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EDUCATION

Sept. 2007 – June 2012 **PhD** Graduate Institute of Hydrological and Oceanic Sciences, National Central University (NCU), Taiwan

Sept. 2002 – June 2004 **MSc** Graduate Institute of Hydrological Science, NCU, Taiwan

Sept. 1998 – June 2002 **BS** Hydraulic Engineering, Feng-Chia University, Taiwan

APPOINTMENTS

- Assistant Research Fellow, RCEC, Academia Sinica, Taipei, Taiwan (Aug. 2016 – present)
- Adjunct Assistant Professor, TIGP, NCU-NTU-AS, Taipei, Taiwan (Aug. 2021 – present)
- Adjunct Assistant Professor, Department of Land Economics, NCCU, New Taipei, Taiwan (Feb. 2022 – Jul. 2022; Feb. 2023 – Jul. 2023; Feb. 2024 – Jul. 2024)
- Post-Doctoral Researcher, NCU, Chung-Li, Taiwan (Apr. – Jul. 2016)
- Post-Doctoral Researcher, NUS, Singapore (Aug. 2015 – Mar. 2016)
- Post-Doctoral Researcher, LSCE/IPSL, Paris, France (Jan. 2014 – Jul. 2015)
- Post-Doctoral Researcher, NCU, Chung-Li, Taiwan (Sept. 2012 – Dec. 2013)
- Research Assistant, NCU, Chung-Li, Taiwan (Mar. 2006 – Aug. 2007)
- Corporal, Army Reserve Command, Hualien, ROC Armed Force (Sept. 2004 – Feb. 2006)

HONORS & AWARDS

- Scientific Committee of 10th IUFRO Wind and Trees Conference, 2023
- Best Reviewer Award, TAO, 2019-2021
- TWAS Young Affiliates Nomination, 2020
- Annual Research Highlight, RCEC, AS, 2019
- Outstanding Review, Journal of Hydrology, 2018
- The Phi Tau Phi Scholastic Honor, R.O.C., 2012
- Dean List, College of Earth Science, National Central University, 2012

RESEARCH INTERESTS

Micrometeorology 、 Land Surface Processes 、 Land-Atmosphere Interactions 、 Environmental Disturbances and Climate Change

PUBLICATIONS

representative paper, *: corresponding, [Google Scholar](#)

Manuscript

1. **Chen, Yi-Ying**, Tasi, I-Chun*, Cheng, Chao-Tzuen, Hsieh, Min-Rui, Lo, Min-Hui and Cho-Ying Huang, “The Interplay of Regional Urbanization and Global Warming in Shaping Fog Patterns in Taiwan's Mountainous Areas”
2. **Chen, Yi-Ying**, Zeng, Zih-Ling, Huang, Wei, and Shih-Yuan Lin*: “Future Land-use and Land-cover Changes in Taiwan: Challenges in Downscaling the Global Dataset LUH2”
3. Li, Chong-En, Lee, Shih-Yu, **Chen, Yi-Ying**, Kuo, Shih-Yun, and Mei-Hua Yuan*, “Analyzing the Evolution of Research Trends in Bamboo Ecosystem Services: A Systematic Literature Review on Benefits, Synergies, and Trade-offs”, (*Sustainable Production and Consumption*, under review)
4. Shih, Ching-Hung, Lo, Min-Hui*, Anderson, Ray G., Skaggs, Todd. H., Juang, Jehn-Yih, **Chen, Yi-Ying**, Jang, Yi-Shin, Gu, Rong-Yu Gu; Huang, Cho-Ying: “Challenges and limitations of applying the flux variance similarity (FVS) method to partition evapotranspiration in a montane cloud forest” (*Agricultural and Forest Meteorology*, under review)
5. Shiau, Yo-Jin*, Jhang, Syu-Ruei, **Chen, Yi-Ying**, Lee, Chia-Wei, Chen, Wei-Nai, Chang, Chih-Chung, Chang, Chiang, Chih-Feng, Guo, Horng-Yuh, Wang, Pao-Kuan, and Charles C.-K. Chou: “Changes of Nitrifiers and Denitrifiers in Fertilized Soils: Implications for Trace Gas (N₂O/HONO/NO) Emissions (*Agriculture, Ecosystems and Environment*, under review)
6. Yang, S.-W., Tsai, I-C.*, Shiu, C.-J., **Chen, Yi-Ying**, Lee, W.-L., and H.-H. Hsu, “Impacts of Aerosols on the East Asia Winter Monsoon in TaiESM Model” (*International Journal of Climatology*, under review)

Peer-reviewed paper

1. Chuang, Ming-Tung*, Chou, Charles C.-K., Lee, Chung-Te, Lee, Ja-Huai, Lin, Wei-Che, Lin Chuan-Yao, Chen, Wei-Nai, **Chen, Yi-Ying**, and Kai-Hsien Chi, 2024, “Characteristics and impacts of fine particulates from the largest power plant plume in Taiwan”, *Atmospheric Pollution Research*, 102076.
2. **Chen, Yi-Ying**, S.-Y. Simon Wang, Yu, Hong-Wen, and Wan-Yu Liu*, 2024, “When Forests Hold Their Breath: Will Increasing Drought Further Disrupt Carbon Sequestration?” (*Environmental Research Letter*, 19, 3. [link](#))
3. Lin, Meng-Hsuan, Lin, Ying-Tong, Tasi, Min-Lin, **Chen, Yi-Ying***, Chen, Yi-Chun, Wang, Hsueh-Ching, and Chi-Kuei Wang, 2024, “Mapping Land-Use and Land-Cover Changes Through the Integration of Satellite and Airborne Remote Sensing Data”, *Environmental Monitoring and Assessment*, [link](#)
4. #**Chen, Yi-Ying*** and Sebastiaan Luyssaert, 2023, “[Tropical Cyclones Facilitate Recovery of Forest Leaf Area from Dry Spells in East Asia](#)”, *Biogeosciences (BG Letters)*, 20, 349–363. **Journal Highlight Paper** [link](#)
5. Getahun, S. Y.*, Li, M.-H., **Chen, Yi-Ying**, and T. A. Yate, 2023, “Drought Characterization and Severity Analysis Using GRACE-TWS and MODIS Datasets: A Case Study from the Awash River Basin (ARB), Ethiopia”, *Journal of Water and Climate Change*, 14 (2): 516–542.
6. Wu, C.-H.*, Lee, S.-Y., Tsai, I-C., Shiu, C.-J., and **Yi-Ying Chen**, 2023, “Volcanic Contribution to the 1990s North Pacific Climate Shift in Winter”, *Scientific Reports*, 5672.
7. Wu, C.-H.*, Shiu, C.-J., **Chen, Yi-Ying**, Tsai, I-C., and S.-Y. Lee, 2023, “Climatological Changes in East Asian Winter Monsoon Circulation in a Warmer Future”, *Atmospheric Research*, 284, 106593.
8. Gardiner, B. *, **Chen, Yi-Ying**, Ruel, J.-C., and K. Kamimura, 2022, “Editorial: Living with Tropical Storms in a Changing Climate”, *Frontiers in Forests and Global Change*, 5, 988875.
9. Yang, T.-Y., Huang, C.-Y., Juang, J.-Y., **Chen, Yi-Ying**, Cheng, C.-T. and Min-Hui Lo*, 2022, “Responses of Surface Evaporative Fluxes in Montane Cloud Forests to the Climate Change Scenario”, *Journal of Hydrometeorology*, 23(11), 1789–1805.
10. Jhang, S.-R., **Chen, Yi-Ying**, Shiau, Yo-Jin, Lee, Chia-Wei, Chen, Wei-Nai, Chang, C.-C., Chiang, C.-F., Guo, Horng-Yuh, Wang, P-K, Chou, Charles C.-K. *, 2022, “Composition of

Denitrifiers and High Nitrous Oxide Emissions from a Typical Subtropical Vegetable Cropland”, *ACS Earth and Space Chemistry*, 6, 8, 2024–2031. **Journal Cover Story**

11. Chuang, M.-T.*, Chou, Charles C.-K., Lin, C.-Y., Lee, J.-H., Lin, W.-C., **Chen, Yi-Ying**, Chang, C.-C., Lee, C.-T., Kong, Steven S-K, and Lin, Tang-Huang, 2022, “A Numerical Study of Reducing O₃ and PM_{2.5} Simultaneously in Taiwan”, *Journal of Environmental Management*, 318, 115614.
12. **#Chen, Yi-Ying***, Huang, W., Cheng, C-T, Hong, J-S, Yeh, F-L, Luysaert, S., 2022, “[Simulation of the Impact of Environmental Disturbances on Forest Biomass in Taiwan](#)”, *JGR-Biogeosciences*, 127(3), e2021JG006519. [link](#)

----- after renewing the employment as assistant research fellow (2022 to 2024) -----

13. Gu, R.-Y., Lo, Min-Hui*, Liao, Chi-Ya, Jang, Yi-Shin, Juang, Jehn-Yih, Huang, Cho-Ying, Chang, Shih-Chieh, Hsieh, Cheng-I, **Chen, Yi-Ying**, Chu, Housen, Chang, Kuang-Yu, 2021, “Early Peak of Latent Heat Fluxes Regulates Diurnal Temperature Range in Montane Cloud Forests”, *Journal of Hydrometeorology*, 22(9), 2475–2487.
14. Wu, C.*, Yeh, PJF **Chen, Yi-Ying**, Lv, W, Hu, BX, Huang, G, 2021, “Copula-based Risk Evaluation of Global Meteorological Drought in the 21st Century Based on CMIP5 Multi-model Ensemble Projections”. *Journal of Hydrology*, 126256.
15. Wu, C.*, Yeh, Pat J-F, Ju, Jiali, **Chen, Yi-Ying**, Xu, Kai, Dai, Heng, Niu Jie, Hu, Bill, Huang, Guoru, 2021, “Assessing the Spatiotemporal Uncertainties in Future Meteorological Droughts from CMIP5 Models, Emission Scenarios, and Bias Corrections”, *Journal of Climate*, 1903-1922.
16. Wu, C.*, Yeh, Pat J.-F., **Chen, Yi-Ying**, Hu Bill X., Huang, G., 2020, “Future Precipitation-driven Meteorological Drought Changes in the CMIP5 Multi-model Ensembles under 1.5 °C and 2 °C Global Warming”, *Journal of Hydrometeorology*, 2177-2196.
17. Forzieri, G.*, Pecchi, M., Girardello, M., Mauri, A., Klaus, M., Nikolov, C., Rüetschi C., Gardiner, B., Tomaščík, J., Small, D., Nistor, C., Jonikavicius, D., Spinoni, J., Feyen, L., Giannetti, F., Comino, F., Wolynski, A., Pirotti, F., Maistrelli, F., Ionut, S., Wurpillot-Lucas, S., Stefan, K., Zieba-Kulawik, K., Strejczek-Jazwinska, P., Mokroš, M., Franz, S., Krejci, L., Haidu, I., Nilsson, M., Wezyk, P., Catani, F., **Chen, Yi-Ying**, Luysaert, S., Chirici, G., Cescatti, A., S.A.Beck, P, 2020, “A Spatially-Explicit Database of Wind Disturbances in European Forests over the Period 2000-2018”, *Earth System Science Data*, 12, 257–276.
18. **#Chen, Yi-Ying***, Huang, W., Wang, W.-H., Juang, J.-Y., Hong, J.-S., Kato, T., Luysaert, S., 2019, “[Reconstructing Taiwan’s Land Cover Changes between 1904 and 2015 from Historical maps and SPOT Images](#)”, *Scientific Reports*, 3643. [link](#)
19. **#Chen, Yi-Ying***, Gardiner, B., Pasztor, F., Blennow, K., Ryder, J., Valade, A., Naudts, K., Otto, J., McGrath, J. M., Planque, C., Luysaert, S., 2018, “[Simulating Damage for Wind Storms in the Land Surface Model ORCHIDEE-CAN \(revision 4262\)](#)”, *Geoscientific Model Development*, 11, 771-791. [link](#)
20. **#Luysaert, S.***, Marie, G., Valade, A., **Chen, Yi-Ying**, Djomo, S.N., Ryder, J., Otto, J., Naudts, A., Lansø, A.S., Ghattas, J., McGrath, J. M. 2018, “[Trade-offs in Using European Forests to Meet Climate Objectives](#)”, *Nature*, 562, 259-262. [link](#)

----- after the employment as assistant research fellow (2016 to 2021) -----

21. McGrath, J. M.* , Ryder, J., Pinty, B., Otto, J., Naudts, K., Valade, A., **Chen, Yi-Ying**, Weedon, J., Luysaert, S., 2016, “A Multi-level Canopy Radiative Transfer Scheme for ORCHIDEE (SVN r2566), Based on a Domain-Averaged Structure Factor”, *Geoscientific Model Development Discussions*, 249-2016.
22. Ryder, J.* , Polcher, J., Peylin, P., Ottlé, C., **Chen, Yi-Ying**, van Gorsel, E., Haverd, V., McGrath, M. J., Naudts, K., Otto, J., Valade, A., Luysaert, S., 2016, “A Multi-layer Land Surface Energy Budget Model for Implicit Coupling with Global Atmospheric Simulations”, *Geoscientific Model Development*, 9, 223-245.

23. Naudts, K.*, **Chen, Yi-Ying**, McGrath, M., Ryder, J., Aude, V., Juliane, O., Luyssaert, S., 2016, “Europe’s Forest Management did not Mitigate Climate Warming”, *Science*, 351(6273), 597-600.
24. **Chen, Yi-Ying*** and Ming-Hsu Li, 2016, “Quantifying Rainfall Interception Loss of a Subtropical Broadleaved Forest in central Taiwan”, *Water*, 8(1), 14, 1-19
25. **Chen, Yi-Ying***, Ryder, J., Bastrikov, V., McGrath, M. J., Naudts, K., Otto, J., Ottlé, C., Peylin, P., Polcher, J., Valade, A., Black, A., Elbers, J. A., Moors, E., Foken, T., van Gorsel, E., Haverd, V., Heinesch, B., Tiedemann, F., Knohl, A., Launiainen, S., Loustau, D., Ogée, J., Vesala, T., Luyssaert, S., 2016, “Evaluating the Performance of the Land Surface Model ORCHIDEE-CAN v1.0 on Water and Energy Fluxes Estimation with a Single- and Multi-layer Energy Budget Scheme”, *Geoscientific Model Development*, 9, 2951-2972.
26. Naudts, K.*, Ryder, J., J. McGrath, M., Otto, J., **Chen, Yi-Ying**, Valade, A., Bellasen, V., Berhongaray, G., Bönisch, G., Campioli, M., Ghattas, J., De Groote, T., Haverd, V., Kattge, J., MacBean, N., Maignan, F., Merilä, P., Penuelas, J., Peylin, P., Pinty, B., Pretzsch, H., Schulze, E. D., Solyga, D., Vuichard, N., Yan, Y., Luyssaert, S., 2015, “A Vertically Discretized Canopy Description for ORCHIDEE (SVN r2290) and the Modifications to the Energy, Water and Carbon Fluxes”, *Geoscientific Model Development*, 8, 2035-2065.
27. McGrath, J. M.*, Luyssaert, S., Meyfroidt, P., Kaplan, J. O., Buergi, M., **Chen, Yi-Ying**, Erb, K., Gimmi, U., McNerney, D., Naudts, K., Otto, J., Pasztor, F., Ryder, J., Schelhaas, M.-J., Valade, A., 2015, “Reconstructing European Forest Management from 1600 to 2010”, *Biogeosciences*, 12, 4291-4316.
28. **Chen, Yi-Ying** and M.-H. Li*, 2012, “Determining Adequate Averaging Periods and Reference Coordinates for Eddy Covariance Measurements of Surface Heat and Water Vapor Fluxes over Mountainous Terrain”, *Terrestrial Atmospheric and Oceanic Sciences*, 23(6), 685-701.
29. **Chen, Yi-Ying**, Chu, C.-R., Li, M.-H.*, 2012, “A Gap-filling Model for Eddy Covariance Latent Heat Flux: Estimating Evapotranspiration of a Subtropical Seasonal Evergreen Broad-Leaved Forest as an Example”, *Journal of Hydrology*, 468-269, 101-110.
30. Chu, C.-R.*, Li, M.-H., Chang, Y.-F., Liu, T.-C., **Chen, Yi-Ying**, 2012, “Wind-Induced Splash in Class A Evaporation Pan”, *Journal of Geophysical Research*, 117(D11), 2156-2202.
31. Chu, C.-R.*, Li, M.-H., **Chen, Yi-Ying**, Kuo, Y.-H., 2010, “A Wind Tunnel Experiment on the Evaporation Rate of Class A pan”, *Journal of Hydrology*, 381(3-4), 221-224.

Book Chapter/Dissertation/Thesis

1. Matthew, J. M.*, Lansø, A.S., Marie, G., **Chen, Yi-Ying**, Kalliokski, T., Luyssaert, S., Naudts, K., Peylin, P., Valade, A., 2019, “Advances in Understanding Forestry Ecosystem Services: Role in Carbon Capture (CH₆)”, editor(s): John Stanturf, *Achieving Sustainable Management of Boreal and Temperate Forests*.
2. **Chen, Yi-Ying***, *Investigating the Seasonal Variability of Surface Heat and Water Vapor Fluxes with Eddy Covariance Techniques: A Subtropical Evergreen Forest as an Example*, 2012, Dissertation (Doctoral), Advisor: Prof. Ming-Hsu Li
3. **Chen, Yi-Ying***, *The Research of Developing the Retrieval Algorithm of Sensible and Latent Heat Fluxes from Remote Sensing Dataset*, 2004, Thesis (Master), Advisor: Prof. Yuei-An Liou

Talks, Conference, newsletters, and others

- **International Forum/Conference/Talks**

- “Tropical cyclones facilitate recovery of forest leaf area from dry spells in East Asia”, 10th Wind and Trees Conference, June 20-23, 2023, Castelfranco Veneto, Italy
- “Sensor Deployment and Link Analysis in Satellite IoT Systems for Wildfire Detection”, IEEE GLOBECOM 2022, Online Conference

- ”Sensor-Based Satellite IoT for Early Wildfire Detection”, IEEE GLOBECOM 2021, Online Conference
- “Forest vegetation in response to typhoon activities in Eastern Asia”, 9th International Conference on Wind and Trees, Feb 24-28, 2020, Rotorua, New Zealand (Invited)
- “Typhoons drive vegetation growth in subtropical/Eastern Asia”, Conference for the 10th anniversary of NCAM, Nov. 11-19, 2019, Seoul, South Korea (Invited)
- “Surface temperature change in response to the wind throw”, EGU Apr. 8-13, 2018, Vienna, Austria
- “Simulating the damage for wind storms in the land surface model: Storm Gudrun (2005) in Sweden and storm Klaus (2009) in France as examples”, Joint conference of AsiaFlux Workshop and the 15th ChinaFLUX: Joint, Aug. 17-19, 2017, Beijing, China
- “Incorporating ForestGALES in the large-scale land surface model ORCHIDEE to quantify the interactions between forest management, climate change and storm damage”, 8th International Conference on Wind and Trees, July 17-21, 2017, Boulder, Colorado, USA

- **Domestic Forum/Conference/Talks/Workshop**

- 「整合多時相 SPOT 衛星影像與相關地理資訊於判釋台灣地物覆蓋」林孟萱、陳奕穎*、王驥魁、台灣地理資訊 2023 年會，台南 (成功大學)，台灣 [link](#)
- 「全球土地利用情境資料庫 (LUH2)在台灣之降尺度與面臨挑戰」曾子玲、黃崑、林士淵、陳奕穎*、台灣地理資訊 2022 年會，台北 (台灣大學)，台灣
- 「用力森呼吸」陳奕穎、蔡宜君、2022 中央研究院 院區開放活動 [link](#)
- 「地表通量觀測進展-森林、農業生態系」CZO 年會/台灣通量網、(2020-present)
- 「IPCC 氣候變遷與土地特別報告」專家意見 (2019/08) [link](#)
- 「地表過程模式發展進展-風災模組」CHIA 氣候論壇年會、(2017-present) [link](#)
- 「造林選錯樹反致增溫」新聞報導 (2016/02) [link](#)

ACADEMIC SERVICE

- **Journal Editor**

Forest Ecology and Management (Special Issue, Guest Editor), IUFRO 10th Wind and Trees Conference)

Frontiers in Forests, and Global Change (Special Issue, Guest Editor), Living with Tropical Storms in a Changing Climate

- **Journal Reviewer**

Frontiers in Water, Water and Climate, Frontiers in Forests and Global Change, Geoscientific Model Development、*JAMES*、*Biogeoscience*、*JGR-Atmos*、*JGR-Biogeosciences*、*Water*、*Forests*、*Terrestrial, Atmospheric and Oceanic Sciences*、*Nature Communication*、*Journal of Hydrology*、*Theoretical and Applied Climatology*、*Forest Ecology and Management*、*International Journal of Climatology*、*Journal of Climate*、*Climatic Change*、*Regional Environmental Change*、*NSTC proposals*

- **RCEC Staff**

Working group for saving the energy consumption of the RCEC (2022 - present)

Working group for the RCEC web-site (2020 - 2021) co-designed with Dr./Prof. Tun-Yuan Ho

- **RCEC & TIGP Intern Program**

TIGP/ESS-International Intern Program

RCEC-Intern Program

- **Thesis Committee Member**

IPCS, NTU

TIGP, NCU-AS-NTU

CSRSR-NCU

TEACHING EXPERIENCE

Instructor, *Human History/Activities and Global Land-Use/Land-Cover Changes* (Fall 2021, Fall 2022, NCCU Campus & Summer 2023, TIGP-AS Campus)

Instructor, *Global Hydrology Cycle* (2021, 2022, TIGP-AS Campus, one third of the semester)

Instructor, *Anthroposphere and Sustainability* (2022, TIGP-AS Campus, one-lecture)

Coordinator, *Seminar* (2021, 2022, 2023, TIGP-AS Campus)

MEMBERSHIP

Global Land Programme/Future Earth

AsiaFlux member

AGU regular member

EGU regular member

LAB. MEMBER/STUDENT

Yu-Ting Shih 施郁庭 (PostDoc, 2023-present) co-supervised with Dr./Prof. C.-K. Chou

Wei-Hung Wang 王偉宏 (RA, 2023-present), AS-Net-zero project

Yao-Wen Lee 李曜炆 (RA, 2023-present), AS-SS Bamboo project

Amba Shalishe (TIGP Ph.D. Student, 2022-present), AS-TIGP

ALUMNI

Jericho Mascariña (2023) now at University of the Philippines Baguio, Dept. Physical Sciences

Yi-Ru Liang 梁奕如 (2022 RCE-IIP) now at NCCU, Dept. Statistics & Geomatics Program

Yang-Ru Lee 李泱儒 (2022 RCEC-IIP) now at NCKU, Master Program

Ping-Yu Chen 陳品妤 (2022 RCEC IIP) now at Univ. College London, Dept. of Geography

Vivian M.-H. Lin 林孟萱 (2021-2022) now at Georgia Tech, Master Program

Wei-Hung Wang 王偉宏 (2017-2022) now at RCEC, Net-zero Project

Wei Huang 黃崑 (2017-2022) now at EnSense Tech., Cloud Engineer

Ying-Tung Lin 林穎東 (2021-2021) now at University of Durham, Ph.D. Program

Fang-Li Yeh 葉芳利 (2020-2021) now at TCCIP NCDR, Research Associate