

My research interests focus on the variations and related mechanisms of precipitation characteristics over the East Asian monsoon region. I have conducted a series of studies examining the influence of long-term changes in large-scale circulation on the local diurnal rainfall events over Taiwan and Southern China. Recently, I'm also interested on validating the performance of satellite precipitation over Taiwan.

Techniques used in study

Observational data; CMIP model simulation data; satellite precipitation data; reanalysis data; diagnostic analysis; monsoon climate; climate change; weather change; future projection.

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Background:

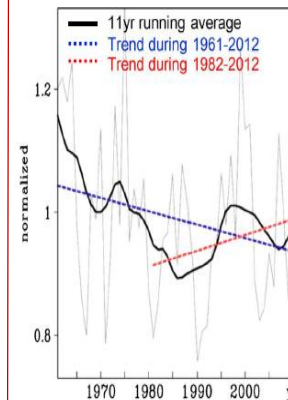
PhD in Atmospheric Sciences, Iowa State University, Ames, IA, USA

Funding: Ministry of Science and Technology

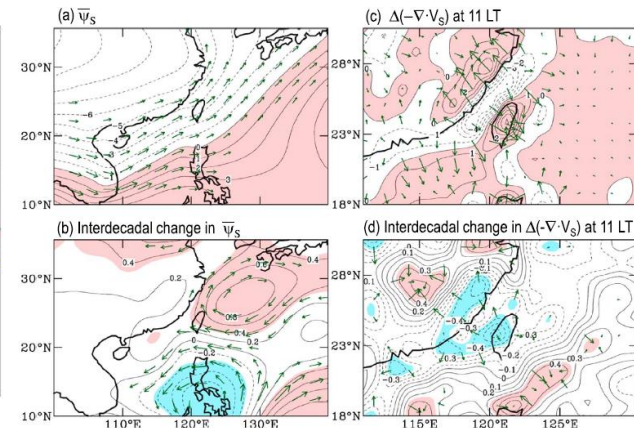
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Diurnal rainfall frequency in Taiwan



summer mean of surface stream function ($\bar{\Psi}_S$) and the diurnal anomalies of the surface wind convergence $\Delta(-\nabla \cdot \mathbf{V}_S)$ at 11 LT.



Huang et al. (2015; JGR):

Both the southwesterly flow over the South China Sea and the convergence at 11 LT over Taiwan have become weaker in the later period. These circulation changes, which could lead to a reduction in dynamical lifting over the past five decades, may explain the long-term decline in diurnal rainfall frequency over most of Taiwan.

Publications

- **Huang, W.-R.***, P.-Y. Liu, Y.-H. Chang and C.-Y. Liu, 2020: Evaluation and Application of Satellite Precipitation Products in Studying the Summer Precipitation Variations over Taiwan. *Remote Sens.* 12, 347.
- **Huang, W.-R.***, Y.-H. Chang and P.-H. Huang, 2019: Relationship between the Interannual Variations of Summer Convective Afternoon Rainfall Activity in Taiwan and SSTA(Niño3.4) during 1961-2012: Characteristics and Mechanisms. *Scientific Reports*, 9, 9378.
- More publications please refer: <https://web.ntnu.edu.tw/~wrhuang/>

