Sakdipat Kongkaeo

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Summary

Graduate student in Atmospheric and Oceanic Sciences with experience in climate-dynamics research, statistical modeling, and LIM/CSLIM analysis. Skilled in Python, MATLAB, and working with global SST/SSH datasets. Interested in seasonal prediction, ENSO dynamics, and applying statistical methods to climate variability.

Work Experience

Graduate Research Assistant Sep 2024 – present

Research on ENSO dynamics and seasonal predictability using Linear Inverse Modeling (LIM) and Cyclostationary LIM. Work includes developing MATLAB and Python code for EOF analysis, noise decomposition, and climate variability experiments.

Graduate Research Assistant Sep 2024 – present

- Conduct research on ENSO dynamics and predictability using LIM and Cyclostationary LIM frameworks.
- Develop MATLAB and Python scripts for EOF analysis, noise estimation, and seasonal climate experiments.
- Analyze global SST and SSH datasets to study mode structure, variance growth, and stochastic forcing.

Projects

Seasonality of Noise Forcing and ENSO Predictability (LIM/CSLIM) Code

Analyzed ENSO dynamics and seasonal predictability using Linear Inverse Modeling (LIM) and Cyclostationary LIM (CSLIM). Computed seasonal noise covariance (Q), climatological variance (C_0), and their projections onto ENSO and non-ENSO mode adjoints. Implemented Floquet adjoint analysis, stochastic optimal structures, and 1-month forcing experiments. Evaluated seasonal growth, variance amplification, and forced responses using MATLAB and Python.

Education

2024 – present	PhD / MS in Atmospheric and Oceanic Sciences, **University of Wisconsin–Madison** (GPA: 4.0/4.0)	
2021 – 2024	BS in Applied Physics, **University of Washington, Seattle**	(GPA: 3.92/4.00)
2019 – 2020	Grade 12, **Episcopal High School**, Alexandria, VA	
2014 – 2019	Secondary School, **Hatyaiwittayalai School**, Hat Yai, Thailand	

Teaching Experience

Teaching Assistant Spring 2025 (expected)

Assisting with AOS 311 (Observation and Analysis). Leading labs, supporting student learning, and grading assignments.

Physics Lab TA 2022 – 2023

Led undergraduate physics lab sessions, guided students through experiments, and graded reports.

Skills

Programming	MATLAB, Python, R, Java
Data Analysis	EOF/PC analysis, regression modeling, time-series methods, climate reanalysis (ERA5, ORAS5, ERSSTv5)
Modeling	Linear Inverse Modeling (LIM), Cyclostationary LIM (CSLIM), stochastic forcing experiments
Communication	Scientific writing, presentation, teaching assistance

Awards & Honors

2019–present	**DSPT Royal Thai Government Scholarship**	Institute for the Promotion of Teaching Science and Technology (IPST), Ministry of Education, Thailand
2020–2024	**Dean's List** (2020–21, 2021–22, 2022–23, 2023–24)	University of Washington, Seattle