

# An-Yi Huang (He/Him/His)

Research Assistant (full time)

Research Center for Environmental Change, Academia Sinica, Taipei, Taiwan

Department of Earth and Life Science, University of Taipei, Taipei, Taiwan

Tel: +886-2-2311-3040 #3909; Email: [b810641@gmail.com](mailto:b810641@gmail.com); ORCID: <https://orcid.org/0000-0003-2872-2294>

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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**, and H.-H. Hsu, 2022: Similarity and Distinction of the Extreme Mei-Yu Rainfall in the YHRV-Japan between 1998 and 2020. In preparation.
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/spp585 runs to analysis the Pacific tropical-extra tropical interaction to the Austral-Asia Monsoon, El Niño, and the Heat Wave. In preparation.

### Manuscript (under review):

1. Eusebi Borzelli, G. L., A. Sullivan, **A.-Y. Huang**, and C.-C. Hong, 2022: Sea Surface Temperature Anomaly, Kelvin Waves propagation and relationships with El Niño Southern Oscillation. Submitted to *Climate Dynamics*.

### 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. 3<sup>rd</sup> 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**

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**

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

## **REFERENCES**

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