YOUNGJI JOH

National Oceanic & Atmospheric Administration/Geophysical Fluid Dynamics Laboratory (GFDL)
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RESEARCH INTERESTS

Climate Variability & Change | Ocean-Atmosphere Interactions | Hydroclimate extremes | Seasonal & Decadal climate prediction | Extratropical-tropical Interactions

PROFESSIONAL APPOINTMENTS

2024-Present **Research Physical Scientist (NOAA Federal)**
Geophysical Fluid Dynamics Laboratory/NOAA
Seasonal-to-Decadal Variability and Predictability Division

2023-2024 **Associate Research Scholar**
Princeton University & GFDL/NOAA

2020-2023 **Postdoctoral Research Associate**
Princeton University & GFDL/NOAA (Advisor: Dr. Thomas L. Delworth)

2015-2020 **Graduate Research Assistant**
Georgia Institute of Technology (Advisor: Prof. Emanuele Di Lorenzo)

2012-2015 **Project-based Researcher**
Korea Institute of Ocean Sciences and Technology, South Korea

EDUCATION

2015-2020 Georgia Institute of Technology, Atlanta, GA
Ph.D. in Earth and Atmospheric Sciences

2010-2012 Hanyang University, South Korea
M.S. Environmental Marine Sciences

2006-2010 Hanyang University, South Korea
B.S. Environmental Marine Sciences

LEADERSHIP ACTIVITIES

2025 Program co-chair for 38th AMS Conference on Climate Variability and Change at the 2025 AMS annual meeting

2025	Session co-chair for “Frontiers in Earth System Modeling” for 38th AMS Conference on Climate Variability and Change
2024	US-Korea Joint Project collaboration (NOAA & MOF): Ocean Circulation and Northwestern Pacific Climate Variability and Change (Air-Sea Interaction Research)
2024	Session co-chair for “Frontiers in Earth System Modeling” for 37th AMS Conference on Climate Variability and Change
2024	Session co-chair for “Multi-year to decadal variability and predictability” for 37th AMS Conference on Climate Variability and Change
2023	US-Korea Joint Project collaboration (NOAA & MOF): Modeling and assessment of ocean, air-sea coupling and marine ecosystem processes in the Northwestern Pacific and their interactions with climate variability and change
2017	Session co-chair for “Climate change and the effects on the ocean” for PICES/ICES Early Career Scientist Conference

SERVICE

	Review Panel Member or Proposal Referee for NOAA (CPO/CVP), NSF (GEO/AGS/CLD)
2025-present	Member, PICES Working Group on “Climate Extremes and Coastal Impacts in the Pacific”
2023-present	Member, AMS Climate Variability and Change Committee
2018-present	National Research Climate Assessment (NCA5) agency review, NOAA/ GFDL internal review, Journal reviewer for Nature Communications, npj Climate and Atmospheric science, Communications Earth and Environment, Scientific Reports, Journal of Climate, Frontiers for Young Minds, Frontiers in Marine Science, Remote Sensing, Geophysical Research Letters, Journal of Oceanography, Journal of Geophysical Research-Atmosphere/Oceans, Progress in Oceanography, Deep sea Research Part 1,2, Asia-Pacific Journal of Atmospheric Sciences, Journal of Operational Oceanography

PUBLICATIONS

[13] Lou, J., **Joh**, Y., Delworth, T. 2025: Identifying common precursors of decadal vapor pressure deficit variability in the Southwestern United States, *Journal of Climate*, https://doi.org/10.1175/JCLI-D-24-0296.1

[12] Lou, J., **Joh**, Y., Delworth, T., & Jia, L. 2025: Identifying source of predictability for vapor pressure deficit variability in the southwestern United States, *npj Climate and Atmospheric Science*, https://www.nature.com/articles/s41612-025-01028-6

[11] **Joh**, Y., S. Lee, Y. Park., T. L. Delworth, G. Park, L. Jia, W. F. Cooke, C. McHugh, Y. Kim, H. Lim, 2024: Predictability and prediction skill of summertime East/Japan Sea surface temperature events. *npj Climate and Atmospheric Science*, https://www.nature.com/articles/s41612-024-00754-7

[10] Jia. L., T. L. Delworth, X. Yang, W. Cooke, N. C. Johnson, L. Zhang, Y. **Joh**, F. Lu, C. McHugh, 2024: Seasonal predictions of summer compound humid heat extremes in the southeastern United States driven by sea surface temperatures. *npj Climate and Atmospheric Science*, https://www.nature.com/articles/s41612-024-00723-0

[9] **Joh,** Y., T. L. Delworth, A. T. Wittenberg, X. Yang, A. Rosati, N. Johnson, and L. Jia, 2023: The role of upper-ocean variations of the Kuroshio-Oyashio Extension in seasonal-to-decadal air-sea heat flux variability. *npj Climate and Atmospheric Science*, https://www.nature.com/articles/s41612-022-00285-z

[8] Beaudin, E., Di Lorenzo, E., A., Miller, H., Seo, and Y., **Joh** 2022: Impact of Extratropical Northeast Pacific SST on U.S. West Coast Precipitation. *Geophysical Research Letters*, 44, 11, 663-11,671. https://doi.org/10.1029/2022GL102354

[7] **Joh**, Y., T. L. Delworth, A. T. Wittenberg, W. F. Cooke, A. Rosati, and L. Zhang, 2022: Stronger decadal variability of the Kuroshio Extension under simulated future climate change. *npj Climate and Atmospheric Science*, https://www.nature.com/articles/s41612-022-00285-z

[6] Di Lorenzo, E., T. Xu, Y. Zhao, M. Newman, A. Capotondi, S. Stevenson, D. Amaya, B. Anderson, R. Ding, J. Furtado, Y. **Joh**, G. Liguori, J. Lou, A. J. Miller, G. Navarra, N. Schneider, D. Vimont, S. Wu, H. Zhang, 2022: Modes and Mechanisms of Pacific Decadal-Scale Variability, *Annual Reviews of Marine Science*, https://doi.org/10.1146/annurev-marine-040422-084555

[5] Choi, W., M. Bang, Y. **Joh**, Y-G. Ham, N. Kang, and C. J. Jang, 2022: Characteristics and mechanisms of marine heatwaves in the East Asian marginal seas: Regional and seasonal differences, *Remote Sensing*, https://www.mdpi.com/2072-4292/14/15/3522

[4] **Joh**, Y., T. Delworth, A. T. Wittenberg, X. Yang, F. Zeng, L. Jia, F. Lu, N. Johnson, S. Kapnick, A. Rosati, L. Zhang, C. McHugh, and W. F. Cooke, 2022: Seasonal-to-decadal variability and predictability of the Kuroshio Extension in the GFDL coupled ensemble reanalysis and forecasting system. *Journal of Climate,* http://doi.org/10.1175/JCLI-D-21-0471.1

[3] **Joh,** Y., E. Di Lorenzo, L. Siqueira, and B. P. Kirtman, 2021: Enhanced interaction between Kuroshio Extension and tropical Pacific in a changing climate, *Scientific Reports,* 11, 6247, https://doi.org/10.1038/s41598-021-85582-y

[2] **Joh,** Y., and E. Di Lorenzo, 2019: Interactions between Kuroshio Extension and Central Tropical Pacific lead to preferred decadal timescale oscillations in Pacific, *Scientific Reports*, 9, 13558. https://doi.org/10.1038/s41598-019-49927-y

[1] **Joh,** Y., and E. Di Lorenzo, 2017: Increasing Coupling between NPGO and PDO leads to Prolonged Marine heatwaves in the Northeast Pacific. *Geophysical Research Letters*, 44, 11, 663-11,671. https://doi.org/10.1002/2017GL075930

[in revision, submitted, or accepted]

Joh, Y., Yeh, S.W., Delworth, T. et al: Evolving synchronization of Gulf streams and Kuroshio-Oyashio Extension in a changing climate, *accepted, Science Advances*

Lee, S., **Joh**, Y., et al.: Contributing Factor of Changjiang Low-Salinity Water Intrusion into South Korea in Summer: Integrated Study of Observations and GFDL-CM4 data, *submitted*

Lou, J., **Joh**, Y., Stuber, D., Delworth, T. and Wittenberg, A.: Global warming and the Pacific Decadal Oscillation drive seasonally varying increase in extreme fire weather over the southwestern US, *submitted*

Song, S-Y., Stevenson, S., Lorenzo, E. D., Cpotondi, A., Newman, M., Schneider, N., and **Joh**, Y.: Two Contrasting Atmospheric Circulation Patterns linked to Kuroshio Extension Variability, *to be submitted*

INVITED TALKS

JUL 2025	NOAA-MOF Ocean Research Panel workshop, virtual
DEC 2024	Hanyang University, Ansan, South Korea
JUN 2024	Korea-US JPA Ocean Research Panel Workshop, KIOST, Busan, South Korea
JUN 2024	GFDL-KIOST Workshop, Seoul, South Korea
MAR 2024	JAMSTEC, Yokohama, Japan
MAR 2024	University of Tokyo, Tokyo, Japan
MAR 2024	University of Toyama, Toyama, Japan
FEB 2024	S2S Webinar Series, NOAA virtual lab
DEC 2023	AGU annual meeting, San Francisco, CA, US
OCT 2023	KIOST, Busan, South Korea
OCT 2023	NOAA-MOF Ocean Research Panel workshop, Busan, South Korea
OCT 2023	Pukyong National University, Busan, South Korea
NOV 2022	WHOI, MA, US
OCT 2022	George Mason University, VA, US
SEP 2022	POSTECH, Pohang, South Korea
JUN 2022	NOAA-MOF Ocean Research Panel workshop, Busan, South Korea
DEC 2021	KIOST, Busan, South Korea
AUG 2021	Hanyang University, Ansan, South Korea
AUG 2021	KIOST, Busan, South Korea

MAR 2020 GFDL, Princeton, NJ, US
MAR 2020 University of Miami, Miami, FL, US

ORAL PRESENTATIONS

2026 Ocean Science annual Meeting, Glassgow, Scotland
2023 AGU annual meeting, San Francisco, CA, US
2023 EGU annual meeting, Vienna, Austria
2023 US-CMS9 Workshop, Princeton, NJ, US
2023 OAR-GFDL meeting (internal), NJ, US
2022 PICES Annual meeting, Busan, South Korea
2022 OAR-GFDL meeting (internal), Princeton, NJ, US
2022 EGU annual meeting, Vienna, Austria
2022 CIMES review meeting, Princeton, NJ, US
2022 CLIVAR Societally-Relevant Multi-Year Climate Predictions workshop, CO, US
2022 Ocean Science annual Meeting, virtual
2022 GFDL Lunch time seminar, NJ, US
2021 Physical Oceanography Dissertation Symposium, NSF&ONR, HI, US
2021 AOGS annual meeting, virtual
2020 RGMA meeting, virtual
2020 Ocean Science annual Meeting, San Diego, CA, US
2018 PICES annual meeting, Yokohama, Japan
2018 PICES/ICES Early Career Scientist Conference Busan, South Korea
2016 PICES annual meeting, San Diego, CA, US
2013 PICES annual meeting, Nanaimo, Canada
2013 Korean Society of Oceanography Spring Meeting, Jeju, South Korea

POSTER PRESENTATIONS

2024 PICES annual meeting, HI, US
2021 International workshop for midlatitude air-sea interaction, virtual
2021 WCRP Attribution of multi-annual to decadal changes in climate system workshop, virtual
2021 MPOWIR Pattullo Conference, VA, US
2019 Atmospheric Convection and Air-Sea Interactions of the Tropical Oceans, CO, US
2011 AGU annual meeting, San Francisco, CA

TRAVEL GRANTS & SCHOLARSHIPS

2024 Hanyang University, Ansan, South Korea
2024 Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan
2023 Korea Institute of Ocean Science and Technology, Busan, South Korea
2022 PICES Annual meeting, Busan, South Korea
2021 MPOWIR Pattullo Conference, VA, US
2021 Physical Oceanography Dissertation Symposium, Kaua island, HI, US
2021 Hanyang University, Ansan, South Korea

2020	Geophysical Fluid Dynamics Laboratory, Princeton, NJ, US
2017	Atmospheric Convection & Air-Sea Interactions over the Tropical Oceans, CLIVAR, US
2017	PICES/ICES 3rd Early Career Scientist Conference, Busan, South Korea
2016	PICES Annual meeting, San Diego, CA, US
2016	CESM Tutorial, NCAR's Mesa Lab, CO, US
2015-2020	Georgia Institute of Technology Graduate Research Assistantship
2010-2012	Hanyang Graduate Honor Scholarship
2006-2010	Hanyang Undergraduate Academic Excellence Scholarship

AWARDS & DISTINCTIONS

2023	Editors citation for excellent in refereeing, Geophysical Research Letters
2022	Best Oral Presentation Award by Physical Oceanography & Climate Committee, PICES Annual Meeting, South Korea
2020	Thank a teacher certificate, Advanced Environmental Data Analysis, Georgia Tech
2019	Thank a teacher certificate, Habitable planet, Georgia Tech
2013	Best Oral Presentation Award by Monitor Committee, PICES Annual Meeting, Canada
2010	Outstanding Paper Award, Korea Geological Society, South Korea

TEACHING & MENTORING

2025 Supervised a CIMES summer intern, Iris Badezet-Delory
: Investigation of the predictability of California seasonal rainfall with a focus on the Pacific coupled ocean-atmosphere system

2023 -2025 Served as academic host for a postdoctoral researcher, Dr. Jiale Lou
: investigation of US fire weather prediction and its links to Pacific ocean-atmosphere variability

AUG 2021 Visiting lecturer, Hanyang University, South Korea
: Advanced statistical analysis
: Linear Inverse Modeling for climate science

JAN 2021 GFDL lecture for interns
: Mechanisms and predictability of Pacific climate variability

2016-2020 Teaching Assistant, Georgia Institute of Technology, US
: Quantitative Techniques, Undergraduate level
Advanced Environmental Data Analysis, Graduate level
Habitable Planet, Undergraduate level

2010-2012 Teaching Assistant, Hanyang University, South Korea
: Coastal Expedition and Laboratory, Undergraduate level
Geomagnetism, Graduate level
Geological Oceanography and Laboratory, Undergraduate level
Marine ship-board training and exercise, Undergraduate level