HAEWON CHI

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# RESEARCH INTERESTS

Crop Yield, Machine Learning and Deep Learning, Remote Sensing, Community Land Model (CLM), Data Assimilation

# EDUCATION

## University of Illinois, Urbana-Champaign (UIUC) Illinois, US

##### Ph.D. student of Natural Resources and Environmental Science May. 2023 – present

* Advisor: Prof. Kaiyu Guan

## Yonsei University Seoul, Korea

##### Master of Civil and Environmental Engineering Mar. 2020 – Feb. 2022

* Thesis: “The Impact of GRACE Assimilation on Hydrologic Variation with CLM5-BGC”
* Advisor: Prof. Yeonjoo Kim, Selected for Dissertation Fellowship

## Sungshin Women’s University (SSWU) Seoul, Korea

##### Bachelor of Interdisciplinary Eco-science Mar. 2016 – Feb. 2020

* Thesis: “A Study on Drought across Korea and Risk Assessment Framework”
* Advisor: Professor Hyun Seon Hong

# PUBLICATIONS

1. **Chi, H**, Seo, H., & Kim, Y. (2024): “Hydrological trends captured by assimilating GRACE total water storage data into the CLM5-BGC model,” *Journal of Hydrology*, 629
2. Seo, J., **Chi, H.**, Kim, H. J., & Kim, Y. (2022): “Hydrological Drought Risk Assessment for Climate Change adaptation in South Korea,” *Journal of Korea Water Resources Association*, 55(6), 421-435
3. Kang, B., Kim, Y., **Chi, H.**, Seo, J., et al. (2021): “Sustainability of Drought Hazard Risk Management for Climate Change Adaptation,” *International Hydrological Program (IHP)* 8th year*,* Ministry of Environment
4. Seo, J., **Chi, H.**, & Kim, Y. (2021): “Sustainability of Drought Hazard Risk Management for Climate Change Adaptation,” Magazine of Korea Water Resources Association, 54(2) 68-73
5. Kang, B., Kim, Y., **Chi, H.**, Seo, J., et al. (2020): “Sustainability of Drought Hazard Risk Management for Climate Change Adaptation,” *International Hydrological Program (IHP)* 7th year, Ministry of Environment

**CONFERENCE**

1. **Chi, H**., Seo, H., & Kim, Y. “Impact of GRACE Assimilation on Hydrologic Variation with CLM5 BGC,”

Korea Water Resources Association

1. **Chi, H.**, Seo, H., & Kim, Y. “Impact of Assimilating the Terrestrial Water Storage on the Water and Carbon Cycles in CLM5.0-BGC,” Korea Water Resources Association
2. Kang, B., Kim, Y., **Chi, H.**, Seo, J., Lee, J., & Seo, H. “Sustainability of Drought Hazard Risk Management for Climate Change Adaptation,” Korea Water Resources Association
3. Cho, K., Choi, S., **Chi, H.**, & Kim, Y. “Machine Learning Method for Improving WRF-Hydro Streamflow Prediction,” Korea Water Resources Association

# TECHNICAL SKILLS AND FIELD EXPERIENCES

###### Graduate – UIUC

* + *Research Assistant (RA) Scholarship*, Fall 2023 / Spring-Fall 2024 / Spring 2025

# Soil moisture monitoring using fixed and portable TDR sensors (Acclima TDR-310W / TDR-315N)

# Field deployment of in-situ sensor networks in agricultural lands

# Experience with sensor calibration, data quality control, and metadata management

# PROJECTS

1. Development of DB and Model Technology for Adaptation of Water-Forest-Ecological Climate Change & Evaluation of Greenhouse Gas Reduction, Korea Environment Institute (KEI), Graduate Researcher,   
   Feb. 2020
2. Improvement of Ecological Hydrological Drought Prediction and Development of Drought Impact  
   Prediction Technology through Advanced Land Model in Korea and Asia based on Machine Learning,  
   National Research Foundation (NRF), Graduate Researcher, Sept. 2020 – Feb. 2021
3. Development of Integrated Water Resource Vulnerability Evaluation System and Basin In-field Integrity Evaluation Technology, Korea Environment Industry and Technology Institute (KEITI), Undergraduate Researcher, Sept. 2019 – Dec. 2019

# TEACHING AND MENTORING EXPERIENCE

*Teaching Assistant*, Environmental Energy Engineering Practice, SSWU Fall 2022

*Teaching Assistant*, Fluid Mechanics, Yonsei University Spring 2020

*Senior Mentor*, Freshmen Mentoring Program, SSWU Mar. 2018 – Jul. 2018

# SCHOLARSHIPS

###### Graduate – UIUC

* + *Research Assistant (RA) Scholarship*, Fall 2023 / Spring-Fall 2024 / Spring 2025

###### Graduate – Yonsei University

* + Full-tuition Fellowship, National Research Foundation (NRF) of Korea, Spring 2020-Fall 2022
  + *Dissertation Fellowship*, Fall 2021
  + *Teaching Assistant (TA) Scholarship,* Spring 2020

###### Undergraduate – SSWU

* + *Academic Excellence Scholarships*, Spring-Fall 2017/ Spring 2019
  + *Mentoring Scholarship,* Fall 2018
  + *President’s Special Scholarship,* Fall 2016

# ADDITIONAL INFORMATION

**Credit Exchange:** Department of Civil and Environmental Engineering, Sejong University, Seoul, Korea

**Languages:** Korean (native), English (advanced), German (elementary)