

# Nicole Keeney

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## SUMMARY

Fast learning, detail-oriented climate data scientist with a background in computational earth science research. Highly qualified with python data science modules for visualization, wrangling, and statistical analysis of climate model and remote sensing data.

## EDUCATION

### Colorado State University

PhD (in progress) Hydrologic Science & Engineering

Fort Collins, CO

August 2023 – present

### University of California at Berkeley

B.A. Atmospheric Science

Berkeley, CA

Dec 2020

- Honors thesis: *Evaluation of a simple parameterization of the Evaporative Stress Index using FLUXNET data and a planetary boundary layer model*

## PROFESSIONAL EXPERIENCE

### Eagle Rock Analytics

Junior Atmospheric Scientist (remote)

Sacramento, CA

June 2022 – August 2023

- Developed open source python code (a collection python notebooks and a related python package: *climakitae*) for the Cal-Adapt: Analytics Engine, a cloud-based climate data analytics platform for California's energy sector.
- Solicited continual feedback from industry stakeholders throughout development to ensure the utility of the product to our user base.

### School of Public Health at the University of California, Berkeley

Junior Specialist (half-time)

Berkeley, CA

Jan 2021 – Feb 2022

Undergraduate Student Researcher

Oct 2020 – Dec 2020

- Calibrated a wind erosion model in California using remote sensing-derived vegetation data.
- Performed data extractions and zonal statistics using python and R for various environmental datasets used in public health studies utilizing a high performance computing environment.

### University of Maryland / NASA Goddard Space Flight Center

Faculty Research Assistant (half-time, remote)

Greenbelt, MD

Jan 2021 – Jan 2022

NASA Summer Intern (remote)

June 2020 – Aug 2020

- Built an interactive Jupyter Book (a collection of python notebooks) to evaluate drivers of winter Arctic sea ice growth using gridded data from NASA's ICESat-2 satellite.
- Contributed to the development of a cloud-optimized python toolkit to streamline polar climate model validation using satellite data. Project emphasized interactive plotting techniques and data management with Google Cloud.

### University of California, Berkeley, College of Natural Resources

Undergraduate Student Researcher

Berkeley, CA

Oct 2019 – Dec 2020

- Utilized eddy covariance flux measurements and a planetary boundary layer model to evaluate a drought index using python data science packages. Research contributed to my undergraduate honors thesis and a related publication.

## PUBLICATIONS

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Weaver, A., **Keeney, N.**, Head, J., Heaney, A., Camponuri, S., Collender, P., Bhattachan, A., Okin, G., Eisen, E., Sondermeyer-Cooksey, G., Yu, A., Vugia, D., Jain, A., Balmes, J., Taylor, J., Remais, J., Strickland, M. (in review), “Estimating the exposure-response relationship between fine mineral dust concentration and coccidioidomycosis incidence using speciated particulate matter data: A longitudinal surveillance study”, *Environmental Health Perspectives*.

Petty A. A., **Keeney, N.**, Cabaj, A., Kushner, P., Bagnardi, M. (2023), “Winter Arctic sea ice thickness from ICESat-2: upgrades to freeboard and snow loading estimates and an assessment of the first three winters of data collection”, *The Cryosphere*, doi:10.5194/tc-17-127-2023.

Baldocchi, D., **Keeney, N.**, Rey-Sanchez, C., and Fisher, J. (2021), “Atmospheric Humidity Deficits Tell Us How Soil Moisture Deficits Down-Regulate Ecosystem Evaporation”, *Advances in Water Resources*, doi:10.1016/j.advwatres.2021.104100.

## CONFERENCE PRESENTATIONS

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**Keeney, N.**, Petty, A., Simon, E., Andrews, L., Parker, C., Medley, B., and Boisvert, L. (2021). A Cloud Based Python Toolkit for Streamlining Polar Climate Model Assessments. *American Geophysical Union Fall Meeting*. [oral, virtual]

Bhattachan, A., **Keeney, N.**, Zhou, B., and Okin, G. (2021). Calibration of a Wind Erosion and Dust Emission Model using Continental-Scale Geospatial Soil and Vegetation Datasets. *American Geophysical Union Fall Meeting*. [poster, virtual]

**Keeney, N.** and Petty, A. (2020). New Estimates of Winter Arctic Sea Ice Growth from NASA's ICESat-2. *American Geophysical Union Fall Meeting*. [poster, virtual]