

Peter A. Hawman
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EDUCATION

The University of Georgia: GIS Certificate	May 2014
The University of Georgia: Bachelor of Landscape Architecture	May 2009
The University of Georgia: PhD, Geography	Aug 2017 - 2024

SKILL

Scientific research, scientific and technical writing, research presentation, research proposal writing, data science, remote sensing, landscape ecology, eddy covariance micrometeorology, cloud computing, machine learning, high performance computer clusters,
R programming language, ESRI, QGIS, SQL

SCIENTIFIC 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

VOLUNTEERING

Member of the Board of Directors for Sandy Creek Nature Center, Inc., Athens, Georgia	Oct. 2020 - present
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WORK EXPERIENCE

University of Georgia Department of Geography, Athens, GA <i>Graduate Research Assistant</i>	Aug. 2017 – present
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- Conducting research funded by the National Science Foundation (NSF) Georgia Coastal Ecosystems Long Term Ecological Research (GCE LTER) site (OCE-1237140 and OCE1832178) on atmospheric carbon fluxes from tidal salt marshes using the eddy covariance method.
- Processing GCE-LTER eddy covariance data for research purposes.
- Conducting research funded by NASA (Carbon Cycle Science #NNX17AI76G) on modeling carbon dynamics in tidal marshes across the southeastern United States and scaling carbon fluxes for satellite-based models of tidal marsh productivity.
- Maintain an eddy covariance flux tower in the Grand Bay National Estuarine Research Reserve (NERR) including sensor and instrumentation installation, maintenance, and flux data processing.
- Conduct a variety of field work collection including in situ remote sensing data using spectroradiometers, leaf area estimations using quantum sensors and ceptometers; destructive and nondestructive biophysical measurements including biomass and plant canopy characteristics; and installation and maintenance of eddy covariance flux tower instruments and accompanying sensors.

Project Consulting Services, Inc., Atlanta, GA <i>GIS Analyst</i>	Sept. 2015 – Aug. 2017
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- Managed and analyzed project-related spatial data from internal, public, client, and third-party sources from a project's design phase through construction.
- Spatial analysis focused on quality assurance and control of asbuilt survey data to ensure the installation of the pipeline meets project and regulatory requirements.
- Created and implemented new QA/QC procedures to ensure construction followed design and safety guidelines.
- Delegated weekly tasks to fellow analysts and distributed results to engineers and contractors.
- Produced project related exhibits and mapbooks for internal, client, and contractor use.
- Member of the GIS Business Development and Marketing group, which produced written and multimedia content

to share information about GIS and its role in improving safety and accuracy in the energy industry.

- Drafted documentation for GIS processes and custom tools for use by fellow GIS analysts.

NASA DEVELOP National Program, University of Georgia, Athens, GA

Sept. 2014 – Sept. 2015

Project Coordination Fellow & Assistant Center Lead

- Proposed, organized, and managed NASA DEVELOP Applied Science projects for this location.
- Reviewed applications and hosted interviews for incoming DEVELOP participants.
- Provided technical, scientific, leadership, and personal development advisement to teams.
- Collected and reviewed project deliverables across the program nationwide.
- Created robust project and partner tracking spreadsheets for analysis and archiving.
- Designed impact maps displaying states and countries where DEVELOP activities occur.
- Worked on a project developing a multi-platform approach for mapping the spatial and temporal distribution patterns of *Hydrilla verticillate*.

NASA DEVELOP National Program, University of Georgia, Athens, GA

Jun. 2014 – Aug. 2014

Project Participant

- Colombia Ecological Forecasting Team.
- Utilized NASA Earth Observations to enhance the conservation efforts of Colombia's most endangered primate, the Cotton-top tamarin (*Saguinus oedipus*).
- Collaborated with Proyecto Tití, Disney Animal Kingdom, and Fundación Proyecto Tití to strengthen and support the conservation of natural resources in Colombia.

Center for Geospatial Research, University of Georgia, Athens, GA

Jan. 2014 – Sep. 2015

Support Staff (volunteer)

- Aided in a project studying Western lowland gorilla spatial ecology.
- Organized and prepared GPS data for analysis.
- Used ESRI ArcMap, Geospatial Modeling Environment (GME), and other applications to perform analysis of Western lowland gorilla behavior.

Larson & McGowin Inc., Athens, GA

January 2014 – March 2014

GIS Contractor

- Reviewing deeds to extract metes and bounds of land tracts dating back to 1900.
- Digitizing land tracts using Coordinate Geometry in ArcMap 10.1.

University of Georgia Facilities Management Division, Athens, GA

May 2013 – Nov. 2013

Temporary Utility II Worker Landscape Grounds

- Installed landscapes throughout the University of Georgia.
- Operated and maintained handheld grounds machinery including augers, chainsaws, and leaf blowers.
- Constructed river-rock beds for stormwater management and flagstone paths for pedestrian use.

Thyme After Thyme, Winterville, GA

Apr. 2010 – Nov. 2012

Nursery Worker

- Cultivated ornamental annuals, perennials, and shrubs and planted and maintained display gardens.
- Managed, packed, and shipped plant material for eCommerce orders.
- Maintained social networking sites Facebook and Twitter for customer relationship management.

PEER-REVIEWED PUBLICATIONS

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>

Richardson, J. L., Desai, A. R., Thom, J., Lindgren, K., Laudon, H., Peichl, M., et al. (2023). *On the Relationship Between Aquatic CO₂ 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>

- 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.
- 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>
- 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>
- 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>
- 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>
- 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>

PRESENTATIONS

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 7th Open Science Meeting, March 19, 2021, Virtual.
- 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.
- 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 CO₂ fluxes*. Oral presentation at the Georgia Coastal Ecosystem Long Term Ecological Research Summer Webinar, July 23, 2020, Virtual.
- 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.

- 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 CO₂ fluxes*. Poster at the Georgia Coastal Ecosystem Long Term Ecological Research Annual Meeting, January 7, 2020, Athens, Georgia.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 69th Annual Meeting, Athens, GA.
- 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.