

CURRICULUM VITAE

JOHANNA ENGSTRÖM

RESEARCH INTERESTS

Hydroclimatology, Sustainable Water Management, Renewable Energy, Climate services, GIS.

EDUCATION

Ph.D., Geography 2012- 2017

Certificate in Applied Atmospheric Sciences
UNIVERSITY OF FLORIDA, Gainesville, Florida, USA
Dissertation title: *The influence of large-scale climate drivers on the hydroclimatology and hydropower production in Southeastern United States.*
Adviser: Dr. Peter Waylen

Master of Science, Physical Geography and Ecosystem Analysis 2009-2011

LUND UNIVERSITY, Lund, Sweden
M.S. thesis: *Impacts of Northern Hemisphere teleconnections on the hydropower production in Southern Sweden.*
Adviser: Dr. Cintia Bertacchi Uvo

Exchange student, Department of Geography August-December 2010

Trans-Atlantic Science Student Exchange Program
UNIVERSITY OF FLORIDA, Gainesville, Florida, USA
Full-time scholarship

Bachelor of Science, Physical Geography 2005-2009

LUND UNIVERSITY, Lund, Sweden
B.S. thesis: *How the landscape affects the wind –from a wind power perspective.*
Adviser: Dr. Maj-Lena Linderson

PROCIVITAS PRIVATE GYMNASIUM, Malmö, Sweden 2003-2005

The Social Science Program (Business)

PROFESSIONAL EXPERIENCE

Assistant Professor August 2021-present

Geography Department, University of Florida

Assistant Professor August 2020-August 2021

Applied Aviation Sciences, Embry-Riddle Aeronautical University, Daytona Beach

Postdoctoral Research Associate Sept 2019-May 2020

Center for Complex Hydrosystems Research, Department of Civil, Construction and Environmental Engineering, University of Alabama

Principal Investigator: Dr. Hamid Moradkhani

Geospatial Services Manager 2017-2019

Geography Department, University of Alabama
GIS Certificate Program Director, Instructor, Manager of the Map Library

Visiting Researcher March 2019

National Center for Atmospheric Research (NCAR), Boulder, Colorado
Capacity Center for Climate and Weather Extremes

Ph.D. Student and Teaching Assistant <u>Geography Department, University of Florida</u>	2012-2017
Graduate Assistant <u>Program for Resource Efficient Communities, University of Florida</u> Analysis of optimization for limiting environmental impacts of suggested community developments.	2012-2013
Wind power consultant <u>Sweco, Malmö, Sweden</u> GIS-specialist, business developer and technical assistant in the onshore and offshore wind power sector.	2011-2012
Geodata manager (part time) <u>E.ON Vind Sverige AB, Malmö, Sweden</u> Managing map material, designing and evaluating new sites for wind parks, etc.	2009-2011
Sales representative (part time) <u>Statoil, Lomma, Sweden</u>	2008-2011

PUBLICATIONS

Peer-reviewed (* indicates student author)

Mariotti, E.* & **Engström, J.** (2025) Transforming Abandoned Mines into Solar Farms: A Pathway to Renewable Energy Development and Sustainable Land Use. *Environmental Research: Energy*, In Press.

Engström, J. (2024). Energy vs. the Environment: A case study of the Allatoona Dam. *Southeastern Geographer*, 64(1), 1-3.

Engström, J., Abbaszadeh, P., Keellings, D., Deb, P., & Moradkhani, H. (2022). Wildfires in the Arctic and tropical biomes: what is the relative role of climate? *Natural Hazards*, 1-14.

Barzehkar, M., Parnell, K. E., Soomere, T., Dragovich, D., & **Engström, J.** (2021). Decision support tools, systems and indices for sustainable coastal planning and management: A review. *Ocean & Coastal Management*, 212, 105813. doi: 10.1016/j.ocecoaman.2021.105813

Engström, J., Praskievicz, S., Bearden, B., & Moradkhani, H. (2021) Decreasing water resources in the Southeast U.S. as observed by the GRACE satellites. *Water Policy*. doi: 10.2166/wp.2021.039

Deb, P., Moradkhani, H., Abbaszadeh, P., Kiem, A. S., **Engström, J.**, Keellings, D., & Sharma, A. (2020). Causes of the widespread 2019–2020 Australian bushfire season. *Earth's Future*, 8(11), e2020EF001671. doi: 10.1029/2020EF001671

Engström, J., Jafarzagagan, K., & Moradkhani, H. (2020). Drought Vulnerability in the United States: An Integrated Assessment. *Water*, 12(7), 2033. doi: 10.3390/w12072033

Keellings, D. & **Engström, J.** (2019). The Future of Drought in the Southeastern U.S.: Projections from Downscaled CMIP5 Models. *Water*. 11(2), 259. doi: 10.3390/w11020259

Engström, J. & Keellings, D. (2018). Drought in the Southeastern U.S.: An Assessment of downscaled CMIP5 models. *Climate Research*. 74 (3), 251-262. doi: 10.3354/cr01502

Engström, J. (2018). Hydropower in the Southeast U.S.: Balancing Lakeview and Production Optimization. *The Southeastern Geographer*. 58(4), 379-393. doi: 10.1353/sgo.2018.0037

Keellings, D., Bunting, E. & **Engström, J.** (2018). Spatiotemporal Changes in the Size and Shape of Heat Waves Over North America. *Climatic Change*. 147 (1-2), 165-178 doi: 10.1007/s10584-018-2140-3

Engström, J., & Waylen, P. (2018). Drivers of long-term precipitation and runoff variability in the southeastern USA. *Theoretical and Applied Climatology*, 131 (3-4), 133-1146 doi: 10.1007/s00704-016-2030-4

Engström, J. & Waylen, P. R. (2017). The changing hydroclimatology of Southeastern United States. *Journal of Hydrology*, 548, 16-23 doi: 10.1016/j.jhydrol.2017.02.039

Haque, U., Blum, P., da Silva, P.F., Andersen, P., Pilz, J., Chalov, S.R., Malet, J.P., Auflič, M.J., Andres, N., Poyiadji, E., Lamas, P.C., Zhang, W., Pesevski, I., Pétursson, H.G., Kurt, T., Dobrev, N., Davalillo, J.C.G., Halkia, M., Ferri, S., Gaprindashvili, G., **Engström, J.**, Keellings, D. (2016). Fatal Landslides in Europe. *Landslides*.13 (6), 1545-1554 doi: 10.1007/s10346-016-0689-3

Engström, J. & Uvo, C. B. (2015). Effect of Northern Hemisphere Teleconnections on the Hydropower Production in Southern Sweden. *Journal of Water Resources Planning and Management*, 142(2), 05015008 doi: 10.1061/(ASCE)WR.1943-5452.0000595.

Keellings, D., **Engström, J.**, & Waylen, P. (2015). The sunshine state: investigating external drivers of sky conditions. *Physical Geography*, 36(2), 113-126. doi: 10.1080/02723646.2015.1004995.

Other publications

Engström, J., Mossa, J., & Praskievicz, S. (2024). Guest Editors' Introduction to Water and Rivers in the South (Part 2). *Southeastern Geographer*, 64(2), 160-164.

Praskievicz, S., Mossa, J., & Engström, J. (2024). Guest Editors' Introduction to Special Issue on Water and Rivers in the South (Part 1). *Southeastern Geographer* 64 (1), 4-10.

The influence of large-scale climate drivers on the hydroclimatology and hydropower production in Southeastern United States, Ph.D. Dissertation, University of Florida, 2017. Available at: <http://ufdc.ufl.edu/UFE0050655/00001>

Impacts of Northern Hemisphere teleconnections on the hydropower production in southern Sweden, M.S. Thesis, Lund University, 2011. Available at: <https://lup.lub.lu.se/luur/download?func=downloadFile&recordId=2438792&fileId=2438794>

How the landscape affects the wind -from a wind power perspective, B.S. Thesis, Lund University in collaboration with E.ON Vind, 2009. Available at: <https://lup.lub.lu.se/luur/download?func=downloadFile&recordId=1883044&fileId=1883049>

Research highlighted in media

Climate Matters, Oct 21, 2020, “Vulnerability to Drought”:
<https://medialibrary.climatecentral.org/resources/vulnerability-to-drought>

E&E News, Sept 23, 2020, “NOAA: Surprise finding: Calif. Drought vulnerability ‘very low’”
eenews.net/climatewire/stories/1063714419

NOAA, Sept 17, 2020, “The U.S. drought vulnerability rankings are in: How does your state compare?”
<https://www.climate.gov/news-features/featured-images/us-drought-vulnerability-rankings-are-how-does-your-state-compare>

PRESENTATIONS:

Invited Talks

Engström, J. 2024. *Exploring Drought Vulnerability in the United States*. Sonoma State University, CA.

Engström, J. 2022. *Analyzing the Hydroclimatology of Southeastern U.S. and beyond using GIS and Remote Sensing*. Water, Wetlands, and Watersheds Seminar Series, Gainesville, FL.

- Engström, J.** 2019. *Analyzing hydroclimate for hydro power management applications, using teleconnections and satellite data.* National Center for Atmospheric Research, Boulder, CO.
- Engström, J.** 2019. *What is GIS and how can it boost your research?* University of Alabama Libraries, Tuscaloosa, AL.
- Engström, J.** 2017. *Hydropower in the Southeast: Balancing Lakeview and Production Optimization.* American Geophysical Union Fall Meeting, New Orleans, LA.
- Engström, J.** 2017. *What is GIS and how can it boost your career?* University of Alabama GIS Day
- Engström, J.** 2016. *The influence of large-scale climate drivers on the hydroclimatology and hydropower production in Southeastern United States.* Water Research Group, University of Alabama.
- Engström, J.** 2014. *The value of hydropower.* Warrington Business College, University of Florida.
- Engström, J.** 2013. *How to use ArcGIS and CommunityViz in the evaluation process of new development designs.* College of Design, Construction and Planning, University of Florida.
- Engström, J.** 2012. *Freedom of Press and Expression in Sweden.* College of Journalism and Communication, University of Florida.

Conference Presentations (* indicates student author)

- Dambe, N.* & **Engström, J.** 2025. *The Impact of Climate Extremes on Wind Power Development in the United States.* Annual Meeting of the Florida Society of Geographers, Gainesville, FL.
- Mariotti, E.* , Hu, Y. & **Engström, J.** 2025. *Optimizing Solar-Powered EV Charging Infrastructure in Florida.* Annual Meeting of the Florida Society of Geographers, Gainesville, FL.
- Silverman, E.* & **Engström, J.** 2025. *An Assessment of the Relative Drought Vulnerability of the Countries in South America.* Annual Meeting of the Florida Society of Geographers, Gainesville, FL.
- Keellings, D., Senkbeil, J., Raney, A. & **Engström, J.** 2024. *Heat Waves and Connections to Climate Variability and Change Across the United States.* American Geophysical Union Fall Meeting, Washington DC.
- Keellings, D., Senkbeil, J., Raney, A. & **Engström, J.** 2024. *Heat Waves and Connections to Climate Variability and Change Across the United States.* Annual Meeting of the Southeastern Division of the Association of American Geographers, Greenville, SC.
- Keellings, D. & **Engström, J.** 2024. *Heat Waves and Connections to Climate Variability and Change Across the United States.* International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards. Venice, Italy.
- Dambe, N.* & **Engström, J.** 2024. *Do climate extremes like drought influence wind power development in the United States?* American Association of Geographers Annual Meeting, Honolulu, HI.
- Engström, J.** 2024. *Drought vulnerability assessment of high-income countries.* American Association of Geographers Annual Meeting, Honolulu, HI.
- Mariotti, E.* & **Engström, J.** 2024. *Transforming Abandoned Mines into Solar Farms: A Pathway to Renewable Energy Development and Sustainable Land Use.* American Association of Geographers Annual Meeting, Honolulu, HI.
- Dambe, N.* & **Engström, J.** 2024. *Is Drought a Driver of Renewable Energy Development?* UF Water Institute Symposium, Gainesville, FL (Poster)
- Engström, J.**, Jafarzadegan, K., & Moradkhani, H. 2024. *Drought vulnerability in the US: The case of Florida.* Annual Meeting of the Florida Society of Geographers, St Augustine, FL

- Mariotti, E.* & **Engström, J.** 2024. *Transforming Abandoned Mines into Solar Farms: A Pathway to Renewable Energy Development and Sustainable Land Use*, Annual Meeting of the Florida Society of Geographers, FL.
- Dambe, N.* & **Engström, J.** 2023. *What drives wind power development in the United States?* Annual Meeting of the Southeastern Division of the Association of American Geographers, Norfolk, VA.
- Engström, J.** 2023. *The Past, Present and Future of Dams in Southeastern United States*, Annual Meeting of the Southeastern Division of the Association of American Geographers, Norfolk, VA.
- Silverman, E.* & **Engström, J.** 2023. *Drought Vulnerability in South America*, University of Florida's Annual Spring Undergraduate Research Symposium, Gainesville, FL. (Poster)
- Engström, J.**, Jafarzadegan, K., & Moradkhani, H. 2023. *Drought vulnerability in the United States*. Association of American Geographers Annual Meeting, Denver, CO.
- Mariotti, E.* & **Engström, J.** 2023. *Potential for Florida's Abandoned Phosphate Mines to be Restored as Solar Farms*. Annual Meeting of the Florida Society of Geographers, St Augustine, FL.
- Engström, J.** 2022. *Drought vulnerability in Southeastern United States*. Annual Meeting of the Southeastern Division of the Association of American Geographers, Atlanta, GA.
- Dambe, N.* & **Engström, J.** 2022. *Comparison of the Wind Power Landscapes in South Africa and the United States of America*. Annual Meeting of the Southeastern Division of the Association of American Geographers, Atlanta, GA.
- Wallace, R.J., Truong, D., Stansbury, R.S., & **Engström, J.**, 2021. *SUAS Operational Trends: A Multi-Year Detection Study in Controlled Airspace*. International Virtual Conference on Air Mobility with Unmanned Systems and Engineering (AMUSE), Nanyang Technical University, Singapore.
- Engström, J.**, Bearden, B, Guthrie, G. & G. Tootle, 2019. *Declining water resources in Alabama and Mississippi, as identified by the GRACE satellites*. (Poster) American Geophysical Union Fall Meeting, San Francisco, CA.
- Lombardi, R.*, Therrell, M. D., Elliott, E. A., & **J. Engström**, 2019. *Trans-Atlantic Paleoflood Frequency and Magnitude in the Common Era: When, where, and why do extreme floods occur?* (Poster) American Geophysical Union Fall Meeting, San Francisco, CA.
- Engström, J.** & D. Keellings, 2019. *Future Outlooks of Drought in Southeastern U.S.* Alabama Water Institute Symposium, Tuscaloosa, AL.
- Engström, J.**, 2019. *Studying Alabama's Water Using the GRACE Satellites*. Alabama Water Resources Conference, Orange Beach, AL.
- Engström, J.** & D. Keellings, 2018. *Drought in the Southeast: Future Outlooks*. American Geophysical Union Fall Meeting, Washington, D.C.
- Engström, J.** & D. Keellings, 2018. *Drought in the Southeast: Future Outlooks*. Southeastern Division of Association of American Geographers Annual Meeting, Johnson City, TN.
- Keellings, D. & **J. Engström**, 2018. *The Future of Drought in the Southeastern U.S.: Projections from downscaled CMIP5 models*. American Association of Geographers Annual Meeting, New Orleans, LA.
- Keellings, D. & **J. Engström**, 2017. *The Future of Drought in the Southeastern U.S.: Projections from downscaled CMIP5 models*. (Poster) American Geophysical Union Fall Meeting, New Orleans, LA.
- Engström, J.** 2017. *Hydropower in the Southeast under competing interests, -a network analysis*. Southeastern Division of Association of American Geographers Annual Meeting, Starkeville, MS.

Engström, J. & P.R. Waylen, 2016. *Hydropower in Southeastern United States, -a Hydroclimatological Perspective*. (Poster) American Geophysical Union Fall Meeting, San Francisco, CA.

Engström, J. & P.R. Waylen, 2016. *Hydropower in Southeastern United States: Going with the flow or not?* Southeastern Division of Association of American Geographers Annual Meeting, Columbus, SC.

Engström, J. & P.R. Waylen, 2016. *Variations of, and Changes in the Hydroclimatology of the Southeast United States*. (Poster) University of Florida Water Institute Symposium, Gainesville, FL.

Engström, J. & P.R. Waylen, 2015. *Variations of, and Changes in the Hydroclimatology of the Southeast United States*. (Poster) American Geophysical Union Fall Meeting, San Francisco, CA.

Engström, J. & P.R. Waylen, 2015. *Precipitation and runoff variability in southeast United States*. Association of American Geographers Annual Meeting, Chicago, IL.

Engström, J., D. Keellings & P.R. Waylen, 2015. *The Sunshine State: Investigating External Drivers of Sky Conditions in Florida*. Florida Society of Geographers Annual Meeting, Jacksonville, FL.

Engström, J. & P.R. Waylen, 2014. *The effect of teleconnections on river discharge in southeast United States*. Southeastern Division of Association of American Geographers Annual Meeting, Athens, GA.

Engström, J., 2014. *Climate impacts on hydropower in the Southeast United States*. Association of American Geographers Annual Meeting, Tampa, FL

Engström, J. & C.B. Uvo, 2013. *Impacts of Northern Hemisphere Teleconnections on the hydropower production in Southern Sweden*. Association of American Geographers Annual Meeting, Los Angeles, CA.

TEACHING EXPERIENCE

GEO2200: Dynamic Planet Earth	University of Florida	2023-present
IDS2935: The Future of Energy	University of Florida	2022-present
GEO402: Applied Geographic Information Systems	Embry-Riddle	2021
WX299: Special Topics in Applied Meteorology	Embry-Riddle	2021
GEO215: Introduction to Geoscience	Embry-Riddle	2021
GEO310: Advanced Geographic Information Systems	Embry-Riddle	2020-2021
WX201: Survey of Meteorology (Online)	Embry-Riddle	2020
GY101: Atmospheric Processes and Patterns	University of Alabama	2018-2019
GEO2200L: Physical Geography Lab (Online)	University of Florida	2016
GEO2200: Physical Geography (Online)	University of Florida	2014-2016
GEA3500: Geography of Europe	University of Florida	2013-2016
GEA1000: Geography for a Changing World	University of Florida	2012-2015

FUNDED PROJECTS

Role: Co-PI

Title: Developing the Drought Risk Overview Product (DROP): Improving Flash Drought Forecasts and Early Warning Using Machine Learning and Extreme Value Theory Techniques

Agency: US DEPT OF COMM NATL OCEANIC & ATMOS ADM

Total Amount: \$57,692.00

Dates: 9/1/2023- 2/15/2024

COMPETITIVE ACADEMIC AWARDS

Center for Teaching and Learning Excellence, Embry-Riddle Aeronautical University (\$500) <i>Mini-grant for course development</i>	2021
Alabama Water Institute, Best Post-doc Presentation	2019
European Commission, Marie Sklodowska-Curie Actions Seal of Excellence	2019
University of Florida, Geography Department, Top student paper of the year (\$150)	2017
American Geophysical Union, Outstanding Student Poster Award (\$150)	2016
University of Florida, College of Liberal Arts and Sciences Dissertation Fellowship (\$7,000+tuition)	2016
University of Florida, Office of Research (\$400)	2016
University of Florida, Graduate School Dissertation Award (\$9,000)	2016
University of Florida, College of Liberal Arts and Sciences, PreDoc Fellowship, (\$5,000/year)	2012-2016
University of Florida, Geography Department Poehling Award (\$1,500) <i>Departmental Service and Academic Excellence</i>	2015
University of Florida College of Liberal Arts and Sciences Travel Award (\$300)	2015
University of Florida Graduate Student Council Travel Grant (\$350)	2015
Association of American Geographers (\$300) <i>Water Resources Specialty Group Student Travel Award</i>	2015
University of Florida International Center <i>Certificate of Outstanding Academic Achievement</i>	2012, 2013

SERVICE AND VOLUNTEER WORK

- Session Organizer “Renewable Energy Development” American Association of Geographer’s Annual Meeting, Honolulu, HI, April 2024
- Editorial Board member, The Southeastern Geographer, 2024-present
- Member of the UF Water Institute’s Faculty Advisory Board 2023-present
- Florida state representative and steering committee member, Southeastern Division of the American Association of Geographers (SEDAAG), 2021-2023.
- Academic Network Delegate to United Nations Global Geospatial Information Management (UNGGIM) -Americas 2020.

- Representative for University of Alabama, UN-GGIM Academic Network, 2018-2020.
- Judge, AGU Outstanding Student Poster Awards, 2017-2019.
- Graduate committee member for one M.Sc. and one Ph.D. student, University of Alabama, 2018-2019.
- Alabama faculty team leader, SEDAAG World Geography Bowl, 2018.
- GIS Day organizer, University of Alabama 2017+2018.
- Reviewer for *Applied Geography*, *Climate*, *Climate Research*, *Earth's Future*, *Energies*, *Hydrol. Earth Syst. Sci.*, *Journal of Applied Meteorology and Climatology*, *Nature Communications*, *Papers in Applied Geography*, *Physical Geography*, *Renewable Energy*, *Sustainable Water Resources Management*, *The Professional Geographer*, *The Southeastern Geographer*, *Theoretical and Applied Climatology*, *Water*, *Water Resources Management*.
- Judge, Alachua County Regional Science Fair, 2017.
- Volunteer, University of Florida Water Institute Symposium, 2016.
- Mentor for incoming international graduate students, Graduate Student Council, University of Florida, 2015-2016.
- Volunteer, Gainesville Rabbit Rescue, 2015-2016.
- Graduate student representative, Geography Department, University of Florida, 2014-15.
- Mentor, Minority Mentor Program, University of Florida, 2013-14.
- Volunteer, Trans-Atlantic Science Student Exchange Program, University of Florida, 2012-2014.

FIELD WORK

Wind turbine siting ▪ Stream flow measurements ▪ Water quality measurements ▪ Light and CO₂ flux measurements ▪ Remote Sensing: Collection of training samples ▪ Topographic surveying

PROFESSIONAL MEMBERSHIPS

American Geophysical Union ▪ Southeastern Division of the Association of American Geographers

SKILLS SUMMARY

Languages

Swedish –native
 English –fluent
 German -intermediate
 Italian -basic

Computing skills

ArcGIS, Idrisi, Linux, MatLab, Microsoft Office, R, SPSS, Windows, WindPro, and QGIS.

Driver's license

European Union driver's license since April 2005
 United States driver's license since August 2014