

# Brendan Clark

Department of Environmental Sciences  
Rutgers University

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## CURRENT APPOINTMENT

**Research Assistant** | Rutgers Impact Studies of Climate Intervention (RISCI) laboratory

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## EDUCATION

**Ph.D.** | Atmospheric Science | Rutgers University | 2024  
Advisors: Professors Alan Robock and Lili Xia

**M.S.** | Atmospheric Science | Rutgers University | 2022 | GPA: 3.90

**B.S.** | Environmental Science | University of Massachusetts Amherst | 2020

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## PUBLICATIONS

**B. Clark**, L. Xia, A. Robock, et al. Stratospheric sulfate aerosol climate intervention could negatively impact the nutritional quality of maize and rice. *Nature. In prep*

**B. Clark**, L. Xia, A. Robock, et al. Maize yield changes under sulfate aerosol climate intervention using three global gridded crop models. *Earth's Future. In review*

N. Grant, A. Robock, L. Xia, J. Singh, **B. Clark**. Impacts on Indian agriculture due to stratospheric aerosol intervention using agroclimatic indices. *Earth's Future* **4**, e2024EF005262, (2025). 10.1029/2024EF005262

**B. Clark**, L. Xia, A. Robock, et al. Optimal climate intervention scenarios for crop production vary by nation. *Nature Food* **4**, 902–911, (2023). 10.1038/s43016-023-00853-3

F. Bowlick, **B. Clark**, et al. Understanding geocomputation education: A survey and syllabi informed review. *Research in Geographic Education*, **23**, 20-51 (2022).

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## FIRST AUTHOR PRESENTATIONS

### Talks

“Crop Impacts from Stratospheric Aerosol Injection: A Multi-Scenario Overview”  
ISIMIP-GGCM Workshop | University of Potsdam, Germany | May 2022

“Discrepancies Between Fully Coupled and Offline CLM5 Crop Simulations”  
NCAR Land Modeling Working Group Meeting | Boulder, CO | January-February 2022

“Depicting Information and Remembering Your Audience: Impacts on Crop Production from Stratospheric Aerosol Climate Intervention”

Climate Engineering in Context Conference | University of Potsdam, Germany | October 2021

“The Optimal Climate Intervention Scenario for Crop Production Varies by Nation”

Solar Climate Intervention Symposium | University of Exeter, UK | June 2023

“A Proposal for a Multi-Crop Model Assessment of Stratospheric Aerosol Climate Intervention”

AgMIP-GGCMi meeting | Columbia University, NY | June 2023

“Stratospheric Aerosol Climate Intervention Could Negatively Impact Crop Nutritional Quality”

American Geophysical Union | San Francisco, CA | December 2023

“Stratospheric Aerosol Climate Intervention Impacts on Crop Protein Content”

Gordon Research Conference | Barga, Italy | February 2024

## **Posters**

“Impacts on Crop Production from Stratospheric Aerosol Injection”

American Geophysical Union | New Orleans, LA | December 2021

“Can Crop Production be used as a Metric to Design Climate Intervention?”

American Geophysical Union | Chicago, IL | December 2022

“Impacts on Crop Production from Stratospheric Aerosol Climate Intervention: A Multi-Scenario Overview”

Gordon Research Conference | Newry, ME | June 2022

“Rutgers Impact Studies of Climate Intervention (RISCI) Laboratory Group Overview”

Geoengineering Modeling Intercomparison Project annual meeting | University of Exeter, UK | June 2023

“Stratospheric Aerosol Climate Intervention Could Negatively Impact Crop Nutritional Quality”

Gordon Research Conference | Barga, Italy | February 2024

“Sulfate Aerosol Climate Intervention Impacts on Maize Yield and Protein in Three Global Gridded Crop Models”

Geoengineering Modeling Intercomparison Project annual meeting | Cornell University, NY | July 2024

“Stratospheric Aerosol Climate Intervention Could Reduce the Nutritional Value of Maize and Rice”

American Geophysical Union | Washington D.C. | December 2024

## RESEARCH EXPERIENCE

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**Graduate Research Assistant** | Dr. Alan Robock | Rutgers University | 2020-present

- Researching climate change and climate intervention impacts on crop production and quality by utilizing global climate models and global crop models

**Undergraduate Research Assistant** | Dr. Matthew Winnick | UMass Amherst | 2019-2020

- Analyzed methane and nitrous oxide emissions from shale samples using gas chromatography to understand greenhouse gas emissions associated with fracking

**Undergraduate Research Assistant** | Dr. Scott Jackson | UMass Amherst | 2019-2020

- Studied the resources being used by Massachusetts organizations to inform their forest conservation decision making

**Undergraduate Research Assistant** | Dr. Forrest Bowlick | UMass Amherst | 2018-2019

- Created a survey, conducted interviews with instructors, and analyzed course syllabi to understand how geocomputation course structure varies

## TEACHING EXPERIENCE

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**Guest Lecturer**

Climate Modeling | Rutgers University | Fall 2023

**Teaching Assistant**

Geographic Information Systems | UMass Amherst | Fall 2019

**Substitute Teacher**

Algonquin Regional High School | Northborough, MA | 2019-2020

## HONORS AND AWARDS

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John and Abigail Adams Scholarship Award | 2016

Stanley Z. Koplik Certificate of Mastery with Distinction Award | 2016

Governor’s Citation in Recognition of Energy and Environmental Stewardship in Massachusetts | 2019

Rutgers Climate Institute Student Travel Support Award | 2022

Rutgers Graduate Program in Atmospheric Science Student Travel Support Award | 2023

Rutgers Graduate Program in Atmospheric Science Student Travel Support Award | 2024

## **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

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### **American Geophysical Union**

Atmospheric Sciences Section | 2020-present

## **PARTICIPATION IN INTERNATIONAL EXPERIMENTS**

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### **Agricultural Modeling Intercomparison Project**

2020-present

### **Global Gridded Crop Model Intercomparison**

2020-present

### **Geoengineering Modeling Intercomparison Project**

2020-present

### **Climate Intervention Biology Working Group**

2020-present