

# Nicole Keeney

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## SUMMARY

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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

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UNIVERSITY OF CALIFORNIA AT BERKELEY

**Berkeley, CA**

B.A. in Atmospheric Science

Aug 2017 – Dec 2020

- Honors thesis: *Evaluation of a simple parameterization of the Evaporative Stress Index using FLUXNET data and a planetary boundary layer model* (advised by Prof. Dennis Baldocchi)

## PROFESSIONAL EXPERIENCE

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EAGLE ROCK ANALYTICS

**Sacramento, CA**

*Junior Atmospheric Scientist (remote)*

June 2022 – Present

- Developing 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.
- Soliciting continual feedback from industry stakeholders throughout development to ensure the utility of the product to our user base.

UC BERKELEY SCHOOL OF PUBLIC HEALTH

**Berkeley, CA**

*Junior Specialist (half-time)*

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

**Greenbelt, MD**

*Faculty Research Assistant (half-time, remote)*

Jan 2021 – Jan 2022

*NASA Summer Intern (remote)*

June 2020 – Aug 2020

- Built an interactive [Jupyter Book](#) (a collection of python notebooks) to highlight methods for evaluating 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.

UC BERKELEY COLLEGE OF NATURAL RESOURCES

**Berkeley, CA**

*Undergraduate Student Researcher*

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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Petty A. A., **N. Keeney**, A. Cabaj, P. Kushner, M. Bagnardi (2022), 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 Discuss (preprint)*, doi:10.5194/tc-2022-39.

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]