

# Cathrene Lagare

Department of Geophysics, Graduate School of Science, Tohoku University, Sendai, Japan

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## Education

### Tohoku University, Japan

September 2025 (Expected)

PhD Geophysics

- Supervisor: Dr. Takeshi Yamazaki, Co-advisors: Dr. Junshi Ito and Dr. Giuseppe Torri
- Atmospheric Science Group

### Tohoku University, Japan

2022

MSc Geophysics

- Supervisor: Dr. Takeshi Yamazaki, Co-advisor: Dr. Junshi Ito
- Atmospheric Science Group

### Ateneo de Davao University, Philippines

2018

BSc Environmental Sciences, Minor in Sociology

## Research and Work Experience

### Visiting PhD Student

Honolulu, HI, USA

Department of Atmospheric Sciences, University of Hawai'i at Manoa

2023 - 2025

- Research on the development of cold surge vortices over the Maritime Continent (Hosted by Dr. Giuseppe Torri)

### Research Assistant

Quezon City, Philippines

Regional Climate Systems Laboratory, Manila Observatory

2019-2020

- Research on multi-scale characteristics of TC activities in the Western North Pacific under the Southeast Asia Regional Climate Downscaling/Coordination Initiative for Climate Downscaling/Coordinated Regional Climate Downscaling Experiment for Southeast Asia (SEACLID/CORDEX-SEA) project

## Publications

3. **Lagare, C.**, Ito, J., Yamazaki, T., & Torri, G. Seasonal characteristics of mesoscale convective systems over the Philippines. *Submitted*
2. **Lagare, C.**, Yamazaki, T., & Ito, J. (2023). Numerical simulation of a heavy rainfall event over Mindanao, Philippines, on 03 May 2017: mesoscale convective systems under weak large-scale forcing. *Geoscience Letters*, 10(1), 23.
1. **Lagare, C.**, Coronel, R., Cruz, F., Narisma, G. T., Villafuerte, M., & Tibay, J. (2022). Impacts of planetary boundary layer parameterization in RegCM4. 7 on the intensity and structure of simulated tropical cyclones over the Philippines. *Climate Dynamics*, 59(9), 2915-2928.

## Honors and Awards

American Geoscience Union (AGU) Outstanding Student Presentation Award

2024

DC2 Japan Society for the Promotion of Science (JSPS) Research Fellow

2025

The International Joint Graduate Program in Earth and Environmental Sciences

2021-2025

(GP-EES) Research Grant of Tohoku University, Japan

Monbukagakusho Scholarship (MEXT)

2020-2022

29th Bank of the Philippine Islands Foundation and the Department of Science and Technology, Philippines (BPI-DOST) Science Awardee

2018

## Selected Conference and Workshop Presentations

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- **Lagare, C.**, Ito, J., Torri, G., Yamazaki, T., (2024, December) Cold Surge Vortices and Their Relation to Tropical Heavy Rainfall During MJO. Poster presentation at the American Geophysical Union Meeting (AGU), USA.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2024, July) Climatological Characteristics of Mesoscale Convective Systems in the Philippines. Poster presentation at the 4th Workshop on Convective Organization and Precipitation Extremes (WCO4), Italy.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2024, May) Climatological Characteristics of Mesoscale Convective Systems in the Philippines. Oral presentation at the Japan Geoscience Union Meeting (JpGU), Japan.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2023, August) Mesoscale Convective Systems Under Weak Large-Scale Conditions over Mindanao, Philippines. The 6th International Workshop on Nonhydrostatic Models (NHM-WS2023)., Japan.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2023, May) A Case Study of a Heavy Rainfall Event Associated with Mesoscale Convective Systems under Weak Large-Scale Conditions over Mindanao, Philippines. Oral presentation at the Japan Geoscience Union Meeting (JpGU), Japan.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2023, April) Characteristics of Mesoscale Convective Systems in the Philippines. Poster presentation at the European Geoscience Union Meeting (EGU), Austria.
- **Lagare, C.**, Yamazaki, T., Ito, J. (2022, May) Numerical Simulation of Heavy Rainfall over Mindanao, Philippines. Poster presentation at the Japan Geoscience Union (JpGU) Meeting 2022, Japan.
- **Lagare, C.**, Coronel, R. (2019, July) Numerical Simulations of Heavy Rainfall and Streamflow over Davao City, Philippines: A Baseline Study for the Development of a Hydro-Meteorological Flood Forecasting System. Poster presentation at the 16th Annual Meeting of the Asia Oceania Geosciences Society (AOGS), Singapore.

## Skills

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**Languages:** Python, Bash (intermediate). CDO/NCO, Fortran, NCL (basic)

**Models:** WRF, RegCM