

MOHAMMAD HAGHIRI

Research Assistant at university of Illinois Chicago, Department of Earth, and Environmental Sciences,

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EDUATION

University of Illinois Chicago Chicago, IL, USA
Ph. D Student – Department of Earth and Environmental Sciences August 2023 – Present
Research Subject: predicting Water Table level from 1500CE to 3000CE; **GPA:4.00** Advisor: Kerry Callaghan

University of Tehran Tehran, Iran
M. Sc. Hydrogeology – Department of Geology September 2020 – May 2022 Research
Subject: Hydrochemical and isotopic analysis of karst aquifers; **GPA:3.47** Advisor: Morteza Mozafari

Kharazmi University Tehran, Iran
B. Sc. Geology – Department of Geology September 2016 – August 2020
Research Subject: Remote Sensing and Field Visit for Runoff Harvesting; **GPA:3.40** Advisor: M.R Asef

PUBLICATION

Haghir, M., Callaghan, K. *Spatial-Temporal Modeling of Water Table Level: A Retrospective Model-Based Analysis Part I (1500-2020)* ([Progressing](#))

Haghir, M., Callaghan, K., D Wickert, A., Austermann, and Creel, R. *Using the Water Table Model (WTM) to predict Climate-Induced Changes in NorthAmerican Water Table Levels from years 2020 to 2100.* ([Accepted at AGU Conference, 2024](#))

Haghir, M., Mozafari, M. *Delineate the hydrogeology of karst aquifers at the Hashtgerd Basin (north Iran) using a combination of geologic, hydrodynamical, hydrochemical and isotopic investigations.* ([Accepted at Hydrogeology Journal](#)).

Haghir, M., Asef, M.R. *Remote sensing and field visit for small scale runoff harvesting for agricultural water consumption management, case study at Kariyan, Hormozgan, Iran.* Environ Earth Sci 83, 416 (2024). <https://doi.org/10.1007/s12665-024-11734-8>

Haghir, M., Raeisi, N., Azizi, R. et al. 2024. *Evaluation of karst aquifer development and karst water resource potential using fuzzy logic model (FAHP) and analysis hierarchy process (AHP): a case study, North of Iran.* Carbonates Evaporites 39, 11 (2024). <https://doi.org/10.1007/s13146-024-00925-w>.

Haghir, M., Asef, M.R. *Analysis of Comparative Advantage and Engineering Status of Freshwater Reservoirs across the Provinces in Iran.* Iranian Journal of Engineering Geology, 2021. http://www.jiraeg.ir/article_137494.html.

Habibi, S, Mozafari, M. Fijani, E, **Haghir, M.**, *Determination of hydraulic conductivity and transferability of Hashtgerd Plain aquifer based on grain measurement and experimental formulas.* [The 41st National Geosciences Congress, 2023.](#)

ACADEMIC POSITION

Ph.D Student – Department of Earth and Environmental Sciences, University of Illinois Chicago 2023 – Present
Research topic: I am passionate about advancing my studies in Hydrology and Hydrogeology. My current

project focuses on predicting groundwater resources and assessing the impact of climate variables using the Water Table Model (WTM) to understand present and future changes in terrestrial water tables.

Supervisor: Professor Kerry Lee Callaghan.

RESEARCH INTERESTS

Hydrogeology; Climate Change; Water Table; landscape analysis and evolution; Karst Aquifer; Isotope Analysis, Rainwater Harvesting.

ACADEMIC & WORK EXPERIENCE

Senior Hydrology & Hydrogeology - Toossab Consultant Engineering Company- I worked in the field of data monitoring and quantitative and qualitative analysis in the central and northern areas of Iran. 2020-2023

TA: Global Environmental Change – Department of Earth Science, University of Illinois Chicago. 2024
prepared and independently presented labs. graded student labs and problem sets, held office hours, and assisted on a weekend field trip.

TA: Hydrology and Hydrogeology - Department of Earth Science, University of Illinois Chicago. 2023
assisted in student instruction and grading of work during a high intensity 1-day field camp in northern Chicago.

TA: Hydrogeology – Department of Earth Science, University of Tehran. 2021
helped Student labs, held office hours, and graded student submissions and I was head of field trip for this course.

RA: Physical Geology – Department of Earth Science, Kharazmi University. 2019

Journal of Water Resources Management; Journal of Infrastructure, Policy, and Development Peer Reviewer

FUNDING, ACHIEVEMENTS AND AWARDS

Department of Earth Sciences, University of Illinois Chicago 2023

Department of Earth Science, University of Tehran. 2021

Department of Earth Science, University of Tehran. 2020

Department of Geology, Kharazmi University. 2019

Geological Society of Iran 2018

Undergraduate student research grant

Geological Society of Iran 2017

Undergraduate student research grant

CERTIFICATES

ICDL (International Computer Driving License) Certificate (C1), Tehran University (120 hours) 2017

ArcGIS Software (C2), Tehran University (90 hours) 2018

Python Language (C1), Tehran University (160 hours) 2019