



# Christopher W. Callahan

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Dartmouth College  
Program in Ecology, Evolution, Environment, and Society  
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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.

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## EDUCATION

<b>Dartmouth College</b>	Hanover, NH
Ph.D., Ecology, Evolution, Environment, and Society (in progress)	2018 – 2023
NSF Graduate Research Fellow	
Advisor: Justin Mankin	

<b>Northwestern University</b>	Evanston, IL
B.A., Environmental Science, with honors	2014 – 2018

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## PUBLICATIONS

3. Erbaugh, J.T., **Callahan, C.W.**, Finger Higgs, R., DeSiervo, M., Bolger, D.T., Cox, M., Howarth, R.B. (In press) “Sociotechnical equilibrium and transitions.” *Current Opinion in Environmental Sustainability*
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

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## MANUSCRIPTS IN PROGRESS

2. **Callahan, C.W.** & Mankin, J.S. (Submitted) “National-scale attribution of both climate damages and mitigation indemnities.” *Science Advances*
1. **Callahan, C.W.**, Chen, C., Rugenstein, M., Bloch-Johnson, J., Yang, S., & Moyer, E.J. (In review) “Robust decrease in ENSO amplitude under long-term warming.” *Nature Climate Change*

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## WORKING PAPERS AND PREPRINTS

1. **Callahan, C.W.** & Mankin, J.S. (2021) “Temperature variability and extremes both affect economic growth.” *EarthArXiv preprint*, 10.31223/X57G8F

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## PRESENTATIONS

*First-author presentations only*

8. **Callahan, C.W.** & Mankin, J.S. (2021) “El Niño variability mediates 21<sup>st</sup> century growth effects of climate change.” EGU General Assembly (vPICO, *virtual*)

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

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

#### TEACHING

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Teaching Assistant, BIOL 16: Ecology	Spring 2020 ( <i>virtual</i> ), 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

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

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Peer review for: *Environmental Modelling and Software*

## OTHER SKILLS

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

## PROFESSIONAL ORGANIZATIONS

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European Geophysical Union	2021 – Present
American Geophysical Union	2017 – Present