

NICHOLAS BROZOVIĆ

Professional Preparation

Oxford University	Geology	B.A., 1993
University of Southern California	Geological Sciences	M.S., 1996
University of California, Berkeley	Agricultural & Resource Economics	M.S., 2000
University of California, Berkeley	Agricultural & Resource Economics	Ph.D., 2002
University of California, Berkeley	Agricultural & Resource Economics	Postdoc, 2003

Appointments

2014 – present	Director of Policy, Daugherty Water for Food Global Institute, University of Nebraska <i>Apportionment: 50% Administrative, 35% Research, 15% Teaching</i>
2018 – present	Professor, Agricultural Economics, University of Nebraska-Lincoln
2014 – 2018	Associate Professor, Agricultural Economics, University of Nebraska-Lincoln
2012 – 2013	Visitor, Civil & Environmental Engineering, Imperial College, London, UK
2011 – 2014	Associate Professor, Agricultural & Consumer Economics, University of Illinois
2003 – 2011	Assistant Professor, Agricultural & Consumer Economics, University of Illinois

Selected Activities and Recognitions

University Administrative Experience

- Lead policy and entrepreneurship programs of the Daugherty Water for Food Global Institute (DWFI), including oversight and mentoring of staff, student interns, and postdoctoral researchers.
- Convene, facilitate, and manage collaborative multidisciplinary and international engagement on water resource management with staff, faculty, students, and university partners and external partners in profit, non-profit, government and multilateral institutions.
- Plan and implement institute's strategic and sustainability goals as part of DWFI leadership team.

Other Administrative Experience

- Former chair of the W2190 USDA Multistate Research Committee (2010-2011; previously also Vice-Chair and Secretary), *Water Policy and Management Challenges in the West*, with a goal of facilitating collaborative multidisciplinary, multistate research on water resource management.
- Board member (*ex officio* 2013-2015, full 2015-present) and program manager (2015-present), *International Arid Lands Consortium*, a multinational, multi-institution group that facilitates interdisciplinary research and applied collaborations in arid lands.
- Member, External Advisory Board, *Wells Fargo Innovation Incubator* (2018-present).
- Member, core group, *Groundwater Solutions Initiative for Policy and Practice* (GRIPP), a multinational group that synthesizes and translates lessons learned on technology and governance for groundwater management (2017-present).
- Co-founder and scientific advisor of a startup company (*Mammoth Water*) that develops and implements environmental markets in complex regulatory regimes (2014-present).

Editorial Activities

Associate Editor, *Water Resources Research*, 2010-2014; Editorial Board, *Water Economics and Policy*, 2013-2018; Editorial Board, *Water Security*, 2016-present; Guest Editor, *Hydrogeology Journal*, 2012 Special Issue.

Journal Articles (last 5 years)

- Foster, T., Mieno, T., and Brozović, N., 2020, Satellite-based monitoring of irrigation water use: Assessing measurement errors and their implications for agricultural water management policy, *Water Resources Research*, v. 56 (11), e2020WR028378
- Garrick, G., Iseman, T., Gilson, G., Brozović, N., O'Donnell, E., Matthews, N., Miralles-Wilhelm, F., Wight, C., and Young, W., 2020, Scalable solutions to freshwater scarcity: Advancing theories of change to incentivise sustainable water use, *Water Security*, v. 9, 100055.
- Rad, M.R., Brozović, N., Foster, T., and Mieno, T., 2020, Effects of instantaneous groundwater availability on irrigated agriculture and implications for aquifer management, *Resource and Energy Economics*, v. 59, 101129.
- Riley, D., Mieno, T., Schoengold, K., and Brozović, N., 2019, The impact of land cover on groundwater recharge in the High Plains: An application to the Conservation Reserve Program, *Science of The Total Environment*, v. 696, 133871.
- Foster, T., Gonçalves, I.Z., Campos, I., Neale, C.M.U., and Brozović, N., 2019, Assessing landscape scale heterogeneity in irrigation water use with remote sensing and in-situ monitoring, *Environmental Research Letters*, DOI: 10.1088/1748-9326/aaf2be.
- O'Keeffe, J., Moulds, S., Bergin, E., Brozović, N., Mijic, A., and Buytaert, W., 2018, Including farmer irrigation behavior in a socio-hydrological modelling framework with application in north India, *Water Resources Research*, DOI: 10.1029/2018WR023038.
- Forbes, C.T., Brozović, N., Franz, T., Lally, D., and Petitt, D., 2018, Water in Society: An interdisciplinary course to support undergraduate students' water literacy, *Journal of College Science Teaching*, v. 48 (1), 36-42.
- Foster, T. and Brozović, N., 2018, Simulating crop-water production functions using crop growth models to support water policy assessments, *Ecological Economics*, v. 152, 9-21, DOI: 10.1016/j.ecolecon.2018.05.019.
- Schoengold, K. and Brozović, N., 2018, The future of groundwater management in Nebraska and the High Plains: Evolving institutions, aquifers, and regulations, *Western Economic Forum Journal*, v. 16 (1), 47-53.
- Du, E., Cai, X., Brozović, N., and Minsker, B., 2017, Evaluating the impacts of farmers' behaviors on a hypothetical agricultural water market based on double auction, *Water Resources Research*, DOI: 10.1002/2016WR020287.
- Foster, T., Brozović, N., and Speir, C., 2017, The buffer value of groundwater when well yield is limited, *Journal of Hydrology*, DOI: 10.1016/j.jhydrol.2017.02.034.
- Foster, T., Brozović, N., Butler, A.P., Neale, C., Raes, D., Steduto, P., Fereres, E., and Hsiao, T.C., 2017, AquaCrop-OS: An open source version of FAO's crop water productivity model, *Agricultural Water Management*, v. 181, 18-22, DOI: 10.1016/j.agwat.2016.11.015.
- Foster, T., Brozović, N., and Butler, A.P., 2016, Effects of initial aquifer conditions on economic benefits from groundwater conservation, *Water Resources Research*, DOI: 10.1002/2016WR019365.
- Mieno, T. and Brozović, N., 2016, Price elasticity of groundwater demand: Attenuation and amplification bias due to incomplete information, *American Journal of Agricultural Economics*, DOI: 10.1093/ajae/aaw089.
- Kuwayama, Y. and Brozović, N., 2016, Optimal management of environmental externalities with time lags and uncertainty, *Environmental and Resource Economics*, DOI: 10.1007/s10640-016-0026-2.
- O'Keeffe, J., Buytaert, W., Mijic, A., Brozović, N., and Sinha, R., 2016, The use of semi-structured interviews for the characterisation of farmer irrigation practices, *Hydrology and Earth System Sciences*, v. 20, 1911-1924, DOI: 10.5194/hess-20-1911-2016.

Speir, C., Han, J. and Brozović, N., 2016, Spatial dynamic optimization of groundwater use with ecological standards for instream flow, *Water Economics and Policy*, DOI: 10.1142/S2382624X16500132.

Young, R.K. and Brozović, N., 2016, Innovations in groundwater management: Smart markets for transferable groundwater extraction rights, *Technology and Innovation*, v. 17, 219-226, DOI: 10.3727/194982416X14520374943220.

Book Chapters and Reports (last 5 years)

Garrick, D., O'Donnell, E., Moore, M.S., Brozović, N., and Iseman, T., 2019, *Informal water markets in an urbanising world: Some unanswered questions*, World Bank, Washington DC, 47 p.

Young, R., and Brozović, N., Agricultural water transfers in the Western United States, 2019, *Daugherty Water for Food Global Institute/Mammoth Trading*, 22 p.

Babbitt, C., Gibson, K., Sellers, S., Brozović, N., Saracino, A., Hayden, A., Hall, M., and Zellmer, S., 2018, *The Future of Groundwater in California: Lessons in Sustainable Management from Across the West*, Environmental Defense Fund/Daugherty Water for Food Global Institute, 120 p.

Babbitt, C., Hall, M., Hayden, A., Briones, A., Young, R., and Brozović, N., 2017, *Groundwater Trading as a Tool for Implementing California's Sustainable Groundwater Management Act*, Environmental Defense Fund/Mammoth Trading, 16 p.

Polzkill, S., Stejskal, A., Wilke, H., Wistrom, A., Gibson, K., Spiehs, M., and Brozović, N., 2017, *Paid to Pump: How a tax credit could discourage conservation of the High Plains Aquifer*, Daugherty Water for Food Global Institute Policy Brief, 4 p.

Awada, T., Brozović, N., and Koelsch, R., 2016, Implications of Climate Change on Nebraska's Agriculture, Food and Water, in *The Implications of Climate Change for Nebraska: Summary Report of Sector-Based Roundtable Discussions*, Wilhite, D., and Morrow, K. (eds.), School of Natural Resources, University of Nebraska, Lincoln, Nebraska, 55 p.

Kuwayama, Y., Young, R.K., and Brozović, N., 2016, Groundwater scarcity: Management approaches and recent innovations, in J. Ziolkowska and J. Peterson (eds.), *Competition for Water Resources: Experiences and Management Approaches in the U.S. and Europe*, Elsevier, 480 p.

Montginoul, M., Rinaudo, J.D., Brozović, N., and Donoso, G., 2016, Controlling groundwater exploitation through economic instruments: Current practices, challenges and innovative approaches, in A. Jakeman et al. (eds.), *Integrated Groundwater Management*, DOI: 10.1007/978-3-319-23576-9_22.

Selected Grants and Contracts (last 5 years)

Promoting Sustainability and Resilience of Smallholder Irrigation Impacts in Sub-Saharan Africa, N. Brozović, *International Fund for Agricultural Development*, \$1,000,000, 2020-2023.

Strengthening Agtech Entrepreneurship in the Midwest in Response to COVID-19, N. Brozović (PI), K. Gibson, *Wells Fargo-Innovation Incubator IN2*, \$50,000, 2020-2021.

Understanding real-time irrigation behavior to improve energy efficiency in agriculture, N. Brozović (PI), T. Mieno, K. Schoengold, *Nebraska Center for Energy Sciences Research*, \$83,800, 2019-2020.

Wells Fargo Innovation Incubator, Brozović, N., *Alliance for Sustainable Energy*, \$15,000, 2018.

Market-Based Approaches to Drought Management, McCornick, P. (PI), Brozović, N., Nance, M., *USDA-Office of the Chief Economist*, \$50,000, 2018-2019.

Contaminant Sensing and Field Data Platform, S. Ndao (PI), R. Lai, N. Brozović, *Nebraska Department of Economic Development*, \$201,657, 2018-2019.

Developing a Platform to Monitor N Footprint in Agro-Ecosystems, P. Grassini (PI), N. Brozović, J. Rattalino Edreira, K. Gibson, *USDA-NIFA Agriculture and Food Research Initiative*, \$431,197, 2018-2020.

Governing groundwater sustainably: Nebraska's 50-year experiment, N. Brozović (PI), K. Gibson, *World Bank*, \$25,000, 2017.

Market-Based Approaches to Drought Management, N. Brozović, *USDA-Office of the Chief Economist*, \$200,000, 2017-2018.

Water Education Leaders for Secondary Science, C. Forbes (PI), N. Brozovic, J. Griffin, *Nebraska Coordinating Commission for Postsecondary Education, Improving Teacher Quality grant*, \$62,000, 2017-2018.

Water Education Leaders for Secondary Science, C. Forbes (PI), N. Brozovic, J. Griffin, *USDA-NIFA*, \$144,500, 2016-2019.

The state of informal agricultural water trading in the American West, Brozović, N., *USDA-Office of the Chief Economist*, \$40,150, 2016-2017.

Groundwater management in a conjunctive use system with managed flows for protected fish species, T. Foster (PI), N. Brozović, *NOAA*, \$29,300, 2016.

IUSE: Fostering Undergraduate Students' Disciplinary Learning and Water Literacy, C. Forbes (PI), N. Brozovic, T. Franz, *National Science Foundation*, \$299,018, 2016-2019.