — August 2003 – August 2012
Assistant Professor, UCF / CECE — August 1997 – August 2003
Visiting Associate Professor, Environmental Modeling Research Laboratory
Brigham Young University, Provo, Utah — February – April 2005
Visiting Associate Professor, Rosenstiel School of Marine and Atmospheric Science
University of Miami, Miami, Florida — August – December 2004
On-Board Scientist, Explorer of the Seas
Royal Caribbean Cruise Line — October 3 – 10, 2004
Guest Associate Professor, Graduate School of Science and Engineering
Chuo University, Tokyo, JAPAN — May 27 – June 17, 2001 & Sept. 1 – 21, 2008
Instructor, Department of Civil Engineering & Geological Sciences — 1996
National Science Foundation Summer Fellow — 1992
University of Notre Dame, Notre Dame, Indiana
Research/Teaching Assistant, Iowa Institute of Hydraulic Research — 1990 – 1993
University of Iowa, Iowa City, Iowa

Consulting — 2005 – Present

Battelle, Inc. / Jones Day / Michael Baker International, Inc. / Oceanweather, Inc. / South Florida Water Management District / The Water Institute of the Gulf

Previous Employment

Assistant Manager of Hagen Livestock Farm, Homestead, Iowa — 1980 – 1990

HONORS AND RECOGNITION

Research

Nominated for LSU Rainmaker Award by Civil and Environmental Engineering department
- Louisiana State University 2019

Most Cited Article Award (2012-2016) in Terrestrial, Atmospheric and Oceanic Science
- "Coastal Flooding in Florida's Big Bend Region with Application to Sea Level Rise Based on Synthetic Storms Analysis", by Chinese Geoscience Union February, 2017

Distinguished Engineering Alumni Academy
- University of Iowa May 14, 2016

Invited to present at NOAA Science Days
- Advancing Climate Science for a Climate-Smart Nation January 27, 2014

Dean's Research Professorship Award
- UCF College of Engineering & Computer Science 2013-2014

College Excellence in Research Award
- UCF College of Engineering & Computer Science Faculty 2013

Outstanding Achievement Award for Advancement of the State-of-the-Art
- Founders of the International Conference on Hydroscience & Engineering 2012

College Distinguished Researcher Award, Associate Professor
- UCF College of Engineering & Computer Science Faculty 2010, 2011

Research Incentive Award
- University of Central Florida 2010

Department Distinguished Researcher Award, Associate Professor
- UCF Civil, Environmental & Construction Engineering Faculty 2005, 2007, 2009

Teaching

Scholarship of Teaching & Learning Award
- University of Central Florida Spring 2011

Teaching Incentive Program Award
- University of Central Florida Spring 2009

Teaching Incentive Program Award
- University of Central Florida Spring 2004

Departmental Award for Excellence in Graduate Teaching
- UCF Civil and Environmental Engineering Faculty 2002

Departmental Award for Excellence in Undergraduate Teaching
- UCF Civil and Environmental Engineering Faculty 2000

Dondanville Family Award for Excellence in Teaching
- University of Notre Dame Civil Engineering Faculty 1995 & 1996

Service

Fellow, American Society of Civil Engineers October 7, 2013 – Present

ASCE / Coasts, Oceans, Ports & Rivers Institute (COPRI)
- Voting Member & Treasurer, Governing Board 2009 – 2014

Chair of the Local Organizing Committee
- 10th International Conference on Hydroscience & Engineering Nov. 4-8, 2012

RESEARCH PROGRAM
(Total Project Involvement ~$18.6M, with over 80% from Federal Sources)

Grants with Multi- University / Agency / Industry

PI: Coupling Hydrologic, Tide and Surge Processes to Enhance Flood Risk Assessments for the Louisiana Coastal Master Plan
- *RESTORE Act LA Center of Excellence* 2018 to 2020
  The academic/industry project team includes from ARCADIS, John Atkinson, Zachary Cobell, Hugh Roberts, and Matthew Bilskie (LSU) & Don Resio (UNF).

PI: Annual Implementation and Maintenance of ASGS/CERA (ADCIRC Surge Guidance System/Coastal Emergency Risks Assessment)
- *LA Coastal Protection & Restoration Authority* 2018 to 2020
  The academic/industry project team includes from LSU, Matthew Bilskie, Carola Kaiser & Robert Twilley, in addition to Jason Fleming (Scimaritan, L3C).

PI: Dynamic sea level rise assessments of the ability of natural and nature-based features to mitigate surge and nuisance flooding
- *NOAA/NCCOS/EESLR Program* 2016 to 2020
  The interdisciplinary project team includes Renee Collini (coordinator of the Northern Gulf of Mexico Sentinel Site Cooperative), Denise DeLorme (environmental communications professor from the LSU Department of Environmental Sciences), Stephen Medeiros (civil engineer at the University of Central Florida), James Morris (a biologist from the University of South Carolina), and David Yoskowitz (socio-economics at the Harte Research Institute, Texas A&M CC).

Scientific Collaborator: PIE LTER: Dynamics of coastal ecosystems in a region of rapid climate change, sea-level rise, and human impacts. 2016 to 2022
- The Plum Island Ecosystems LTER located in northeastern Massachusetts is an integrated research, education and outreach program with the goal of developing a predictive understanding of the long-term response of watershed and estuarine ecosystems to changes in climate, land use and sea level and to apply this knowledge to the wise management and development of policy to protect the natural resources of the coastal zone. PIE LTER is administered by The Ecosystems Center, Marine Biological Laboratory, Woods Hole, Massachusetts, USA . PIE is a member of the US Long Term Ecological Research Network funded by the *National Science Foundation's Long Term Ecological Research Program*.

PI: Development of an optimized tide and hurricane storm surge model for the northern Gulf of Mexico (MS, AL, FL) for use with the ADCIRC Surge Guidance System
- *DHS thru UNC* 2016 to 2018

Co-PI: Coastal SEES Collaborative Research: Changes in actual and perceived coastal flood risks due to river management strategies
- *NSF* 2015 to 2019

Co-PI: Optimization of Marsh Restoration for Storm Surge Abatement and Sea Level Rise
- *US Fish & Wildlife Service* through *U. of S. Carolina* 2015 to 2017

Co-PI: Kennedy Space Center Phase II Climate Adaptation Science
- *NASA through KSC / InoMedic Health Applications* 2013 to 2016

PI: Connecting Scientists to Citizens: Making Better Decisions to Address the Effects of Sea Level Rise
- *Gulf of Mexico Alliance* 2014 to 2015
  This project includes UCF, the Alabama Coastal Foundation and the Apalachicola, Grand Bay and Weeks Bay National Estuarine Research Reserves.

PI: Integrated Modeling to Assess the Ecological Impacts of Sea Level Rise
- *NOAA/NCCOS/EESLR Program* 2010 to 2017
  The project team includes UCF biology professors John Weishampel, a landscape ecologist, and Linda Walters, a marine biologist, as well as Denise DeLorme, a social scientist (UCF Nicholson School of Communication) and George Yeh and Dingbao Wang from Civil & Environmental Engineering. In addition to UCF, James Morris, a biologist from the University of South Carolina and Wenrui Huang (Florida State University) are contributing expertise to the project. Other partners include the Apalachicola, Grand Bay and Weeks Bay National Estuarine Research Reserves.

PI: Coastal Storm Surge Model Development for the Coastal Regions of the Florida Panhandle through Alabama: Field Reconnaissance & DTM/Meshing
- *FEMA* through the *Northwest Florida Water Management District*
  A UCF-led partnership including ARCADIS, Inc., Ardaman & Associates, Inc., and Marea Technology, LLC. 2009 to 2013

PI: Coastal Inundation Model Development for the Florida / Georgia east coasts
- *BakerAECOM, LLC* 2011 to 2015
  Part of a multi-industry / university team including *Baker, AECOM, Taylor Engineering, Marea Technology, University of Notre Dame*. The ultimate objective is to develop FEMA DFIRMs.

PI: Establishing the Application of High Resolution Satellite Imagery to Improve Coastal and Estuarine Models
- *NASA* 2009 to 2012
  This multi-disciplinary team includes the UCF Biology department, the NOAA Cooperative Remote Sensing Science and Technology Center, the NOAA Coast Survey and Development Lab as well as two National Weather Service offices.

Co-PI: Oil Spill Transport Modeling in Shelf, Estuarine and Intracoastal Regions
- *NSF* 2010 to 2011
  This project is led by Ethan Kubatko of the *Ohio State University.*

PI: ADCIRC Mesh Development for FEMA Map Modernization in Franklin, Wakulla & Jefferson Counties
- *FEMA* through the *Northwest Florida Water Management District.* A UCF-led partnership including ARCADIS, Inc., Ardaman & Associates, Inc., and Marea Technology, LLC. 2008 to 2010

Co-PI: Member of *National Oceanographic Partnership Program* team to produce a real-time wind, waves, and storm surge model for the U.S. East Coast, Caribbean Sea, and Gulf of Mexico. 2001 to 2007

- *U. of Miami Rosenstiel School of Marine and Atmospheric Science* (H.C. Graber.), *U. of Florida* (D.N. Slinn.), *U.S. Army Corps of Engineers* (R.E. Jensen), *NOAA/AOML Hurricane Research Division* (P.G. Black and Mark Powell), *National Weather Service* (J.L. Guiney), and *Oceanweather, Inc.* (V.J. Cardone and A.T. Cox).

Other Research Grants (last 10 years)

PI: Phase I: Modelling Hydrodynamics and Salinity at the Chincoteague National Wildlife Refuge (Refuge) located in the Virginia end of Assateague Island, Virginia

- *US Fish & Wildlife Service* 2018 to 2020

PI: RAPID Flood Extent/Depth Data Identification, Acquisition, Cataloguing, and Processing

- *NSF* 2016 to 2018

PI: Towards continuous updates to topography, bathymetry, and surface characteristics for Louisiana surge guidance and related coastal studies

- *National Sea Grant College Program* 2016 to 2019

PI: Storm surge and sea level rise on a changing landscape

- *NOAA thru Northern Gulf Institute* 2015 to 2017

PI: Examine effects of sea level rise within the St. Johns River Water Management District through cooperation with LSU on the Coastal Dynamics of Sea Level Rise

- *St. Johns River Water Management District* for final phase 2015

PI: ADCIRC Modeling for the Jacksonville Harbor Navigation Channel Design

- *USACE* through *Taylor Engineering, Inc.* 2012 to 2013

PI: Computational Ecohydraulics for the KSC Ecological Program

- *Kennedy Space Center through InoMedic Health Applications* 2013

PI: Examine effects of sea level rise within the St. Johns River Water Management District through cooperation with the University of Central Florida research cluster on the Coastal Dynamics of Sea Level Rise

- *St. Johns River Water Management District* 2012 to 2014

Co-PI: An Integrated Climate Change Impact Assessment Tool for Flooding of the Lower St. Johns River, Florida Sea Grant

- *Florida Sea Grant* 2011 to 2013

PI: Real-time Forecasting of Tides, Flows and Surge along the Gulf Coast

- *Northwest Florida Water Management District* 2010

PI: Boundary Condition for Jacksonville Harbor Navigation Channel Design modeling

- *USACE* through *Taylor Engineering, Inc.* 2009 to 2010

PUBLICATIONS (Student*)

Refereed Journal Articles: Coastal Hydroscience & Engineering / Sea Level Rise

1. Foster-Martinez, M.R., K. Alizad, and **S.C. Hagen**, "Estimating Wave Attenuation at the Coastal Land Margin with a GIS Toolbox." *Environmental Modelling & Software*, In press, March, 2020.
2. Alizad, K., S.C. Medeiros, M. Foster-Martinez, and **S.C. Hagen**, "Model sensitivity to topographic uncertainty in meso- and microtidal marshes." *Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 13(1), pp. 807-814, 2020. https://doi.org/10.1109/JSTARS.2020.2973490
3. Cyriac, R., J.C. Dietrich, C.A. Blain, C.N. Dawson, K.M. Dresback, A. Fathi, M.V. Bilskie, H.C. Graber, **S.C. Hagen**, R.L. Kolar, "Wind and Tide Effects on the Choctawhatchee Bay Plume and Implications for Surface Transport at Destin Inlet." *Regional Studies in Marine Science*, Vol. 35, 2020. https://doi.org/10.1016/j.rsma.2020.101131
4. Siverd*, C.G., **Hagen, S.C.**, Bilskie, M.V., Braud, D.H., Peele, R.H. and Twilley, R.R., "Quantifying Historic Storm Surge and Risk Reduction Costs: A Case Study for Lafitte, Louisiana." *Climatic Change*, Online & in press, January 7, 2020. https://doi.org/10.1007/s10584-019-02636-x
5. Siverd*, C.G., **S.C. Hagen,** M.V. Bilskie, D.H. Braud, R.H. Peele, M.R. Foster-Martinez, R.R. Twilley, "Coastal Louisiana Landscape and Storm Surge Evolution: 1850-2110." *Climatic Change*, Vol. 157(3–4), pp. 445–468, 2019. https://doi.org/10.1007/s10584-019-02575-7
6. Santiago-Collazo*, F., M.V. Bilskie, **S.C. Hagen**, "A Comprehensive Review of Compound Inundation Models in Low-Gradient Coastal Watersheds." *Environmental Modelling and Software*, Vol. 119, pp. 166-181, 2019. https://doi.org/10.1016/j.envsoft.2019.06.002
7. Siverd*, C.G., **S.C. Hagen**, M.V. Bilskie, D.H. Braud, S. Gao, R.H. Peele, R.R. Twilley, "Assessment of the Temporal Evolution of Storm Surge across Coastal Louisiana." *Coastal Engineering*, Vol. 150, pp. 59-78, August, 2019. https://doi.org/10.1016/j.coastaleng.2019.04.010
8. Bilskie, M.V., **S.C. Hagen** & J.L. Irish, "Development of Return Period Stillwater Floodplains for the Northern Gulf of Mexico under the Coastal Dynamics of Sea Level Rise." ASCE *Journal of Waterway, Port, Coastal, and Ocean Engineering*, Vol. 145(2), 2019. https://doi.org/10.1061/(ASCE)WW.1943-5460.0000468
9. Bilskie, M.V., P. Bacopoulos, & **S.C. Hagen**, "Astronomic tides and nonlinear tidal dispersion for a tropical coastal estuary with engineered features (causeways): Indian River lagoon system." *Estuarine, Coastal and Shelf Science*, Vol. 216, pp. 54-70, 2019. https://doi.org/10.1016/j.ecss.2017.11.009
10. Xiao, H., D. Wang, S.C. Medeiros, M.V. Bilskie, **S.C. Hagen**, and C.R. Hall, "Exploration of the effects of storm surge on the extent of saltwater intrusion into the surficial aquifer in coastal east-central Florida (USA)." *Science of the Total Environment*, Vol. 648, pp. 1002-1017, 2019. https://2018.10.1016/j.scitotenv.2018.08.199
11. Alizad, K., **S.C. Hagen**, S.C. Medeiros, M.V. Bilskie, J.T. Morris, L. Balthis, & C.A. Buckel, "Dynamic responses and implications to coastal wetlands and the surrounding regions under sea level rise." *PLoS ONE*, 13(10): e0205176. 2018. https://doi.org/10.1371/journal.pone.0205176

12. Passeri, D.L., M.V. Bilskie, **S.C. Hagen**, N. Plant & J. Long, "Dynamic modeling of barrier island response to hurricane storm surge under future sea level rise." *Climatic Change*, Vol. 149, Issue 3–4, pp. 413–425, 2018. https://doi.org/10.1007/s10584-018-2245-8
13. Siverd*, C.G., **S.C. Hagen**, M.V. Bilskie, D.H. Braud, R.H. Peele, R.R. Twilley, "Hydrodynamic Storm Surge Model Simplification via Application of Land to Water Isopleths in Coastal Louisiana." *Coastal Engineering*, Vol. 137, pp. 28-42, 2018. https://doi.org/10.1016/j.coastaleng.2018.03.006
14. Bilskie, M.V. & **S.C. Hagen**, "Defining Flood Zone Transitions in Low-Gradient Coastal Regions." *Geophysical Research Letters*, Vol. 45(6), pp. 2761-2770, 2018. https://doi.org/10.1002/2018GL077524
15. Passeri, D.L., J. Long, N. Plant, M.V. Bilskie, & **S.C. Hagen**, "The influence of bed friction variability due to land cover on storm-driven barrier island morphodynamics." *Coastal Engineering*, Vol. 132, pp. 82-94, 2018. https://doi.org/10.1016/j.coastaleng.2017.11.005
16. Xiao, H., D. Wang, S.C. Medeiros, **S.C. Hagen**, and C.R. Hall, "Assessing sea-level rise impact on saltwater intrusion into the root zone of a geo-typical area in coastal east-central Florida." *Science of the Total Environment*, Vol. 630, pp. 211-221, 2018. https://doi.org/10.1016/j.scitotenv.2018.02.184
17. Bacopoulos, P. & **S.C. Hagen**, "The intertidal zones of the SAB and their local and regional influence on astronomic tides." *Ocean Modelling*, Vol. 119, pp. 13-34, 2017. https://doi.org/10.1016/j.ocemod.2017.09.002
18. Bacopoulos, P., Y. Tang, D. Wang, & **S.C. Hagen**, "Integrated Hydrologic-Hydrodynamic Modeling of Flooding in the Lower St. Johns River Basin Caused by Tropical Storm Fay (2008)." ASCE *Journal of Hydrologic Engineering*, Vol 22(8), 2017. http://dx.doi.org/10.1061/(ASCE)HE.1943-5584.0001539
19. Bacopoulos, P., E.J. Kubatko, **S.C. Hagen**, A.T. Cox, & T. Mulamba, "Modeling and data assessment of longitudinal salinity in a low-gradient estuarine river." *Environmental Fluid Mechanics*, Vol. 17(2), pp. 323-353, 2017. http://dx.doi.org/10.1007/s10652-016-9486-8
20. Kidwell, D., J.C. Dietrich, **S.C. Hagen**, S.C. Medeiros, "An Earth's Future Special Collection: Impacts of the coastal dynamics of sea level rise on low gradient coastal landscapes." *Earth's Future*, Vol. 5(1), pp. 2–9, 2017. http://dx.doi.org/10.1002/2016EF000493
21. Alizad*, K., **S.C. Hagen**, J.T. Morris, S.C. Medeiros, M.V. Bilskie*, & J.F. Weishampel, "Coastal wetland response to sea level rise in a fluvial estuarine system." *Earth's Future*, Vol. 4(11), pp. 483–497, 2016. http://dx.doi.org/10.1002/2016EF000385
22. Huang, W., **S.C. Hagen**, D. Wang, P.A. Hovenga, F. Teng, J.F. Weishampel, "Suspended sediment projections in Apalachicola Bay in response to altered river flow and sediment loads under climate change and sea level rise." *Earth's Future*, Vol. 4(10), pp. 428–439, 2016. http://dx.doi.org/10.1002/2016EF000384
23. Ghosh, D.K., D. Wang, M.V. Bilskie*, & **S.C. Hagen**, "Quantifying Changes of Springshed Area and Net Recharge through Recession Analysis of Spring Flow." *Hydrological Processes*, Vol. 30, pp. 5053–5062, 2016. http://dx.doi.org/10.1002/hyp.10970

24. Xiao, H., D. Wang, **S.C. Hagen**, S.C. Medeiros, and C.R. Hall, "Assessing the impacts of sea-level rise and precipitation change on the surficial aquifer in the low-lying coastal alluvial plains and barrier islands, east-central Florida (USA)." *Hydrogeology Journal,* Vol. 24(7), pp. 1791-1806, 2016. http://dx.doi.org/10.1007/s10040-016-1437-4
25. Twilley, R.R., S.J. Bentley, Q.J. Chen, D.A. Edmonds, **S.C. Hagen**, N. Lam, C. Willson, K. Xu, D. Braud, H. Peele, & A. McCall "Co-evolution of wetland landscapes, flooding and human settlement in the Mississippi River Delta Plain." *Sustainability Science,* Vol. 11, pp. 711-731, 2016. http://dx.doi.org/10.1007/s11625-016-0374-4
26. Bilskie*, M.V., **S.C. Hagen,** S.C. Medeiros, A.T. Cox, M. Salisbury, D. Coggin, "Data and numerical analysis of astronomic tides, wind-waves, and hurricane storm surge along the northern Gulf of Mexico." *J. Geophys. Res. Oceans,* Vol. 121(5), pp. 2169-9291. 2016. http://dx.doi.org/10.1002/2015JC011400
27. Bilskie*, M.V., **S.C. Hagen,** K.A. Alizad*, S.C. Medeiros, D.L. Passeri*, H. Needham. "Dynamic simulation and numerical analysis of hurricane storm surge under sea level rise with geomorphologic changes along the northern Gulf of Mexico." *Earth's Future,* Vol. 4(5), pp. 177-193. 2016. http://dx.doi.org/10.1002/2015EF000347
28. Passeri*, D.L., **S.C. Hagen**, N.G. Plant, M.V. Bilskie*, & S.C. Medeiros, "Tidal Hydrodynamics under Future Sea Level Rise and Coastal Morphology in the Northern Gulf of Mexico." *Earth's Future,* Vol. 4(5), pp. 159-176. 2016. http://dx.doi.org/10.1002/2015EF000332
29. Hovenga, P.A., D. Wang, S.C. Medeiros, **S.C. Hagen,** K.A. Alizad*. "The response of runoff and sediment loading in the Apalachicola River, Florida to climate and land use land cover change." *Earth's Future,* Vol. 4(5), pp. 124-142. 2016. http://dx.doi.org/10.1002/2015EF000348
30. Morris, J.T., D.C. Barber, J. Callaway, R. Chambers, **S.C. Hagen**, B.J. Johnson, P. Megonigal, S. Neubauer, T. Troxler, C. Wigand, "Contributions of organic and inorganic matter to sediment volume and accretion in tidal wetlands at steady state," *Earth's Future,* Vol. 4(4), pp. 110-121, 2016. http://dx.doi.org/10.1002/2015EF000334
31. Alizad*, K., **S.C. Hagen**, J.T. Morris, P. Bacopoulos, M.V. Bilskie*, & J.F. Weishampel, "A coupled, two-dimensional hydrodynamic-marsh model with biological feedback." *Ecological Modelling,* Vol. 327, pp. 29-43, 2016. http://dx.doi.org/10.1016/j.ecolmodel.2016.01.013
32. Passeri*, D.L., **S.C. Hagen**, S.C. Medeiros, & M.V. Bilskie*, "Impacts of historic morphology and sea level rise on tidal hydrodynamics in a microtidal estuary (Grand Bay, Mississippi)." *Continental Shelf Research,* Vol. 111, pp. 150-158, 2015. http://dx.doi.org/10.1016/j.csr.2015.08.001
33. Passeri*, D.L., **S.C. Hagen**, S.C. Medeiros, M.V. Bilskie*, K. Alizad*, & D. Wang, "The dynamic effects of sea level rise on low-gradient coastal landscapes: a review." *Earth's Future,* 3, 159–181, 2015. http://dx.doi.org/10.1002/2015EF000298
34. Medeiros, S.C., **S.C. Hagen**, J.F. Weishampel, "A Random Forest Model Based on Lidar and Field Measurements for Parameterizing Surface Roughness in Coastal Modeling," IEEE *Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, No. 8(4), pp. 1582-1590. 2015. http://dx.doi.org/10.1109/JSTARS.2015.2419817

35. Medeiros*, S., **S. Hagen**, J. Weishampel, & J. Angelo "Adjusting lidar-derived digital terrain models in coastal marshes based on estimated above ground biomass density." *Remote Sensing*, Vol. 7, pp. 3507-3525, 2015. http://dx.doi.org/10.3390/rs70403507
36. Taylor, N.R., J.L. Irish, I.E. Udoh, M.V. Bilskie*, & **S.C. Hagen**, "Development and Uncertainty Quantification of Hurricane Surge Response Functions for Hazard Assessment in Coastal Bays." *Natural Hazards*, No. 77:2, pp. 1103-1123. 2015. http://dx.doi.org/10.1007/s11069-015-1646-5
37. Warnock, A.M. & **S.C. Hagen** & D.L. Passeri*, "Marine Tar Residues: A Review", *Water, Air & Soil Pollution*, No. 225:68, pp. 1-24. 2015. http://dx.doi.org/10.1007/s11270-015-2298-5
38. Passeri*, D.L., **S.C. Hagen**, M.V. Bilskie, & S.C. Medeiros*, "On the significance of incorporating shoreline changes for evaluating coastal hydrodynamics under sea level rise scenarios." *Natural Hazards*, Vol. 75 (2), 2015, pp. 1599-1617. http://dx.doi.org/10.1007/s11069-014-1386-y
39. Zhang, F., Z. Zhang, **S.C. Hagen**, M. Ye, D. Wang, C. Zeng, L. Tian, J. Liu, & D. Gui, "Snow cover and runoff modeling in a high mountain catchment with scarce data: effects of temperature and precipitation parameters." *Hydrological Processes*, Vol. 29 (1), January 2015, pp. 52-65. http://dx.doi.org/10.1002/hyp.10125.
40. Huang, W., **S.C. Hagen**, & P. Bacopoulos, & D. Wang, "Hydrodynamic modeling and analysis of sea-level rise impacts on salinity for oyster growth in Apalachicola Bay, Florida." *Estuarine, Coastal and Shelf Science*, Vol. 156, pp. 7-18. 2014. http://dx.doi.org/10.1016/j.ecss.2014.11.008
41. Passeri*, D.L., **S.C. Hagen**, & J.L. Irish, "Comparison of shoreline change rates along the outh Atlantic Bight and Northern Gulf of Mexico coasts for better evaluation of future shoreline positions under sea level rise." *In*: Huang, W. and Hagen S.C. (eds.), *Climate Change Impacts on Surface Water Systems*. Journal of Coastal Research, Special Issue, No. 68, pp. 20-26. 2014. http://dx.doi.org/10.2112/SI68-003.1
42. Chen*, X., K. Alizad*, D. Wang, & **S.C. Hagen**, "Climate Change Impact on Runoff and Sediment Loads to the Apalachicola River at Seasonal and Event Scales." *In*: Huang, W. and Hagen S.C. (eds.), *Climate Change Impacts on Surface Water Systems*. Journal of Coastal Research, Special Issue, No. 68, pp. 35-42. 2014. http://dx.doi.org/10.2112/SI68-005.1
43. Bacopoulos, P. & **S.C. Hagen**, "Dynamic considerations of sea-level rise with respect to water levels and flooding in Apalachicola Bay." *In*: Huang, W. and Hagen S.C. (eds.), *Climate Change Impacts on Surface Water Systems*. Journal of Coastal Research, Special Issue, No. 68, pp. 43-48. 2014. http://dx.doi.org/10.2112/SI68-006.1
44. Huang, W., **S.C. Hagen**, P. Bacopoulos, & F. Teng, "Sea-Level Rise Impacts on Hurricane-Induced Salinity Transport in Apalachicola Bay." *In*: Huang, W. and Hagen S.C. (eds.), *Climate Change Impacts on Surface Water Systems*. Journal of Coastal Research, Special Issue, No. 68, pp. 49-56. 2014. http://dx.doi.org/10.2112/SI68-007.1
45. Bilskie*, M.V., **S.C. Hagen**, S.C. Medeiros*, D.L. Passeri*, "Dynamics of sea level rise and coastal flooding on a changing landscape." *Geophysical Research Letters*, Vol. 41, pp. 1-8, 2014. http://dx.doi.org/10.1002/2013GL058759.

46. Tamura*, H., P. Bacopoulos, D. Wang, **S.C. Hagen** and E.J. Kubatko, "State Estimation of Tidal Hydrodynamics Using Ensemble Kalman Filter." *Advances in Water Resources*, Vol. 63, January 2014, pp. 45–56. http://dx.doi.org/10.1016/j.advwatres.2013.11.002.
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