Kai-Chih Tseng (Kai)

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Education and Professional Training

2019 – Present Program in Atmospheric and Oceanic Science, Princeton University/
Geophysical Fluid Dynamics Laboratory, NOAA
Advisor: Dr. Nat Johnson

2016 – 2019 Ph.D. Atmospheric Science - Colorado State University
Advisors: Dr. Elizabeth Barnes, Dr. Eric Maloney
(Highest honors and completed degree in 3yrs)

2008 – 2014 BS/MS Atmospheric Science -National Taiwan University
Advisor: Dr. Chung-Hsiung Sui
(Highest honors in both BS and MS)

Publications

1. Bushuk, M., and **co-authors**: Mechanisms of Regional Artic Sea Ice Predictability in Dynamical Seasonal Forecast Systems (to be submitted)

2. Chen Y.-L.,and **co-authors**: Effect of the MJO on East Asian winter rainfall as revealed by a SVD analysis (submitted)

3. Zhang, L., and **co-authors**: Using large ensembles to elucidate the possible roles of Southern Ocean meridional overturning circulation in the Southern Ocean 36-yr SST trend (submitted to JClim.)

4. Jia, L., and **co-authors**: Skillful seasonal prediction of North American summertime hot extremes (submitted to JClim)

5. **Tseng K.-C**., and co-authors: The response of atmospheric river to a warmer climate and time of signal emergence (to be submitted to GRL)

6. Bushuk, M., and **co-authors**: Seasonal prediction and predictability of regional Antarctic sea ice *J. Climate*, 1–68

7. Zhang, G., and **co-authors**: Seasonal Predictability of Baroclinic Waves Establishes Pathway Toward Predicting Extratropical Extremes (submitted to npj-Climate and Atmospheric Science)

8. **Tseng K.-C**., and co-authors: Are multiseasonal forecasts of atmospheric rivers possible? (submitted to GRL)

9. **Tseng K.-C**., N. C. Johnson., E. D. Maloney, E. A. Barnes, and S. B. Kapnick: Mapping Large-scale Climate Variability to Hydrological Extremes: An Application of the Linear Inverse Model to Subseasonal prediction*J. Climate*, **34(11)**, 4207–4225

10. **Tseng K.-C**., E. A. Barnes, and E. D. Maloney: The important role of the MJO for extratropical variability in observations and the CMIP5 climate models (submitted to JGR-Atmosphere)

11. **Tseng K.-C**., E. D. Maloney and E. A. Barnes, 2020: The consistency of MJO teleconnection patterns on interannual timescales *J. Climate*, **33**, 3471-3486

12. **Tseng K.-C**., E. A. Barnes, and E. D. Maloney, 2020: The importance of past MJO activity in determining the future state of midlatitude circulation *J. Climate* **33**, 2131-2147

13. **Tseng K.-C**., E. D. Maloney, and E. A. Barnes, 2019: Explaining the consistency of MJO teleconnection patterns with linear Rossby wave theory, *J. Climate*, **32**, 531–548.

14. **Tseng K.-C**., E. A. Barnes, and E. D. Maloney, 2018: Prediction of the midlatitude response to strong Madden-Julian oscillation events on S2S timescales, *Geophys. Res. Lett.*, **45**, 463–470. (NOAA Climate Program Office research highlight)

15. **Tseng K.-C**., C.-H. Sui., and T. Li, 2015: Moistening Processes of MJO events during DYNAMO/CINDY, *J. Climate*, **28**, 3041–3057.

Honors and Awards

2019	Alumni Award (Ph.D. highest honor)	Colorado State University
2018	Shrake-Culler Scholarship (outstanding academic record)	Colorado State University
2016	Program of Research and Scholarly Excellence	Colorado State University
2014	Deans Award (M.S. highest honor)	National Taiwan University
2011 − 2015	International Research Fellowship	National Taiwan University
2012	Deans Award (B.S. highest honor)	National Taiwan University
2012	NICAM workshop Traveling Grant (the only undergrad recipient)	University of Tokyo
2008 − 2011	Presidential Award (top 5% of the class in the academic year)	National Taiwan University
2009 − 2010	Hsu Shui-Sen Fellowship	Changhua County, Taiwan

Conference Presentations

1. **Tseng K.-C**., N. C. Johnson., E. D. Maloney, E. A. Barnes, and S. B. Kapnick, 2021: Mapping Large-scale Climate Variability to Hydrological Extremes: An Application of the Linear Inverse Model to Subseasonal predictio, WWRP/WCRP/S2S/MJO teleconnection webinar [invited talk]

2. **Tseng K.-C**., and co-authors, 2020 : Seasonal Skillful Prediction of Western North America Atmospheric Rivers, AGU [poster]

3. **Tseng K.-C**., E. A. Barnes and E. D. Maloney, 2019 : The importance of past MJO activity in determining the future state of extratropical circulations, AGU [poster]

4. **Tseng K.-C**., E. A. Barnes and E. D. Maloney, 2018 : Explaining the consistency of MJO teleconnection patterns with linear Rossby wave theory, Second International Conference on Subseasonal to Seasonal Prediction (S2S) and Second International Conference on Seasonal to Decadal Prediction (S2D) [poster]

5. **Tseng K.-C**., E. A. Barnes and E. D. Maloney, 2017 : Prediction of North Pacific Height Anomalies During Strong Madden-Julian Oscillation Events, AGU Fall Meeting [oral]

6. **Tseng K.-C**., E. A. Barnes and E. D. Maloney, 2017 : Forecasting North Pacific Height Anomalies with the MJO on S2S timescales , 30th Conference on Climate Variability and Change/24th Conference on Probability and Statistics in the Atmospheric Sciences/16th Conference on Artificial Intelligence and its Applications to the Environmental Sciences [oral]

7. **Tseng K.-C**., and C.-H. Sui, 2016 : Moistening Process in Observed and Simulated MJOs during DYNAMO/CINDY-(cumulus properties diagnosis), 32nd Conference on Hurricanes and Tropical Meteorology [oral]

8. **Tseng K.-C**., and C.-H. Sui, 2014A Diagnosis of Boundary Layer Moistening Processes for Madden-Julian Oscillations During DYNAMO IOP, 31st Conference on Hurricanes and Tropical Meteorology, AMS, 6B.C [oral]

Reviewer Experience-Journal

1. Journal of Climate
2. npj, Climate and Atmospheric Science (Nature)
3. Geophysical Research Letter
4. JGR-Atmosphere
5. Climate Dynamics
6. Advances in Atmospheric Sciences
7. Monthly Weatehr Review
8. GFDL internal review

Reviewer Experience-Proposal

1. National Science Fundation