Berina Mina Kilicarslan

CONTACT INFORMATION

1 Castle Point Terrace Hoboken, NJ 07030

201-375-0820
bkilicar@stevens.edu

EDUCATION

2021-present	Ph.D.: Civil, Environmental, and Ocean Engineering Department **Stevens Institute of Technology** – NJ, US • *Dissertation Title:* "Enhancing hydrologic models to support flood inundation mapping and water resources management" • *Advisor:* Assoc. Prof. Marouane Temimi
2019-2021	Master's Degree: Civil Engineering-Water Resources Program **Middle East Technical University** – Ankara, Turkey • *Thesis:* Calibration and Evaluation of WRF-Hydro Modeling System for Extreme Runoff Simulations: Use of High-Resolution Sea Surface Temperature (SST) Data • *Advisors:* Prof. Ismail Yucel
2018	B. S., Environmental Engineering **Middle East Technical University** – Ankara, Turkey

PROFESSIONAL EXPERINCE

Sep21-present	**Research Assistant,** Stevens Institute of Technology Integrated Spatial Modeling and Remote Sensing Technologies Laboratory • Hydrological model simulations for streamflow and street-scale flood inundation • Improving National Water Model for ice-jam floods by leveraging multi-satellite imagery • Integrated reservoir operations with WRF-Hydro & HEC-ResSim to support the NYC DEP water supply system
Jun23-Jul23	**Summer Institute Fellow,** NOAA-National Water Center Improving the Fidelity and Performance of OWP HAND-FIM Using a Surrogate Model Technique • Enhancing inundation mapping accuracy of HAND-FIM method via surrogate modeling, bridging low and high-fidelity inundation methods • Assessing surrogate modeling transferability across different watersheds
Feb19-Sep21	**Research Assistant,** Middle East Technical University Evaluation of Integrated Atmospheric-Hydrologic Modeling System for Flood Events in Turkey Project • Assessment of the performance of WRF/WRF-Hydro Modeling System for historic flood events. • Assessment of the manual step-wise and automated calibration techniques for the WRF-Hydro model.

- Assessing the impact of high-resolution and time-varying sea surface temperature datasets on the rainfall-runoff system.

Jun16-Jul16   **Intern,** The Scientific and Technological Research Council of Turkey
- Assisting reports concerning Noise Pollution assessment and Control and Air Quality Modeling and Management.

Jun15-Jul15   **Intern,** Turkish Aerospace Industries, Inc. TAI
- Providing daily laboratory analysis on water quality at the conventional water treatment plant.

RESEARCH INTERESTS

- Hydrological and hydrodynamic modeling for flood events
- Flood inundation mapping
- Reservoir operations modeling
- Data analysis and interpretation

SKILLS

Programming: R, Python, Bash, MATLAB
Softwares: National Water Model, WRF-Hydro, Noah-MP, HEC-HMS, HEC-ResSim, HEC-RAS, WRF, ArcGIS Pro, QGIS,
Language: Turkish (Native), English (Fluent)

PUBLICATIONS

Journal Articles

Kilicarslan, B. M., & Temimi, M. (2024). "Simulating block-scale flood inundation and streamflow using the WRF-Hydro model in the New York City metropolitan area." *Natural Hazards,* https://doi.org/10.1007/s11069-024-06597-y.

Kilicarslan, B. M., Yucel, I., Pilatin, H., Duzenli, E., & Tugrul, M. (2021) "Improving WRF-Hydro Runoff Simulations of Heavy Floods Through the Sea Surface Temperature Fields with Higher Spatio-Temporal Resolution." *Hydrological Processes,* https://doi.org/10.1002/hyp.14338.

Conference Proceedings

Kilicarslan, B., Longyang, Q., Obi, V., Cohen, S., & Meselhe, E. A. (2023) "Improving the Fidelity and Performance of NOAA Flood Inundation Mapping Framework Using a Machine Learning-Based Surrogate Model" AGU Annual Meeting, 2023 https://agu23.ipostersessions.com/default.aspx?s=98-D5-63-6D-9D-CA-D4-81-9D-08-68-E7-28-1E-CB-89 (Poster Presentation)

Temimi, M., Abdelkader, M., Bravo, J. & **Kilicarslan, B.** (2023) "A multisatellite approach to monitor river ice in northeastern US to support streamflow forecast for reservoir management" AGU Annual Meeting, 2023

Obi, V., **Kilicarslan, B.,** Longyang, Q., Meselhe, E. A., & Cohen, S. (2023) "Analysis of Stage Flow Predictions by the NOAA National Water Model and Synthetic Rating Curves" AGU Annual Meeting, 2023

Kilicarslan, B. M., Temimi, M., Kim, J. (2022). "Evaluation of the WRF-Hydro Hyper resolution modeling of Street-Scale flooding during Hurricanes Ida and Irene", AGU Frontiers in Hydrology 2022, https://fihm22-agu.ipostersessions.com/Default.aspx?s=18-09-BE-84-55-E0-5B-86-D3-E7-65-95-AF-3B-5B-56. (Oral Presentation)

Kilicarslan, B. M., Duzenli, E., Pilatin, H., Yucel, I., and Yilmaz, M. T. (2020) "Evaluation of a Hydro-Meteorological Model System for Flood Forecasting of a Mediterranean Basin in Turkey", *EGU General Assembly 2020*, https://doi.org/10.5194/egusphere-egu2020-519. (Oral Presentation)

Duzenli, E., Pilatin, H., Yucel, I., **Kilicarslan, B. M.,** and Yilmaz, M. T. (2020) "Evaluation of the performance of WRF model in extreme precipitation estimation concerning the changing model configuration and the spatial and temporal variations", *EGU General Assembly 2020,* https://doi.org/10.5194/egusphere-egu2020-1026.

HONORS

Awards
National Water Center Innovators Program Summer Institute Award (2023)
Runner-Up Winner, AGU Michael H. Freilich Data Visualization Competition (2023)
Honor Roll Certificate, Environmental Engineering Department, METU (2017)

Grants
AMS Annual Meeting Student Travel Grant (2024)
CIROH Training and Developers Conference Travel Scholarship (2023)

TEACHING EXPERIENCE

Teaching Assistant for E 241: Probability and Statistics with Data Science Applications, Stevens Institute of Technology (Fall 2023)

SERVICE

2023-2024   Peer Review for *Water Resources Research*
2023-2024   Research Mentor for Harvard Undergraduate Student Julie Garry

EXTRA-CIRRUCULAR

Dec15-Apr17   **Founding Member/Content Developer,** Change for Climate (C4C)
An organization designed to combat climate change, attempting to evolve the collective perception through education and outreach.
- Designed climate change workshops utilizing non-formal education techniques through a system thinking approach.