

An-Yi Huang (He/Him/His)

Research Assistant (full time)

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EDUCATION

- 2017 *M.S.*, Department of Marine Environmental Informatics (Oceanography), National Taiwan Ocean University, Keelung, Taiwan
Thesis title: “Simulation of Typhoon Surges around the Taiwan Coast” (Advisor: Dr. Yao-Tsai Lo)
- 2016 *B.S.*, Department of Marine Environmental Informatics (Oceanography), National Taiwan Ocean University, Keelung, Taiwan
Certificate for Geoscience Program, College of Ocean Science and Resource, National Taiwan Ocean University, Keelung, Taiwan
Certificate for Applied GIS Program, College of Ocean Science and Resource, National Taiwan Ocean University, Keelung, Taiwan

EMPLOYMENT

- 10/2018–present *Research Assistant* (full time), Research Center for Environmental Change, Academia Sinica; Department of Earth and Life Science, University of Taipei (Supervisor: Dr. Chi-Cherng Hong)
- 02/2018–09/2018 *Research Assistant* (full time), National Science and Technology Center for Disaster Reduction (Supervisor: Dr. Chi-Cherng Hong)
- 09/2015–01/2016 *Teaching Assistant* (course: *Introduction to Computers*), Department of Marine Environmental Informatics, National Taiwan Ocean University (Academic Advisor: Dr. Yao-Tsai Lo)
- 07/2014–08/2014 *Summer Internship*, Marine Meteorology Center, Central Weather Bureau (Academic Advisor: Dr. Shih-Jen Huang)

AWARDS & HONORS

- 2016 *Scholarship* of Distinguished Student (sponsored by class year 71 alumni)
- 2015 *Scholarship* of Five-Year BS-MS Program (offered by National Taiwan Ocean University)
- 2014 *Excellence Award* of Club Evaluation (Chinese Music Club)
- 2013 *Excellence Award* of National Student Competition of Music (Bamboo-Flute)

RESEARCH INTERESTS & EXPERIENCES

East Asian Winter/Summer Monsoon and Extreme Weather

- Using the products of high-resolution climate models (amip-type experiments: MRI-AGCM by MRI/JMA and GFDL-HiRAM by RCEC/AS) to investigate the difference of frequency, period, and intensity of cold surges in East Asia during boreal winter between historical and RCP8.5 scenarios (including evaluation of model performance). [Participated in the project “*Taiwan Climate Change Information and Adaptation Knowledge Platform (TCCIP)*.”]
- Comparison of possible factors (e.g., the intensity and location of the western North Pacific subtropical high; SST in Indian, Pacific, and Atlantic Oceans) that induced the devastating floods (Mei-Yu/Baiu front rainfall) in East Asia during early summer throughout historical records, especially the year of 1998 and 2020.

ENSO Dynamics and Predictability

- Investigating the predictability of ENSO by the low-frequency of westerly wind bursts and their possible origins. [Sullivan et al., 2021; Wu et al., 2022]
- The Pacific Meridional Mode (PMM) is a second dominant mode of air-sea coupled phenomenon in tropical Pacific which could be a precursor to ENSO as suggested in many previous studies. However, the relationship between PMM and ENSO is not always the same in the CMIP6 simulations (e.g., pi-Control, historical, and SSPs).

Other Interests

- How tropical–extratropical interactions, atmospheric and oceanic large-scale circulations, and land-sea-ice-air interactions would change under anthropogenic warming?
- What is the past, present, and future of the ocean’s role in climate change?
- How does the regional extreme weather link to the global large-scale circulation change?

PUBLICATIONS

Manuscripts (in preparation/to be submitted):

1. Hong, C.-C., **A.-Y. Huang**, C.-A. Chen, and H.-H. Hsu, 2022: Effect of Warming Trend on Mei-Yu Rainfall in East Asia during Early Summer: Evidence Based on A Comparison between 1998 and 2020. To be submitted to *Weather and Climate Extremes*.
2. Sullivan, A., C.-C. Hong, **A.-Y. Huang**, and C.-C. Chang, 2022: What 40 member runs could tell us by using ACCESS-ESM1.5 historical/ssp585 runs to analysis the Pacific tropical-extra tropical interaction to the Austral-Asia Monsoon, El Niño, and the Heat Wave. In preparation.

Peer-reviewed papers:

1. Kao, P.-K., C.-C. Hong, **A.-Y. Huang**, and C.-C. Chang, 2022: Intensification of Interannual Cross-Basin SST Interaction between the North Atlantic Tripole and Pacific Meridional Mode since the 1990s. *Journal of Climate*, published online. <https://doi.org/10.1175/JCLI-D-21-0594.1>
2. Wu, Y.-K., C.-C. Hong, T. Li, and **A.-Y. Huang**, 2022: Role of Low-Frequency Wind Variability in Inducing WWBs during the Onset of Super El Niños. *Climate Dynamics*, published online. <https://doi.org/10.1007/s00382-022-06322-0>
3. Sullivan, A., W. Zhong, G. L. Eusebi Borzelli, T. Geng, C. Mackallah, B. Ng, C.-C. Hong, W. Cai, **A.-Y. Huang**, and R. Bodman, 2021: Generation of westerly wind bursts by forcing outside the tropics. *Scientific Reports*, **11**, 912. <https://doi.org/10.1038/s41598-020-79655-7>
4. Wu, Y.-K., **A.-Y. Huang**, C.-K. Wu, C.-C. Hong, and C.-C. Chang, 2020: Effect of Warm SST in the Subtropical Eastern North Pacific on Triggering the Abrupt Change of the Mei-Yu Rainfall over South China in the Early 1990s. *Journal of Climate*, **33**(2), 657-673. <https://doi.org/10.1175/JCLI-D-18-0292.1>

PRESENTATIONS

1. **Huang, A.-Y.**, C.-C. Hong, H.-H. Hsu, W.-L. Tseng, P.-C. Hsu, and M.-H. Lo, 2022: Effect of Enhanced Diabatic Heating over Maritime Continent and Extreme Weather in East Asia-Western North Pacific in Early Summer. 2022 *Taiwan Geosciences Assembly: Conference on Weather Analysis and Forecasting*, Taipei, Taiwan. *Poster*.
2. **Huang, A.-Y.**, C.-C. Hong, H.-H. Hsu, W.-L. Tseng, P.-C. Hsu, and M.-H. Lo, 2021: Combined Effect of High Sea Surface Temperatures in Tropical Atlantic and Indian Ocean and Record South Asian High on Extreme Mei-Yu Rainfall over Yangtze–Huai River Valley and Japan in Early Summer of 2020. 2021 *Climate Hotspots in Action Forum and Year of Maritime Continent Workshop (CHiAxYMC)*, Online Meeting. *Poster*.
3. **Huang, A.-Y.**, C.-C. Hong, H.-H. Hsu, Y.-K. Wu, M.-Y. Lee, W.-L. Tseng, and C.-C. Chang, 2020: Comparison of Yangtze–Huai River Valley Floods between 1998 and 2020. 3rd *Climate Hotspots in Action (CHiA) Forum*, Taipei, Taiwan. *Poster*.
4. **Huang, A.-Y.**, C.-C. Hong, and Y.-K. Wu, 2019: Enhancement of Interdecadal Linkage between the Tropical Central Pacific and the Extratropical North Pacific SSTs in the Late 1980s. 2019 *Taiwan Geosciences Assembly: Conference on*

Weather Analysis and Forecasting, Taipei, Taiwan. *Poster*.

5. **Huang, A.-Y.** and Yao-Tsai Lo, 2017: Simulation of Typhoon Surges around the Taiwan Coast. *Conference on Weather Analysis and Forecasting*, Taipei, Taiwan. *Poster*.

SKILLS & LANGUAGES

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| Programming | MATLAB (data processing, analysis, and visualization), NCL (data processing and analysis), GrADS (visualization), Python (data processing) and Fortran (numerical modeling: ICTP-AGCM SPEEDY & POM) |
| Software | Microsoft Office (Word, PowerPoint, Excel, & Access) and Photoshop |
| Languages | Mandarin (native), English (TOEFL iBT: 89/120), Taiwanese Hokkien, and Taiwanese Hakka |

SELECTED EXTRACURRICULAR

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| 2014–2015 | Director of volleyball division of 31 th Earth Cup joint sport competition |
| 2014–2015 | Captain of male volleyball team |
| 2013–2014 | General director of Traditional Orchestra & Vice director of Chinese Music Club |
| 2010–2011 | Coordinator & performer (Bamboo-Flute) of Shiang-Wang Chinese Music Benefit Concert (cooperated with <i>The Red Cross Society</i>) |

REFERENCES

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| Chi-Cherng Hong | Dean of College of Science, University of Taipei, Taiwan Professor of Department of Earth and Life Science, University of Taipei, Taiwan Email: cchong@utapei.com.tw (official); hong0202@gmail.com Website: http://utweb.utapei.edu.tw/~climate/english/ ORCID: https://orcid.org/0000-0002-9732-249X |
| Yao-Tsai Lo | Assistant Professor of Department of Marine Environmental Informatics, National Taiwan Ocean University, Keelung, Taiwan Email: lo@mail.ntou.edu.tw Website: https://mei.ntou.edu.tw/p/405-1079-63542,c3989.php?Lang=en |
| Shih-Jen Huang | Associate Professor of Department of Marine Environmental Informatics, National Taiwan Ocean University, Keelung Taiwan Email: huangsj@email.ntou.edu.tw Website: https://mei.ntou.edu.tw/p/405-1079-63565,c3989.php?Lang=en |