

Deniz Bozkurt

Departamento de Meteorología, Universidad de Valparaíso Gran Bretaña 644, Playa Ancha, Valparaíso, Chile ☎ (+56) 32 2508712 ☒ deniz.bozkurt@uv.cl ☐ https://sites.google.com/site/deniboz/

Personal Information

Title Dr., PhD in Earth System Sciences

Date of Birth July 28, 1980

Gender Male

Nationality Turkish

Marital Status Single

Summary

Dr. Deniz Bozkurt studied Environmental Engineering at Middle East Technical University, Ankara-Turkey, and received his MSc degree in Earth System Sciences at Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey in 2007. At the same institute, he obtained his PhD degree in Earth System Sciences in 2013, specializing in regional climate change and its modeling. During his PhD, he was a visiting scholar at Max Planck Institute for Meteorology, Hamburg-Germany in 2012. He worked as a post-doctoral researcher at Center for Climate and Resilience Research (CR)2 and Department of Geophysics, University of Chile between 2014 and 2019. He is currently an associate professor at the Department of Meteorology, University of Valparaíso. His research interests lie in the fields of regional climate changes, hydroclimatology, land-atmosphere interactions, extreme weather events and atmospheric teleconnections. He has been working primarily on regional climate changes and their modeling. Although his prior academic background has focused on regional and large-scale climate variability of eastern Mediterranean-Black Sea region and western South America, he has recently been interested in researching meteorology and climate of the Antarctic Peninsula.

Education

2007–2013 **PhD, Earth System Sciences**, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.

Thesis Title: Climate change impacts on the hydrology of the Euphrates-Tigris Basin

2012–2013 **Visiting PhD**, The Land in the Earth System, Max Planck Institute for Meteorology, Hamburg-Germany.

2005–2007 MSc, Earth System Sciences, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey

Thesis Title: Sensitivity of Turkish precipitation to the sea surface temperature variability in the surrounding seas

2000–2004 **BSc, Environmental Engineering**, Faculty of Engineering, Middle East Technical University, Ankara-Turkey.

Professional Experience

2020-Present Associate Professor, Department of Meteorology, University of Valparaíso, Valparaíso-Chile.

2020-Present Adjunct Researcher, Center for Climate and Resilience Research (CR)2, Santiago-Chile.

- 2016–2019 **Postdoctoral Researcher**, Center for Climate and Resilience Research (CR)2, Department of Geophysics, University of Chile, Santiago-Chile.
- 2014–2016 **Postdoctoral Fellow**, Center for Climate and Resilience Research (CR)2, Department of Geophysics, University of Chile, Santiago-Chile.
- 2005–2013 Research Assistant, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.
- June-August **Trainee and Staff Engineer**, *ENVY Energy and Environmental Investments Inc.*, Ankara-Turkey. 2003

Projects

- 2020–2023 Long-Range Transport of Xenobiotics and Microorganisms: Teleconnections and Influence on Terrestrial Ecosystems, Researcher, ANID-PIA-Anillo INACH ACT192057, Santiago-Chile.
- 2019–2022 Instalación de capacidades en modelamiento climático en la Universidad de Valparaíso para enfrentar los desafíos de adaptación al cambio climático, PI, The National Commission for Scientific and Technological Research (CONICYT), No: PAI77190080, Santiago-Chile.
- 2018–2019 Simulaciones climáticas regionales para el continente Antártico y territorio insular Chileno, PI, The Ministry of Environment of Chile & Center for Climate and Resilience Research, University of Chile, Santiago-Chile.
- 2017–2018 **Simulaciones climáticas regionales y marco de evaluación de la vulnerabilidad**, *The Ministry of Environment of Chile & Center for Climate and Resilience Research, University of Chile*, Santiago-Chile.
- 2015–2017 Climate and society in Byzantine and Ottoman Anatolia, 300-1900 CE: Towards understanding the impact of climate on complex societies of the pre-industrial era, Climate Change and History Research Initiative (CCHRI), Princeton University.
- 2014–2016 Regional climate processes and future hydro-climate of Central Chile, PI, The National Fund for Scientific and Technological Development of Chile (FONDECYT), No: 3150036.
- 2010–2012 **Impacts of climate change on Euphrates River discharges**, The Scientific and Technological Research Council of Turkey (TUBITAK), No: 109Y287.
- 2008–2010 **Enhancing the capacity of Turkey to adapt to climate change**, *United Nations Development Programme (UNDP), MDG-F-1680*.
- 2007–2008 Installation of disaster management and meteorological early warning system in Rize province, The Scientific and Technological Research Council of Turkey (TUBITAK).
- 2007–2008 Investigation of atmospheric events that caused water overflow in Euphrates basin in March 2004, The Scientific and Technological Research Council of Turkey (TUBITAK), No: 105Y341.
- 2006–2008 Climate Change Scenarios for Turkey, The Scientific and Technological Research Council of Turkey (TUBITAK), No: 105G015.

Awards and Scholarships

- 2019–2022 **Grant to the Installation in the Academy**, *The National Commission for Scientific and Technological Research (CONICYT)*.
- 16–19 July Young Scientist ICPM/IAMAS Travel Grant, The International Commission on Polar Meteorology 2018 (ICPM) of the International Association of Meteorology and Atmospheric Sciences (IAMAS) via Madison College, and The Scientific Committee on Antarctic Research (SCAR). 13th Workshop on Antarctic Meteorology and Climate (WAMC) workshop and the Year of Polar Prediction in the Southern Hemisphere (YOPP-SH) meeting, Madison-WI, USA.
- 26–29 June **Travel Funding Award**, 12th Workshop on Antarctic Meteorology and Climate (WAMC) workshop and the Year of Polar Prediction in the Southern Hemisphere (YOPP-SH) meeting at NCAR, Boulder-Colorado, USA.
- 2014–2016 **Postdoctoral Fellowship**, The National Fund for Scientific and Technological Development of Chile (FONDECYT).
- May 2014 The Best Thesis Award, Istanbul Technical University for the Academic Year 2013-2014.
- February- PhD Scholarship, The Scientific and Technological Research Council of Turkey (TUBITAK) Research
 October Scholarship Program.
 2012

January— **Winter School Scholarship**, *European Research Course on Atmospheres-ERCA*, Grenoble-France. February

2010

2002–2004 **BSc Scholarship**, SONMAK Inc., Diamond Tools, Middle East Technical University, Ankara-Turkey.

Publications

Peer Reviewed Papers in SCI-indexed Journals

- 2020 Demortier, A., **Bozkurt, D.**, and Jacques-Cooper, M. Identifying key driving mechanisms of heat waves in central Chile. *under review, Climate Dynamics*
- 2020 **Bozkurt, D.**, Sen, O. L., Ezber, Y., Guan, B., Viale, M., and Caglar, F. Influence of African Atmospheric Rivers on Precipitation and Snowmelt over the Near East's Highlands. *under review, JGR-Atmospheres*
- 2020 Carrasco, J., **Bozkurt, D.**, and Cordero, R. A review of the observed air temperature in the Antarctic Peninsula. Did the warming trend come back the after early 21st hiatus? *under review, Polar Science*
- 2020 **Bozkurt, D.**, Bromwich, D. H., Carrasco, J., and Rondanelli, R. Near-future temperature and precipitation projections for the Antarctic Peninsula: Contrasting global and regional climate model simulations. *under review, Climate Dynamics*
- 2020 **Bozkurt, D.**, D. H. Bromwich, J. Carrasco, K. M. Hines, J. C. Maureira, and R. Rondanelli. Recent near-surface temperature trends in the Antarctic Peninsula from observed, reanalysis and regional climate model data. *Advances in Atmospheric Sciences*, 37, 477-493. https://doi.org/10.1007/s00376-020-9183-x.
- **Bozkurt, D.**, Rojas, M., Boisier, J.B., Rondanelli, R., Garreaud, R., Gallardo, L. Dynamical downscaling over the complex terrain of southwest South America: Present climate conditions and added value analysis. *Climate Dynamics*, 53, 6745Đ6767, doi:10.1007/s00382-019-04959-y.
- 2019 **Bozkurt, D.**, Ezber, Y., Sen, O.L. Role of the East Asian Trough on the eastern Mediterranean temperature variability in early spring and the extreme case of 2004 warm spell. *Climate Dynamics*, 53, 2309-2326, https://doi.org/10.1007/s00382-019-04847-5.
- 2019 Rondanelli, R., Hatchett, B., Rutllant, J., **Bozkurt, D.**, Garreaud, R. Strongest MJO on record triggers extreme Atacama rainfall and warmth in Antarctica. *Geophysical Research Letters*, 46(6), 3482-3491, https://doi.org/10.1029/2018GL081475.
- 2019 Sen, O.L., Ezber, Y., **Bozkurt, D.** Euro-Mediterranean Climate Variability in Boreal Winter: A Potential Role of the East Asian Trough. *Climate Dynamics*, 52, 7071-7084, https://doi.org/10.1007/s00382-018-4573-9.
- 2019 Bravo, C., **Bozkurt, D.**, Gonzalez-Reyes, A., Quincey, D., Ross, A.N., Farías, D., Rojas, M. Assessing Snow Accumulation Patterns and Changes on the Patagonian Icefields. *Frontiers in Environmental Science*, 7(1), 30. doi: 10.3389/fenvs.2019.00030.
- 2019 Barria, P., M. Rojas, P. Moraga, A. Muñoz, **D. Bozkurt**, C. Alvarez. Anthropocene and streamflow: Long-term perspective of streamflow variability and water rights. *Elementa: Science of the Anthropocene*, 7(1), p.2. DOI: http://doi.org/10.1525/elementa.340.
- 2018 **Bozkurt, D.,** Rojas, M., Boisier, J.P., Valdivieso, J. Projected hydroclimate changes over Andean basins in central Chile from downscaled CMIP5 models under the low and high emission scenarios. *Climatic Change*, 150(3-4), 131-146. https://doi.org/10.1007/s10584-018-2246-7.
- 2018 Xoplaki, E., Luterbacher, J., Wagner, S., Zorita, E., Fleitmann, D., Preiser-Kapeller, J., Sargent, A.M., White, S., Toreti, A., Haldon, J.F., Mordechai, L., **Bozkurt, D.,** Akcer-On, S., Izdebski, A. Climate and societal resilience in the Eastern Mediterranean during the last millennium. *Human Ecology*, 46, 363-379. https://doi.org/10.1007/s10745-018-9995-9.
- 2018 **Bozkurt, D.,** Rondanelli, R., Marín, J., Garreaud, R. Foehn event triggered by an atmospheric river underlies record-setting temperature along continental Antarctica. *Journal of Geophysical Research-Atmospheres*, 123(8) 3871-3892, doi:10.1002/2017JD027796.
- 2017 **Bozkurt, D.,** Rojas, M., Boisier, J.P., Valdivieso, J. Climate change impacts on hydroclimatic regimes and extremes over Andean basins in central Chile. *Hydrology and Earth System Sciences Discussions*, doi:10.5194/hess-2016-690, preprint.
- 2016 **Bozkurt, D.,** Rondanelli, R., Garreaud, R., Arriagada, A. Impact of warmer eastern tropical Pacific SST on the March 2015 Atacama floods. *Monthly Weather Review*, 144 (11), 4441-4460, DOI:10.1175/MWR-D-16-0041.

- 2015 **Bozkurt, D.,** Sen, O.L., Hagemann, S. Projected river discharge in the Euphrates-Tigris Basin from a hydrological discharge model forced with RCM and GCM outputs. *Climate Research*, 62, 131-147, DOI:10.3354/cr01268.
- 2015 Sen, O.L., Gokturk, O.M, **Bozkurt, D.** Changing climate: a great challenge for Turkey. *Journal of the Black Sea/Mediterranean Environment*, Special Issue 21, 97-103.
- 2013 Onol, B., Bozkurt, D., Turuncoglu, U.U., Sen, O.L., Dalfes, H.N. Evaluation of the 21st century RCM simulations driven by multiple GCMs over the Eastern Mediterranean-Black Sea region. *Climate Dynamics*, 42, 1949-1965.
- 2013 Sen, O.L., **Bozkurt, D.,** Vogler, J.B., Ziegler, A.D., Fox, J., Giambelluca, T.W. Hydro-climatic effects of future land-cover/land-use change in montane mainland southeast Asia. *Climatic Change*, 118 (2), 213-226, DOI 10.1007/s10584-012-0632-0.
- **Bozkurt, D.,** Sen, O.L. Climate change impacts in the Euphrates-Tigris Basin based on different model and scenario simulations. *Journal of Hydrology*, 480, 149-161, http://dx.doi.org/10.1016/j.jhydrol.2012.12.021.
- 2012 **Bozkurt, D.,** Turuncoglu, U., Sen, O.L., Onol, B., Dalfes, H.N., 2012. Downscaled simulations of the ECHAM5, CCSM3 and HadCM3 global models for the eastern Mediterranean-Black Sea region: Evaluation of the reference period. *Climate Dynamics*, 39 (1-2), 207-225, DOI: 10.1007/s00382-011-1187-x.
- 2011 Sen, O.L., Unal, A., **Bozkurt, D.,** Kindap, T. Temporal changes in the Euphrates and Tigris discharges and teleconnections. *Environmental Research Letters*, 6 024012 DOI:10.1088/1748-9326/6/2/024012.
- **Bozkurt, D.,** Sen, O.L. Precipitation in the Anatolian Peninsula: sensitivity to increased SSTs in the surrounding seas. *Climate Dynamics*, 36 (3-4), 711-726, DOI:10.1007/s00382-009-0651-3.
- 2008 Gokturk, O.M, **Bozkurt, D.,** Sen, O.L., Karaca, M. Quality control and homogeneity of Turkish precipitation data. *Hydrological Process*, 22 (16), 3210-3218.

Technical Reports and Chapter in Book

- 2020 Rutz, J. J., Guan, B., **Bozkurt, D.**, Gorodetskaya, I. V., et al. Global and regional perspectives. In: Ralph, F. M., Dettinger, M. D., Rutz, J. J., Waliser, D. E. (eds) Atmospheric Rivers. *Springer Nature. Springer, Cham.*, https://doi.org/10.1007/978-3-030-28906-5.
- 2020 **Bozkurt, D.**, Rondanelli, R., Carrasco, J., et al. Informe de Síntesis: Simulaciones climáticas regionales para el continente Antártico. *Center for Climate and Resilience Research (CR)2*.
- 2019 González, H. E., **D. Bozkurt**, F. Cereceda-Balic, R. Cordero, F. Fernandoy, J. L. Iriarte, S. MacDonell, J. McPhee, E. Poulin, A. Rivera y M. Schaefer. Criósfera Chilena y Antártica: Recomendaciones desde la evidencia científica. *Comité científico COP25, mesa Criósfera y Antártica*
- 2018 Turuncoglu, U.U, Turkes, M., Bozkurt, D., Onol, B., Sen, O.L., Dalfes, H.N. Climate. In: Kapur S., Akca E., Gunal H. (eds) The Soils of Turkey. World Soils Book Series. Springer, Cham.
- 2015 Garreaud, R., Aldunce, P., Araya, G., Blanco, G., Boisier, J.P., **Bozkurt, D.,** Carmona, A., Christie, D.A., Farías, L., Gallardo, L., Galleguillos, M., González, M., Herrera, P., Huneeus, N., Jiménes, D., Lara, A., Latoja, D., Lillo, G., Masotti, I., Moraga, P., Nahuelhual, L., Paredes, P., Ossandón, J., Rojas, M., Urquiza, A., Yévenes, M., Zambrano, M. Informe a la Nación: La megaseqíua 2010-2015: Una lección para el futuro. *Center for Climate and Resilience Research (CR)2*.
- 2015 Kindap, T., Unal, A., Ozdemir, H., Bozkurt, D., Turuncoglu, U.U., Demir, G., Tayanc, M., Karaca, M. Quantification of the urban heat island under a changing climate over Anatolian Peninsula. Human and Social Dimensions of Climate Change / Book 1, InTech ISBN 978-953-51-0847-4, Edited by Chhetri, N.

Given Seminars & Talks and Teaching Experiences Seminars

- 27 August "Cambio climático reciente y futuro cercano en la Península Antártica", Center for Climate and 2020 Resilience Research (CR)2, Virtual.
- 14 February **"Foehn event triggered by an atmospheric river underlies record-setting temperature along**2018 **continental Antarctica"**, Helmholtz-Zentrum Geesthacht, Centre for Materials and Coastal Research,
 Hamburg-Germany.
- 12 October "Climatological and geomorphological notes on Atacama and Patagonia, Chile with photographic images" (given in Turkish), Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.

- 6–8 **"Hydrological and climate modeling in Leftraru" (given in Spanish)**, *Primer Taller de Modelamiento*September *Matemático CMM-MOP*, Universidad de Chile, Santiago, Chile.
 2016
- 18–21 August "Generation of climate change scenarios and coupling with the VIC model in Chile Central" (given 2015 in Spanish), Taller Internacional de Desarrollo de Escenarios Climáticos a Mediano Plazo (2020-2035) para Cuencas Vulnerables a la Variabilidad Climática Interanual, Decadal y el Cambio Climático, El Programa Hidrológico Internacional-UNESCO, La Red de Centros de Excelencia en Agua en América Latina (RALCEA) y la Agencia Española de Cooperación Internacional para el Desarrollo (AECID), Cartagena de Indias, Colombia.
 - 8 January "Regional climate change studies over the Eastern Mediterranean-Black Sea region: Observed changes, model uncertainties and projected climate change impacts", Center for Climate and Resilience Research, University of Chile, Santiago-Chile.
 - 14 March "Climate change in the Euphrates-Tigris Basin", Max Planck Institute for Meteorology, Hamburg-2012 Germany.
- 17–21 January **"Enhancing the Capacity of Turkey to Adapt to Climate Change"**, *FAO Workshop*, Ankara-Turkey. 2011

Talks

- 4 May 2020 "Tropical air intrusions over the eastern Mediterranean and Mesopotamia: An atmospheric river case study and role of the East Asian trough", European Geosciences Union General Assembly 2020, Virtual.
- 3 May 2020 "Recent and near future climate change in the Antarctic Peninsula", European Geosciences Union General Assembly 2020, Virtual.
 - 7 October "Recent and near future climate change in the Antarctic Peninsula", 2019 Polar CORDEX Meeting, 2019 Copenhagen, Denmark.
- 26 June 2019 "Regional climate model simulations for the Antarctic Peninsula: Comparing and contrasting with observed climate variability", 14th Workshop on Antarctic Meteorology and Climate, Charleston, SC-USA.
 - 17 October "Foehn event triggered by an atmospheric river underlies record-setting temperature along con-2018 tinental Antarctica", 2018 Polar CORDEX Meeting, Warsaw, Poland.
- 18 July 2018 "Foehn event triggered by an atmospheric river underlies record-setting temperature along continental Antarctica", 13th Workshop on Antarctic Meteorology and Climate, Madison, Wisconsin-USA.
- 27 June 2017 "Observational and model based analysis of extreme temperature event in March 2015 in the Antarctic Peninsula", 12th Workshop on Antarctic Meteorology and Climate, NCAR, Boulder, Colorado-USA
- 26 September "Modeling an extreme precipitation event over the Atacama Desert: The impact of warmer eastern tropical Pacific SST", Data Analysis and Modeling in Earth Sciences (DAMES), University of Hamburg, Hamburg-Germany.
 - 1 May 2015 "Regional climate processes and large-scale forcing over the Anatolian peninsula", Climate and Society in Byzantine and Ottoman Anatolia, 300-1900 CE. Climate Change and History Research Initiative (CCHRI), Princeton University, NJ-USA.
- 19 November "Drought impact on streamflows in central-southern Chile under climate change", International 2014 Expert Symposium "Coping with Droughts", Santiago-Chile.
- 8 April 2011 "Simulated intense convective precipitation over the Black Sea coasts: Sensitivity to temporal modifications of SST", European Geosciences Union General Assembly 2011, Vienna-Austria.
- 5 April 2011 "Hydrological response of past and future climate changes in the Euphrates-Tigris Basin", European Geosciences Union General Assembly 2011, Vienna-Austria.

Teaching Experiences

- 2020 Spring **"Cambio Climático", MSc Course**, *Magíster en Ciencias, mención Biodiversidad y Conservación, Universidad de Valparaíso*, Valparaíso-Chile.
- 2020 **Supervisor of internship for MSc degree completion**, Alan Demortier, Ecole Nationale de la Météorolo-February-July gie (ENM), Toulouse-France, Thesis Title: Heat waves affecting central Chile: Large-scale driving mechanisms and historical & future simulations.

- 2019–2020 **Member of MSc committee**, Tomás Carrasco Escaff, Universidad de Chile, Departamento de Geofísica. Thesis Title: Evaluación del control atmosférico sobre el balance de masa superficial de los campos de hielo Patagónicos en el clima presente usando modelación.
- 23 August Lecturer, "Ejecución de Modelos climáticos en la Nube (un caso practico con WRF en AWS)", CR2 & 2019 Universidad de Chile, Santiago-Chile.
- 20 June 2019 **Invited Professor**, *GF3004 Sisteme Climático*, *MSc Course "Modelación climática y experimentos de modelos climáticos regionales para Chile"*, Departamento de Geofísica, Universidad de Chile, Santiago-Chile.
- 3 Septiembre Lecturer, "Bases de Datos en CR2", CR2 & Universidad de Chile, Santiago-Chile. 2018
- 27 June 2018 Invited Professor, GEO201 Climatologiá, BSc Course. "Experimentos de modelos climáticos regionales de alta resolución para Chile", Departamento de Geografía Física, Pontificia Universidad Católica de Chile, Santiago-Chile.
- 9–12 January Lecturer, "Curso de Verano: Modelamiento Climático Magallanes" (given in English), Instituto Antártico Chileno & Universidad de Magallanes, Punta Arenas-Chile.
 - 2013 Spring **Teaching Assistant of "Earth System: External Processes", MSc Course**, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.
- 10–19 October International Training Course on "Climate Analysis and Applications" (given in English), WMO 2011 Regional Training Center, Antalya-Turkey.
 - 2011 Fall **Teaching Assistant of "Global Change", BSc Course**, *Dual Degree Program ITU/SUNY, Istanbul Technical University*, Istanbul-Turkey.
 - 2011 Fall **Teaching Assistant of "Land Surface Processes in Hydrometeorology", PhD Course**, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.
 - 2009 Fall **Teaching Assistant of "Earth System Modeling", MSc Course**, Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul-Turkey.
 - 2008 Fall **Teaching Assistant of "Mining Geostatistics", MSc Course**, Department of Mining Engineering, Istanbul Technical University, Istanbul-Turkey.

Computer Skills and Modeling Experiences

Operation Advanced user of Linux and MacOS X Systems

Programming Advanced user of NCL and GrADS data analysis and visualization tools, good skills in BASH shell scripting, good skills in CDO and NCO operators, good skills in Languages good skills in CDO and NCO operators, good skills in Language go

Applications Advanced user of ArcGIS and QGIS

Models Advanced user of WRF and RegCM regional climate models, advanced user of the Hydrological Discharge Model (The HD Model, Max Planck Institute for Meteorology), advanced user of Variable Infiltration Capacity (VIC) Macroscale Hydrological Model, beginner user of the ECHAM6 general circulation model

Language Skills

Turkish Native

English **Advanced**

Spanish Intermediate

German Basic

Intermediate working knowledge
Basic words and phrases only

Research Interests

- Regional Climate Modeling
- Anthropogenic Climate Change
- Extreme Hydrometeorological Events
- Atmospheric Teleconnections

Referee for International Journals

- o Climate Dynamics
- o Climate Research
- o Climatic Change
- o Environmental Earth Sciences
- o Environmental Research Letters
- o International Journal of Climatology
- o Journal of Geophysical Research: Atmospheres
- o Journal of Hydrology
- o Journal of Hydrometeorology
- o Journal of Climate
- o Monthly Weather Review
- o Weather, Climate and Society