Christopher W. Callahan

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Research Interests

Climate change effects on socioeconomic well-being; detection and attribution of extreme climate events; climate econometrics; internal variability and large ensemble modeling; air quality and air pollution.

Education

Dartmouth College   Hanover, NH
Ph.D., Ecology, Evolution, Environment, and Society (in progress)   2018 – 2023
Advisor: Justin Mankin

Northwestern University   Evanston, IL
B.A., Environmental Science, with honors   2014 – 2018

Publications

2. **Callahan, C.W.** & Mankin, J.S. (2020) "The influence of internal climate variability on projections of synoptically driven Beijing haze." *Geophysical Research Letters*, 10.1029/2020GL088548

1. **Callahan, C.W.**, Schnell, J.L., & Horton, D.E. (2019) "Multi-index attribution of extreme winter air quality in Beijing, China." *Journal of Geophysical Research: Atmospheres*, 10.1029/2018JD029738

Manuscripts in Progress

2. **Callahan, C.W.**, Chen, C., Rugenstein, M., Bloch-Johnson, J., Yang, S., & Moyer, E.J. (Revising) "Robust decrease in ENSO amplitude under long-term warming." *Nature Climate Change*

1. Erbaugh, J.T., **Callahan, C.W.**, Finger Higgens, R., DeSiervo, M., Bolger, D.T., Cox, M., Howarth, R.B. (In review) "Sociotechnical equilibrium and transitions." *Current Opinion in Environmental Sustainability*

Presentations

First-author presentations only

7. **Callahan, C.W.** & Mankin, J.S. (2020) "National attribution of climate damages under Earth system uncertainty." AGU Fall Meeting (*upcoming*)

6. **Callahan, C.W.** & Mankin, J.S. (2020) "On the use of large ensembles for studying climate and air quality." AMS Annual Meeting (Oral)

5. **Callahan, C.W.** & Mankin, J.S. (2019) "National attribution of climate damages under deep uncertainty." AGU Fall Meeting (Poster)

4. **Callahan, C.W.** & Mankin, J.S. (2019) "The influence of internal variability on synoptically driven Beijing haze." US CLIVAR Large Ensembles Workshop (Oral)

3. **Callahan, C.W.** & Mankin, J.S. (2018) "Linkages between synoptic circulation and poor air quality in Beijing." AGU Fall Meeting (Poster)

2. **Callahan, C.W.**, Diffenbaugh, N.S., & Horton, D.E. (2018) "Multi-index attribution of Beijing's 2013 Airpocalypse." Northwestern Computational Research Day (Poster)

1. **Callahan, C.W.**, Diffenbaugh, N.S., & Horton, D.E. (2017) "Multi-index attribution of Beijing's 2013 Airpocalypse." AGU Fall Meeting (Poster)

Awards, Grants, & Fellowships

NSF Graduate Research Fellowship	2020 – 2023
Department of Education GAANN Fellowship	2018 – 2019
Best Senior Thesis, Northwestern Program in Environmental Sciences	2018
Northwestern Conference Travel Grant	2017
AGU Fall Meeting Student Travel Grant	2017
Hardy Scholarship	2016 – 2018
National Merit Scholarship	2014 – 2018
National Champion, Policy Debate, National Speech and Debate Tournament	2014

Teaching

Teaching Assistant, BIOL 16: Ecology	Spring 2020 (*virtual*), Fall 2018
Professor: Caitlin Hicks Pries	
Teaching Assistant, ENVS 12: Energy and the Environment	Winter 2020
Professor: Elizabeth Wilson	
Teaching Assistant, ENVS 15: Environmental Issues of the Earth's Cold Regions	Spring 2019
Professor: Ross Virginia	

Professional Development

Community Terrestrial Systems Model tutorial, hosted by the National Center for Atmospheric Research.	2019
"Lessons in Professional Conduct at Field Sites," workshop led by Katie Hinde and Robin Nelson, hosted by Dartmouth College.	2018

Service

Student representative to EEES Curriculum Committee	2019 – 2020

Other Skills

Computing skills: Python/Jupyter, R, NCL, MATLAB, LaTeX, Unix/bash

Professional Organizations

American Geophysical Union	2017 – Present