

# CURRICULUM VITAE

JOHANNA ENGSTRÖM

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## RESEARCH INTERESTS

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

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## 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

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## 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

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

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## PUBLICATIONS

### Peer-reviewed

- 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.**, Jafarzadegan, 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

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.

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.

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&recordOid=2438792&fileOid=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&recordOid=1883044&fileOid=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](https://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>

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## PRESENTATIONS:

### Invited Talks

**Engström, J.** 2024. *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

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.

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## TEACHING EXPERIENCE

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|---|-----------------------|--------------|
| 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    |

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## 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

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## COMPETITIVE ACADEMIC AWARDS

|   |      |
|---|------|
| Center for Teaching and Learning Excellence, Embry-Riddle Aeronautical University (\$500)<br><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 |

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|---|------------|
| 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)<br><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)<br><i>Water Resources Specialty Group Student Travel Award</i>                  | 2015       |
| University of Florida International Center<br><i>Certificate of Outstanding Academic Achievement</i>                        | 2012, 2013 |

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## 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.
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## FIELD WORK

Wind turbine siting ▪ Stream flow measurements ▪ Water quality measurements ▪ Light and CO<sub>2</sub> flux measurements ▪ Remote Sensing: Collection of training samples ▪ Topographic surveying

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## PROFESSIONAL MEMBERSHIPS

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

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## 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

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