

## Anna Linhoss, Ph.D.

Phone: (334) 844-7426 ▪ Email: [alinhoss@auburn.edu](mailto:alinhoss@auburn.edu) ▪ Homepage: [hydroecologylab.com](http://hydroecologylab.com)

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### Education and Training

Postdoctoral Associate: University of Florida, Agricultural & Biological Engineering, 2011-2012

Topics of study: hydrodynamic modeling, ecological modeling, decision analysis

Ph.D.: University of Florida, Agricultural & Biological Engineering, 2011

Dissertation: Hydrology and fish population dynamics in the Okavango Basin: Managing for uncertainty in a data poor environment

M.S.: University of Georgia, Agricultural & Biological Engineering, 2005

Thesis: The Calibration, Validation, and Sensitivity Analysis of DoSag: An In-stream Dissolved Oxygen Model

B.A.: University of Colorado Boulder, Anthropology, 1997

### Professional Experience

Since 2021	Associate Professor, Dept. of Biosystems Engineering, Auburn Univ.
2018-2021	Associate Director of the Northern Gulf Institute, Mississippi State Univ.
2018-2021	Associate Director of the Geosystem Research Institute, Mississippi State Univ.
2019-2021	Associate Professor, Dept. of Ag. & Bio. Engineering, Mississippi State Univ.
2013-2019	Assistant Professor, Dept. of Ag. & Bio. Engineering, Mississippi State Univ.
2008-2009	GIS Specialist, MacTech, Gainesville, FL
2005-2007	Environmental Scientist, Buck Engineering, Asheville, NC
1998-2001	Entomologist/Biologist, Chatham County Mosquito Control, Savannah, GA

### Research Interests

- *Hydrologic and ecological modeling*: simulating the impacts of hydrology on ecological systems (and vice versa) with particular interest in management implications and system resiliency. Specific interests include coastal hydrodynamics and water quality, population dynamics, habitat suitability, and watershed modeling.
- *Model analysis*: using multi-criteria decision analysis, sensitivity and uncertainty analysis, and calibration/validation to 1) refine and simplify models, 2) reduce model uncertainty, 3) target monitoring efforts, 4) provide information regarding a model's reliability, and 5) identify optimal management choices.

## Research

### *Peer Reviewed Manuscripts (34)*

1. Osorio, Raúl, **Anna Linhoss**, Adam Skarke, Michael Brasher, Joseph French, Ramin Baghbani. "Modeling wave climates and wave reduction in marsh terrace environments" Submitted to Ecological Engineering (2021). Impact Factor 3.9.
2. Alaron, Vladimir, **Anna Linhoss**, Chris Keble, Paul Mickle, Gonzolo Sanchez-Banda, Fernando Mardonez-Meza, Joe Bishop. "Coastal inundation under concurrent mean and extreme sea-level rise in Coral Gables, Florida, USA" Submitted to Water Resources Management (2021). Impact Factor 4.3.
3. Upadhyay, Pawan, **Anna Linhoss**, Chris Kelble, Steve Ashby, Prem Parajuli, and Naja Murphy, "Applications of the SWAT model for coastal watersheds: Review and recommendations." Submitted to Transactions of ASABE (2021). Impact Factor 1.2.
4. Bazgirkhoob, Hamid, **Anna Linhoss**, Mehdi Armandei. "A Numerical Tool for Dissolved Oxygen Simulation in the Western Mississippi Sound" Submitted to Coastal Engineering (2021) Impact Factor 1.2.
5. Zahraei, Ali, Ramin Baghbani, **Anna Linhoss**. "Applying a Graphical Method in Evaluation of Empirical Methods for Estimating Time of Concentration in an Arid Region" Accepted Pending Revisions. Water MDPI (2021). Impact factor 2.5.
6. Shamaskin, Andrews, Sandra Correa, Garret Street, **Anna Linhoss**, Kristine Evans. "Considering the influence of land-use/land cover on estuarine biotic richness with Bayesian hierarchical models", Accepted pending revisions. Ecological Applications. (2021). Impact factor 4.3.
7. Alarcon, Vladimir, **Anna Linhoss**, Chris Kelble, Paul Mickle, Joe Bishop, Emily Milton. "Estimation of Hourly Salinity Concentrations using an Artificial Neural Network." Accepted to Springer Lecture Notes in Computer Science. (June 2021). Impact Factor 1.4.
8. Armandei, Mehdi, **Anna Linhoss**, Rene Rincon, "Hydrodynamic Modeling of the Western Mississippi Sound using a Linked Model System" Regional Studies in Marine Science. V 44 (2021) 101685. Impact Factor 1.6. <https://doi.org/10.1016/j.rsma.2021.101685>
9. Risal, Avay, Prem B. Parajuli, Padmanava Dash, Ying Ouyang, and **Anna Linhoss**. "Sensitivity of hydrology and water quality to variation in land use and land cover data." Agricultural Water Management 241 (2020): 106366. <https://doi.org/10.1016/j.agwat.2020.106366>. Impact factor 4.0.
10. Osario, Raul, **Anna Linhoss**, Dash Padmanava. "Evaluation of Marsh Terraces for Wetland Restoration: A Remote Sensing Approach." Water MDPI. (2020) 12(2), 336. <https://doi.org/10.3390/w12020336>. Impact Factor 2.7.
11. **Linhoss, Anna**, Courtney Seigert. "Calibration reveals limitations in modeling rainfall interception at the storm scale." Journal of Hydrology. (2020) V 584. <https://doi.org/10.1016/j.jhydrol.2020.124624>. Impact factor 3.7.
12. Shamaskin, Andrew, Sathishkumar Samiappan, Jiangdong Liu, Jennifer Roberts, **Anna Linhoss**, and Kristine Evans. "Multi-Attribute Ecological and Socioeconomic Geodatabase for the Gulf of Mexico

- Coastal Region of the United States." Data MDPI. 5, no. 1 (2020) <https://doi.org/10.3390/data5010003>. Impact Factor Not Yet Ranked.
13. Temple, Nigel, Brett Webb, Eric Sparks, **Anna Linhoss**. "Low-cost pressure gauges for measuring water waves." Journal of Coastal Research (2020) 36 (3): 661–667. <https://doi.org/10.2112/JCOASTRES-D-19-00118.1>. Impact Factor 0.9.
  14. Samiappan, Sathishkumar, Andrew Shamaskin, Jiangdong Liu, Jennifer Roberts, **Anna Linhoss**, and Kristine Evans. "Land Conservation in the Gulf of Mexico Region: A Comprehensive Review of Plans, Priorities, and Efforts." MDPI Land 8, no. 5 (2019): 84. <https://doi.org/10.3390/land8050084>. Impact Factor 2.5.
  15. Millette, NC, C. Kelble, A. Linhoss, and S. Ashby. 2019. Using Spatial Variability in the Rate of Change of Chlorophyll a to Improve Water Quality Management in a Subtropical Oligotrophic Estuary. Estuaries and Coasts. 42: 1792-1803. <https://doi.org/10.1007/s12237-019-00610-5>. Impact Factor 2.4.
  16. Millette, C, C Kelble, **AC Linhoss**, S Ashby, L Visser. 2018. "Shift in baseline chlorophyll a concentration following a three-year Synechococcus bloom in southeastern Florida." Marine Resource Bulletin. January 2018, pp. 3-19(17). <https://doi.org/10.5343/bms.2017.1046>. Impact Factor 3.8.
  17. **Linhoss, AC**, ML Tagert, H Buka, G Sassenrath. 2017. "Factors affecting model sensitivity and uncertainty: Application to an irrigation scheduler." Transactions of the American Society of Agricultural and Biological Engineers. 60(3):803-812. [doi: 10.13031/trans.11912](https://doi.org/10.13031/trans.11912). Impact Factor 1.2.
  18. Agouridis, C.T., K.R. Douglas-Mankin, **A.C. Linhoss**, A.R. Mittelset. 2016. "Wetlands and coastal systems: Protecting and restoring valuable ecosystems." Transactions of the American Society of Agricultural and Biological Engineering. 59(5): 1301-1303. [doi:10.13031/trans.59.12103](https://doi.org/10.13031/trans.59.12103). Impact Factor 1.2.
  19. **Linhoss, A.C.**, R. Camacho, S. Ashby. 2016. "Oyster habitat suitability in the Northern Gulf of Mexico." Journal of Shellfish Research. 35(4):841-849. <https://doi.org/10.2983/035.035.0412>. Impact Factor 1.0.
  20. **Linhoss, A.C.**, C.M. Seigert. 2016. "A comparison of five forest interception models using global sensitivity and uncertainty analysis." Journal of Hydrology. 538:109-116. April 2016. <https://doi.org/10.1016/j.jhydrol.2016.04.011>. Impact factor 3.7.
  21. **Linhoss, A.C.**, W. Underwood. 2016. "Modeling salt panne land cover suitability under sea-level rise." Journal of Coastal Research. 32(5). <https://doi.org/10.2112/JCOASTRES-D-15-00115.1>. Impact factor 0.9.
  22. **Linhoss, A.C.**, Ballweber, J. 2015. "Incorporating uncertainty and decision analysis into a water sustainability index." Journal of Water Resources Planning and Management. 141(Special Issue: Sustainability). [https://doi.org/10.1061/\(ASCE\)WR.1943-5452.0000554](https://doi.org/10.1061/(ASCE)WR.1943-5452.0000554) Impact factor 3.5.
  23. **Linhoss, A.C.**, R. Muñoz-Carpena, G. Kiker, K., and P. Wolski. 2015. Reducing uncertainty based on model fitness: Application to a reservoir model. Water South Africa, 41(1). <http://dx.doi.org/10.4314/wsa.v41i1.13>. Impact Factor 0.7.

24. Zhu, M., T. Hctor, M. Volk, K. Frank, **A.C. Linhoss**. 2015. "The conservation value of elevation data accuracy and model sophistication in reserve design under sea-level rise." *Ecology and Evolution*. 5(9):4376-4388. <https://doi.org/10.1002/ece3.1669> Impact Factor 2.5.
25. Zhu, M., Frank, K., Hctor, T., Volk, M., **Linhoss, A.C.**, Zwick, P., Carr, M. 2015. "Spatial Conservation Prioritization to Conserve Biodiversity in Response to Sea Level Rise and Land Use Change in the Matanzas River Basin, Northeast Florida." *Landscape and Urban Planning*. 144:103-118. <https://doi.org/10.1016/j.landurbplan.2015.08.018>. Impact Factor 5.1.
26. **Linhoss, A.C.**, G. Kiker, M. Shirley, K. Frank. 2014. "Sea-level rise, inundation, and marsh migration: Simulating impacts on developed lands and environmental systems." *Journal of Coastal Research*. 31(1):36-46. <https://doi.org/10.2112/JCOASTRES-D-13-00215.1>. Impact factor 0.9.
27. **Linhoss, A. C.**, G.A. Kiker, M.E. Aiello-Lammens, M.L. Chu-Agor, M. Convertino, R. Muñoz-Carpena, R. Fischer, and I. Linkov. 2013. "Decision analysis for species preservation under sea-level rise." *Ecological Modelling*, 263, 264-272. <https://doi.org/10.1016/j.ecolmodel.2013.05.014>. Impact Factor 2.4.
28. **Linhoss, A.C.**, R. Muñoz-Carpena, M.S. Allen, G.A. Kiker, and K. Mosepele. 2012. "A flood pulse driven fish population model for the Okavango Delta, Botswana." *Ecological Modelling*, 228, 27-38. <https://doi.org/10.1016/j.ecolmodel.2011.12.022>. Impact Factor 2.4.
29. **Linhoss, A.C.**, R. Muñoz-Carpena, G.A. Kiker, and D. Hughes. 2012. "Hydrologic Modeling, Uncertainty, and Sensitivity in the Okavango Basin: Insights for Scenario Assessment: Case Study." *Journal of Hydrologic Engineering*. 18(12), 1767-1778. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0000755](https://doi.org/10.1061/(ASCE)HE.1943-5584.0000755). Impact Factor 1.4.
30. **Linhoss, A. C.**, A. Cameron, H. Hall, S. Blair, and T. Ankersen. 2012. "Large Woody Material: Science, Policy, And Best Management Practices For Florida Streams." *Florida Scientist*, 75(3). [Link](#). Impact Factor Not Available.
31. Kiker, GA, R Muñoz-Carpena, P Wolski, **A Cathey\***, A. Gaughan., and J. Kim. 2008. "Incorporating uncertainty into adaptive, transboundary water challenges: a conceptual design for the Okavango River Basin." *International Journal of Risk Assessment and Management*, 10(4), 312-338. <https://doi.org/10.1504/IJRAM.2008.02213>. Impact Factor 1.2
32. Vellidis, G, P Barnes, D Bosch, and **A Cathey\***. (2006). "Mathematical simulation tools for developing dissolved oxygen TMDLs." *Transactions of the ASAE*, 49(4), 1003-1022. [doi: 10.13031/2013.21743](https://doi.org/10.13031/2013.21743). Impact Factor 1.2.
33. **Cathey, A\***, G Vellidis, M Smith, R Lowrance, and R Burke. 2005. "The calibration validation and sensitivity analysis of Georgia DOSag: an in-stream dissolved oxygen model." *Proc., Proceedings for the Watershed Management to Meet Water Quality Standards and Emerging TMDL, Third Annual Conference, PW Gassman (Editor). ASABE, Atlanta, Georgia*, 330-337. [doi:10.13031/2013.18088](https://doi.org/10.13031/2013.18088).
34. Worley, JW, Czarick, M, **Cathey, A\***. 2002. "Ammonia Emissions from a Commercial Broiler House." *An American Society of Agricultural and Biological Engineers Presentation*. Paper No: 024118. [doi: 10.13031/2013.10495](https://doi.org/10.13031/2013.10495).

\* Maiden name is Cathey

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### Book Chapters

1. Brown, MT, **AC Linhoss**. 2014. "Global Biophysical Systems." In M.T. Brown, K. Patterson, Southern Africa Systems: Coupling Humanity and Environment in Southern Africa. Mobile-book Kindle Edition. [Link](#).
2. **Linhoss, AC**. 2014. "Models and Their Applications for Natural Resource Managers." In M.T. Brown, K. Patterson, Southern Africa Systems: Coupling Humanity and Environment in Southern Africa. Mobile-book Kindle Edition. [Link](#).

### Extension Publications

1. **Linhoss, AC**, L Gardner-Chambers, T Ankersen. 2013. "A Multi-Disciplinary Review of Current Sea-Level Rise Research in Florida." *University of Florida IFAS Extension Publication*. [Link](#).

### Oral presentations (40)

1. Karold V Coronado (Author & Presenter), Pablo Tedesco, Matthew Kolmann, Kristine Evans, Anna Linhoss, Sandra B Correa. (July 2021) "Feeding traits shaping the spatial distribution of the fish family Serrasalminidae in the Amazon drainage basin. Association for Tropical Biology and Conservation." Virtual Meeting.
2. Osorio, R. (Author & Presenter), Linhoss, A. C. (Author), (November 2018). "Assessment of marsh terraces variability in coastal Louisiana U.S. using multi-temporal high resolution imagery." Abstract. 5th Young Coastal Scientists and Engineers Conference-Americas, YCSEC-A, Mérida, México.
3. Dillon, C. (Author & Presenter), Linhoss, A. C. (Author), Smith, J. (Author), Skarke, A. D. (Author), (November 2018). "Examining the effects of directional wave spectra on a nearshore wave model." Oral Presentation. 5th Young Coastal Scientists and Engineers Conference-Americas, YCSEC-A, Mérida, México.
4. Linhoss, A. C. (Author & Presenter), Czarnecki, J. (Author), (November 2018). "A magnetic and fluorescent particle tracer applied to a coastal sand system." Oral Presentation. Bays and Bayous, MS/AL Sea Grant, Mobile, AL.
5. Armandei, M. (Author & Presenter), Linhoss, A. C. (Author), (November 2018). "Hydrodynamic modeling in support of oyster restoration in the MS Sound." Oral Presentation. Mississippi Restoration Summit, MS Department of Environmental Quality, Jackson Mississippi.
6. Czarnecki, J. (Author & Presenter), Linhoss, A. C. (Author), Hathcock, L. A. (Author), Ramirez Avila, J. (Author), Schauwecker, T. J. (Author), (July 2018). "Assessing Soil Erosion with Unmanned Aerial Vehicles for Precision Conservation." Oral Presentation. 2018 Soil and Water Conservation Society International Annual Conference, SWCS, Albuquerque, NM.
7. Linhoss, A. C. (Author & Presenter), Czarnecki, J. (Author), (July 2018). "A magnetic and fluorescent particle tracer applied to a coastal sand system." Oral Presentation. American Society of Agricultural and Biological Engineers, ASABE, Detroit, MI.
8. Linhoss, A. C. (Author & Presenter), Evans, K. (Author), Ashby, S. L. (Author), Roberts, J. (Author), (July 2018). "Strategic Conservation Assessment of Gulf Coast Landscapes." Oral Presentation. American Society of Agricultural and Biological Engineers, ASABE, Detroit, MI.

9. Armandei, M. (Author), Linhoss, A. C. (Author), (April 2018). "The Development of a Hydrodynamic/Water Quality Model for Oyster Restoration in the Western Mississippi Sound." Oral Presentation. Mississippi Water Resources Conference, Mississippi Water Resources Research Institute, Jackson, MS.
10. Buka, H. (Author & Presenter), Linhoss, A. C. (Author), Tagert, M. L. M. (Author), Pote, J. W. (Author), Wax, C. (Author), (April 3, 2018). "Improving the Corn Crop Coefficient Method in the Mississippi Irrigation Scheduling Tool (MIST)." Oral Presentation. 2018 Mississippi Water Resources Conference, Mississippi Dept. of Environmental Quality, Mississippi Water Resources Research Institute, and the U.S. Geological Survey, Hilton Jackson; Jackson, Mississippi.
11. Dillon, S.C., **Linhoss, A.C.**, Smith, J.M., Skarke, A. 2018. *Examining the effects of directional wave spectra on a nearshore wave model*. Mississippi Water Resources Conference. April 2018, Jackson, MS.
12. Armandei M., **Linhoss A.C.**, *The Development of a Hydrodynamic/Water Quality Model for Oyster Restoration in the Western Mississippi Sound*. Mississippi Water Resources Conference. April 2018, Jackson, MS.
13. Buka, H., **Linhoss, A.C.**, Tagert, M. L., Pote, J. W., & Wax, C. L. *Assessing irrigation scheduling using Mississippi Irrigation Scheduling Tool (MIST) and soil moisture sensors*. Mississippi Water Resource Conference. April 2018, Jackson, MS.
14. Millette, N., Kelble, C., **Linhoss, A.C.**, Ashby, S. 2017. *Long-term trends in chlorophyll a concentrations in Biscayne Bay*. Biscayne Bay Regional Restoration Coordination Team Meeting. Miami, FL: November 15, 2017
15. Millette, N., Kelble, C., **Linhoss, A.C.**, Ashby, S. 2017. *Application of chlorophyll a as an indicator to analyze the current status of Biscayne Bay*. CERF National Meeting. Providence, RI: November 5-9, 2017
16. Millette, N., Kelble, C., **Linhoss, A.C.**, Ashby, S. 2017. *Long-term trends in chlorophyll a in North Biscayne Bay between 1995 and 2014*. Biscayne Bay Regional Restoration Coordination Team Meeting. Miami, FL: June 21, 2017
17. Czarnecki, J., Hathcock, L.A., Ramirez-Avila, J.J., **Linhoss, A.C.**, Schauwecker, T.J. 2017. *Unmanned aerial vehicles and structure from motion techniques and their use in protecting surface water quality*. American Water Resources Association Annual Conference, Portland, OR. November 5-9, 2017.
18. **Linhoss, A.C.**, Siegert, C., Levia, D. 2017. *Calibration and comparison of forest canopy interception models*. American Society of Agricultural and Biological Engineers Annual International Conference. Spokane WA. July 16-19, 2017.
19. **Linhoss, A.C.** 2017. *Coastal hydrodynamics and sediment transport*. Grand Bay Symposium, Grand Bay National Estuarine Research Reserve, MS. September 8, 2017.
20. **Linhoss, A.C.**, C.M. Seigert. 2017. *Calibration of multiple canopy interception models*. Mississippi Water Resources Conference. Jackson, MS. April 11-12, 2017.
21. Buka, H., **A.C. Linhoss**, M.L. Tagert. 2017. *Irrigation scheduling with soil moisture sensors*. Future of Agriculture Graduate Student Competition. Starkville, MS. February 9, 2017.



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22. **Linhoss, A.C.**, R. Camacho, S. Ashby. 2016. *Oyster habitat suitability in the Northern Gulf of Mexico*. Invited NOAA presentation. Miami, FL. December 7, 2016.
23. **Linhoss, A.C.**, M.L. Tagert. 2016. *Data requirements for conservation irrigation*. Data Flow. Baton Rouge, LA. May 9-10 2016.
24. **Linhoss, A.C.**, C. Siegert. 2016. *A comparison of five forest interception models using global sensitivity and uncertainty analysis*. MWRC. Jackson, Mississippi. April 6, 2016.
25. **Linhoss, A.C.** 2016. *Surviving academia*. Invited presentation to the American Society of Agricultural and Biological Engineers. Orlando, FL July 17, 2016.
26. **Linhoss, A.C.** *Ecohydrology in a dynamic Landscape*. Invited presentation to the Biological Sciences Department at the University of Harare. Harare, Zimbabwe. June 27, 2016.
27. **Linhoss, A.C.**, H. Buka, M.L. Tagert, 2015. *Assessing the uncertainty and sensitivity of the Mississippi Irrigation Scheduling Tool (MIST)*. Presentation to the American Society of Agricultural and Biological Engineers. New Orleans, LA. July 28, 2015.
28. **Linhoss, A.C.**, H. Buka, M.L. Tagert, 2015. *Assessing the uncertainty and sensitivity of the Mississippi Irrigation Scheduling Tool (MIST)*. Presentation to the American Society of Agricultural and Biological Engineers. Orlando, FL July 17, 2016
29. **Linhoss, A.C.**, H. Buka, M.L. Tagert, 2015. *Measuring the uncertainty and sensitivity of the Mississippi Irrigation Scheduling Tool (MIST)*. Presentation to the Mississippi Water Resources Research Conference. Jackson, MS April 7-9, 2015.
30. M.L. Tagert, **Linhoss, A.C.**, J.C. Rawson, G. Sassenrath, W. Kingery. 2015. *Enhancing Agricultural Water Management through Soil Moisture Monitoring and Irrigation Scheduling*. Presentation to the Mississippi Water Resources Research Conference. Jackson, MS April 7-9, 2015.
31. **Linhoss, A.C.**, J. Pote. 2015. *Current Issues in the Pascagoula River*. Presented to the Mississippi Manufacturer's Association Environmental Health and Safety Conference and Expo, Philadelphia MS. Oct 15, 2015.
32. **Linhoss, A.C.**, H. Buka, M.L. Tagert, 2015. *Grant writing workshop*. Invited presentation to the American Society of Agricultural and Biological Engineers. New Orleans, LA. July 26, 2015.
33. **Linhoss, A.C.**, J. Balwebber. 2014. *A Comprehensive Water Resources Inventory for the Southeastern US*. Presentation to the American Society of Agricultural and Biological Engineers (ASABE) International Meeting, Montreal, Canada. July 16, 2014.
34. J. Rawson, **A.C. Linhoss**, M. L. Tagert, and G. Sassenrath. 2014. *Enhancing the Accuracy of the Mississippi Irrigation Scheduling Tool (MIST) for Producer Use*. Presentation at the 2014 Future of Agriculture Graduate Student Competition, Starkville, MS. Feb 6, 2014
35. **Linhoss, A.C.**, J. Ballweber. 2014. *Mississippi water resources inventory: A comparison of water stress across the southeast*. Presentation at the Mississippi Water Resources Conference, Jackson Mississippi. April 1-2, 2014
36. S. Rajasekhar, J. Kassakian, **A.C. Linhoss**. 2014. *Potential effects of climate change induced sea level rise on coastal habitats in Florida*. Environmental Data Resources (EDR) Green Week, Woburn, Massachusetts. July 16, 2014

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37. **Linhoss, A.C.**, P. Sullivan, J. Ballwebber. 2014. Mississippi Industrial Water Resources Inventory & Projections for Economic Development. Mississippi Manufacturer's Association Environmental and Safety Conference. Philadelphia, MS, October 9-10, 2014.
38. **Linhoss, A.C.**, 2013. Ecohydrology in a Dynamic Landscape. Presentation to the USGS, Jackson, MS, May 1, 2013.
39. **Linhoss, A.C.**, G. Kiker, M. Aiello-Lammens, M.L. Chu-Agor, M. Convertino, R. Muñoz-Carpena, R. Fischer, I. Linkov. 2013. Decision analysis for species preservation under sea-level rise. Mississippi Water Resources Conference, Jackson. MS. April, 2013.

### Grants (\$5.5 million)

1. Title: AOML-NGI South Florida Water Quality Data Analyses: Phase 2  
Funding Source: Northern Gulf Institute via NOAA AOML  
Investigators: **Anna Linhoss (Principle)**  
Funding Amount: \$83,000                      Period of performance: Oct 1, 2021 – Sept 31, 2022  
Role: Hydrodynamic and water quality modeling
2. Title: Structured-Decision Making (SDM) to Co-produce an Actionable Science Plan in support of Louisiana, Mississippi, Alabama Coastal System (LMACS) Water Quality Management  
Funding Source: NOAA Restore Act Science  
Investigators: George Ramseur (Principle), **Linhoss, Anna (Co-Principle)**, Soupy Dalyander (Co-Principle), Mike Miner (Co-Principle)  
Funding Amount: \$125,000                      Period of performance: Jan 1, 2022 – Dec 31, 2023  
Role: Hydrodynamic and water quality modeling
3. Title: Grant Award – Bonnet Carre Response and the Mississippi Western Sound Science Collaborative  
Funding Source: FY2021 GOMESA  
Investigators: Paul Mickel (Principle), **Linhoss, Anna (Co-Principle)**, Jerry Wiggert (Co-Principle), Kim De Mutsert (Co-Principle), Kemal Cambazoglu (Co-Principle), Scott Milroy (Co-Principle)  
Funding Amount: \$160,195                      Period of performance: July 1, 2021 – June 30, 2023  
Role: hydrodynamic and water quality modeling
4. Title: Next Generation Southeastern Conservation Blueprint for the Middle-Southeast and Lower Mississippi Valley  
Funding Source: U.S. Fish and Wildlife Service  
Investigators: Evans, Kristine (Principle), **Linhoss, Anna (Co-Principle)**, Michael Gray (Co-Principle), Liu, Jiangdond (Co-Principle)  
Funding Amount: \$257,999                      Period of performance: Jan 1, 2021 – Dec 31, 2023  
Role: multicriteria decision analysis modeling



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5. Title: CORE MBACE2 – Core Research Program (Mississippi Based Restore Act Center of Excellence), MSU subaward  
Funding Source: Mississippi Department of Environmental Quality  
Investigators: **Linhoss, Anna (Principle)**, Moorhead, Robert (Co-Principle), Padmanava, Dash (Co-Principle), Parajuli Prem (Co-Principle)  
Funding Amount: \$388,068                      Period of performance: Mar 1, 2020 – Feb 28, 2022
6. Title: Using wave gages to map and assess the effect of wave climate on coastal ecosystems  
Funding source: Mississippi Agricultural and Forestry Experimental Station  
Investigators: **Linhoss, Anna (Principle)**, Sparks, Eric L. (Co-Principle)  
Funding Amount: \$49,900                      Period of performance: Jan 1, 2019 - Dec 31, 2019
7. Title: Hydrodynamic and water quality modeling in the Western Mississippi Sound  
Funding source: National Fish and Wildlife Federation  
Investigators: **Linhoss, Anna (Principle)**  
Funding amount: \$315,000                      Period of performance: Aug 1, 2016-June 30, 2021
8. Title: The Efficacy of Marsh Terraces in Enhancing and Restoring Gulf Coastal Wetlands  
Funding source: National Academies of Sciences, Engineering and Medicine  
Investigators: Davis, Brian (Principle), **Linhoss, Anna (Co-Principle)**, Woodrey, Mark S (Co-Principle), Moorhead, Robert J. (Co-Principle), Skarke, Adam Daniel (Co-Principle), Armandei, Mohammad Mehdi (Co-Principle)  
Funding Amount: \$852,386                      Period of performance: Jan 1, 2018-Dec 31, 2020  
Role: wind driven wave modeling of marsh terraces
9. Title: Gulf of Mexico strategic conservation assessment  
Funding source: National Fish and Wildlife Federation  
Investigators: Evans, Kristine (Principle), **Linhoss, Anna (Co-Principle)**, Ashby, Steven L. (Co-Principle), Burger, Loren W. (Co-Principle)  
Funding Amount: \$1,766,617                      Period of performance: June 1, 2017- May 30, 2020  
Role: multicriteria decision analysis modeling
10. Title: AOML-NGI South Florida Water Quality Data Analyses  
Funding source: National Oceanographic and Atmospheric Administration  
Investigators: Paul Mickel (Principle), **Linhoss, Anna (Co-Principle)**, Steve Ashby (Co-Principle)  
Funding Amount: \$786,210                      Period of performance: Oct 1, 2017–Sept 30, 2021  
Role: hydrodynamic and water quality modeling
11. Title: Investigating methodologies for remote sensing of sediment tracers  
Funding source: National Oceanographic and Atmospheric Administration  
Investigators: Czarnecki, Joby (Principle), **Linhoss, Anna (Co-Principle)**

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Funding Amount: \$45,000                      Period of performance: Oct 1, 2017 - Sept 30, 2018  
Role: sediment tracer processing and modeling

12. Title: Development of a wave and current sensor for low-energy, shallow coastal environments  
Funding source: Mississippi Agricultural and Forestry Experimental Station

Investigators: **Linhoss, Anna (Principle)**, Sparks, Eric L. (Co-Principle)

Funding Amount: \$49,800                      Period of performance: Jan 1, 2018 - Dec 31, 2018

13. Title: Assessing soil erosion with unmanned aerial vehicles for precision conservation

Funding source: Mississippi Agricultural and Forestry Experimental Station

Investigators: Czarnecki, Joby (Principle), **Linhoss, Anna (Co-Principle)**

Funding Amount: \$17,980                      Period of performance: Jan 1, 2018 - Dec 31, 2018

Role: sediment tracer processing and modeling

14. Title: Bridging the Channels: Dredge Spoil in the Coastal Sand Transport System

Funding source: Mississippi Department of Marine Resources

Investigators: **Linhoss, Anna (Principle)**, Cathcart, Thomas P. (Co-Principle), Pote, Jonathan W. (Co-Principle)

Funding Amount: \$105,000                      Period of performance: Mar 1, 2014–Dec 31, 2017

15. Title: SEC Academic Conference: The Future of Water: Regional Collaboration on Shared Climate, Coastlines and Watersheds

Funding source: Southeastern Conference

Investigators: **Linhoss, Anna (Principle)**, Tagert, Mary L. (Co-Principle), Petrolia, Daniel R. (Co-Principle)

Funding Amount: \$100,000                      Period of performance: Mar 28, 201–Mar 27, 2017

16. Title: Simulating oyster habitat and larvae transport for strategic reef restoration

Funding source: Mississippi Agricultural and Forestry Experimental Station

Investigators: **Linhoss, Anna (Principle)**

Funding Amount: \$35,840                      Period of performance: Jan 1, 2015–Dec 31, 2015

17. Title: Cochran Fellowship Program-Eastern Europe and Eurasia

Funding source: Cochran Fellowship

Investigators: Tagert, Mary Love (Principle), Paz, Joel (Co-Principle), **Linhoss, Anna (Co-Principle)**, Gonzales, H. (Co-Principle)

Funding Amount: \$58,032                      Period of performance: July 1–Aug 31, 2015

Role: assisted with field visits

18. Title: The Effects of Sea-level Rise on Ecosystem Services

Funding source: Mississippi Agricultural and Forestry Experimental Station

## Anna Linhoss, Ph.D.

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Investigators: **Linhoss, Anna (Principle)**. Bassie, Abbie (Co-Principle)

Funding Amount: \$5,000

Period of performance: Jan 1, 2015-May 15, 2015

19. Title: George County Lake Phase IIA

Funding source: Pickering Inc

Investigators: Pote, Jonathan (Principle), **Linhoss, Anna (Co-Principle)**

Funding Amount: \$15,000

Period of performance: July 1, 2014–Dec 1, 2014

Role: research and reporting

20. Title: Expanding the Integrated Ecosystem Assessment for the Northern Gulf of Mexico Estuaries

Funding source: National Oceanographic and Atmospheric Administration

Investigators: Ashby, Steve (Principle), **Linhoss, Anna (Co-Principle)**

Funding Amount: \$228,447

Period of performance: Jul 1, 2014 – Jun 30, 2015

Role: habitat suitability modeling

21. Title: Racing to beat the tide: enhancing capabilities for simulating wetland response to sea-level rise

Funding source: Mississippi Agricultural and Forestry Experimental Station

Investigators: **Linhoss, Anna (Principle)**

Funding Amount: \$36,722

Period of performance: Jan 1, 2014–Dec 31, 2014

22. Title: Mississippi industrial water resources inventory and projections for economic development

Funding source: Mississippi Energy Institute

Investigators: **Linhoss, Anna (Principle)**

Funding Amount: \$33,800

Period of performance: Nov 1, 2013 - May 31, 2014

23. Title: An integrated watershed approach to WASH priorities for Lake Chivero, Zimbabwe

Funding source: Mississippi Agricultural and Forestry Experimental Station

Investigators: **Linhoss, Anna (Principle)**, Buka, Hazel (Co-Principle)

Funding Amount: \$5,000

Period of performance: Aug 1, 2013-Jul 31, 2014

## Teaching

### Classes taught

ABE 4803/6803 Biosystems simulation  
ABE 8911/8921 Graduate student seminar  
ABE 4313/6313 Biological Treatment of Non-Point Source Pollution  
ABE 4000/7000 Directed Individual Study

Average student evaluation (0-5) 4.0

### Mentoring and Advising

#### *Masters students (3 Total; 3 Complete)*

1. Hazel Buka. Major advisor. Agriculture, Engineering, Technology and Business. Calibration and validation of the Mississippi Irrigation Scheduling Tool. 2016-2018. COMPLETED
2. Catie Dillon. Major advisor. Biological Engineering. Longshore sediment transport in the Mississippi Sound. 2015-2018. COMPLETED
3. John Caleb Rawson. Major advisor. Enhancing irrigation scheduling in the Mississippi Delta through soil moisture monitoring and improved web-based modeling capabilities. 2013-2015. COMPLETED.

#### *PhD students (9 Total; 5 Complete)*

1. Caleb Aldridge. Committee member. Wildlife and Fisheries. Knowledge discovery and decision-making in managing us inland fisheries. February 2019 – present.
2. Mathew Virden. Committee member. Forest Resources. The influence of wave energy on shoreline vegetation in Back Bay of Biloxi and surrounding tributaries. February 2019 – present.
3. Ramin Baghbani. Major advisor. Biological Engineering Simulating wave dynamics on marsh terraces. January 2019-present
4. Nigel Temple. Committee member. Forest Resources. Wave energy effects on fringing marshes: improving the effectiveness of coastal restoration through development and application of low-cost wave gages. March 2018 – present.
5. Raul Osario. Major advisor. Biological Engineering Simulating wave dynamics on marsh terraces. January 2018-August 2021. COMPLETED
6. Andrew Shamaski. Co-major advisor. Wildlife and Fisheries. Strategic conservation assessment for land conservation in the Gulf of Mexico. January 2018-August 2021. COMPLETED
7. Avay Risal. Committee member. Agricultural and Biological Engineering. Assessment of nutrient sources at watershed scale in agro-ecosystem of Mississippi. September 2019 – October 2020. COMPLETED.
8. Michael Nattress. Committee member. Plant and Soil Sciences. Constructed Wetlands for Phytoremediation of Selenium in Stormwater Runoff. January 2016 – May 2020. COMPLETED.

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9. Abdullah Dakkhallah. Committee member. Assessing the impacts of climate and land use changes on water quantity and quality in Mississippi. 2013-2016. COMPLETED.

### *Postdoctoral Associates (5)*

1. Sathish Samiappan, Ph.D. Strategic conservation assessment for land conservation in the Gulf of Mexico. November 2017 – August 2021
2. Hamid Bazgirkhoob, Ph.D. Hydrodynamic and water quality modeling in the western Mississippi Sound. March 2020 – July 2021.
3. Pawan Upadhyay, Ph.D. Simulating water quality in Biscayne Bay, Fl. January 2019 – Sept 2020.
4. Mohammedmehdi Aramandei, Ph.D. Hydrodynamic and water quality modeling in the western Mississippi Sound. April 2017 – November 2019.
5. Nicole Millete, Ph.D. Analyzing twenty years of water quality in Biscayne Bay, FL. November 2016 - January 2018.

### *Undergraduate students (11)*

1. Anna Rourke. 2018-2019. Faculty mentor for student chapter of ASABE.
2. Melanie Tran. 2017-2018. Faculty mentor for student chapter of ASABE.
3. Will Jarrell. 2018. Coastal sediment transport. Student worker.
4. Shelby Adair. 2018. Coastal sediment transport. Student worker.
5. Kirsten Haynes. 2017. Coastal sediment transport. Student worker.
6. Victoria Haynes. 2017. Coastal sediment transport. Student worker.
7. Emily Wright. 2016-2017. Coastal sediment transport. Student worker.
8. Taylor Noble. 2016. Coastal sediment transport. Student worker.
9. Emily Mealins. 2014 – 2016. Faculty mentor for student chapter of ASABE.
10. Abbie Bassie. 2014-2015. Mississippi State University undergraduate research scholar.
11. Hazel Buka. 2013-2014. Mississippi State University undergraduate research scholar.

### *Measures of student success*

1. Gulf Research Program Science Policy Fellowship. Andrew Shamaskin. 2020.
2. Student Presenter Award. 2020 Gulf of Mexico Oil Spill and Ecosystem Science Conference. Ramin Baghbanni, 2020
3. Spotter Innovation Challenge, Young Coastal Scientists and Engineers Conference – Americas Conference. Raul Osario, 2018. Mexico.
4. First place winner in graduate student oral presentation. Mississippi Water Resources Conference. Dillon, S.C., Linhoss, A.C., Smith, J.M., Skarke, A. 2018. Examining the effects of directional wave spectra on a nearshore wave model. April 2018, Jackson, MS.
5. Third place winner in graduate student poster presentation. Mississippi Water Resources Conference. Buka, H., Pote, J. W., Wax, C. L. and Linhoss, A.C. Can one hundred-year precipitation record produce patterns allowing seasonal weather prediction? Jackson, MS. April 11-12, 2017.

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6. Second place winner in graduate student poster presentation. Mississippi Water Resources Conference. Dillon, C., Linhoss, A.C., Skarke, A., Cathcart, T. 2017. The Application and Validation of STWAVE in the Nearshore of Deer Island, MS. Jackson, MS. April 11-12, 2017.
7. Pat Tillman Scholar Scholarship (\$10,000/year plus travel to a leadership conference). John 'Caleb' Rawso. June 2013.

### **Administration**

Associate Director of the Northern Gulf Institute, Mississippi State University

Associate Director of Geosciences Research Institute, Mississippi State University