Rachel **Wegener**

Contact

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Education

University of Maryland, College Park
MS in Atmospheric and Oceanic Science
2021 - 2023 | College Park, MD

University of Denver
BS in Physics and Environmental Science
2012 - 2017 | Denver, CO
Cum Laude, with Distinction in Physics
GPA: 3.75 / 4.0

Open Source Software

- Developer, Icepyx Python package *(Jun 2023–present)*
- Icesat-2 Hackweek *(Aug 2023)*
- Open Source Contributor, Pangeo Forge *(Jun 2021-May 2022)*
- Ocean Hackweek *(Aug 2021)*
- AWS Public Datasets NASA Cloud Optimized Data Contribution *(Jun 2020)*

Service & Outreach

- Editor, Journal of Open Source Software *(Feb 2024–present)*
- DEVELOP Ambassador *(Jan 2018–Apr 2019)*
- Society of Physics Students, Outreach Coordinator *(Sept 2016–Jun 2017)*

Professional Experience

Cloud Infrastructure and Coding Education Lead
NASA Student Airborne Research Program Jan. 2024–present

Cloud Engineer & Project Manager
Development Seed Jan. 2020–May 2021

Geopython Developer - Emerging Technologies
Maxar Technologies Jul. 2018–Dec. 2019

Research

Observing Marine Heatwaves in the Chesapeake Bay using Satellite Data
U of Maryland, College Park Sept. 2021-Dec. 2023
◇ Master's research completed under the advisorship of Dr. Veronica Lance, NOAA Coastwatch & Dr. Jacob Wenegrat, University of Maryland

Using CMIP5 Global Climate Models to Project Future Monsoon and Extreme Weather Events in the Pacific
NASA DEVELOP Sept. 2017–Nov. 2017
◇ 10-week long research project working on a team of three at NOAA National Centers for Environmental Prediction. Completed under the advisorship of Michael Kruk, NOAA NCEI.

Impacts of Coastal and Climatological Processes on Primary Productivity in the Columbia River Plume
NASA Student Airborne Research Program Jun. 2016–Aug. 2016
◇ 8-week long independent research project using MODIS satellite imagery. Completed under the advisorship of Dr. Raphael Kudela, UC Santa Cruz

Ice Nucleation of Particle Samples on Reunion Island
University of Denver, Dept. of Chemistry Jan. 2016–Jun. 2017
◇ Undergraduate thesis analyzing field samples of ice nucleation particles. Completed under the advisorship of Dr. Alex Huffman, DU Dept. of Chemistry.

Teaching

Tutor, AOSC610: Dynamics of the Atmosphere and Oceans I
University of Maryland, College Park Sept. 2023–Dec. 2023

Biogeochemistry Module Designer & Instructor
University of Maryland, College Park Mar. 2023–Apr. 2023
◇ Module prepared for AOSC421: Oceanography of the Chesapeake and Mid-Atlantic

Coding Mentor
NASA Student Airborne Research Program 2021–2022, *Summers*

Teaching Assistant, AOSC123: Causes and Implications of Global Change
University of Maryland, College Park Sept. 2021–May 2022

Awards

Outstanding Graduate Student Seminar
University of Maryland, College Park: Dept. of Atmospheric and Oceanic Science December 2023

Ferdinand Baer Scholarship Award ($2500)
University of Maryland, College Park: Dept. of Atmospheric and Oceanic Science June 2022

Amit and Ruchi Mehta Graduate Research Award ($5000)
University of Maryland, College Park: College of Computer, Mathematical and Natural Sciences March 2022

Dr. Richard Payne Graduate Fellowship ($5000)
University of Maryland & The Nat'l Socio-Environmental Synthesis Center November 2021

Dean's Fellowship ($5000)
University of Maryland, College Park: College of Computer, Mathematical and Natural Sciences November 2021

Undergraduate Awards: Outstanding Senior in Physics; Environmental Science Program Award
University of Denver June 2017

Publications

Wegener, R., Wenegrat, J., Lance, V., Lama, S., Observing Marine Heatwaves Spatial Patterns in the Chesapeake Bay using Satellite Data [In prep]

Stern, C., Abernathey, R., Hamman, J., **Wegener, R.**, Lepore, C., Harkins, S. & Merose, A. Pangeo Forge: Crowdsourcing Analysis-Ready, Cloud Optimized Data Production. *Frontiers in Climate*, 3, https://doi.org/10.3389/fclim.2021.782909 Publ. 10 Feb. 2022

Duflot, V., Tulet, P., Flores, O., Barthe, C., Colomb, A., Deguillaume, L., Vaïtilingom, M., Perring, A., Huffman, J. A., Hernandez, M. T., Sellegri, K., Robinson, E., O'Connor, D. J., Gomez, O. M., Burnet, F., Bourrianne, T., Strasberg, D., Rocco, M., Bertram, A. K., Chazette, P., Totems, J., Fournel, J., Stamenoff, P., Metzger, J.-M., Chabasset, M., Rousseau, C., Bourrianne, E., Sancelme, M., Delort, A.-M., **Wegener, R. E.**, Chou, C., and Elizondo, P.: Preliminary results from the FARCE 2015 campaign: multidisciplinary study of the forest–gas–aerosol–cloud system on the tropical island of La Réunion, *Atmos. Chem. Phys.*, 19, 10591–10618, https://doi.org/10.5194/acp-19-10591-2019, 2019. Publ: Aug. 21, 2019

Conference Presentations

Wegener, R., Scheick, J. (2023, Nov. 16) Using icepyx for Icesat-2 data access. *The International Colloquium on Space and Sustainability, 20 minute oral session*

Wegener, R., Lama, S., Lance, V., Wenegrat, J. (2022, Dec. 16) Observing Marine Heatwave Spatial Patterns in the Chesapeake Bay using Satellite Data. *American Geophysical Union, 10 minute oral session*

Wegener, R., Lama, S., Lance, V., Wenegrat, J. (2022, Dec. 8) Observing Marine Heatwave Spatial Patterns in the Chesapeake Bay using Satellite Data. *NOAA Coastwatch Seminar Series*

Wegener, R. (2022, Dec. 12) Programming instruction for research: an adaptive and active approach to teaching applied programming for earth science research during an 8-week internship. *American Geophysical Union, poster session*

Stern, C. & **Wegener, R.** (2022, April 20) Pangeo Forge: An ETL Pipeline for Cloud Optimized Analysis Ready Data. *Cloud Native Geospatial Outreach Event, 1 hour oral session*

Wegener, R. & Stern, C. (2022, March 4) Pangeo Forge mini-Hackathon: Transforming Archival Ocean Data into Cloud-Native Formats. *AGU Ocean Sciences Meeting, 2 hour innovative session*

Wegener, R. (2020, July 14) STAC and Cloud-Optimized Data: Publicly Accessible COGs for Web Data Exploration. *Earth Systems Information Partners (ESIP) Summer Meeting, 10 minute oral session*