Adam Massmann

https://massma.github.io/

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Education

- **Ph.D. in Environmental Engineering**, Columbia University, *2022*
- **M.S. in Atmospheric Science**, University at Albany, *2016*
- **B.S. in Civil Engineering**, University of Washington, *cum laude, 2014*
- **Additional education**
  - *Innovative Teaching Summer Institute*, Columbia University Center for Teaching and Learning, June 2019
  - *Fluid Dynamics of Sustainability and the Environment*, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, September 2016

Environmental Consulting Experience (with Keta Waters; *2018-present*)

- Contracts with the Puyallup Tribe of Indians, Quinault Indian Nation, Swinomish Indian Tribal Community, and Squaxin Island Tribe.
- Develop land surface, streamflow, river temperature, and reservoir models.
- Use models and observations to advise on interventions to river systems.

Technical skills

Field observations and hardware

- *eddy-covariance turbulent flux estimation*, *LI-COR optical gas analyzers*, *Campbell Scientific dataloggers and sonic anemometers*, *InterMet radiosondes, PARSIVEL disdrometers, METEK Micro Rain Radars, HOBO dataloggers, iButton chips, Raspberry Pi boards*

Software

- **General Tools**: Python, Scheme, Haskell, Fortran, Git, Latex, Pandoc, Emacs, Debian
- **Environmental Modeling**: MiXed Layer CHemistry Model (MXLCH), Weather Research and Forecasting Model (WRF), Soil Water Balance Model (SWB), QUAL2Kw Water Quality Model
- **Free Software Contributions**: Stan (docs); hvega; hmatrix; FLUXNETcitations; GNU Guix

Field experience

- CCOPE-2015 Field Campaign (2015), Chile: *field operations lead*
- Pre-OLYMPEX Field Campaign (2014), Washington State: *site design, testing and deployment (snow depth)*
- Snoqualmie Pass Snow Energy Balance Research Site (2013-2014), Washington State: *primary field technician; software design for data archival and quality control*

Research experience

Graduate Research Assistant; Environmental Engineering, Columbia University: 2016 - 2022

- land-atmosphere interaction and ecosystem response to aridity with models and observations

Graduate Research Assistant; Atmospheric Sciences, University at Albany: 2015 - 2016

- atmospheric modeling of lake-effect snowstorms, microphysical and rain observations in complex terrain

Undergraduate Research Assistant; Civil Engineering, University of Washington: 2012 - 2014

- snow and land surface energy balance observations in complex terrain

Funding and Fellowships

- **Presidential Fellow**, Columbia University, 2019-2022
- **Senior Lead Teaching Fellowship**, Columbia University, 2020-2021
- **Lead Teaching Fellowship**, Columbia University, 2019-2020
- **PI, XSEDE Startup Allocation:** "A moist static energy approach to understanding wet and dry season transitions in the Amazon rainforest," 2016-2018
- **NSF Graduate Research Fellowship Program**, 2015-2019
- **AMS Student Travel Grant**, 16th Conference on Mountain Meteorology, 2014
- **Ruth and Richard Meese Endowed Scholarship**, Department of Civil Engineering, University of Washington, 2013-2014
- **Mary Gates Research Scholarship**, University of Washington, 2013
- **John Arthur Elliot Endowed Scholarship**, Department of Civil Engineering, University of Washington, 2013