Eunkyoung (Kyoung) Choi

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PERSONAL PROFILE

Highly motivated to become a climate risk scientist who helps the interface of physical and social sciences by understanding both fields. Particularly interested in helping vulnerable communities around the world by improving the understanding on the impact of climate change on agricultural production from both scientific and economic perspectives. Excellent capacity to understand new concepts, quickly acclimate to different situations, and substantively contribute to various fields of earth science, green growth policy research and environmental consulting over the past 4 years.

RESEARCH INTERESTS: climate risk, agricultural production, statistical models, machine learning

EDUCATION

Colorado State University August 2020 – Present

- Ecosystem Science and Sustainability
- Advisor: Professor Nathan Mueller

University of Illinois at Urbana-Champaign, IL, United States September 2018 – May 2020

- MS: Atmospheric Sciences
- Master's Thesis Title: Modeling the Combined Environmental Effects on Net Land Carbon Flux in the Present and Future Scenarios
- Advisor: Professor Atul Jain

Pukyong National University, Busan, Korea March 2008-August 2014

- BE: Ecological Engineering and International Business Administration
- Bachelor's Thesis Title: Emergy Accounting for Korea in 2011

Northern Virginia Community College, Alexandria, VA January 2012-May 2012

- International Exchange Program

EXPERIENCE

Colorado State University Fort Collins CO, The U.S.
Research Assistant, Ecosystem Science and Sustainability August 2020 – Present

University of Illinois at Urbana-Champaign Champaign IL, The U.S.
Research Assistant, Atmospheric Sciences Department September 2018 – May 2020

Environmental Resources Management Seoul, South Korea
Environmental Consultant March 2014-March 2017

Global Green Growth Institute Seoul, South Korea
Research Intern, India Team July 2013-August 2013

U.S.-Korea Institute, Johns Hopkins School of Advanced International Studies Washington D.C., The U.S.
Research Intern, Energy, Resources and Environment February 2013-May 2013

NASA Goddard Space Flight Center Greenbelt MD, The U.S.
Research Intern, Earth Sciences Division May 2012-January 2013

PUBLICATIONS

- Driscoll, A.W., Conant, R.T., Marston, L.T., **Choi, E.**, & Mueller, N. (2024) Greenhouse gas emissions from US irrigation pumping and implications for climate-smart irrigation policy. Nat Commun 15, 675. https://doi.org/10.1038/s41467-024-44920-0
- **Choi, E.**, Rigden, A. J., Tangdamrongsub, N., Jasinski, M. F., & Mueller, N. (2023). US crop yield losses from hydroclimatic hazards. Environmental Research Letters, 19(1), 014005. https://doi.org/10.1088/1748-9326/ad0c87

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- Driscoll, A. W., Leuthold, S. J., **Choi, E.**, Clark, S. M., Cleveland, D. M., Dixon, M., Hsieh, M., Sitterson, J., & Mueller, N. (2022). Divergent impacts of crop diversity on caloric and economic yield stability. Environmental Research Letters, 17(12), 124015. https://doi.org/10.1088/1748-9326/aca2be

ORAL AND POSTER PRESENTATIONS

- Choi E., & Mueller, N. D., Impacts of geographical shifts in cropland on hydroclimatic hazard exposure, Abstract, American Geophysical Union Fall Meeting, 11-15 December 2023.
- Choi, E., Davenport, F., Dillon, J., & Mueller, N. D., Using explainable machine learning to develop a weather stress index for dairy systems, American Geophysical Union Fall Meeting, 11-15 December 2023.
- Choi, E., Machine learning in climate-agricultural risks and adaptations, Colorado Seed Growers Association and Colorado Seed Industry Association Annual Meeting, 7th December 2023.
- Choi, E., & Mueller, N. D., Inconsistencies in using Existing Thermal Indices for US Milk Yield Sensitivities, American Dairy Science Association Annual Meeting, 24 June 2023.
- Choi, E., & Mueller, N. D., Evaluating Indices for Extreme Weather Stress on US Milk Yields, American Geophysical Union Fall Meeting, 12-16 December 2022.
- Choi, E., Sloat, L., & Mueller, N. D., Sensitivity and Exposure to Hydrologic Hazards for Major US Crops 1981-2016, American Geophysical Union Fall Meeting, 13-17 December 2021.

EXTRACURRICULUM ACTIVITIES

- Elected President, Department of Atmospheric Sciences Student Organization at UIUC, United States 2019
- Elected Vice President, Department of Ecological Engineering Student Council at PNU, Korea 2016

AWARDS

- Best Scientific Poster, Environmental Research Virtual Poster Competition, Institute of Physics Publishing, the UK 2023
- Follet Memorial Travel Award, The Department of Soil and Crop Sciences, CSU, The U.S. 2023
- Top 10 3 Minutes Thesis Contest, American Dairy Science Association, The U.S. 2023
- ERM Global Recognition Award, Environmental Resources Management, Korea 2016
- WEST Program (ROK/US Joint Government Scholarship, The Korean government, Korea 2012-2013
- CBA International Business by Pukyung National University, Korea 2011
- Idea Contest for Low Carbon Green Growth, Pukyung National University, Korea 2010
- Korean Government University Award, The Korean government, Korea 2008-2011

CERTIFICATES

- Graduate Certificate in Data Analysis, the Department of Statistics, CSU, the U.S. 2021
- Korean National Off-Site Consequence Analysis Consultant 2015
- Korean National Technical Qualification for Air Pollution 2011

SKILLS

- Computer: Python, Fortran, Linux
- Language: Korean (native speaker), English (fluent speaker)