

NICHOLAS A. POTTER

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DOCTORAL STUDIES

expected
2021

PhD, Economics

Washington State University

Dissertation: "Essays in Climate and Resource Economics"

Committee

Professor Michael Brady

School of Economic Sciences

Washington State University

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Professor Jonathan Yoder

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Professor Joseph Cook

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Fields

Environmental and Natural Resource Economics, International Economics

RESEARCH PAPERS

Climate effect on the economic returns to diverse surface-water irrigated agriculture (Job Market Paper)

Irrigated agriculture in snowpack-dependent surface water systems is characterized by a diverse high value crop mix and a dependence on water supplies rather than precipitation. As a result, producer profits in these systems may be less affected by exposure to high temperatures than crop yields or profits in nonirrigated production systems. We estimate season-total exposure time to each temperature and use penalized regression to detect a threshold effect in the rental prices of irrigated and nonirrigated cropland. Rental prices reflect expectations about future profits given climate conditions, are reported separately for irrigated and nonirrigated cropland, and are less affected by nonfarm factors than farmland values. Conditional on water supply, we find little evidence for a sharp decline in per acre rental price at higher temperatures, though benefits of warmer temperatures decline starting at 25°C for irrigated cropland and 20°C for nonirrigated cropland. Our results suggest that Ricardian estimates based on the agronomic measure of degree days from 8-32°C and particularly degree days above 34°C may be misleading. While the marginal impact of an additional degree of temperature is smaller, the decline starts earlier and more cropland is affected. Coauthors: Michael Brady and Kirti Rajagopalan.

On the frontier of water rights: Forfeiture then and now

An examination of the economic effects of water rights forfeiture due to non-use in the western U.S. during the economic frontier and in the present. Coauthor: Jonathan Yoder.

- **Water property rights do not mitigate the effect of drought on the likelihood of small-scale conflict**
We combine a gridded spatiotemporal drought index, spatially explicit records of conflict, and country-level property rights assessments to test investigate whether water property rights mitigate the relationship between conflict and drought. Coauthor: Joseph Cook.

PUBLICATIONS

- 2019 ● **rnassqs: An R package to access agricultural data via the USDA National Agricultural Statistics Service (USDA-NASS) 'Quick Stats' API**
Journal of Open Source Software, 4(43), 1880. DOI: <https://doi.org/10.21105/joss.01880>
- 2012 ● **The Long-Term Effects of Moving to Opportunity on Adult Health and Economic Self-Sufficiency.**
Cityscape 14(2), 109-36. Coauthors: Lisa Sanbonmatsu and others.

SOFTWARE

- 2019 ● **rnassqs: Access the NASS QuickStats API**
R package. <https://CRAN.R-project.org/package=rnassqs>, doi: 10.5281/zenodo.2662520
- 2019 ● **vcovConley: Conley spatially-adjusted standard errors**
R package. <https://github.com/potterzot/vcovConley>
- **Contributions to other software:**
 - [ropensci/rnoaa](#): R interface to many NOAA data APIs
 - [ghgycr](#): Ecosystem Climate Regulation Services Calculator

CONFERENCE PAPERS AND PRESENTATIONS

- 2020 ● **"Reproducible geoprocessing of agricultural, climate, and land use data at scale with R"**
The Workshop in Environmental Economics and Data Science (TWEEDS), Online
- 2020 ● **"Climate and irrigated agriculture: Evidence from cash rents"**
Online Seminar Workshop in Environment, Energy, and Transportation (OSWEET), Online
- 2020 ● **"Do property rights institutions mitigate drought-induced conflict?"**
Agricultural and Applied Economics Association Annual Meeting, Online
- 2020 ● **"Limitations on water rights in the West: The economic logic of forfeiture"**
Western Agricultural Economics Association Annual Meeting, Online
- 2019 ● **"On the frontier of water rights: Beneficial use and relinquishment in settling the Columbia River Basin"**
Universities Council on Water Resources Annual Meeting, Snowbird, UT
- 2018 ● **"Climate impacts on agricultural productivity in the fruitful rim"**
Northwest Climate Conference, Boise, ID
- 2018 ● **"Using climate analogues to obtain a causal estimate of the impact of climate on agricultural productivity"**
Agricultural and Applied Economics Association Annual Meeting, Washington, D.C.



SELECTED PROFESSIONAL TALKS

- 2020 ● **"Using `data.table` for fast processing of large datasets"**
R Working Group, Washington State University
- 2019 ● **"On the frontier of water rights: Beneficial use and relinquishment in the wild west and now"**
Environmental Economics Lunch, Washington State University
- 2018 ● **"A bayesian model of crop choice using STAN."**
R Working Group, Washington State University
- 2018 ● **"Can crop switching mitigate the effect of climate on agricultural productivity in the fruitful rim?"**
School of Economic Sciences Seminar, Washington State University
- 2018 ● **"Hierarchical regression modeling with STAN"**
R Working Group, Washington State University
- 2017 ● **"Causal bayesian estimates of minimum wage impacts"**
R Working Group, Washington University
- 2017 ● **"A matching approach to estimating the impact of climate on agricultural productivity"**
R Working Group, Washington State University



TEACHING EXPERIENCE

- Fall 2018 ● **Instructor, Fundamentals of Microeconomics (Course)**
211 students, rated 4.2 out of 5
- 2020
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2018 ● **Instructor, Software and Data Carpentry (Workshops)**
20-30 students
- Fall
2020 ● **Instructor, Reproducible Research with R (Workshop)**
Washington State University, Online



RELEVANT WORK EXPERIENCE

- present
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2018 ● **Research Assistant, Water for Agriculture**
Washington State University, Professors Jon Yoder and Joseph Cook
- 2018
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2017 ● **Research Assistant, Farmer Participation in Conservation Programs**
Washington State University, Professors Hayley Chouinard and Michael Brady
- 2017
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2016 ● **Research Assistant, Center for Sustaining Agriculture and Natural Resources**
Washington State University
- 2015
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2012 ● **Research Assistant, Measure to Manage**
Washington State University
- 2012
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2011 ● **Research Assistant, Moving to Opportunity Project**
National Bureau of Economic Research

- 2011
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2008 • **Business Development Volunteer, Guinea and Niger**
United States Peace Corps
- 2008
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2006 • **Research Scientist, Bureau of Business and Economic Research**
University of New Mexico



PRIOR EDUCATION

- 2005 • **M.S. in Applied Mathematics**
University of Massachusetts - Amherst
- 2002 • **B.A. in Economics**
Hampshire College



PROFESSIONAL ACTIVITIES

- 2019 • **President, School of Economic Sciences Graduate Student Association**
Washington State University
- 2018 • **Vice-President, School of Economic Sciences Graduate Student Association**
Washington State University
- **Referee Services**
 - Journal of Open Source Software (JOSS), 2019
 - Agricultural and Applied Economics Association submitted abstracts, 2017, 2018



AWARDS

- 2018 • **Student Scholarship, StanCon 2018**
- 2017 • **Tesfaye Girma Deboch Graduate Fellowship, Washington State University**