Clayton Sasaki

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EDUCATION

PhD – Atmospheric Sciences **Expected January 2024**
University of Washington, Seattle, WA
Committee: Lynn McMurdie, Angela Rowe, Shuyi Chen, Alex Anderson-Frey, Gerard Roe

MS – Atmospheric Sciences **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 **2018**
Cornell University, Ithaca, NY
cum laude
Honors Theis: 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

- Quantifying the thermodynamic and dynamic environment during the organization of convective storms using a 6.5-month Weather Research & Forecasting (WRF) model run to understand how differences in the environment impact storm characteristics
- Studying the influence of the South American Low-Level Jet on the convective environment
- Characterizing the variability of the South American Low-Level Jet using observations from the RELAMPAGO-CACTI field campaign
- Managed large datasets and presented/published results

Research Assistant Ithaca, NY August 2016-May 2018
Cornell University, Atmospheric Sciences Department
Advisor: Peter Hess

- Created climate models to simulate radiative forcing and the corresponding global temperature changes incorporating a variety of economic and emissions scenarios based upon projections of electricity generation makeup and electricity demand
- Skilled in programming in IDL (Interactive Data Language) and using Unix servers; experience in organizing large projects on servers and long-term, multi-file projects

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).
- Mastered many laboratory techniques such as those necessary to keep samples sterile

PROFESSIONAL EXPERIENCE

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

- Worked independently on data analysis and dissemination shift
- 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)

- Skilled in use of AWIPS-2 CAVE software: D2D and GFE
- Gained experience in operational meteorology by interpreting radar echoes and routinely using remote meteorological and hydrological observational tools such as Doppler radar (WSR-88D), satellite imagery (including GOES R), surface and upper air observations, and numerical models to assess the atmosphere and produce short- and long-range forecasts

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

- Wrote report on the radiative budget of the Earth and radiative forcing used in training the Sustainable Aviation Group
- Researched causes of en-route weather delay and wrote report suggesting approaches for forecasting this delay based on various temporal and spatial scales and forecastable meteorological parameters
- Assisted in the creation of indices for the purpose of forecasting meteorological related events (e.g. severe weather, rapid changes in pressure) at airports using METAR/TAF data along with machine learning
- Carried out deterministic forecast verification
- Performed cost benefit analysis of future airspace/engineering projects by modeling incurred delay using NEST (Network Strategic Tool) to model future scenarios and Excel to sort data and present analysis

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

- Initiated and independently researched project assessing location specific weather alerts through analysis of temperature and precipitation data from the 30 largest cities in the US
- Prepared Excel spreadsheet summarizing the percentile breakpoints for the low temperature, high temperature, precipitation, and snowfall for each month for each city
- Analyzed conferences which represented potential business development opportunities
- Researched companies that could use weather data services

PUBLICATIONS

Sasaki, C. R. S., A. K. Rowe, and L. A. McMurdie, 2024b: Environmental Conditions Leading to Observed Convective Organization in Central Argentina. Mon. Wea. Rev. (submitted).

Sasaki, C. R. S., A. K. Rowe, L. A. McMurdie, A. Varble, and Z. Zhang, 2024a: 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., 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., A. K. Rowe, L. A. McMurdie, and K. L. Rasmussen, 2021: New Insights into the South American Low-Level Jet from RELAMPAGO Observations. Department of Atmospheric Sciences Dynamics Seminar 2021 (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.

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

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

TEACHING EXPERIENCE

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

- Invited Speakers from academia, the public sector, and private industry
- Facilitated presentations and discussions
- Created simple quizzes based on lectures

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

- Taught review of material learned in class each week
- Wrote quizzes to test students' comprehension
- Managed students' grades

Technical Skills

Programming: Python, MATLAB, R, bash, Java, LATEX, IDL, HTML, CSS, GitHub

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

Data Formats: netCDF, GRIB

Personal Interests

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