Clayton Sasaki

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EDUCATION

PhD – Atmospheric Sciences **2021-2025**

University of Washington, Seattle, WA

Dissertation: Convective Upscale Growth in Central Argentina: Environmental Conditions and the Role of the South American Low-level Jet

Committee: Lynn McMurdie, Angela Rowe, Shuyi Chen, Alex Anderson-Frey, Gerard Roe

MS – Atmospheric Sciences **2018-2021**

University of Washington, Seattle, WA

Thesis: New Insights into the South American Low-Level Jet from RELAMPAGO Observations

Committee: Angela Rowe, Lynn McMurdie, Shuyi Chen, Alex Anderson-Frey

BS - Atmospheric Science, BS - Environmental Engineering **2014-2018**

Cornell University, Ithaca, NY

Distinction in research, Departmental Honors, cum laude

Honors Thesis: Exploring the Impacts of Energy Generation Composition on the Future Climate

RESEARCH EXPERIENCE

Research Assistant Seattle, WA **September 2018-Present**

University of Washington, Atmospheric Sciences Department

Advisors: Lynn McMurdie, Angela Rowe

- Investigated how differences in the thermodynamic and dynamic environment impacted the organization of convective storms using field campaign observations and a 6.5-month Weather Research & Forecasting (WRF) model run
- Quantified the influence of the South American Low-Level Jet on the convective environment
- Produced operational hydro-meteorological forecasts and operated C-band radar during RELAMPAGO field campaign, supporting real-time decision-making for 19 research deployments
- Collaborated with cross-agency teams to improve modeling of convective processes
- Published 4 first-author papers in top-tier journals and presented findings at conferences and public meetings

Research Assistant Ithaca, NY **August 2016-May 2018**

Cornell University, Atmospheric Sciences Department

Advisor: Peter Hess

- Created simple climate models to simulate radiative forcing and the corresponding global temperature changes across 16 economic and emissions scenarios based upon projections of electricity generation makeup and electricity demand
- Managed long-term multi-file projects on unix servers

Research Assistant Ithaca, NY **January 2016-May 2016**

Cornell University, Department of Biological and Environmental Engineering

Advisor: Ludmilla Aristilde

- Researched the effect of Glyphosate (active pesticide ingredient) and Tallow Amine on the growth rate of P. Putida (a bacteria found in soil that is beneficial to plant growth), leading to published work
- Mastered many laboratory techniques such as those necessary to keep samples sterile

PROFESSIONAL EXPERIENCE

AI Trainer Remote **May 2025-Present**
Data Annotation

- Evaluated code-generating deep-learning models by writing and debugging 100+ Python and Java-based reference solutions and unit tests to assess model reasoning across complex analytical tasks
- Assessed correctness and performance of model-generated code, identifying failure modes and recommending clear improvements and actionable feedback to evaluation frameworks
- Developed fine-grained criteria for use in model self-evaluation

Student Volunteer Charleston, WV **July 2017-August 2017**
National Weather Service

- Briefed state and local emergency managers, clearly and concisely highlighting major impacts
- Automated generation of decision-support graphics through shell scripts to inform emergency teams, saving 3 hrs/wk
- Performed hydrologist duties with supervision including adjusting hydrometeorological forecasts by watching radar and flash flood guidance
- Refined short- and long-range forecasts using remote meteorological and hydrological observational tools such as Doppler radar, satellite imagery, surface and upper air observations, and numerical models
- Rotated through all office duties (Led morning briefings, wrote Area Forecast Discussions, conducted storm surveys, issuing hydrometeorological forecasts, compiled local storm reports, issued watches and warnings)
- Conducted E-19 flood stage and post-storm surveys
- Managed surface weather stations (rain gauges, temperature and humidity sensors)

Assistant Analyst Whiteley, UK **May 2017-June 2017**
National Air Traffic Services

- Authored on radiative budget and radiative forcing used in training the Sustainable Aviation Group
- Modeled impacts of weather-related incurred delay using NEST (Network Strategic Tool), performing cost-benefit analysis of future airspace management projects
- Researched and wrote report suggesting approaches for forecasting en-route weather delay based on forecastable meteorological parameters
- Assisted in the creation of indices to forecast meteorological related events (e.g. severe weather, rapid changes in pressure) at airports using METAR/TAF data along with machine learning (e.g., random forests)
- Carried out deterministic forecast verification

Intern New York, NY **June 2015-August 2015**
WeatherBELL Analytics

- Evaluated feasibility of location-specific weather alert products for commodity trading clients using temperature and precipitation data for 30 largest US cities
- Analyzed conferences which represented potential business development opportunities, identifying 8 high-value opportunities

PUBLICATIONS

Sasaki, C. R. S., A. K. Rowe, and L. A. McMurdie, 2026: Initial Upscale Growth Environments in Central Argentina from a Convection-Permitting Simulation. J. Geophys. Res. Atmos, 131, e2025JD044251. https://doi.org/10.1029/2025JD044251.

Sasaki, C. R. S., A. K. Rowe, and L. A. McMurdie, 2025: Environmental Conditions Leading to Observed Convective Organization in Central Argentina. Mon. Wea. Rev., 153, 2415–2435, https://doi.org/10.1175/MWR-D-24-0183.1.

Sasaki, C. R. S., A. K. Rowe, L. A. McMurdie, A. Varble, and Z. Zhang, 2024: Influences of the South American Low-Level Jet on the Convective Environment in Central Argentina Using a Convection-Permitting Simulation. Mon. Wea. Rev., 152, 629–648, https://doi.org/10.1175/MWR-D-23-0122.1.

Sasaki, C. R. S., A. K. Rowe, L. A. McMurdie, and K. L. Rasmussen, 2022: New Insights into the South American Low-Level Jet from RELAMPAGO Observations. Mon. Wea. Rev., 150, 1247–1271, https://doi.org/10.1175/MWR-D-21-0161.1.

Aristilde, L., M. L. Reed, R. A. Wilkes, T. Youngster, M. A. Kukurugya, V. Katz, and **C. R. S. Sasaki**, 2017: Glyphosate-induced specific and widespread perturbations in the metabolome of soil Pseudomonas species. *Front. Environ. Sci.*, 5, 1–13, https://doi.org/10.3389/fenvs.2017.00034.

PRESENTATIONS

Sasaki, C. R. S., 2025: Convective Upscale Growth in Central Argentina: Environmental Conditions and the Role of the South American Low-level Jet. Department of Atmospheric Sciences Colloquium (PhD Defense), University of Washington.

Sasaki, C. R. S., A. K. Rowe, and L. McMurdie, 2024: Environmental Conditions Leading to Observed Convective Aggregation in Central Argentina. 21th Conf. on Mountain Meteorology, Amer. Meteor. Soc., https://ams.confex.com/ams/21MOUNTAIN/meetingapp.cgi/Paper/444246.

Sasaki, C. R. S., A. K. Rowe, and L. McMurdie, 2023: Low-Level Jet Influences on the Warm Season Convective Environment in Central Argentina. 20th Conf. on Mesoscale Processes, Amer. Meteor. Soc., https://ams.confex.com/ams/WAFNWPMS/meetingapp.cgi/Paper/425171.

Sasaki, C. R. S., A. K. Rowe, L. McMurdie, and K. L. Rasmussen, 2022: Insight into the SALLJ from Observations and a Convection-permitting Simulation over Argentina. 20th Conf. on Mountain Meteorology, Amer. Meteor. Soc., https://ams.confex.com/ams/20MOUNTAIN/meetingapp.cgi/Paper/402509.

Sasaki, C. R. S., 2021: New Insights into the South American Low-Level Jet from RELAMPAGO Observations. Department of Atmospheric Sciences Dynamics Seminar (Master's Defense), University of Washington.

Sasaki, C., A. K. Rowe, L. McMurdie, and K. L. Rasmussen, 2021: Analysis of the South American low-level jet during the RELAMPAGO campaign. Mesoscale Processes Across Scales Symp., 331, Amer. Meteor. Soc., https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/379293.

Sasaki, C. R. S., A. K. Rowe, L. McMurdie, J. O. Piersante, and K. L. Rasmussen, 2020: Observational Analysis of the SALLJ During the RELAMPAGO Campaign. 19th Conf. on Mountain Meteorology, Amer. Meteor. Soc., https://ams.confex.com/ams/19Mountain/webprogram/Paper376235.html.

Sasaki, C. R. S., and P. Hess, 2018: Exploring the Impacts of Energy Generation Composition on the Future Climate. Earth and Atmospheric Sciences Undergraduate Research Symposium, Cornell University.

COMMUNITY ENGAGEMENT

Cabinet Member, *King County Metro Fares Cabinet*	**2024-Present**
Board Member, *AMS STAC Weather Analysis and Forecasting Committee*	**2023-Present**
Peer Reviewer, https://www.webofscience.com/wos/author/record/3705759	**2022-Present**
Board Member, *Habitat Young Professionals Seattle-King County*	**2018-2020, 2022-2025**
Board Member, *Husky Experience Student Advisory Council*	**2022-2023**
Graduate Student Distinguished Visiting Lecture Organizer, *Department of Atmospheric Sciences, University of Washington*	**2019-2023**
Undergraduate Mentor, *Department of Atmospheric Sciences, University of Washington*	**2019-2024**

Volunteer, *Seattle Homeless Outreach* **2018-2020**
Board Member, *Cornell Chapter of American Meteorological Society* **2016-2018**

AWARDS AND HONORS

Radar Observations of Clouds and Precipitation Summer School Travel Grant, Stony Brook University **2023**
Graduate Student Distinguished Service Certificate, UW Atmospheric Sciences **2022**
Achievement Rewards for College Scientists (ARCS) Fellowship **2018-2021**
Distinction in research in Atmospheric Science, Cornell University **2018**
Departmental Honors in Environmental Engineering, Cornell University **2018**
Dean's List, Cornell University **2014-2018**
Elected to membership in the Alpha Epsilon Honor Society **2017**

TEACHING EXPERIENCE

Instructor (Exploring The Atmospheric Sciences), Seattle, WA **Spring 2021**
University of Washington, Atmospheric Sciences Department

- Curated and coordinated a speaker series spanning academia, the public sector, and private industry, exposing students to a range of professional perspectives
- Developed and managed all course logistics, including scheduling, communications, and materials

Teaching Assistant (Weather), Seattle, WA **Fall 2019**
University of Washington, Atmospheric Sciences Department

- Led weekly review sessions to reinforce course material and address student questions
- Held regular office hours to provide individualized academic support and mentorship
- Tracked and managed grades for a class of 65 students, ensuring accurate and timely feedback

Technical Skills

Programming: Python, MATLAB, R, bash, Java, LATEX, IDL, HTML, CSS, GitHub, AWS/GCP, Claude Code CLI

Visualizations: ArcGIS, QGIS, matplotlib, seaborn, cartopy, GrADS, Excel, AWIPS2, Photoshop

Data Formats: netCDF, GRIB, METAR/TAF, GeoJSON, CSV

Personal Interests

Hiking, sailing, WxChallenge forecasting, travelling, following the news