

## Promotion and Tenure CV Report

<b>Wei Wu</b>	
Current Rank and Tenure Status:	Associate Professor, Tenured
School of Ocean Science and Engineering, Coastal Sciences	Arts and Sciences
Start Date at USM: October 15, 2007	

*Current as of 2020-2021*

### Degrees Earned

PHD, Systems Ecology. SUNY College of Environmental Science and Forestry, Syracuse, NY (2005).

MS, Computer Science. Syracuse University, Syracuse, NY (2004).

MS, Marine Ecology. South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, China (1999).

BS, Environmental Biology. Wuhan University, Wuhan, China (1996).

### Appointments

2013-present	Associate Professor, School of Ocean Science and Engineering, The University of Southern Mississippi (USM)
2014-2016	Adjunct Professor, College of Environment and Ecology, Xiamen University, China
2007-2013	Assistant Professor, Department of Coastal Sciences, USM
2006-2007	Postdoctoral Research Scientist, Nicholas School of the Environment, Duke University
2005-2006	Postdoctoral Research Associate, Department of Civil & Environmental Engineering, Syracuse University
2001-2005	Research Assistant, Department of Environmental Science, SUNY – College of Environmental Science and Forestry (SUNY-ESF)
2000-2001	Teaching Assistant, Department of Environmental and Forest Biology, SUNY – ESF
1997-1999	Research Assistant, South China Sea Institute of Oceanography, Chinese Academy of Sciences, China

### Research Interests

- Resilience of coastal wetlands to sea-level rise and climate change.
  - Coastal wetland landscape change in response to sea-level rise and other natural and anthropogenic factors.
  - How fire management in coastal pine savanna affects wetland landward migration.
  - How sea-level rise and climate change affect blue carbon dynamics.
  - How restoration practices or anthropogenic disasters (i.e. 2010 BP Oil Spill) affect wetland landscapes and vegetation.
  - Hydrology in coastal wetlands.
- Impact of climate change and acidic deposition on hydrological and biogeochemical cycle in forest ecosystems.
- Coastal flood hazards analysis accounting for climate, land use/land cover, geomorphology, and social-economic factors.
- Impact of land use and climate change on water quality (water chemistry and antibiotic resistance).
- Fishery Modeling (species distribution, habitat use, fisherman behavior).
- Predicting availability of oil and gasoline.

## TEACHING

### Courses Taught

COA 608 – Coastal Water Quality (co-teach, 3 credits), USM, Fall 2009, 2010, 2011.

COA 615 – Advanced Environmental Modeling (Previous special topics – Geographic Modeling) (3 credits), USM, Spring 2009, 2011, 2013, 2015, Fall 2017, 2019, 2021

COA 616 – Geostatistics in Environmental Science (3 credits), USM, Fall 2009, 2011, 2013, 2016, 2018, 2020

COA 620 – Introduction to Bayesian Statistics in Ecology (3 credits), USM, Fall 2017, Fall, 2019, Spring 2020; Nanjing Forestry University, short course, winter 2016 - 2018.

COA 690/790-Special Topics in Coastal Sciences: Introduction to GIS in Marine Science (3 credits), USM, Spring 2009, 2011, 2013, 2015, Fall 2017, 2019, 2021

COA 690/790-Special Topics in Coastal Sciences – Ecological Data and Models (3 credits), USM, Spring 2012, Fall 2014

COA 691-Research in Coastal Sciences

COA 698-Thesis

COA 791-Research in Coastal Sciences

COA 898-Dissertation

Systems and Landscape Ecology (2 credits), Xiamen University, China, summer 2014

General Ecology Lab (1 credit), SUNY-College of Environmental Science & Forestry, Fall 2000.

### Teaching Innovation and Curriculum Development

#### New Courses

COA 620 *Introduction to Bayesian Statistics in Ecology* (3 credits), USM, Fall 2017, Fall, 2019, Spring 2020; Nanjing Forestry University, short course, winter 2016-2018

This course introduces Bayesian models and their application in ecology. The students are expected to understand the advantage of Bayesian methods, including the incorporation of any relevant prior information, the ability to assess the evidence in favor of multiple competing hypotheses, the flexibility of solving complex problems (including multi-scale questions), and the easiness of incorporating and quantifying uncertainties. They should also be able to write joint posteriors in equations, and computer codes to implement a Bayesian model.

COA 616 *Geostatistics in Environmental Science* (3 credits), USM, Fall 2009, 2011, 2013, 2016, 2018, 2020

This course is an introduction to the description, analysis, and modeling of geospatial data using classic geostatistics and spatial regression. It enables the students to 1) explore spatial patterns; 2) quantify spatial continuity; 3) perform spatial estimation and predictions; and 4) understand stochastic simulation. The practical applications of underlying theory is emphasized through the use of R.

COA 615 *Advanced Environmental Modeling (Previous Geographic Modeling)* (3 credits), USM, Spring 2009, 2011, 2013, 2015, Fall 2017, 2019, 2021

The focus of the course is to introduce the programming language Fortran 90 to work with spatial data in environmental science and ecology. Geostatistics for spatial interpolation/prediction and Python scripting language are also taught.

COA 690/790 *Special Topics: Ecological Data and Models* (3 credits), USM, Spring 2012, Fall 2014

This course introduces ecological inference. It covers 1) how to integrate modeling and statistics, 2) how to confront multiple hypotheses with data and assign degrees of belief to different hypotheses, and 3) how to put multiple sources of data into one inferential framework.

COA 690/790 *Special Topics: Introduction to GIS in Marine Science* (3 credits), USM, Spring 2008, Spring 2010, Fall 2011, Spring 2017, 2019, 2021

This course is an introduction to geographic information systems for beginning graduate students in environmental science, ecology and marine science, focusing on spatial data development and analysis in the science and management of natural resources. Topics covered include: basic data structures, data sources, data collection, data quality, geodesy and map projections, spatial and tabular data analyses, digital elevation data and terrain analyses, cartographic modeling, and cartographic layout. Laboratory exercises provide practical experiences that complement the theories covered in lecture.

COA 608 *Coastal Water Quality* (co-teach, 3 credits), USM, Fall 2009, 2010, 2011

This course teaches the correct usage of water quality equipment and instruments, data gathering practices, and data analysis including some simple water quality models. In addition, the theories underlying the measurements and how they relate to coastal and marine organisms are introduced.

*Systems and Landscape Ecology* (2 credits), Xiamen University, China, summer 2014

This course covers ecological concepts, theories and methods key to understanding how ecosystem processes respond to landscape heterogeneity and disturbances. Lecture topics include: concepts in ecosystem ecology and landscape ecology, biodiversity, environmental pollutions and ecosystems, climate change and society, landscape patterns, landscape disturbance dynamics, ecosystem processes in the landscape, and landscape models.

## Directed Student Learning

### Dissertation Committee Chair (3)

Jason Tilley - "Biophysical factors affecting habitat suitability for *Crassostrea virginica*" (January 2015 - May 2022, part-time).

Milestones: Qualify exam on May 3, 2018, prospectus defense in April 2020, comprehensive exam in October 2020.

Hailong Huang - "Modeling hydrochemical and vegetation responses of high-elevation forested watersheds to future climate and atmospheric deposition changes in the southeastern U.S." (August 2012 - May 2021).

Milestones: Qualify exam and prospectus defense in October 2017, comprehensive exam passed in July 2019, dissertation defense in December 2020, graduation in May 2021.

Shuo Shen - "Antibiotic-resistant bacteria, antibiotic resistance genes, and potential drivers in the aquatic environment" (January 2018 – May 2020, previously in Dr. Grimes' lab since 2011).

Milestones: Qualify exam and prospectus defense in April 2018, comprehensive exam in June 2018, dissertation defense in March 2020, and graduation in May 2020.

### Dissertation Committee Member (11)

Erin Miller – Dissertation Title TBD (February 2021 - Present).

Patrick Graham - "Exploring Environmental Influences of Fishery Abundance, Condition and Recovery of Living Marine Resources in the Northern Gulf of Mexico" (June 2020 - Present).

Sara Marriott - "Connecting Social and Ecological Systems in Small-Scale Fisheries in the Philippines" (April 2021 – 2022, transferred from George Mason University).

- Milestones: Prospectus defense, qualify exam, comprehensive exam passed in April 2021.
- Glenn Zapfe - "Exploring the factors influencing the interannual variability in abundance of larval fish assemblages in the northern Gulf of Mexico" (August 2014 - 2022).  
Milestones: Prospectus complete in Fall 2019, and comprehensive exam in Spring 2020.
- Laura Solinger - "Simulation testing to evaluate how uncertainty in Atlantic surfclam and summer flounder fisheries may impact management decisions in consideration of risk-tolerance policies" (August 2018 - May 2022).  
Milestones: Qualify exam in Spring 2019, prospectus defense in Fall 2019, comprehensive exam in Fall 2020.
- Caitlin Slife - "Habitat and food web of Red Snapper in the northern Gulf of Mexico" (August 2017 - May 2022).  
Milestone: Qualify Exam in Summer 2019, comprehensive exam in April 2021, and prospectus defense in May 2021.
- Kathleen Hemeon - "Creating a defensible age-length key and modeling population dynamics for two ocean quahog (*Arctica islandica*) populations in the Northwest Atlantic" (August 2018 - December 2021).  
Milestones: Qualify exam in Spring 2019, prospective defense in Fall 2019, comprehensive exam in Fall 2020.
- Megumi Oshima - "Management strategy evaluation for Vermilion Snapper (*Rhomboplites aurorubens*) in the Gulf of Mexico" (2017 - 2020).  
Milestones: Qualify exam in Spring 2018, prospectus defense in Spring 2019, comprehensive exam in Summer 2019, dissertation defense in August 2020, and graduation in December 2020.
- Linh Pham - "Historical Change of Seagrasses in the Mississippi and Chandeleur Sounds" (2018).
- Muhammad Muhammad - "Epidemiology of White Spot Syndrome virus in the Daggerblade grass shrimp (*Palaemonetes pugio*) and the Gulf sand fiddler crab (*Uca panacea*)" (2017).
- Mike Lowe – "Community metrics and trophic dynamics in tidal creeks in an anthropogenically fragmented, coastal landscape" (2013).

#### **Master's Thesis Committee Chair (6)**

- Austin Draper – Thesis TBD," (April 2021 – Present, Research Advisor: Dr. Michael Andres).
- Kodi Feldpausch - "Plant productivity and diversity in coastal wetlands in Mississippi – impact of hydrological extremes" (August 2020 - Present).  
Milestones: Prospectus defense in July 2021.
- Devin Jen - "Upland migration of coastal marshes as a response to sea level rise: past, present, and predicted" (August 2020 - Present).  
Milestones: Prospectus defense in May 2021.
- Evan Grimes - "Spatial and seasonal patterns of above- and belowground vegetation biomass and potential drivers in the Pascagoula River delta, MS" (August 2019 - July 2021).  
Milestones: Committee formed in Fall 2019 and finalized in Spring 2020. First committee meeting on April 16, 2020, prospectus defense in Summer 2020, comprehensive exam in Fall 2020, thesis defense in June 2021 and graduation in July 2021.
- Tyler Hardy - "Coastal wetland dynamics under sea-level rise and wetland restoration in the northern Gulf of Mexico using Bayesian multilevel models and a web tool" (January 2016 - July 2018).  
Milestones: Committee formed in Fall 2019 and finalized in Spring 2020. First committee meeting on April 16, 2020, prospectus defense in Summer 2020, comprehensive exam in Fall 2020, thesis defense in June 2021 and graduation in July 2021.

Jennifer Frey - "Sub-pixel classification of historical and current marsh habitat for the eastern Mississippi Gulf coast using remotely sensed images" (January 2009 – December 2011).

### **Master's Thesis Committee Member (15)**

Maddie McNerthney - Humboldt State University Thesis title TBD (2021-Present)

Daniel Taylor - "Using spatial analysis to index potential effects of piers on coastal wetlands in Mississippi" (March 2020 - Present).

Anna Millender – Thesis TBD (August 2020 - 2022).

Antonio Pliru – Thesis TBD (2018 - 2022).  
Milestones: Committee formed in Fall 2019.

Rachel Moseley - "How historic shipwrecks influence the dispersal of deep-sea microbiomes," (January 2019 - May 2021).  
Milestones: Prospectus defense in Fall 2019, comprehensive exam in April 2020, thesis defense in March 2021, and graduation in May 2021.

Nicole Mackey - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2020).

Melissa Brock - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (December 2019).

Nathaniel Jermain - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2019).

Yimu Yang - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2018).

Adam Kemberly - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2018).

Robert Trigg - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2018).

Grant Adams - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2017).

Joshua Allen - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (July 2014).

Carley Knight - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (May 2014).

Jennifer McKinney - " Historical and Contemporary Variables Affecting the Range and Distribution of *Aedes Aegypti*, The Yellow Fever Mosquito, in The United States " (December 2010).

### **Supervised Undergraduate Research (12)**

Megan Ringate (2021), Gabby Boomer (2021), Ethan Ramsey (2021), Makenzie Holifield (2020-2021), Lisa Janowsky (2020-2021), Katherine Oxley (2020), McKenzi Turpin (2020 – honor thesis), Olivia Cole (2019-2020), George Sampley (2019), Silver Rodriguez (2017), Samantha Ells (2016), Eaves Christopher (2015).

**Thesis/Dissertation Committee for other graduate students (not the entire study) (3)**

2 MS (Matt Byrnes 2019-2020, Shivakumar Shivarudrappa 2013-2014), 1 PhD (Joel Allen Borden, 2008)

**Mentored two graduate research interns (2)**

Deborah McNeal (2017-18), Brian Moore (2010).

**Mentored one post-doc (1)**

Dr. Chongfeng Gong (2011-2013). Later pursued a data science career.

**Non-Credit Instruction Given**

Workshop, Community Surface Dynamics Modeling System 2021 Annual Meeting. (May 19, 2021).

Guest Lecture, University of Louisiana at Lafayette. (March 22, 2021).

**SCHOLARSHIP / RESEARCH / CREATIVE ACTIVITIES****Contracts, Grants, and Sponsored Research****Awarded**

- 2021 PI (Col: K. Dillon). "Testing a novel method to derive gross primary productivity to inform model development for landward migration of salt marshes". College of Arts and Sciences. Research Seed Grant, College of Arts and Sciences, University of Southern Mississippi, \$5,000. (Wu: 5,000)
- 2020-22 Sole PI. "Multi-scale evaluation of the impact of hydrological extremes on coastal wetland vegetation". Mississippi Water Resources Research Institute, USGS, \$69,977.
- 2020-22 PI (Col: P. Biber). "Salt marsh upland migration: past, present, and future". Mississippi-Alabama Sea Grant, \$150,000. (Wu: \$100,000)
- 2019-23 Co-PI (M. Bethel (PI)). "Developing a locally-relevant community resilience index for use with indigenous communities in the Gulf of Mexico region". EPA GOM, \$300,000. (Wu: \$109,497)
- 2019-22 Sole PI. "Field studies to quantify inundation effects on marsh vegetation." U.S. Army Engineer Research and Development Center, \$183,997.
- 2019-20 PI (Col: Bo Li). "Application of deep learning neural networks in identifying key drivers of vulnerability of coastal wetlands to sea-level rise". Microsoft AI for Earth, \$15,000 Azure credits. (Wu: \$15,000)
- 2019 Sole PI. "Application of AI in coastal wetland change". GPU Grant Program, NVIDIA, \$2,999 (TITAN V).
- 2017-18 Sole PI. "Developing ecoinformatics engine for marine science". USM Vice President for Research Fund, \$10,000.
- 2016-17 Co-PI (PI: R. Leaf). "Methods for the determination of high precision estimates of red snapper abundance in the Gulf of Mexico". Gulf Of Mexico Regional Sea Grant Programs, \$90,000. (Wu: \$5,428)
- 2016-17 Co-PI (PI: P. Biber). Mississippi Storm and Flooding Ecosystem Responses – Coastal Environment Evaluation Strategies (MS SAFER CEES) Working Group, \$8,000. MRC. (Wu: \$2,000)
- 2016-18 Co-PI (P. Biber (PI), W. Wu, G. Carter, and D. Mishra). "Understanding the trajectory of coastal salt marsh structure, function, and processes in the face of sea level rise: a synthesis from historical imagery, biophysical processes, and hierarchical modeling". National Academy of Sciences – Gulf Research Program, \$506,619. (Wu: \$126,655)
- 2016-17 Co-PI (J. Kastler (PI) and W. Wu). "Meaningful watershed educational experience for resilience to accelerated sea level rise and flooding risk (Resilience MWEE)". NOAA – B-WET Program, \$100,000. (Wu: \$12,000)
- 2015-17 Sole PI. "Developing a decision support tool to evaluate ecosystem services and associated uncertainties using a Bayesian belief network ". National Academy of Sciences – Gulf Research Program, \$124,000.

- 2015-16 Sole PI. Exploring Bayesian belief networks to evaluate restoration decisions – building foundation for future restoration-related proposal applications. Gulf Coast ADVANCE Fellowship at the USM, National Science Foundation, \$5,000.
- 2015-16 Co-PI (P. Biber, W. Wu, K. Kuehn, M. Davis, and F. Heitmuller). Salt in the coastal zone - focused on northern Gulf coastal marsh habitats, USM-VPR \$9,000. (Wu: \$1,800)
- 2014-15 Co-PI (D. Mishra (PI) and W. Wu). “A MODIS biophysical parameters centered framework for monitoring carbon sequestration potential of Gulf Coast salt marshes”. NASA - Earth Science Division Applied Sciences Program, \$441,413. (Wu: \$50,000)
- 2012-14 Co-PI (C.T. Driscoll (PI), J.L. Campbell, K. Hayhoe, and W. Wu). “Modeling of the hydrochemical responses of high elevation watersheds to climate change and atmospheric deposition”. Environmental Protection Agency – Science to Achieve Results (STAR) Program, \$800,000. (Wu: \$84,166)
- 2012-14 Co-PI (M. Bethel (PI), W. Wu, and P. Biber). “Determining localized impacts of predicted sea level rise to engineered versus natural landscapes, and how risk perception may alter response strategies adopted by ecosystem-dependent communities versus resource-managers”. NOAA - Gulf of Mexico Regional Sea Grant Sea Level Rise Program. \$179,999. (Wu: \$76,378)
- 2010-13 Co-PI (R. Carmichael (PI), W. Burkhardt, K. Calci, W. Wu, D. Ruple, and W. Walton). “Legacy effects of land-use change and nitrogen source shifts on a benchmark system: Building capacity for collaborative research leadership at the Grand Bay Reserve”. National Estuarine Research Reserve System. \$354,750. (Wu: \$72,000)
- 2010-12 PI (W. Wu and P. Biber). “RAPID: quantifying the potential impacts of the Deepwater Horizon oil spill on selected carbon services of salt marshes along the northern gulf coast using hierarchical bayesian modeling”. National Science Foundation – DEB – Global Systems Science. \$108,874. (Wu: \$54,437)
- 2010 Co-PI (P. Biber (PI), W. Wu, and M. Peterson). “Saltmarsh habitat sampling to delineate potential oil impacts from BP Deepwater Horizon spill”. NOAA – Office of Oceanic and Atmospheric Research, Northern Gulf Institute Initiative. \$65,925. (Wu: \$21,975)
- 2010-12 Co-PI (R. Fulford (PI), M. Peterson and H. Perry, K. Craig, R. Allee, and W. Wu). “Assessment of ecosystem services of selected coastal habitat types: Towards a model-based toolset for management planning”. NOAA – Office of Oceanic and Atmospheric Research, Northern Gulf Institute Initiative. \$300,894. (Wu: \$10,000)
- 2010-11 Sole PI (W. Wu, in collaboration with F. Scatena). “Rapid request for ground-verification of the Luquillo Critical Zone”. National Science Foundation. \$32,872. (Wu: \$32,872)
- 2009-12 PI (W. Wu, M. Kalcic, and K. Yeager). “The impact of accelerated sea level rise on tidal marshes and storm surge”. NOAA – Mississippi-Alabama Sea Grant Consortium, Coastal Storms Program, \$100,000. (Wu: \$66,000)
- 2009-12 Co-PI (T. Frisbie (PI), D. Holland, K. Boyd, and W. Wu). “Evaluation of hurricane evacuation routes’ resiliency to storm damage”. NASA - Research Opportunities in Space and Earth Sciences Program, \$399,556. (Wu: 108,446)
- 2009-10 Sole PI. “Assessing the water use by trees at the Mississippi coastal forests impacted by Hurricane Katrina”. University of Southern Mississippi - Aubrey Keith Lucas and Ella Ginn Lucas Endowment for Faculty Excellence Award, \$2,212.
- 2009 Sole PI. “Assessing the carbon dynamics at the Mississippi coastal forests impacted by Hurricane Katrina”. University of Southern Mississippi - Summer Faculty Research Grant for the summer of 2009, \$9,900.
- 2008-10 Sole PI. “Will climate change cause wetland loss on the Mississippi Gulf Coast more than upland land use / land cover change within the next century?”. NOAA – Mississippi-Alabama Sea Grant Consortium (MASGC), Project Development Program, \$10,000.
- 2009-10 Collaborator (K. Brown (PI) and W. Wu). “The effects of rapid environmental change on terrestrial biogeochemical processes in the Virgin Islands”. NSF EPSCoR - University of the Virgin Islands (No budget for Wu).

### Submitted

- Pending PI (Col: P. Biber, P. Miller, D. Petrolia, T. Sempier). “Machine learning in assessing flood risk and Community Rating System on the Mississippi Gulf Coast”. NAS-GRP, \$300,000.

## Peer-Reviewed Publications

**Published** (Underlined are student authors)

- Hardy, T., **W. Wu**, and M.S. Peterson, 2021. Modeling spatial variability of the resilience of coastal wetlands to sea-level rise in the northern Gulf of Mexico using Bayesian multi-level models. *GIScience & Remote Sensing*. (IF: 6.238)
- Leontiou, A., **W. Wu**, and N. Brown-Peterson, 2021. The role of maturity in artificial habitat selection by female red snapper. *Marine and Coastal Fisheries*, 13, 332-344. (in **Journal highlights**) (IF: 1.568)
- Leontiou, A., **W. Wu**, and N. Brown-Peterson, 2021. Immature and mature female red snapper habitat use in the north-central Gulf of Mexico. *Regional Studies in Marine Science* 44, 101715. (IF: 1.624)
- Hardy, T., **W. Wu**, 2021. Impact of different restoration methods on coastal wetland loss in Louisiana, US: Bayesian analysis. *Environmental Monitoring and Assessment*, 193(1), DOI: 10.1007/s10661-020-08746-9. (IF: 2.513)
- Shen, S., **W. Wu**, J. Grimes, E. Saillant, and R.J. Griffitt, 2020. Community composition and antibiotic resistance of bacteria in bottlenose dolphins *Tursiops truncatus* – potential impact of 2010 BP Oil Spill. *Science of the Total Environment* 732, 139125. (IF: 7.963)
- **Wu, W.**, P. Biber, D. Mishra, and S. Ghosh, 2020. Sea-level rise thresholds for stability of salt marshes in a riverine versus a marine dominated estuary. *Science of the Total Environment* 718, 137181. (IF: 7.963)
- Pham, L.T., P.D. Biber, **W. Wu**, G. Carter, and H.J. Cho., 2020. Historical change of seagrasses on the Mississippi and Chandeleur Sounds. Chp 10 in Daniels, J.A. (Ed). *Advances in Environment Research Vol 70*. New York, USA: Nova Science Publ. (ISBN 978-1-53616-972-0) (IF: 2.08)
- Fulford, R., S.J. Heymans, and **W. Wu**, 2020. Mathematical modeling for ecosystem-based management (EBM) and ecosystem goods and services (EGS) assessment. Chp 14 in T. O'Higgins, M. Lago, and T. DeWitt (Eds). *Ecosystem Based Management and Ecosystem Services: Theory, Tools, and Practice*. Springer Aquatic Sciences, Germany.
- **Wu, W.**, 2019. Accounting for spatial patterns in deriving sea-level rise thresholds for salt marsh stability: more than just total area? *Ecological Indicators* 103, 260-271. (IF: 4.958)
- **Wu, W.**, M. Bethel, D. Mishra, and T. Hardy, 2018. Model selection in Bayesian framework to identify the best WorldView-2 based vegetation index in predicting green biomass of salt marshes in the northern Gulf of Mexico. *GIScience & Remote Sensing* 55(6) <https://doi.org/10.1080/15481603.2018.1460934>. (IF: 6.238)
- Adams, G., R. Leaf, **W. Wu**, and F. Hernandez, 2018. Environmentally-driven fluctuations in condition factor of adult Gulf menhaden (*Brevoortia patronus*) in the northern Gulf of Mexico. *ICES Journal of Marine Science*. Doi: 10.1093/icesjms/fsy002. (IF: 3.593)
- **Wu, W.**, P. Biber, and M. Bethel, 2017. Thresholds of sea-level rise rate and sea-level rise acceleration rate in a vulnerable coastal wetland. *Ecology and Evolution* 7(24), 10890-10903, doi: 10.1002/ece3.3550. (IF: 2.912)
- **Wu, W.**, H. Huang, P. Biber, and M. Bethel, 2016. Litter decomposition of *Spartina alterniflora* and *Juncus roemerianus*: implications of climate change in salt marshes. *Journal of Coastal Research* 33(2), 372-384, doi: <http://dx.doi.org/10.2112/JCOASTRES-D-15-00199.1> (IF: 0.854)
- Li, Y.F., Y. Li, and **W. Wu**, 2015. Threshold and resilience management of coupled urbanization and water environmental system in the rapidly changing coastal region. *Environmental Pollution*, doi: 10.1016/j.envpol.2015.08.042. (IF: 8.071)
- **Wu, W.**, K. Yeager, R. Fulford, and M.S. Peterson, 2015. Neutral models as a way to evaluate the Sea Level Affecting Marshes Model (SLAMM). *Ecological Modelling* 303, 55-69. (IF: 2.974)
- Gong, C., and **W. Wu**, 2014. Comparison of regression tree models for sub-pixel imperviousness estimation in a Gulf Coast city of Mississippi, USA. *International Journal of Remote Sensing* 35(10), 3722-3740. (IF: 3.151)



- Biber, P.D., **W. Wu**, M. S. Peterson, Z. Liu, and L. Pham, 2014. Oil contamination in Mississippi saltmarsh habitats and the impacts to *Spartina alterniflora* photosynthesis. In B. Alford, M.S. Peterson and C. Green (eds). Impacts of Oil Spill Disasters on Marine Habitats and Fisheries in North America. Boca Raton, FL: CRC Press. (peer-reviewed book chapter)
- Wang, Z., Z. Liu, K. Xu, L.M. Mayer, Z. Zhang, A.S. Kolker, and **W. Wu**, 2014. Concentration and sources of polycyclic aromatic hydrocarbons in surface coastal sediments of the northern Gulf of Mexico. *Geochemical Transactions* 15: 2. (IF: 4.737)
- Hallock Jr., J.L., **W. Wu**, C.A.S. Hall, and M. Jefferson, 2014. Forecast the limits to the availability and diversity of global convention oil supply: validation. *Energy* 64, 130-153. (IF: 7.147)
- Fulford, R.S., M.S. Peterson, **W. Wu**, and P.O Grammer, 2014. An ecological model of the habitat mosaic in estuarine nursery areas: Part II – Projecting effects of sea level rise on fish production. *Ecological Modelling* 273, 96-108. (IF: 2.974)
- **Wu, W.**, J. Clark, and J. Vose, 2014. Response of streamflow to climate change in the southern Appalachian Mountains using Bayesian inference. *Hydrological Processes* 28(4), 1616-1625. doi: 10.1002/hyp.9677. (IF: 3.565)
- Lash-Marshall, W., C.A.S. Hall, and **W. Wu**, 2013. Using gradient analysis to simulate the spatial structure and function of the Luquillo Experimental Forest. In *Ecological gradient analyses in a tropical landscape* (G. González, M. R. Willig, and R. B. Waide, ed.) *Ecological Bulletins* 54, 223-232. Wiley-Blackwell, Hoboken, NJ.
- **Wu, W.**, and L. Zhang, 2013. Comparison of spatial and non-spatial logistic regression models for modeling the occurrence of cloud cover in north-eastern Puerto Rico. *Applied Geography* 37, 52-62. (IF: 4.240)
- **Wu, W.**, P. D. Biber, M.S. Peterson, and C. Gong, 2012. Modeling photosynthesis of *Spartina alterniflora* (smooth cordgrass) impacted by the Deepwater Horizon oil spill using Bayesian inference. *Environmental Research Letters* 7, 045302. (IF: 6.793)
- Liu, Z., J. Liu, Q. Zhu, and **W. Wu**, 2012. The weathering of oil after the Deepwater Horizon oil spill: insights from the chemical composition of the oil from the sea surface, salt marshes and sediments. *Environmental Research Letters*, 035302. doi:10.1088/1748-9326/7/3/035302. (IF: 6.793)
- Lowe, M.R., **W. Wu**, M.S. Peterson, N.J. Brown-Peterson, W.T. Slack, and P.J. Schofield, 2012. Survival, growth and reproduction of non-native Nile tilapia (*Oreochromis niloticus*) II. Mapping its fundamental niche in the northern Gulf of Mexico. *PLoS One* 7(7), e41580. doi: 10.1371/journal.pone.0041580. (IF: 3.240)
- **Wu, W.**, J. Clark, and J. Vose, 2012. Application of a full hierarchical Bayesian model in assessing streamflow response to a climate change scenario at the Coweeta Basin, NC, USA. *Journal of Resources and Ecology* 3(2), 118-128.
- McKinney, J.A., E.R. Hoffmayer, **W. Wu**, R. Fulford, and J. Hendon, 2012. Feeding habitat of the whale shark *Rhincodon typus* in the northern Gulf of Mexico determined using Species distribution modelling. *Marine Ecology Progress Series* 458, 199-211. doi: 10.3354/meps09777. (IF: 2.824)
- **Wu, W.**, J. S. Clark, and J. M. Vose, 2010. Assimilating multi-source uncertainties of a parsimonious conceptual hydrological model using hierarchical Bayesian modeling. *Journal of Hydrology* 394, 436-446. (IF: 5.722)
- **Wu, W.**, and C.T. Driscoll, 2010. Impact of climate change on three-dimensional dynamic critical load functions. *Environmental Science & Technology* 44, 720-726. (IF: 9.028)
- **Wu, W.**, and C. T. Driscoll, 2009. Application of the PnET-BGC – an integrated biogeochemical model – to assess the surface water ANC recovery in the Adirondack region of New York under three multi-pollutant proposals. *Journal of Hydrology* 378, 299-312. (IF: 5.722)
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- B. Tao, C. Hu, and **W. Wu**, 2001. Studies on pathogenetic biology of vibriosis occurring in *Penaeus monodon*. *Journal of Tropical Oceanography* 20(2), 80-87 (in Chinese, English abstract).

#### **Manuscripts in review or preparation** (Underlined are student authors)

- Shen, S., **W. Wu**, J. Grimes, E. Saillant, in revision after first review. Antibiotic resistance in a coastal river in Mississippi, United States – potential drivers. *Environmental Monitoring and Assessment*. (IF: 2.513)
- Leaf, R., R. Mroch, **W. Wu**, D. Duval, R. Trigg, in prep. Evaluation of the movement dynamics of the Gulf Menhaden fishery.
- **Wu, W.**, E. Grimes, G. Suir, in prep. Temporal trends of remote sensing derived vegetation index in Louisiana's coastal wetlands – potential impact of freshwater diversions on vegetation. Plan to submit to *Geocarto International*.
- Huang, H., **W. Wu**, K. Elliott, C. Driscoll, C. Miniati, in prep. Impact of climate change on hydrochemical processes at two high-elevation forested watersheds in the southern Appalachians, USA. Plan to submit to *Forest Ecology and Management* (IF: 3.558).
- Shen, S., **W. Wu**, in prep. Meta-analysis of antibiotic resistance genes in aquatic environments.
- Brown-Peterson, N., **W. Wu**, C. Slife, K. Dillon, A. Leontiou, in prep. Interannual variations in oocyte development of Red Snapper in relation to environmental and habitat parameters.
- **Wu, W.**, J. Yuan, D. Jen, B. Li, in prep. The effectiveness of deep learning in predicting coastal wetland loss in the northern Gulf of Mexico.

#### **Book Chapters**

- Wright, L.D., **W. Wu**, and J. Morris, 2018. Chapter 9: Coastal erosion and land loss: causes and impacts. In *Tomorrow's Coasts: Complex and Impermanent* (eds: Wright, L.D., Nichols C.R.), Coastal Research Library, volume 27 (Senior ed: C.W. Finkl). Springer, Switzerland. Pp 137-150.
- Wright, L.D., and **W. Wu**, 2018. Chapter 12: Pearl river delta and Guangzhou (Canton) China. In *Tomorrow's Coasts: Complex and Impermanent* (eds: Wright, L.D., Nichols C.R.), Coastal Research Library, volume 27 (Senior ed: C.W. Finkl). Springer, Switzerland. Pp 193-206.
- Harris, N.L., and **W. Wu**, 2012. Chapter 7: Hydrology. In Harris N.L., Lugo, A.E., Brown, S., and Scalley T.H. (eds) Luquillo Experimental Forest: Research History and Opportunities. EFR-1. Washington, D.C: U.S. Department of Agriculture, pp. 50-55.

#### **Presentations** (Underlined are student authors, First author was the presenter unless specified otherwise)

- **W. Wu**, G. Suir, E. Grimes. Temporal trends of remote sensing derived vegetation index in Louisiana's coastal wetlands – potential impact of freshwater diversions on vegetation. U.S. Army Corps of Engineers Innovation Summit. Virtual, October 26, 2021. (Oral, contributed)
- **W. Wu**, D. Jen. Coastal wetland landward migration. Grand Bay National Estuarine Research Reserve Research Symposium. Virtual, September 10, 2021. (Oral, **invited**)
- **W. Wu**. Coastal wetlands and sea-level rise. Changing coastlines – Teacher Professional Development Workshop. Ocean Springs, MS, July 21, 2021. (Oral, **invited**)
- **W. Wu**, T. Quirk. Symposium: Landward migration of tidal marshes I and II. Society of Wetland Scientists Annual Meeting. Virtual, June 10, 2021. (Oral, **organizer**)

- D. Jen, **W. Wu**, L. Battaglia, M. Waldron, P. Biber, G. Carter. Historical land cover changes at riverine vs. marine dominated estuaries in southeastern Mississippi – forest-marsh dynamics. Society of Wetland Scientists Annual Meeting. Virtual, June 10, 2021. (Oral, **invited**)
- **W. Wu**. Model clinic: Introduction to R programming and R applications in landscape ecology. Community Surface Dynamics Modeling System 2021 Annual Meeting “Changing Landscapes and Seascapes – Modeling for Discovery, Decision-making and Communication”. Virtual, May 19, 2021. (2-hour workshop, Oral, **invited**)
- D. Jen, **W. Wu**, L. Battaglia, P. Biber. (1<sup>st</sup> place winner). Land cover change at the Grand Bay National Estuarine Research Reserve from 1955 to 2015 – A look at forest-marsh dynamics. Marine Science Graduate Student Symposium, Dauphin Island Sea Lab. Virtual, April 16-18, 2021. (Poster, contributed)
- E. Grimes, **W. Wu**. Below-ground biomass allocation in the lower Pascagoula River. Marine Science Graduate Student Symposium, Dauphin Island Sea Lab. Virtual, April 16-18, 2021. (Poster, contributed)
- K. Feldpausch, **W. Wu**. Multi-scale evaluation of the impact of hydrological extremes on coastal wetland plant productivity and diversity. Marine Science Graduate Student Symposium, Dauphin Island Sea Lab. Virtual, April 16-18, 2021. (Poster, contributed)
- D. Jen, **W. Wu**, L. Battaglia, P. Biber. (**2<sup>nd</sup> place winner in Physical Science and Mathematics**) Historical land cover change at the Grand Bay National Estuarine Research Reserve – Forest-marsh dynamics. Susan A. Siltanen Graduate Student Research Symposium, the University of Southern Mississippi. Virtual, April 9, 2021. (Poster, contributed)
- E. Grimes, **W. Wu**. (**3<sup>rd</sup> place winner**). Below-ground biomass allocation in the lower Pascagoula River. Susan A. Siltanen Graduate Student Research Symposium, the University of Southern Mississippi. Virtual, April 9, 2021. (Poster, contributed)
- K. Feldpausch, **W. Wu**. Multi-scale evaluation of the impact of hydrological extremes on coastal wetland plant productivity and diversity. Susan A. Siltanen Graduate Student Research Symposium, the University of Southern Mississippi. Virtual, April 9, 2021. (Poster, contributed)
- **Wu, W.** Landscape Change Driven by Vegetation Dynamics – Coastal Wetlands. University of Louisiana. Virtual, March 22, 2021. (**Invited guest lecture** for BIOL 595)
- D. Jen, **W. Wu**, L. Battaglia, P. Biber. Historical land cover change at the Grand Bay National Estuarine Research Reserve – forest-marsh dynamics. Society of Wetland Scientists 2020 Virtual Meeting. Virtual, December 1-3, 2020. (Oral, **invited**)
- D. Jen, **W. Wu**, L. Battaglia, P. Biber. Historical land cover change at the Grand Bay National Estuarine Research Reserve – forest-marsh dynamics. Bays and Bayous Symposium, MS-AL Sea Grant Consortium. Virtual, December 1-3, 2020. (Oral, contributed)
- E. Grimes, **W. Wu**. Effects of inundation on *Sagittaria lancifolia* using a marsh organ. Bays and Bayous Symposium, MS-AL Sea Grant Consortium. Virtual, December 1-3, 2020. (Oral, contributed)
- **W. Wu**. The impact of sea-level rise on coastal wetlands with noisy data. College of the Coast and Environment, Louisiana State University, February 14, 2020. (Oral, **invited seminar**).
- Suir, G., **W. Wu**, Jonathan Willis. Quantifying Inundation Effects on Marsh Vegetation. Progress Review Presentation for Ecosystem Management and Restoration Research Program of Engineer Research and Development Center, Lafayette, LA, November 15, 2019. (Oral, contributed)
- **W. Wu**, P. Biber, D.R. Mishra, S. Ghosh. Sea-level rise thresholds for stability of salt marshes in a riverine versus a marine dominated estuary. Coastal and Estuarine Research Federation Biennial Conference, Mobile, AL, November 3, 2019. (Poster, contributed)
- **W. Wu**. Resilience of coastal wetlands to sea-level rise in the northern Gulf of Mexico. Division of Marine Science, The University of Southern Mississippi, Stennis Space Center, MS, September 27, 2019. (Oral, **invited seminar**)
- H. Huang, **W. Wu**. The impact of climate change on hydrological and biogeochemical cycles in the Coweeta Basin, NC. Otto, NC, May 30, 2019. (Oral, **invited seminar**)
- **W. Wu**, P. Biber, M. Bethel, T. Hardy. Impact of sea-level rise on coastal wetlands in two contrasting estuaries. *Bays and Bayous Symposium*, Mobile, AL, November 29, 2018. (Oral, contributed)
- **W. Wu**. Impact of sea-level rise on coastal wetlands in the northern Gulf of Mexico – implications for restoration. USGS, Water and Aquatic Research Center, Lafayette, LA, September 28, 2018. (Oral, **invited seminar**)

- **W. Wu.** Coastal wetland dynamics under sea-level rise and wetland restoration in the northern Gulf of Mexico using Bayesian multilevel models. National Biodiversity Conference, Huhehaote, China, August 16, 2018. (Oral, **invited**)
- **W. Wu.** Spatial variability of resilience of coastal wetlands to sea-level rise in the northern Gulf of Mexico. South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, China, December 23, 2017. (Oral, **invited**)
- M. Bethel, **W. Wu**, P. Biber. Determining coastal hazards risk perception to enhance local mitigation planning through a participatory mapping approach. American Geophysical Union Fall Meeting, New Orleans, LA, December 13, 2017. (Oral, contributed, international, abstract published)
- T. Hardy, **W. Wu**. Spatial variability of coastal wetland resilience to sea-level rise using Bayesian inference. American Geophysical Union Fall Meeting, New Orleans, LA, December 12, 2017. (Oral, contributed, international, abstract published)
- **W. Wu**, P. Biber, M. Bethel. Thresholds of sea-level rise rate and sea-level rise acceleration rate for a vulnerable coastal wetland. American Geophysical Union Fall Meeting, New Orleans, LA, December 11, 2017. (Oral, contributed, international, abstract published)
- T. Hardy, **W. Wu**. Spatial variability of the resilience of coastal wetlands to sea-level rise in the northern Gulf of Mexico using Bayesian inference. Research Symposium of Grand Bay National Estuarine Research Reserve, Moss Point, MS, September 8, 2017. (Poster, **invited**)
- **W. Wu**, P. Biber, M. Bethel. Thresholds of sea-level rise rate and sea-level rise acceleration rate for a vulnerable coastal wetland. Research Symposium of Grand Bay National Estuarine Research Reserve, Moss Point, MS, September 8, 2017. (Oral, **invited seminar**)
- **W. Wu**, P. Biber, M. Bethel. Thresholds of sea-level rise for vulnerable coastal wetlands. Chinese Academy of Fishery Sciences Nanhai Aquatic Products Research Institute, Guangzhou, China, July 19, 2017. (Oral, **invited seminar**)
- **W. Wu**, P. Biber, M. Bethel. Thresholds of sea-level rise for vulnerable coastal wetlands. International Association of Landscape Ecology Annual Symposium, Baltimore, MD, April 12, 2017. (Oral, contributed, international, abstract published)
- **W. Wu.** Resilience of coastal wetlands in the northern Gulf of Mexico to oil spill and sea-level rise. Seminar, South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, China, December 29, 2016. (Oral, **invited seminar**)
- **W. Wu**, M. Bethel, P. Biber. Thresholds of sea-level rise on coastal wetlands. Bays and Bayous Symposium, Biloxi, MS, November 30, 2016. (Oral, contributed, regional, abstract published)
- T. Hardy, **W. Wu**. Evaluating wetland loss as a function of relative sea-level rise, biological, hydrological, and geomorphic characteristics for the northern Gulf of Mexico using Bayesian inference. Bays and Bayous Symposium, Biloxi, MS, November 30, 2016. (Oral, contributed, regional, abstract published)
- **W. Wu**. What does sea-level rise mean to Mississippi Gulf Coast? Workshop for NAACP and NOAA, Gulfport, MS, October 17, 2016. (Oral, **invited**, regional)
- **W. Wu**, K. Yeager, M. Peterson, R. Fulford, T. Hardy. Evaluating the SLAMM using neutral models. The International Society for Ecological Modelling Global Conference, Towson University, Baltimore, MD, May 9, 2016. (Oral, contributed, international, abstract published)
- **W. Wu**. Scientific writing: precision and audience. Reversing Engineering Proposal Development. Workshop hosted by VPR office at the University of Southern Mississippi, Ocean Springs, MS, April 22, 2016. (Oral, **invited**, campus-wide)
- **W. Wu**, 2015. Summary of Ecosystem Scientific and Statistical Committee February 2015 meeting: a report to The Gulf of Mexico Fishery Management Council. The Sustainable Fisheries/Ecosystem Management Committee Meeting, Biloxi, March 30, 2015. (Oral, **invited**, regional)
- M. Bethel, **W. Wu**, P. Biber, 2014. Determining localized risk perception and impacts of predicted sea-level rise (SLR) to enhance stakeholder mitigation planning through visualization tools. Bays and Bayous Symposium 2014, December 2, Mobile, AL. (Oral, contributed, regional)
- R.H. Carmichael, E. Darrow, **W. Wu**, H. Huang, K.R. Calci, W. Burkhardt II, W. Walton, A. Pasch, M.S. Woodrey. Planning the future with an eye to the past: land use and water quality on the Mississippi-Alabama Coast. Bays and Bayous Symposium 2014, December 2, Mobile, AL. (Oral, contributed, regional)
- **W. Wu**, H. Huang (presenter), R. Carmichael, and E. Darrow, 2014. Land use/land cover change and its impact on water quality at the Grand Bay National Estuarine Research Reserve. Concluding workshop for the project "Legacy effects of land-use change and nitrogen source shifts on a benchmark system: Building capacity for collaborative research leadership at the Grand Bay Reserve", August 1, Moss point, MS. (Oral, **invited**)

- **W. Wu**, 2014. Beyond ordinary least squares regression: promoting statistical literacy among ecology students. College seminar, July 25, Nanjing Forestry University, Nanjing, China. (Oral, **invited**)
- **W. Wu**, K. Yeager, M. Peterson, and R. Fulford, 2014. Neutral models as a way to evaluate the sea level affecting marshes model (SLAMM). College seminar, Xiamen University, July 4, Xiamen, China. (Oral, **invited**)
- **W. Wu**, J. Clark, and J. Vose, 2014. Response of streamflow to climate change in the southern Appalachian Mountains using Bayesian inference. College seminar, July 3, Xiamen University, Xiamen, China. (Oral, **invited**)
- **W. Wu**, 2014. Beyond ordinary least squares regression: promoting statistical literacy among ecology students. College seminar, July 3, Xiamen University, Xiamen, China. (Oral, **invited**)
- **W. Wu**, K. Yeager, M. Peterson, and R. Fulford, 2014. Neutral models as a way to evaluate the sea level affecting marshes model (SLAMM). Annual symposium for US- International Association of Landscape Ecology, May 20, Anchorage, US. (Oral, contributed)
- **W. Wu**, 2014. Coping with multiscale data: case studies in evapotranspiration and photosynthesis. Department seminar, Texas Tech University, May 14, Lubbock, Texas. (Oral, **invited**)
- **H. Huang**, **W. Wu**, P. Biber, and M. Bethel, 2013. Decomposition of two dominant salt marsh species on the Mississippi Gulf Coast. University Research Awards Day, November 8, University of Southern Mississippi, Hattiesburg, MS. (Poster, contributed)
- R. Carmichael, **E. Darrow**, W. Burkhardt III, K. Calci, **W. Wu**, D. Ruple, and W. Walton, 2013. Legacy effects of land-use change and nitrogen source shifts on Grand Bay, Mississippi: a benchmark for building collaborative research at the Grand Bay NERR. Grand Bay NERR Research Symposium, October 25, Grand Bay NERR, Moss Point, MS. (Oral, **invited**)
- **H. Huang**, **W. Wu**, P. Biber, and M. Bethel, 2013. Decomposition of two dominant salt marsh species on the Mississippi Gulf Coast. Grand Bay NERR Research Symposium, October 25, Grand Bay NERR, Moss Point, MS. (Poster, contributed)
- **W. Wu**, 2013. Scaling individual-plant sap flow and leaf-scale photosynthesis to ecosystem level, July 30, Xiamen University, Xiamen, China. (Oral, **invited seminar**)
- **W. Wu**, 2013. Coping with scale mismatches: applications of hierarchical Bayesian models in studying photosynthesis, July 24, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences, Xining, China. (Oral, **invited seminar**)
- **W. Wu**, 2013. Coping with scale mismatches in studying water and carbon cycles, June 22, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, Lanzhou, China. (Oral, **invited seminar**)
- **W. Wu**, 2013. Coping with scale mismatches: case studies in evapotranspiration and photosynthesis, July 16, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China. (Oral, **invited seminar**)
- **W. Wu**, 2013. Scaling individual-plant sap flow and leaf-scale photosynthesis to ecosystem level, June 27, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China. (Oral, **invited seminar**)
- **W. Wu**, 2013. Sensing individual-plant sap flow and leaf-scale photosynthesis – what do they mean at the ecosystem level, June 24, 2013, Nanjing Forestry University, Nanjing, China. (Oral, **invited seminar**)
- **W. Wu**, P. Biber, M. Peterson, C. Gong, 2013. Modeling photosynthesis of *Spartina alterniflora* (smooth cordgrass) impacted by the Deepwater Horizon Oil Spill using Bayesian inference. National Science Foundation Funded Science Center for Marine Fisheries (SCeMFIS), Poster Reception, June 21, University of Southern Mississippi, Ocean Springs, MS. (Poster, contributed)
- Gong, C., and **W. Wu**, 2013. A hybrid remote sensing model for mapping the impervious surface of urban area adjacent to Grand Bay Reserve. National Science Foundation Funded Science Center for Marine Fisheries (SCeMFIS), Poster Reception, June 21, University of Southern Mississippi, Ocean Springs, MS. (Poster, contributed)
- **W. Wu**, 2013. Ecological Models 101. Nanjing Forestry University, Nanjing, China, June 21. (**Invited seminar**)
- Z. Liu, Z. Wang, **W. Wu**, A. Kolker, 2013. Distribution and contamination sources of polycyclic aromatic hydrocarbons (PAHs) in coastal sediments in the northern Gulf of Mexico. 245th ACS National Meeting that will be held in New Orleans, Louisiana, April 7-11, 2013. (Oral, international, contributed.) (Abstract accepted on 20 December, 2012)
- **W. Wu**, 2013. Sensing individual-plant sap flow and leaf-scale photosynthesis – what do they mean at the ecosystem level, March 4, 2013, New Jersey Institute of Technology, Newark, NJ. (Oral, **invited seminar**)
- **Wu, W.**, P. B. Biber, M. S. Peterson, C. Gong, 2012. Modeling photosynthesis of *Spartina alterniflora* (smooth cordgrass) impacted by the Deepwater Horizon oil spill using Bayesian inference. American Geophysical

- Union fall meeting, 3-7 December, San Francisco, CA. (Poster, international, contributed)
- Bethel, M., **W. Wu**, P. Biber, C. Gong, and H. Huang, 2012. Determining localized risk perception and impacts of predicted sea-level rise (SLR) to engineered versus natural landscapes to enhance stakeholder SLR mitigation planning. Mississippi-Alabama Bays and Bayous Symposium, 14-15 November, Biloxi, MS. (Oral, regional, contributed)
  - Lowe, M., M.S. Peterson, **W. Wu**, N. Brown-Peterson, W.T. Slack, P. Schofield, 2012. Nile tilapia – free ranging “aquatic chickens”: modeling the spread of a non-native species in the Northern Gulf of Mexico under different climate change. 142<sup>nd</sup> Annual meeting of American Fisheries Society, 19-23 August, St. Paul, MN. (Oral, national, contributed)
  - Fulford, R.S., **W. Wu**, M.S. Peterson, P.O. Grammer, 2012. Life in the mosaic: predicting changes in estuarine nursery production for juvenile fishes in response to sea-level rise with a landscape-based habitat production model. Ecological Society of America, 97th annual meeting, 5-10 August, Portland, OR. (Oral, international, contributed)
  - **Wu, W.**, 2012. Monitoring photosynthesis of coastal wetlands in Mississippi impacted by Deepwater Horizon Oil Spill using Bayesian inference – the story after more than one year. International Association of Landscape Ecology Symposium, April 8-12, Newport, RI. (Oral, international, contributed)
  - **Wu, W.**, M. Kalcic, and J. Fleming, 2012. The impact of accelerated sea level rise on coastal wetlands and its implications on storm surge - The story of lower Pascagoula River Basin in Jackson County, MS. Workshop – Planning for the Future in Jackson County: Sea Level Rise and Changing Coastal Conditions. Grand Bay National Estuarine Research Reserve, March 6, Moss Point, MS. (Oral, local, **invited**)
  - **Wu, W.**, 2012. Modeling Water, Carbon and More under Environmental Change. City University of Hong Kong, February 28, Hong Kong, China. (Oral, **invited seminar**)
  - Frey, J., and **W. Wu**, 2011. Sub-pixel classification of historical and current marsh habitat for the eastern Mississippi Gulf Coast using remotely sensed images. Coastal and Estuarine Research Federation 2011 Conference, November 6-11, Dayton Beach, Florida. (Oral, international, contributed)
  - Gong, C., and **W. Wu**, 2011. A hybrid remote sensing model for mapping the impervious surface of urban area adjacent to Grand Bay Reserve. Annual University Research Awards Day, November 4, Hattiesburg, Mississippi. (**Award Winner**) (Poster, campus-wide, contributed)
  - Gong, C., and **W. Wu**, 2011. A hybrid remote sensing model for mapping the impervious surface of urban area adjacent to Grand Bay Reserve. Grand Bay NERR Research Symposium, October 14, Moss Point, Mississippi. (Poster, regional, contributed)
  - **Wu, W.**, 2011. Ecological forecast under changing environment - a focus on hydrological and biogeochemical cycles in forest ecosystems. July 14, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China. (Oral, **invited seminar**)
  - **Wu, W.**, R. Fulford, M.S. Peterson, 2011. Assessment of sea-level-affecting-marshes-model (SLAMM) applying a neutral model of landscape change. Northern Gulf Institute Annual Meeting, May 17-19, Mobile, Alabama. (Poster, regional, contributed)
  - **Wu, W.**, 2011. Resilience of salt marshes to BP oil spill on Mississippi Gulf Coast. International Association of Landscape Ecology Symposium, April 3-7, Portland, Oregon. (Oral, international, contributed)
  - **Wu, W.**, 2011. Modeling Ecological Processes under Environmental Disturbances. January 25, Montclair State University, Montclair, New Jersey. (Oral, **invited seminar**)
  - McKinney, J.A., E. Hoffmayer, **W. Wu**, and R. Fulford. 2011. Species distribution modeling of whale sharks, *Rhincodon typus*, in the northern Gulf of Mexico. Southern Division of the American Fisheries Society Meeting January 14-16, Tampa, Florida. (Oral, regional, contributed)
  - **Wu, W.**, 2010. Photosynthesis at saltmarshes impacted by Deepwater Horizon Oil Spill – hierarchical Bayesian modeling in resilience of saltmarsh habitat. Bays and Bayous Symposium, December 1-2, Mobile, AL. (Oral, regional, contributed)
  - Frey, J., and **W. Wu**, 2010. Quantifying the loss rate of salt marsh patches through multiple remote sensed methodologies for the Pascagoula River Basin. Bays and Bayous Symposium, December 1-2, Mobile, AL. (Poster, regional, contributed, abstract published)
  - **Wu, W.**, 2010. Photosynthesis at saltmarshes impacted by Deepwater Horizon Oil Spill – what it means in resilience of saltmarsh habitat at multiple spatial scales. November 30, University of West Florida, Pensacola, FL. (Oral, **invited seminar**)
  - **Wu, W.**, 2010. Photosynthesis at saltmarshes impacted by Deepwater Horizon Oil Spill – what it means in resilience of saltmarsh habitat. Gulf Oil Spill Conference, November 1-2, New Orleans, LA. (Poster, National, **invited**)

- **Wu, W.**, 2010. Five key knowledge gaps in the research on the ecological effects of acidification under climate change. Interacting effects of climate and nitrogen on ecosystems and their services – U.S. EPA workshop to review current science and inform policy-driven scientific needs, October 12-13, Arlington, VA. (Oral, Panel member presentation, **invited**)
- Peterson, M.S., M.R. Lowe, **W. Wu**, N.J. Brown-Peterson, P. Schofield, and W.T. Slack. 2010. Model-based projection of Nile tilapia's (*Oreochromis niloticus*) invasive ability in coastal Mississippi. Gulf & South Atlantic Regional Panel on Aquatic Invasive Species, April 27-28, Gulfport, MS. (**Invited seminar**)
- **Frey, J.**, and **W. Wu**, 2010. Water Use of Southern Pine Tree Species. Gulf Coast Graduate Student Symposium, April 9-11, Ocean Springs, MS. (Oral, regional, contributed)
- **McKinney, J.A.**, E.R. Hoffmayer, and **W. Wu**, 2010. Species distribution modeling of whale sharks, *Rhincodon typus*, in the northern Gulf of Mexico. Gulf Coast Graduate Student Symposium, April 9-11, Ocean Springs, MS. (**3rd place award**, oral, regional, contributed)
- **Wu, W.**, 2010. Predicting spatial distribution changes of tidal marshes under local land use / land cover and sea level rise. International conference on sea level rise in the Gulf of Mexico, March 1-3, Corpus Christi, TX. (Oral, international, **invited**)
- **Lowe, M.R.**, **W. Wu**, M.S. Peterson, N.J. Brown-Peterson, P.J. Schofield, and W.T. Slack, 2010. Model-based projection of Nile tilapia's (*Oreochromis niloticus*) invasive ability: the importance of estuarine salt bridges. MS-American Fisheries Society meeting, 3-5 February, Tara, MS. (**Won best oral presentation award**, oral, regional, contributed)
- **Lowe, M.R.**, M.S. Peterson, N.J. Brown-Peterson, P.J. Schofield, W.T. Slack, and **W. Wu**, 2009. Survival, growth, and reproduction of Nile tilapia in saline waters: projected effects of climate change and sea level rise on the distribution of an invasive species. CERF 2009, *Invasive Fish Biology*, Portland, OR, November 1-5. (Oral, international, contributed)
- **Wu, W.**, 2009. Remote sensing and modeling of coastal marshes. MAR581 Geological Oceanography, Department of Marine Science, University of Southern Mississippi, Stennis Space Center, Mississippi, November 2. (**Invited seminar**)
- **Wu, W.**, 2009. Application of a biogeochemical model PnET-BGC to study long-term carbon dynamics at coastal forests frequently impacted by hurricanes in southern Mississippi. Faculty Summer Research Grant presentation on LETTERS Day, University of Southern Mississippi, Hattiesburg, MS, October 16. (Poster, campus-wide, **invited**)
- **Wu, W.**, 2009. Potential changes of distribution of tidal marshes under local land use / land cover and global climate changes. 24<sup>th</sup> US-International Association of Landscape Ecology Symposium, Snowbird, Utah, April 15. (Oral, international, contributed, abstract published)
- **Wu, W.**, C. Hall, C. Driscoll and J. Clark, 2009. Assessing Hydrological and Biogeochemical Consequences of Climate and Land Use / Land Cover (LULC) Changes. Department of Marine Science, University of Southern Mississippi, Stennis Space Center, Mississippi, March 27. (**Invited seminar**)
- **Wu, W.**, 2008. The impact of accelerated sea-level rise on the area and ecosystem services of tidal marshes. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, Mississippi, October 28, 2008. (Oral, regional, contributed)
- **Wu, W.**, 2008. Water and biogeochemical modeling at forested ecosystems. University of Nanjing Forestry, Nanjing, China, June 15. (**Invited seminar**)
- **Wu, W.**, 2008. Fresh water – linkage between upland forest and coastal environment. Ecosystem modeling workshop of Gulf of Mexico Fishery Management Council, Tampa, FL, May 6. (**Invited talk**)
- **Wu, W.**, L. Zhang, and C. Hall, 2008. Adapting Local Spatial Modeling to Predict Spatial Patterns of Orographic Cloud Cover at the Luquillo Experimental Forest in Puerto Rico. 23<sup>rd</sup> US- International Association for Landscape Ecology (IALE) Symposium - Landscape Patterns and Ecosystem Processes, Madison, Wisconsin, April 6-10. (Poster, international, contributed)
- **Wu, W.**, 2008. How to build large-scale spatial models to integrate hydrology, nutrients and human disturbance: three applications. University of Connecticut, Storrs, CT, February 20. (**Invited seminar**)
- **Wu, W.**, J. Clark, and J. Vose, 2007. Applying Bayesian inference to quantify the uncertainties of a parsimonious conceptual hydrological model. 92<sup>th</sup> Ecological Society of American meeting, San Jose, CA, August 5-10. (Poster, international, contributed)
- **Wu, W.**, and J. Clark, 2007. Applying Bayesian inference to quantify the uncertainties of a parsimonious conceptual hydrological model. Statistical and applied mathematical sciences Institute, Research Triangle Park, NC, April 3. (Oral, national, contributed)

- **Wu, W.**, and J. Clark, 2007. Applying a conceptual hydrological model with a hierarchical bayesian statistical approach on two watersheds in Coweeta. Long term ecological research - Coweeta annual meeting, Otto, NC, January 27. (Oral, national, contributed)
- **Wu, W.**, C. Hall, and F. Scatena, 2006. Modeling the impact of recent land cover changes on the stream flows in North-Eastern Puerto Rico. Long Term Ecological Research – All Scientist Meeting 2006, Estes Park, CO, September 20-23. (Poster, international, contributed)
- **Wu, W.**, H. Wang, and C. Hall, 2006. Spatial modelling of the probability of cloud cover, solar radiation and primary productivity in north-eastern Puerto Rico. State University of New York – Environmental Science & Forestry (SUNY-ESF), Syracuse, NY, April 4. (**Invited** lecture)
- **Wu, W.**, 2005. Spatial modeling of the probability of cloud cover, evapotranspiration, and streamflow in northeastern Puerto Rico. Marine Biology Laboratory, Woods Hole, MA, January 5. (**Invited** seminar)
- **Wu, W.**, C.T. Driscoll, 2006. Application of PnET-BGC – an integrated biogeochemical model to assess the surface water ANC recovery at Adirondacks under three multi-pollutant proposals. 91th Ecological Society of America annual meeting, Memphis, TN, August 6 – 11. (Poster, international, contributed)
- **Wu, W.**, C.T. Driscoll, 2006. Assessing the validity of three multi-pollutant proposals on reducing acidification of surface waters and soils for the Adirondacks using an integrated biogeochemical model. Poster symposium at L.C. Smith College of Engineering and Computer Science, Syracuse University, Syracuse, NY, April 7. (Poster, campus-wide, contributed)
- **Wu, W.**, C.T. Driscoll, 2005. Critical Loads Calculation for 60 DDRP Sites in the northeastern USA. Critical load group meeting, Troy, NY, August 24. (Oral, regional, contributed)
- **Wu, W.**, C. Hall, 2005. Spatial modeling of evapotranspiration in North-Eastern Puerto Rico using remotely-sensed data. 20th Annual Symposium of International Association for Landscape Ecology (IALE), Syracuse, NY, March 12-16. (Oral, international, contributed)
- **Wu, W.**, C. Hall, 2005. Predicting the temporal and spatial probability of cloud cover in the Luquillo Experimental Forest in Puerto Rico using generalized linear (mixed) models. 20th Annual Symposium of International Association for Landscape Ecology (IALE), Syracuse, NY, March 12-16. (Poster, international, contributed)
- **Wu, W.**, and H. Wang, 2004 Spatial modeling of climate and primary productivity. SUNY-ESF, Syracuse, NY, March 2. (**Invited** lecture)
- C. Hall, **W. Wu**, and N. Harris, 2004, Spatial Models Developed by the SUNY-ESF Modeling Group. Long term ecological research - Luquillo annual meeting, San Juan, Puerto Rico, Luquillo, PR, January 6. (Oral, national, contributed)
- **Wu, W.**, and C. Hall, 2003. Spatial and temporal pattern of cloud cover probability in the Luquillo Mountains of northeastern Puerto Rico using remote sensing data. Long Term Ecological Research (LTER) Network All Scientists Meeting, Seattle, WA, September 18-21. (Poster, international, contributed)
- **Wu, W.**, and C. Hall, 2003. Spatial and temporal pattern of cloud cover probability in the Luquillo Mountains of northeastern Puerto Rico using remote sensing data. Long term ecological research - Luquillo annual meeting, Luquillo, Puerto Rico, January 5. (Poster, national, contributed).
- **Wu, W.**, and C. Hall, 2001. Spatial modelling of evapotranspiration in Luquillo Experimental Forest of Puerto Rico in January using remote sensing data. Annual SUNY-ESF Poster Exhibit, Syracuse, NY, April 6. (Poster, campus-wide, contributed)

### Research, Creative, Scholarly Activity in Progress

"Multi-scale evaluation of the impact of hydrological extremes on coastal wetland vegetation" (On-Going).

"Developing a locally-relevant community resilience index for use with indigenous communities in the Gulf of Mexico region" (On-Going).

"Field studies to quantify inundation effects on marsh vegetation" (On-Going).

"Salt marsh upland migration: past, present, and future" (On-Going).

### SERVICE

#### Institutional Service

#### University Service



- Panel member: USM – “Reverse Engineering Proposal Development”, April 22, 2016, Ocean Springs, MS.
- Committee: Gulf Coast Faculty Council, USM, 2020-Present. (Elected)
- Committee: Sabbatical Committee, USM 2019-Present.
- Proposal Reviewer: Reviewed five proposals for internal competition for ORAU Ralph E. Powe Junior Faculty Enhancement Awards 2020 for VPR Office, December 2019.
- Committee: Scholarship Committee, College of Science & Technology, USM, 2012-2017.
- Committee: Faculty Council, College of Science & Technology, USM, 2012-2014.

### School Service

- Committee Chair: Student Progress Committee, Department of Coastal Sciences, USM 2016-2019.
- • Committee Chair: Student Progress Committee, Department of Coastal Sciences, USM 2016-2019.
- Committee: Environmental Sustainability, School of Ocean Science & Engineering, 2020-Present (appointed in 2020, and elected in 2021).
- Committee: Website Committee, School of Ocean Science & Engineering, 2020-2021.
- Faculty Search Committee: Coastal Hydrology Assistant Professor 2021-2022.
- Faculty Tenure Advisory Committee Chair: de Mutsert (2021-Present)
- Faculty T&P Advisory Committee: Acton 2020-Present.
- Faculty Search Committee: Hydrographic Science Assistant Professor 2020-2021.
- Committee: Student Fellowship Revision, Division of Coastal Sciences, USM 2020-2021.
- Committee: Student Staff Subcommittee (Planning for COVID-19), June - July 2020.
- Committee: Seminar Committee, USM, November 7, 2019 - March 2020.
- Committee: Student Progress Committee, Department of Coastal Sciences, USM 2019-2021.
- Faculty Search Committee: Marine Socio-Economist/Policy Position 2018-2019.
- Faculty Spotlight 2017, 2020.
- Committee: Student Prescreen Committee, Department of Coastal Sciences, USM 2016-Present.
- Faculty T&P Advisory Committee: Hamdan 2015-2016.
- International Students Working Group: Division of Coastal Sciences, The University of Southern Mississippi 2015 – 2016.
- Committee: Governance Committee, Department of Coastal Sciences, USM, 2013, 2014.
- Committee: T&P Committee, Department of Coastal Sciences, USM 2013-Present.
- Judge: Marine and Estuarine Graduate Student Association’s (MEGSA) travel and research awards, USM, 2011, 2012, 2017.
- Support letters: Wrote an average of 10 letters to support award and job applications.
- ArcGIS software coordinator: Volunteer to host ArcGIS server in my lab, and distribute ArcGIS software, 2008-Present.
- Seminar Host “Assessing coupled landscape vulnerability and resilience from rapid urbanization to inform coastal urban planning” by Dr. Yangfan Li of Xiamen University, 4/16/2018.
- Workshop organizer: Invited Dr. Jason Fleming, one of the ADCIRC model developers, to come on campus to give a workshop on the use of ADCIRC model (a storm surge model), January 11-14, 2010, Gulf park campus, Long Beach, MS.

### Professional and Public Service

#### Professional Service

- Conference planning committees for Joint Aquatic Sciences Meeting 2022: Program Committee, Fundraising/Sponsorship Committee, Diversity Committee.
- Planning Committee: Climate Community of Practice Meeting 2017.
- Steering Committee: Gulf of Mexico Modeling Community of Practice. 2018-2020.
- Chair and Board of Directors: Global Change Ecology Section, Society of Wetland Scientists. 2019-Present.

- Chair: Outstanding Student Presentation Award, Global Environmental Change section, American Geophysical Union (AGU) Fall Meeting 2020 – 2021.
- Coordinator: Outstanding Student Presentation Award, Global Environmental Change section, AGU Fall Meeting 2018-Present.
- Editorial board: *PLOS ONE* 2018-Present, *GIScience & Remote Sensing* 2020-Present
- Guest Editor: *Frontiers Environmental Science* 2020-Present.
- Technical Review Panels
- University of Southern California Sea Grant 2021
- Louisiana Sea Grant 2021
- National Science Foundation Graduate Research Fellowship Program 2019-2021.
- Department of Energy Environmental System Science Program 2019
- Committee: Member, Scientific and Statistical Committee of Gulf of Mexico Fishery Management Council 2008 - 2015.
- Panel member: Discussed career options in Environmental Science Program at Florida Atlantic University, April 16, 2021, Virtual.
- Panel member: U.S. Environmental Protection Agency's (EPA's) workshop: "Interacting Effects of Climate and Nitrogen on Ecosystems and their Services", October 12-13, 2010, Arlington, Virginia.
- Symposium organizer:
  - "Landward migration of tidal wetlands". Annual Meeting of Society of Wetland Scientists, June 10, 2021,
  - "Evaluating wetland restoration under global change – how to improve best practices", 2020 Virtual meeting of Society of Wetland Scientists, December 2, 2020. (Previously for Symposium at Society of Wetland Scientists RE3, Québec, Canada, June 2020.)
  - "Applications of remote sensing techniques in the Long Term Ecological Research", Long Term Ecological Research (LTER) Network All Scientists Meeting, Seattle, WA, September 18-21, 2003.
- Student Travel Award Organizer: RE3, Québec, Canada, June 2020 (Conference Cancelled)
- Symposium co-organizer:
  - "The role of wetlands in meeting global environmental Challenges: Linking Wetland Science, Policy and Society". Annual Meeting of Society of Wetland Scientists, Baltimore, MD, May 30, 2019 (Organizer: T. Quirk)
  - "Symposium on SLAMM—the maturation of a landscape-ecologic model", the International Society of Ecological Modelling Global Conference, Towson University, Baltimore, MD, May 9, 2016.
- Southern Universities Research Association (SURA). Represented USM VPR (Dr. Gordon Cannon) to attend Coastal & Environmental Research Committee and board meetings since 2017.
- Current Membership: Society of Wetland Scientists, Coastal & Estuarine Research Federation, AGU, and Community Surface Dynamics Modeling System.
- Previous membership: Ecological Society of America, Sino-Ecologists Association Overseas, American Society for Photogrammetry and Remote Sensing, American Association for the Advancement of Science, International Society of Landscape Ecology
- Book proposal reviewer for: Springer USA
- Journal reviewer for (list may not be complete): Landscape Ecology, Science of the Total Environment, Marine Ecology Progress Series, Wetlands Ecology and Management, Global Change Biology, Journal of Hydrology, Environmental Pollution, Remote Sensing of Environment, Remote Sensing, Biological Conservation, Geocarto International, Soil Biology & Biochemistry, Water Resources Research, Biological Trace Element Research, African Journal of Environmental Science and Technology, Wetlands, Ecological Indicators, Applied Geography, British Journal of Applied Science & Technology, Forests, Soil Science Society of America Journal, AIMS Environmental Science, Environmental Modelling & Software, Journal of Agriculture and Biodiversity Research, Journal of Current Genomics, Journal of Housing and Built Environment, Journal of Marine Science & Research Development, PLOS ONE, Ecological Modelling, Journal of Geography, Environment and Earth Science International, Journal of Coastal Research, Energy Economics, GIScience & Remote Sensing, Planning Practice and Research, Journal of Agricultural, Food, and Environmental Sciences, Journal of Applied

- Geography, Environmental Science Group, Sustainability, Applied Soil Ecology, Environmental Research, Cogent Geoscience, Environmental Monitoring and Assessment, Critical Reviews in Environmental Science and Technology.
- Manuscript reviewer for colleagues at US Forest Service, multiple universities, and Keesler Air Force.
  - Grant reviewer for: National Science Foundation (NSF), Department of Energy, Texas Sea-Grant, New York Sea-Grant, Illinois-Indiana Sea-Grant, Connecticut Sea-Grant, Louisiana Sea-Grant, RESTORE fund, NAS Gulf Research Program, Alabama Excellence Program, South Central Climate Adaption Science Center, NSF China.
  - Conference reviewer: Student Travel Grant, Global Environmental Change section, AGU Fall Meeting 2018.
  - T&P external reviewer: CUNY - Baruch College (2020), Drexel University (2013)
  - Technical Session Chair: 20th Annual Symposium of International Association for Landscape Ecology (IALE), Syracuse, NY, March 12-16, 2005. Disturbance 4, 2011 Annual Symposium of IALE, Portland, OR, April 6, 2011.
  - Mentor for early career scholars at the profession meetings: IALE 2008, 2009, 2011, 2012, 2014, 2016, CERF 2019
  - Judge for student presentations: AGU Fall meeting 2012, 2017, SWS meeting 2018, CERF 2019, Bays and Bayous Symposium 2016
  - Invited meetings “Salt marsh indicators workshop” organized by NatureServe, Lafayette, LA, April 5-6 2016 (invited).

### Public Service

- Scientific Advisor: Restoration Projects of City of Arcata in California and NOAA. (April 2021 - Present) (Invited due to the paper Wu et al. 2020 in Science of the Total Environment).
- Participant, CESU. (April 2021). Provided highlights of my project funded by USACE to the GCCESU website.
- Worked with coastal storms outreach, coastal training program, and Gulf of Mexico Alliance (GOMA) Community Resilience Priority Issue Team (PIT) to disseminate the data and results of the research project on the impact of sea level rise (SLR) on coastal ecosystems led by W. Wu et al. to resource managers and general public through workshops and reports (i.e., Planning for the Future in Jackson County: Sea Level Rise and Changing Coastal Conditions on March 6, 2012 in Moss Point MS, Workshop for NAACP and NOAA on October 17, 2016 in Gulfport, MS, Teachers' Workshop on coastal wetlands and sea-level rise on July 21, 2021 in Ocean Springs, MS).
- Contributed to the stakeholder workshop – Gulf Coast Water Quality at the National Estuarine Research Reserve in 2018 (PI: Dr. Ruth Carmichael)
- Judge: High school student projects on Stewardship Day hosted by Marine Education Center (MEC), Ocean Springs, MS, March 15, 2017.
- Helped developed the curriculum for high school science courses to integrate the research of the impact of sea-level rise on coastal environment, Pascagoula, MS (2016-17).
- Presented the impact of sea-level rise on coastal environment to 6th graders in Ocean Springs on Earth Exploration Day, Ocean Springs, MS (November 18, 2016).
- Assisted field trip to talk about coastal wetlands and blue carbon to high school students, Grand Bay National Estuarine Research Reserve, Moss Point, MS (October, 2016).
- Worked as science judge: 1) Science Fair at Magnolia Park Elementary, Ocean Springs, MS (2014); 2) Mississippi Region VI Science Fair (2014), 3) Science Fair at Ocean Springs Upper Elementary School, Ocean Springs, MS (2015).
- Contributed to GCRL monthly newsletter (“Newest in Spatial Science”) in May, 2013.
- Steering Committee of the Biloxi Conservation Action – Provided scientific information on wetland conservation plans, attended conference calls on April 4 and May 14, 2013, and an onsite meeting on April 17, 2013.
- The research results of river flooding during Hurricane Katrina funded by NASA were integrated in Coastal Online Assessment and Synthesis Tool (COAST), 2012.

- Wrote an article to disseminate our research on the impact of BP Deepwater Horizon Oil Spill on marsh plant photosynthesis for Environmental Research Letters, November, 2012.
- Attended community event offered by MEC of Gulf Coast Research Laboratory: Bioquest on October 6, 2012, presenting a poster and research equipment to the community.
- Invited to talk about the impact of sea level rise on coastal wetlands and storm surge at the event of “Explore a Seashore” hosted by MEC in May and November, 2012.
- Invited to write insight news piece on our article in Environmental Research Letters related to BP oil spill in November 2012.
- Participated in Coastal Cleanup on October 20, 2012.
- Judge: Gulf Coast Graduate Student Symposium, April 10, 2010, Ocean Springs, MS.
- Presented a poster to introduce my lab at the local Anderson Art Festival, November, 2009.

#### In the media

- Interviewed by Asheville TV station to talk about research at the Coweeta Long Term Ecological Research Site, NC, May 28, 2019.
- Interviewed by Mississippi Today (Alex Rozier) to talk about a report on the effects of rising sea levels on the housing market, November, 2018.
- Interviewed for WLOX news: “New study shows U.S. losing coastal wetlands at alarming rate”, the day after the report “Status and trends of wetlands in the coastal watersheds of the conterminous United States” by US Fish and Wildlife Service and NOAA was released, November 26, 2013. Also available on <http://www.americanownews.com/story/24078429/new-study-shows-us-losing-coastal-wetlands-a-t-alarming-rate>, last accessed in 2014.
- Invited to write insight news piece on our recently published ERL article related to BP oil spill in November 2012, now it is published on ERL community website, environmentalresearchweb: <http://environmentalresearchweb.org/cws/article/news/52140>, available on April 13, 2015.
- Interviewed for Scientist Spotlight at the Gulf Coast ADVANCE Women Scientist Team, <http://www.gulfcoastadvance.org/spotlight/weiwu-1/>, available on April 13, 2015. Volunteer, City of Arcata in California and NOAA. (April 2021 - Present).

## AWARDS, CONSULTING, AND PROFESSIONAL DEVELOPMENT

### Awards and Honors

- **Nomination: President-elect, Society of Wetland Scientists 2021**
- **Microsoft:** AI for Earth Azure Percept Grant, 2021 (one Azure Percept development kit)
- **Award:** Seed Research Award, College of Arts and Sciences, University of Southern Mississippi, \$5,000, 2021.
- **Distinguished Scholar,** Lu Jiayi International Team (K.C. Wong Education Foundation), South China Sea Institute of Oceanography, Chinese Academy of Sciences 2016-2021
- **Nomination:** Expert to serve on the committee to study long-term environmental trends in the Gulf of Mexico, National Academy of Sciences, 2020
- **Nomination:** US-International Association of Landscape Ecology Councilor-at-Large, March, 2016
- **NSF ADVANCE Project Fellowship** on “Exploring Bayesian belief networks to evaluate restoration decisions – building foundation for future restoration-related proposal applications”, University of Southern Mississippi, \$5,000, 2015-16.
- **Aubrey Keith Lucas and Ella Ginn Lucas Endowment for Faculty Excellence Award** on “Assessing the water use by trees at the Mississippi coastal forests impacted by Hurricane Katrina”, University of Southern Mississippi, \$2,212, 2008-09.
- **Nomination:** Butch Oustalet Distinguished Professorship Award in Teaching, 2012.
- **Nomination:** Junior Faculty Teaching Award, 2012.