

# Daniel A Bishop

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## Summary

- ◆ Detail-oriented environmental scientist with a passion for data analytics, problem solving and risk assessment, broad research interests bridging forest science and climatology, and proven technical writing and project management skills through *20 peer-reviewed publications and 2 successful grant proposals*
- ◆ Comprehensive computer programming, statistics, and data analytics background, with proficiency in MATLAB and R and experience in Python, IDL, Fortran, GIS, and SAS
- ◆ Driven to improve societal decision-making and preparedness in response to natural hazards through our understanding of historical and future water resource availability, flood, and drought risk

## Education

- Ph.D. | Columbia University, New York, NY** **May 2021 (exp.)**  
Earth and Environmental Sciences, GPA: 3.9  
*Awards:* NASA Earth and Environmental Science Fellowship, Columbia Dean's Fellowship
- M.Sc. | SUNY-ESF, Syracuse, NY** **2013**  
Forest and Natural Resources Management, GPA: 3.9  
*Awards:* Northeastern States Research Cooperative Grant
- B.Sc. | Cornell University, Ithaca, NY** **2010**  
Atmospheric Science
- Continuing:** Machine Learning Certificate through Stanford University (Coursera) **2019**  
Likelihood Methods in Ecology through Cary Institute **2012**

## Relevant Experience

- Graduate Research Assistant | Columbia University, New York, NY** **2016-present**
  - ◆ Investigated causes of trends and variability in Southeast US precipitation and contiguous US soil moisture using observations, reanalyses, model simulations, hydrologic models, and environmental proxy data
  - ◆ Published 2 dissertation chapters (and 2 in prep.), wrote successful NASA fellowship proposal, research highlighted in press release, and served 2 years on BPE Division Seminar Committee
- Research Assistant | Harvard Forest, Petersham, MA** **2014-2016**
  - ◆ Modeled precipitation, forest composition, and terrestrial carbon sequestration using tree-ring proxy data and evaluated changing frequency of rainfall events in eastern US
  - ◆ Developed & maintained a tree-ring width database, worked with supervisor to manage tree-ring lab, co-advised two undergraduate projects, and co-led research field campaigns
- Graduate Research Assistant | SUNY-ESF, Syracuse, NY** **2011-2013**
  - ◆ Explored the impacts of climate and acid rain on forests of the northeastern US
  - ◆ Quantified uncertainty in gridded temperature products using weather station data
  - ◆ Research highlighted in numerous media communications, worked with advisor to co-mentor undergraduate summer research project, wrote a successful graduate research grant, and published 2 thesis chapters

## Skills & Expertise

Climate Impacts · Hydroclimatology · Drought & Flood Risk · Meteorology · Bioclimatology · Global Change  
Data Analytics · MATLAB · R · Python · SAS · Fortran · ArcGIS · Jupyter · LaTeX · Unix Shell · Git  
Microsoft Office · Statistics · Regressions · Machine Learning · Analysis of Variance · Nonlinear Models  
Discriminant Analysis · Data Visualization · Project Management · Technical Writing · Collaboration

## ***Selected Publications (of 20)***

- ◆ **Bishop DA**, Williams AP, Seager R. 2019. Increased fall precipitation in the southeastern United States driven by higher-intensity, frontal precipitation. *Geophysical Research Letters* 46(14):8300-8309.  
***Media Coverage:*** AGU, Phys.org.
- ◆ **Bishop DA**, Williams AP, Seager R, Fiore AM, Cook BI, Mankin JS, Singh D, Smerdon JE, Rao MP. 2019. Investigating the causes of increased twentieth-century fall precipitation over the southeastern United States. *Journal of Climate* 32(2):575-590.
- ◆ **Bishop DA**, Beier CM, Pederson N, Lawrence GB, Stella JC, Sullivan TJ. 2015. Regional growth decline of sugar maple (*Acer saccharum*) and potential causes. *Ecosphere* 6: art179.  
***Media Coverage:*** WAMC Northeast Public Radio, Inside Science, Smithsonian Magazine, Popular Science, Albany Times Union, Syracuse Post-Standard, Modern Farmer.
- ◆ **Bishop DA**, Pederson N. 2015. Regional variation of transient precipitation and rainless-day frequency across a subcontinental hydroclimate gradient. *Journal of Extreme Events* 2(02):1550007.

## ***Selected Conference Presentations (\* = talk)***

- ◆ \* **Bishop DA**, Williams AP, Seager R, Bolles K, Cook ER, Peteet DM, Cook BI, Rao MP. December 2020. *Placing the east-west United States aridity gradient in a millennial context*. 2020 AGU Fall Meeting.
- ◆ **Bishop DA**, Williams AP, Miller RL, Cook BI, Seager R. December 2019. *Quantifying the drivers of regional hydroclimate change from the fall-season North Atlantic Subtropical High*. 2019 AGU Fall Meeting, San Francisco, CA.
- ◆ **Bishop DA**, Williams AP, Seager R. December 2018. *Fall wetting in the southeastern US driven by higher-intensity frontal precipitation*. 2018 AGU Fall Meeting, Washington, DC.
- ◆ \* **Bishop DA**, Williams AP, Seager R, Fiore AM, Cook BI, Mankin JS, Singh D, Smerdon JE, Rao MP. December 2017. *Assessing the causes of 20th century wetting in the eastern United States*. 2017 AGU Fall Meeting, New Orleans, LA.
- ◆ \* **Bishop DA**. March 2016. *Regional growth decline in sugar maple and its potential causes*. Green Mountain Division, Society of American Foresters, 2016 Winter Meeting, Fairlee, VT. **[Invited]**

## ***Teaching Experience***

### **Columbia University**

Regional Climate and Climate Impacts (Spring 2020), Dynamics of Climate (Spring 2019), Quantitative Models of Climate-Sensitive Natural and Human Systems (Fall 2017)

## ***Service***

### **Manuscript Reviews (8)**

Journal of Climate (2), Bulletin of the American Meteorological Society, Global Change Biology, Journal of Hydrometeorology, Journal of Climate, Canadian Journal of Forest Research, Tree-Ring Research

### **Leadership & Outreach**

Organizing Committee for Lamont-Doherty Biology & Paleo Environment Division Weekly Seminar Series (2017-2019), Lamont-Doherty Open House Volunteer (2016-2017), Earth2Class Workshop Volunteer Speaker (2017), Led Tree-Ring Tours and Workshops for Students and Educators (2016-present)