

Aandishah Tehzeeb Samara
Columbia University in the City of New York

774-243-4043 | aandishah.s@columbia.edu

EDUCATION

- Ph.D. Columbia University** **New York, NY**
Expected: May 2027
Earth and Environmental Science.
Proposed Dissertation Title: “*Global Drought and Pluvial Dynamics in a Changing Climate: Variability and Human Influence*”
Committee: Jason Smerdon, Richard Seager & Yutian Wu
- M.S. Clark University** **Worcester, MA**
May 2022
Geographical Information Systems
Thesis: “*Understanding Changes in Vertical Cloud Structure in the Pacific Arctic using Reanalysis Data*”
Committee: Karen Frey & Abby Frazier
- B.A. Clark University** **Worcester, MA**
May 2021
Environmental Science (Earth System Science Track) with a minor in Physics
Magna cum laude, *High Honors in Environmental Sciences*

RESEARCH EXPERIENCE

Graduate Research Assistant, **December 2022 – Present**
Lamont-Doherty Earth Observatory, Palisades, NY
PI: Richard Seager (Lamont-Doherty Earth Observatory) & Jason Smerdon (Columbia Climate School)
Project: Changes in Impacts-relevant Climate in the World’s Mediterranean Climate Regions: A Mechanisms-based Investigation of Atmosphere-Ocean-Land Processes across Seasons

Research Assistant, **January 2021 – May 2022**
George Perkins Marsh Institute, Clark University,
Worcester, MA
PI: Lyndon Estes, (Clark University) & Naiara Pinto (NASA Jet Propulsion Laboratory)
Project: Unlocking the Power of Active Remote Sensing for Ecosystem Services Modeling in the Amazon’s Forest- Agriculture Interface.

Research Fellow, **June 2021 – September 2021**
Woodwell Climate Research Center & Science on the Fly
PI: Karen Frey (Clark University), Max Holmes & Greg Fiske (Woodwell Climate Research Center)
Project: Understanding Drivers of Nitrate Variability in Rivers Across the US with Science on the Fly
Funding: Edna Bailey Sussman Fund Graduate Environmental Fellowship

Senior Honors Thesis & LEEP Fellowship Project **May 2020 – June 2020**
Department of Geography, Clark University
Thesis: “*Satellite-based Observations in Response of Cloud Cover Trends to Declining Sea Ice in the Pacific Arctic.*”
Committee: Karen Frey & Florencia Sangermano

Undergraduate Research Assistant**Department of Physics, Clark University**

Ecological Dynamics Research Assistant, Advisor: Alexander Petroff

January 2021 – August 2021

Physics Research Fellow, Advisor: Charles Agosta

May 2019 – August 2019**GRANTS AND HONORS****Lamont ARCS Community Impact Award****2025**

Lamont-Doherty Earth Observatory

Student Leadership Engagement Initiative**2024**

University Life, Columbia University

Dean's Fellowship**2022**

Graduate School of Arts and Science, Columbia University

**Edna Bailey Sussman Fund Graduate Environmental Fellowship
+ Special Merit Award****2021**

Clark University

Dean's List,**2019 – 2021**

Clark University

Gamma Theta Upsilon**2021****Liberal Education and Effective Practice (LEEP) Summer Fellow
Wisniewski Award for Top LEEP Application****2020**

Clark University

Sustainability Project Recipient Sustainable Clark,**2019**

Clark University

Global Scholars Research Award,**2019**

Clark University

Student Sustainability Fund Award,**2019**

Clark University

Global Scholars Fellowship, \$100,000**2017-2021**

Clark University

PAPERS

Samara, A., Seager, R., Smerdon, J., “*Hydrological Drought and Rainfall Atlas: Hydroclimate variability linked to large-scale ocean–atmosphere climate modes*”. In Preparation

Samara, A., Croppers, S., “*ROOTS: A Harmonized Open-Source Global Soil Moisture Database for Drought and Hydroclimate Analysis*” In Preparation

Samara, A., Smerdon, J. E., Seager, R., & Cook, B. I. (2026). “2021–23: Extreme Years of Global Drought in the Context of Long- and Short-Term Hydroclimate Trends”. *Journal of Climate*, 39(9), 2075–2096. <https://doi.org/10.1175/jcli-d-25-0342.1>

ACADEMIC PRESENTATIONS

Samara, A., Smerdon, J., Seager., R. “*The HYdroclimate Drought and Rainfall Atlas (HYDRA): A global atlas of hydroclimate variability linked to large-scale ocean–atmosphere climate modes*”, American Geophysical Union (AGU) Fall Meeting 2026, San Francisco, December 2026.

Samara, A., Nielson, M. “Can CMIP6 Models Capture the Unprecedented Wet-to-Dry Reversal in Southeastern South America's 2023/2024 Hydroclimate?”, American Geophysical Union (AGU) Fall Meeting 2026, San Francisco, December 2026.

Samara, A., Smerdon, J., Seager., R. “*Emerging Global Patterns of Persistent Drying: Unraveling the Roles of Climate Modes and Anthropogenic Forcing*” (Highlighted Oral Presentation), American Geophysical Union (AGU) Fall Meeting 2025, New Orleans, December 2025.

Samara, A., Croppers, S. “*ROOTS: A Harmonized Open-Source Global Soil Moisture Database for Drought and Hydroclimate Analysis*” (Oral Presentation), American Geophysical Union (AGU) Fall Meeting 2025, New Orleans, December 2025.

Samara, A., Smerdon, J., Seager., R., “*2021 and 2022: Extreme Global Drought Across a Comprehensive Assessment of Soil-Moisture Datasets*” (Poster), Lamont 75th Mini Symposium 2025, Lamont Doherty Earth Observatory, Palisades, New York.

Samara, A., Smerdon, J., Seager., R., “*2021 and 2022: Extreme Global Drought Across a Comprehensive Assessment of Soil-Moisture Datasets*” (Poster), American Geophysical Union (AGU) Fall Meeting 2024, Washington D.C., December 2024.

Samara, A., Frey, K., Frazier, A., “*Satellite-based Observations in the Response of Cloud Cover Trends to Declining Sea Ice in the Pacific Arctic*” (Poster), American Meteorological Society (AMS) Annual Meeting 2022, Houston, TX

Samara, A., Pinto, N., Estes, L., “*Calibration / Validation Design for Mapping Perennial Crops in the Amazon*” (Poster), American Geophysical Union (AGU) Fall Meeting 2021, New Orleans, LA, December 2021.

Samara, A. Frey, K., Sangermano, F., “*Satellite-based Observations in the Response of Cloud Cover Trends to Declining Sea Ice in the Pacific Arctic*” (Poster), Academic Spree Day 2021., Clark University, Worcester, MA

Samara. A. Frey, K., Sangermano, F. “*Timeseries Analysis of Seasonal Variations of Pacific Arctic Sea Ice-Cloud Cover Feedback*” (Oral Presentation), American Physical Society Conferences for Undergraduate Women in Physics (APS CUWIP), Virtual, December 2020.

Samara. A. Baker, J., King, R., “*Best Management Practices for Forests: Using Conservation Easements*” (Poster), Massachusetts Association of Conservation Commissions (MACC), Worcester,

MA, February 2020.

TEACHING EXPERIENCE

Center for Teaching and Learning (CTL), Columbia University, New York, NY

Senior Lead Teaching Fellow

July 2025 – May 2026

Lead Teaching Fellow

May 2024 – July 2025

Columbia University, New York, NY

Course Support, EESC2100 Earth's Environmental Systems:

The Climate System

Spring 2024

Teaching Assistant, EESC2100 Earth's Environmental Systems: The Climate System

Fall 2023

Course Support, SDEVUN3550 Bangladesh: Life on a Tectonically Active Delta

Spring 2023

Clark University, Worcester, MA

Teaching Assistant, GEOG 102: Weather and Climate

Spring 2022

Teaching Assistant, GEOG 393: Introduction to Remote Sensing

Fall 2021

Course Assistant, GEOG 104: Earth System Science

Spring 2021

INVITED WORKSHOPS AND PRESENTATIONS

July 2026

Climate Scientist Expert Role, Columbia Climate School in the Green Mountains, Columbia Climate School.

February 2026

Moderator, "Careers in Nonlinear Paths: From GSAS to Global Leadership in Biotech and Beyond", Columbia University, Graduate School of Arts & Sciences (GSAS)

November 2025

Aandishah Samara. Anna Gardner, "Into the Unknown: Teaching Futures and Uncertainty, Center for Teaching and Learning, Columbia University, NY, NY.

November 2025

Aandishah Samara. Anna Gardner. "Museums & Material Culture: Teaching the Unknown Past & Future", Center for Teaching and Learning, Columbia University, NY, NY.

September 2025

Speaker, Columbia University, Graduate School of Arts & Sciences Ph.D. and M.A. Orientation 2025

April 2025

Aandishah Samara. "Integrating Diverse Perspectives in Climate Education, Center for Teaching and Learning", Columbia University, NY, NY.

October 2024

Aandishah Samara. "Decolonizing Climate Change Teaching, Center for Teaching and Learning", Columbia University, NY, NY.

SERVICE AND OUTREACH

Climate Storytelling 2075 Cohort III The Climate Futures Studio Team	September 2025 – Present
President, Arts and Sciences Graduate Council (ASGC), Columbia University	May 2025 – May 2026
Student Leadership Advisory Committee, University Life, Columbia University	May 2025 – May 2026
Student Representative, Executive Committee of Graduate School of Arts and Sciences Columbia University	September 2025–May 2026
GSAS-Student Representative, Public Safety Committee, Columbia University	May 2024 – April 2025
Vice President of Administration, Arts and Sciences Graduate Council (ASGC) Columbia University	May 2024 – April 2025
Diversity, Equity and Inclusion Chair, Arts and Sciences Graduate Council (ASGC), Columbia University	May 2023 – May 2024
President, South Asian Students' Association Clark University	August 2018 – May 2020
Endpoint Technician, Information Technology Services, Clark University	September 2017– January 2021
Project Monitoring Coordinator, Student Sustainability Fund (SSF) Clark University	June 2018 – May 2021
Field Research Intern, Reed Consulting Bangladesh Limited, Dhaka, Bangladesh	May 2018 – August 2018

MEMBERSHIPS

American Geophysical Union	2019-Present
American Association of Geographers	2019-2022
American Physical Society	2018- 2022

ADDITIONAL LEADERSHIP/SERVICE EXPERIENCE

Endpoint Technician, Information Technology Services, Clark University	September 2017 – January 2021
President, South Asian Students' Association, Clark University	August 2018 – May 2020

Project Monitoring Coordinator,
Student Sustainability Fund (SSF), Clark University

June 2018 – May 2021

Zero Waste Ambassador,
Sustainable Clark, Clark University

February 2018 – February 2019

SKILLS

Programming Languages and Software: Python, HTML, CSS, JavaScript, R, MATLAB, RStudio, Sublime, Atom, Raspberry Pi, Notepad++, Visual Studio

GIS Software: ArcGIS Pro, ArcMap, Google Earth Engine, GeoDa, QGIS, TerrSet

Additional Software: Procreate, Final Cut Pro, Adobe CC - Photoshop, Illustrator, Lightroom, Premiere Pro