

Cansu Demir

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The University of Texas at Austin
Jackson School of Geosciences
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EDUCATION

Ph.D. in Geological Sciences

The University of Texas at Austin

Topic: Groundwater-Surface Water Dynamics in the coastal Arctic

Advisor: M. Bayani Cardenas

Aug 2018 - May 2024

Austin, TX, USA

M.Sc. in Environmental Engineering

Middle East Technical University

Topic: Rehabilitation Assessment of a depleted coastal aquifer

Advisor: Kahraman Unlu

Sept 2015 - Jul 2018

Ankara, Turkey

B.Sc. in Environmental Engineering

Middle East Technical University

Sept 2010 - Jun 2015

Ankara, Turkey

PROFESSIONAL EXPERIENCE

Research/Teaching Assistant

The University of Texas at Austin

2018 - today

Austin, TX

Research/Teaching Assistant

Middle East Technical University

2015 - 2018

Ankara, Turkey

JOURNAL ARTICLES

ORCID ID: 0000-0002-1325-1461

[Google Scholar Profile](#)

In-Prep

- 1 **Demir, C.**, McClelland, J. W., Bristol, E., Charette, M. A., M., Cardenas, M.B. Supra-permafrost aquifers of the Arctic coast and their groundwater fluxes.
- 2 **Demir, C.**, Guimond, J., McClelland, J. W., Charette, M. A., Cardenas, M.B. Seasonal groundwater flow and transport dynamics in the nearshore Arctic.
- 3 **Demir, C.**, McClelland, J. W., Charette, M. A., Cardenas, M.B. Sources of Arctic nearshore groundwater and the origin of salinity.

Submitted

- 1 Wilson, S. J., Moody, A., McKenzie, T., Luijendijk, E., Cardenas, M. B., Sawyer, A. H., Wilson, A., Michael, H., Xu, B., Knee, K. L., Cho, H., Weinstein, Y., Paytan, A., Moosdorf, N., Chen-Tung, C., Beck, M., Lopez, C., Murgulet, D., Kim, G., Charette, M., Waska, H., Ibáñez, S. P., Chaillou, G., Oehler, T., Onodera, S. I., Saito, M., Rodellas, V., Dimova, N., Montiel, D., Dulai, H., Du, J., Petermann, E., Chen, X., Davis, K., Sugimoto, R., Wang, G., Li, H., Torres, A., **Demir, C.**, Bristol, E., Connolly, C. T., McClelland, J. W., Januario, B., Lamontagne, S., Kumar, B., Viswanadham, R., Sarma, V., Silva-Filho, E., Shiller, A., Lecher, A., Tamborski, J., Bokuniewicz, H., Rocha, C., Reckhardt, A., Böttcher, M. E., Shan, J., Stieglitz, T., Charbonnier, C., Anschutz, P., Terrones, L. M. H., Babu, S., Szymczycha, B., Chen, X., Jinzhou, D., Sadat-Noori, M., Niencheski, F., Null, K., Song, B., Anderson, I. C., Santos, I. Global subterranean estuaries control groundwater nutrient loading to the ocean. Submitted to *Limnology and Oceanography Letters* on Sept 8, 2023.

- 2 Kwak, K., Varner, T., Nguyen, W., Kulkarni, H. V., Buskirk, R., Pedrazas, M. N., Huang, Y., **Demir, C.**, Arman, A. S., Hosain, A., Aitkenhead-Peterson, J., Ahmed, K.M., Ahkter, S. H., Cardenas, M. B., Datta, S., Knappett, P. S. K. Surficial Sediment of Fluctuating Rivers are Hotspots for Arsenic Contamination. Submitted to NPJ Clean Water on Aug 14, 2023.

Published

- 1 Guimond, J., **Demir, C.**, Kurylyk, B. L., Walvoord, M. A., McClelland, J. W., Cardenas, M. B. Wind-modulated groundwater discharge along a microtidal Arctic coastline. *Environmental Research Letters* (accepted in Aug 2023).
- 2 **Demir, C.**, Fanta, D., Akıntuğ, B., Ünlü, K. Modeling coastal Güzelyurt (Morphou) aquifer in northern Cyprus for mitigation of groundwater depletion through managed aquifer recharge. *Sustain. Water Resources Management* 8, 96 (2022). doi:10.1007/s40899-022-00683-4
- 3 Pedrazas, M.N., Cardenas, M.B., Hosain, A., **Demir, C.**, Ahmed, K. M., Akhter, S. H., Wang, L., Datta, S., Knappett, P. S. K. Application of electrical resistivity to map the stratigraphy and salinity of fluvio-deltaic aquifers: case studies from Bangladesh that reveal benefits and pitfalls. *Hydrogeology Journal* 29, 1601–1610 (2021). doi:10.1007/s10040-021-02342-y
- 4 Pedrazas, M. N., Cardenas, M. B., **Demir, C.**, Watson, J. A., Connolly, C. T., McClelland, J. W. Absence of ice-bonded permafrost beneath an Arctic lagoon revealed by electrical geophysics. *Science Advances* 6, 43 (2020). eabb5083. doi:10.1126/sciadv.abb5083
- 5 **Demir, C.**, Yetiş, Ü., Ünlü, K. Identification of waste management strategies and waste generation factors for thermal power plant sector wastes in Turkey. *Waste Management and Research* 37, 3, 210-218 (2019). doi:10.1177/0734242X18806995

AWARDS RECEIVED

Richard Chuchla Dean's Discretionary Fellowship Jackson School of Geosciences	2021
Fulbright Scholarship Turkish and U.S. Government	2018-2020
AGU abstract-registration award The Permafrost Coastal Systems Network (PerCS-Net)	2020
Computational Res. Tech. fellowship TACC Summer Institute on Applied Parallel Programming	2020
Geological Society of America (GSA) Research Grant	2019
Marion W. DeFord Off-Campus Research Fellowship Jackson School of Geosciences	2019

PRESENTATIONS

- 1 **Demir, C.**, Guimond, J., Bristol, E., Bullock, E., Schaal, I., Henderson, P., Charette, M. A., McClelland, J. W., Cardenas, M. B. Seasonal Dynamics of Groundwater Flow and Transport in the Nearshore Arctic. American Geophysical Union, Fall Meeting 2022 (Poster).ID: C42C-1037
- 2 Guimond, J., **Demir, C.**, Cardenas, M. B., McClelland, J. W., Walvoord, M. A., Kurylyk, B. Groundwater Salinity Dynamics and Drivers Along an Actively Degrading Arctic Coastline. American Geophysical Union, Fall Meeting 2022 (Oral).ID: C35A-08
- 3 Bristol, E. M., **Demir, C.**, Schaal, I., Cardenas, M. B., Charette, M. A., McClelland, J. W. Dissolved Organic Matter in an Arctic Subterranean Estuary. American Geophysical Union, Fall Meeting 2022 (Poster).ID: C42C-1031
- 4 **Demir, C.**, Cardenas, M. B., McKinney, S., Nguyen, W., Bristol, E., Bullock, E., Sanders, A., Schaal, I., Charette, M., McClelland, J. Groundwater Flow and Transport in a Coastal Aquifer in the Arctic. American Geophysical Union, Fall Meeting 2021 (Oral). ID: C44A-0
- 5 Nguyen, W., Cardenas, M. B., Datta, S., Kwak, K., Varner, T., **Demir, C.**, Pedrazas, M., Knappett, P. Groundwater-surface water interactions in seasonally and tidally flooded riverbanks: numerical modeling of the Meghna River, Bangladesh. American Geophysical Union, Fall Meeting 2021 (eLightning). ID: H35A-01
- 6 **Demir, C.**, Cardenas, M. B., Pedrazas, M. N., McClelland, J. W., Charette, M. A. Nearshore Submarine Groundwater Discharge to an Arctic Lagoon. American Geophysical Union, Fall Meeting 2020 (eLightning). ID: B120-04
- 7 **Demir, C.**, Cardenas, M. B., McClelland, J. W., Pedrazas, M. N. Groundwater Discharge in the Lagoons of Alaskan Beaufort Sea. American Geophysical Union, Fall Meeting 2019 (Poster). ID: C13E-1362D

Last updated: 09/03/23

- 8 Rechner A. F., He, C., Cabraal, S. A., Baiocchi, J., **Demir, C.**, Denham, A., Edgington, A., Ferrari, B., Fisher, C., Goldfarb, E. J., Jones, B., Manlove, H., McCormick, E. L., Pedrazas, M. A., Restrepo Acevedo, A. M., Roumelis, C., Smith-Salgado, C., Trcka, J., Beal, L. K., Southard, P., Ferencz, S. B., Li, L., Perkins, G., Roback, R. C., O'Connor, M., Matheny, A. M. Groundwater and surface water interactions in the Valles Caldera Watershed, New Mexico: an evaluation of water chemistry sensitivity to precipitation variability. American Geophysical Union, Fall Meeting 2019 (Poster). ID: H13N-1916
- 9 **Demir, C.**, Yetiş, Ü., Ünlü, K. Identification of Waste Management Strategies and Waste Generation Factors for Thermal Power Plant Sector Wastes in Turkey. Eurasia Waste Management Symposium 2018 (Oral). Istanbul, Turkey.
- 10 **Demir, C.**, Fanta, D., Akintug, B., Unlu, K. Conceptual and Numerical Modeling of Guzelyurt Aquifer, Turkish Republic of Northern Cyprus (TRNC). International Symposium on GIS Applications in Geography Geosciences 2017 (Oral). Canakkale, Turkey.

TEACHING EXPERIENCE

Teaching Assistant Introduction to Physical and Chemical Hydrogeology (TA rating: 4.5/5)	SP 2021, 23
Teaching Assistant Groundwater Hydrology (TA rating: 5/5)	SP 2021
Teaching Assistant Transport Processes in Environmental Engineering	SP 2016, 17, 18
Teaching Assistant Environmental Microbiology Laboratory	SP 2016, 17, 18
Teaching Assistant Environmental Management	Fall 2017
Teaching Assistant Environmental Modeling Laboratory	Fall 2017
Teaching Assistant Unit Operations and Processes of Water Treatment	Fall 2016

UNIVERSITY SERVICE and MENTORSHIP

Co-organizer and Host - Arctic Coastal Observations, Research, and Networking (**ACORN**) seminar series
The Permafrost Coastal Systems Network Fall 2021 - present

Graduate student mentor - Peer Mentor Support Program
Jackson School of Geosciences Fall 2022

Life and career mentor for new graduates - Mentoring Programs for METU Students and Graduates
Middle East Technical University 2022 - 2023

Co-organizer and Host - Water, Climate and Environment Departmental Seminar Series
Jackson School of Geosciences Fall 2021 - Spring 2022

PROFESSIONAL ASSOCIATIONS

Member American Geophysical Union (AGU)	2019 - present
Member Association of Polar Early Career Scientists (APECS)	2021 - present
Member Permafrost Coastal Systems Network (PerCS-Net)	2020 - present
Member Permafrost Young Researchers Network (PYNR)	2019 - present
Member Geological Society of America (GSA)	2019 - 2020

FIELD EXPERIENCE and TRAINING

Aug 2021, June - Jul - Oct 2022, Jul 2023 Coastal hydrogeology field techniques
Simpson Lagoon, Prudhoe Bay, AK, USA

May 2022 Small boat and cold weather survival training
Port Aransas, TX

Nov 2020-2021
Lake Travis, Austin, TX

Lake mixing dynamics

Jan 2020
Meghna River, Dhaka, Bangladesh

River-bank hydrogeology field techniques

Aug 2019
Kaktovik Lagoon, Barter Island, AK

Coastal hydrogeology field techniques

May 2019
Valles Caldera, NM and Austin, TX

General hydrogeology field techniques