

Kai-Wei Chang

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RESEARCH INTERESTS

Stratosphere-troposphere exchange, large-scale dynamics, remote sensing

EDUCATION

Ph.D.	Atmospheric and Oceanic Sciences	University of Wisconsin-Madison	2019
M.S.	Master's Program in Remote Sensing	National Central University, Taiwan	2013
B.S.	Atmospheric Sciences	National Central University, Taiwan	2011

APPOINTMENTS

2022–Present	Assistant Professor	Chinese Culture University
2020–2022	Postdoctoral Research Associate	Texas A&M University
2014–2019	Graduate Research Assistant	University of Wisconsin-Madison
2011–2013	Graduate Research Assistant	National Central University

PUBLICATIONS

- Chang, K.-W., K. P. Bowman, and A. D. Rapp, 2023: Transport and Confinement of Plumes from Tropopause-Overshooting Convection over the Contiguous United States During the Warm Season, *J. Geophys. Res.* doi: 10.1029/2022JD037020.
- Chang, K.-W., K. P. Bowman, L. W. Siu, and A. D. Rapp, 2021: Convective forcing of the North American Monsoon anticyclone at intraseasonal and interannual time scales, *J. Atmos. Sci.*, 78, doi:10.1175/JAS-D-21-0009.1.
- Chang, K.-W. and T. L'Ecuyer, 2020: Influence of gravity wave temperature anomalies and their vertical gradients on cirrus clouds in the tropical tropopause layer – a satellite-based view, *Atmos. Chem. Phys.*, 20, doi:10.5194/acp-20-12499-2020.
- Dzambo, A. M., M. H. Hitchman, and K.-W. Chang, 2019: The influence of gravity waves on ice saturation in the tropical tropopause layer over Darwin, Australia, *Atmosphere*, 10, doi:10.3390/atmos10120778.
- Chang, K.-W. and T. L'Ecuyer, 2019: Role of latent heating vertical distribution in the formation of the tropical cold trap, *J. Geophys. Res.*, 124, doi.org/10.1029/2018JD030194.
- Chang, K.-W., T. L'Ecuyer, B. H. Kahn, and V. Natraj, 2017: Information content of visible and mid-infrared radiances for retrieving tropical ice cloud properties. *J. Geophys. Res.*, 122, doi:10.1002/2016JD026357.

GRANTS

Chang, K.W. Investivation of tropopause fold variability and trends in East Asia and on the global scale; National Science and Technology Council, Taiwan; 11/01/2022 – 10/31/2025.

INVITED TALKS

Convective influences on the upper troposphere and lower stratosphere over North America, Department of Atmospheric Sciences, National Central University, March 2022

SELECT CONFERENCE PRESENTATIONS

Chang, K.-W. and K. P. Bowman, 2022. Transport and Confinement of Plumes from Tropopause-Overshooting Convection over the Continental United States during the Warm Season. AMS 21st conference on Middle Atmosphere (AMS annual meeting), Houston, Texas.

Chang, K.-W., K. P. Bowman, L. W. Siu, and A. D. Rapp, 2021: Convective forcing of the North American Monsoon anticyclone at intraseasonal and interannual time scales. AGU 2021 Fall Meeting, New Orleans, Louisiana.

Chang, K.-W. and T. L'Ecuyer. 2019. Connection between tropical cirrus clouds and gravity wave perturbations of stability and temperature. Gordon Research Seminar/Conference on Radiation and Climate, Lewiston, Maine.

Chang, K.-W. and T. L'Ecuyer. 2018. Evolution of tropical tropopause layer temperature due to convective and stratiform latent heating. Stratosphere-troposphere Processes And their Role in Climate (SPARC) General Assembly 2018, Kyoto, Japan.

Chang, K.-W., T. L'Ecuyer, B. H. Kahn, and V. Natraj. 2017. Towards a multi-sensor ice cloud retrieval based on information content. A-Train Symposium 2017, Pasadena, California.

AWARDS

2018	Student Service Award, Department of AOS, UW-Madison
2017–2019	NASA Earth and Space Sciences Fellowship
2013	Student Presentation Award (International Symposium on Remote Sensing, Chiba, Japan)

PROFESSIONAL SERVICE

Colloquium Committee, Department of AOS, UW-Madison	2017 – 2019
Reviewer for JGR-Atmospheres, Journal of Quantitative Spectroscopy and Radiative Transfer	

TECHNICAL SKILLS

Python, IDL, FORTRAN, MATLAB

FIELD EXPERIENCE

Forecasting and flight planning team for NASA DCOTSS EVS, Summer 2021, Summer 2022