

# Peter A. Hawman, PhD

Postdoctoral Research Associate

Center for Geospatial Research, Department of Geography, University of Georgia

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## EDUCATION

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2024	University of Georgia, PhD, Geography “Tidal Marsh Vertical Carbon Fluxes Across Spatial and Environmental Gradients: Enhancing Satellite-derived Blue Carbon Modeling”
2014	University of Georgia GIS Certificate
2009	University of Georgia Bachelor of Landscape Architecture

## EMPLOYMENT

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2024-Present	Postdoctoral Research Associate, Center for Geospatial Research, Department of Geography, University of Georgia Mentored by Dr. Deepak Mishra and Dr. Merryl Alber
2017-2024	Graduate Research Assistant, Department of Geography, University of Georgia
2015-2017	GIS Analyst, Project Consulting Services, Inc., Atlanta, Georgia
2014-2015	NASA DEVELOP Fellow, University of Georgia, Athens, Georgia
2013-2014	Temporary Utility II Worker Landscape Grounds, University of Georgia, Facilities Management Division, Athens, GA
2010-2012	Horticulture Worker, Thyme After Thyme, Winterville, Georgia

## PUBLICATIONS

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1. **Hawman, P. A.**, Cotten, D. L., & Mishra, D. R. (2024). Canopy Heterogeneity and Environmental Variability Drive Annual Budgets of Net Ecosystem Carbon Exchange in a Tidal Marsh. *Journal of Geophysical Research: Biogeosciences*, 129(4), e2023JG007866. <https://doi.org/10.1029/2023JG007866>
2. Richardson, J. L., Desai, A. R., Thom, J., Lindgren, K., Laudon, H., Peichl, M., et al. (2023). *On the Relationship Between Aquatic CO<sub>2</sub> Concentration and Ecosystem Fluxes in Some of the World's Key Wetland Types*. *Wetlands*, 44(1), 1. <https://doi.org/10.1007/s13157-023-01751-x>
3. **Hawman, P. A.**, Mishra, D. R., O'Connell, J. L., (2023). *Dynamic emergent leaf area in tidal wetlands: implications for satellite-derived regional and global blue carbon estimates*. Manuscript in review.
4. Mao, L., Mishra, D. R., **Hawman, P. A.**, Narron, C. R., O'Connell, J. L., & Cotten, D. L. (2023). *Photosynthetic Performance of Tidally Flooded *Spartina alterniflora* Salt Marshes*. *Journal of Geophysical Research: Biogeosciences*. <https://doi.org/10.1029/2022JG007161>
5. Narron, C. R., O'Connell, J. L., Mishra, D. R., Cotten, D. L., **Hawman, P. A.**, & Mao, L. (2022). *Flooding in Landsat across tidal systems (FLATS): An index for intermittent tidal filtering and frequency detection*

*in salt marsh environments*. Ecological Indicators, 141, 109045.

<https://doi.org/10.1016/j.ecolind.2022.109045>

6. Gaiser, E.E., J.S. Kominoski, D.M. McKnight, C.A. Bahlai, C. Cheng, S. Record, W. Wollheim, K.R. Christianson, M.R. Downs, **P.A. Hawman**, S.J. Holbrook, A. Kumar, D.R. Mishra, N.P. Molotch, R.B. Primack, A. Rassweiler, R.J. Schmitt, L. Sutter. (2022). *Long-term ecological research and the COVID-19 anthropause: A window to understanding social–ecological disturbance*. Ecosphere, 13(4), e4019. <https://doi.org/10.1002/ecs2.4019>
7. **Hawman, P. A.**, Mishra, D. R., O’Connell, J. L., Cotten, D. L., Narron, C. R., & Mao, L. (2021). *Salt Marsh Light Use Efficiency is Driven by Environmental Gradients and Species-Specific Physiology and Morphology*. Journal of Geophysical Research: Biogeosciences, 126(5). <https://doi.org/10.1029/2020JG006213>
8. Salmi, R., Presotto, A., Scarry, C. J., **Hawman, P.**, & Doran-Sheehy, D. M. (2020). *Spatial cognition in western gorillas (Gorilla gorilla): an analysis of distance, linearity, and speed of travel routes*. Animal Cognition, 23(3), 545–557. <https://doi.org/10.1007/s10071-020-01358-3>

## FUNDING

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**CoPI:** “A tide-robust high-resolution Blue Carbon product for fragmented coastal marshes”,  
Funded by NASA Carbon Monitoring System, Award Total \$901,616

## PROFESSIONAL ACTIVITIES

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### Journal Reviewer

American Geophysical Union Journal of Biophysical Research: Biogeosciences  
American Geophysical Union Geophysical Research Letters  
GIScience and Remote Sensing  
Remote Sensing  
Science of the Total Environment  
Limnology and Oceanography

### Panel Reviewer

Department of Energy, BER, Earth & Environmental Systems Sciences Division

### Conference Session Convener

“Integrated applications of satellite remote sensing products to inform coastal processes and management decisions”, Coastal Estuarine Research Federation 2023 Biennial Conference, November 2023, Portland, Oregon

### Presentations

1. **Hawman, P. A.**, Mishra, D. R., Cotten D. L., (2024). *Presentation: Spatial Heterogeneity in Tidal Marsh Carbon Exchange Informs Broad-scale Gross Primary Production Modeling At Moderate Resolutions*. Presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, December, 2024, Athens, Georgia.
2. **Hawman, P. A.**, Mishra, D. R., (2024). *Presentation: Latitudinal Variations In Tidal Marsh Carbon Exchange Informs Broad-scale Gross Primary Production Modeling At Moderate Resolutions*. American Geophysical Union (AGU) Annual Meeting, December 2024, Washington D.C.

3. **Hawman, P. A.**, Mishra, D. R., Cotten D. L., (2024). *Presentation: Canopy Heterogeneity and Latitude Drive Interannual Variability in Tidal Marsh Net Ecosystem Carbon Exchange*. Society of Wetland Scientists (SWS) Annual Meeting, November 2024, Taipei, Taiwan.
4. **Hawman, P. A.**, O'Connell, J. L., Mishra, D. R. (2024). *Presentation: A Tide-Robust High-Resolution Blue Carbon Product for Fragmented Coastal Marshes*. NASA Carbon Monitoring System (CMS) Team Meeting, September 2024, Washington, D.C.
5. **Hawman, P. A.**, Mishra, D. R., O'Connell, (2024). *Poster: Coastal Marsh Spatial Heterogeneity Requires Tide-Robust and High-Resolution Modeling for Blue Carbon Mapping*. NASA Carbon Monitoring System (CMS) Team Meeting, September 2024, Washington, D.C.
6. **Hawman, P. A.**, Mishra, D.R., Cotten D.L., O'Connell, J. L. (2023). *Presentation: Dynamic Emergent Leaf Area and Canopy Heterogeneity Drive Variance in Tidal Marsh Carbon Fluxes Across Timescales*. American Geophysical Union (AGU) Annual Meeting, December 2023, San Francisco, California.
7. **Hawman, P. A.**, Lynn, T., Sharma, R., Julien, A., Runion, K., Mishra, D.R. (2023). *Poster: Predicting salt marsh soil temperature through space and time: a spatially explicit high frequency model*. Coastal and Estuarine Research Federation (CERF) Biennial Conference, November 2023, Portland, Oregon.
8. **Hawman, P. A.**, Mishra, D. R., O'Connell, J. L. (2023). *Poster: Dynamic emergent leaf area under tidal submergence: Implications on blue carbon*. Poster at the NASA Carbon Cycle & Ecosystems Joint Science Workshop, May 2023, College Park, Maryland.
9. Mishra, D. R., **Hawman, P. A.** (2023). *Presentation: Long-term Net Ecosystem Exchange: GCE-LTER salt marsh flux tower*. Presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, January 5, 2023, Athens, Georgia.
10. **Hawman, P. A.**, Mishra, D. R., O'Connell, J. L. (2022). *Poster: Dynamic emergent leaf area under tidal submergence: Implications on blue carbon*. Poster at the Long Term Ecological Research Network All Scientists' Meeting 2022, September 20, 2022, Pacific Grove, California.
11. **Hawman, P. A.**, Mishra, D. R. (2022). *Presentation: Dynamic emergent leaf area under tidal submergence: Implications on blue carbon*. Remote Sensing of Environment. Oral presentation at the American Association of Geographers Annual Meeting 2022, March 1, 2022, Virtual.
12. **Hawman, P. A.**, Mishra, D. R. (2022). *Presentation: Dynamic emergent leaf area under tidal flooding*. Presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, January 5, 2022, Virtual.
13. **Hawman, P. A.**, Mishra, D. R., O'Connell, J. L., Cotten, D. L., Narron, C. R., & Mao, L. (2021). *Poster: Salt Marsh Light Use Efficiency is Driven by Environmental Gradients and Species-Specific Physiology and Morphology*. Linkages among the Air-Land-Water Continuum Virtual Oral Poster at the North American Carbon Program 7<sup>th</sup> Open Science Meeting, March 19, 2021, Virtual.
14. **Hawman, P. A.** (2020). *Presentation: Flux Tower Net Ecosystem Exchange: emergent leaf area under tidal flooding*. Presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, December 14, 2020, Virtual.
15. **Hawman, P. A.**, Mishra, D. R., Cotten, D. L., O'Connell, J. L., Narron, C. R. and Mao, L. (2020). *Presentation: Tidal flooding limits marsh-atmosphere daytime CO<sub>2</sub> fluxes*. Oral presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Summer Webinar, July 23, 2020, Virtual.
16. **Hawman, P. A.**, Mishra, D. R., Cotten, D. L., O'Connell, J. L., Narron, C. R. and Mao, L. (2020). *Presentation: Salt marsh light use efficiency in response to environmental conditions*. Oral

- presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, January 7, 2020, Athens, Georgia.
17. **Hawman, P. A.**, Mishra, D. R., Cotten, D. L., O'Connell, J. L., Narron, C. R. and Mao, L. (2020). *Poster: Tidal flooding limits marsh-atmosphere daytime CO<sub>2</sub> fluxes*. Poster at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, January 7, 2020, Athens, Georgia.
  18. **Hawman, P. A.**, Mishra, D. R., Cotten, D. L., O'Connell, J. L., Narron, C. R. and Mao, L. (2019). *Presentation: Salt marsh light use efficiency and gross primary productivity in response to environmental conditions*. Disturbance Impacts on Ecological and Biogeochemical Processes in Coastal Wetlands I. Oral Presentation at the American Geophysical Union Fall Meeting 2019, December 12, 2019, San Francisco, California.
  19. **Hawman, P. A.**, Mishra, D. R., O'Connell, J. L., Cotten, D.L., Narron, C. R. and Mao, L. (2019). *Presentation: Salt marsh light use efficiency and gross primary production in response to environmental conditions*. Carbon fluxes in coastal systems. Oral presentation at the Coastal and Estuarine Research Federation (CERF) Biennial Conference 2019, November 5, 2019, Mobile, Alabama.
  20. **Hawman, P. A.**, Mishra, D. R., Cotten, D. L., O'Connell, J. L., Narron, C. R., & Mao L. (2018). *Effects of Cloud Cover on Light Use Efficiency in Salt Marsh Species*. Poster presentation at the American Geophysical Union 2018 Fall Meeting, Washington D.C., December 10-14, 2018.
  21. **Hawman, P. A.** (April 2018). *Effects of diffuse photosynthetically active radiation on light use efficiency of salt marsh species*. Oral presentation at the American Association of Geographers Annual Meeting, New Orleans, LA.
  22. Salmi, R., Presotto, A., **Hawman, P.A.**, & Doran-Sheehy, D. (August 2016). *Euclidean Navigation Maps in Western Gorillas (Gorilla gorilla): An Analysis of Distance, Linearity and Speed of Travel Routes*. Oral presentation by Roberta Salmi at the International Primatology Society and the American Society of Primatologists meeting, Chicago, IL.
  23. **Hawman, P.A.** (November 2014). *Utilizing NASA Earth Observations to Enhance the Conservation of Colombia's Most Endangered Primate, the Cotton-top Tamarin (Saguinus oedipus)*. Oral presentation at the SouthEastern Division of the Association of American Geographers 69<sup>th</sup> Annual Meeting, Athens, GA.
  24. **Hawman, P.A.** (August 2014). *Utilizing NASA Earth Observations to Enhance the Conservation of Colombia's Most Endangered Primate, the Cotton-top Tamarin (Saguinus oedipus)*. Oral presentation at the NASA Earth Science Division's DEVELOP National Program Annual Earth Science Applications Showcase, Washington, D.C.

## **HONORS AND AWARDS**

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**2021** Outstanding Student Presentation Award, 7<sup>th</sup> North American Carbon Program

## **COMMUNITY SERVICE**

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**2020-Present** Board of Directors for Sandy Creek Nature Center, Inc., Athens, Georgia