

CONTACT INFORMATION	1.970.219.5999 parthum.bryan@epa.gov bryanparthum.com Citizenship: USA	Mail Code 1809T 1200 Pennsylvania Avenue, N.W. Washington, DC 20460
POSITIONS	U.S. Environmental Protection Agency, Office of Policy Economist National Center for Environmental Economics, Washington D.C. Salisbury University Adjunct Professor Fulton School of Liberal Arts, Salisbury, MD	2020 - present   Spring 2021
EDUCATION	Ph.D., Applied Economics University of Illinois at Urbana-Champaign, IL Dissertation: <i>Estimating Demand for Environmental Amenities, Now and Later</i> ACE Most Outstanding Dissertation Award, 2021 Committee: Amy Ando (chair), Klaus Moeltner, Ben Gramig, Peter Christensen M.S., Policy Economics University of Illinois at Urbana-Champaign, IL Thesis: <i>Divesting from the Golden State: A Case Study of Local Foods Systems Using Propensity Score Matching Within Panel Data</i> Advisor: Geoffrey Hewings B.S., Economics Colorado State University, Fort Collins, CO Thesis: <i>Co-integration of Industry to Estimate Business Cycles, Developing Employment and Revenue Projections for the State of Colorado</i> Advisors: Stephan Weiler and Harvey Cutler	2020        2015        2013
FIELDS	Primary Environmental and Resource Economics Applied Econometrics	Secondary Environmental Policy Climate Change
REFEREED JOURNAL PUBLICATIONS	1. <i>Overlooked Benefits of Nutrient Reductions in the Mississippi River Basin</i> with Amy W. Ando. 2020. Land Economics. 96:589-607; doi:10.3368/wple.96.4.589. 2. <i>Willingness-to-Volunteer and Stability of Preferences between Cities: Estimating the Benefits of Stormwater Management</i> with Amy W. Ando, Catalina Cadavid, and Noelwah R. Netusil. 2020. Journal of Environmental Economics and Management. 99. doi:10.1016/j.jeem.2019.102274. 3. <i>Benefits of the Fire Mitigation Ecosystem Service in The Great Dismal Swamp National Wildlife Refuge, Virginia, USA</i> with Emily Pindilli and Dianna Hogan. 2017. Journal of Environmental Management. 203: 375-82. doi:10.1016/j.jenvman.2017.08.018.	
REGULATORY PUBLICATIONS	1. <i>Phasing Down Production and Consumption of Hydrofluorocarbons</i> Chapter 4: Benefits, The Social Cost of Hydrofluorocarbons; Chapter 6: Environmental Justice Analysis; Chapter 8: Uncertainty Surrounding the Social Costs of Hydrofluorocarbons	2021

	2. Protection of Stratospheric Ozone: Standards Related to the Manufacture of Class II Ozone-Depleting Substances for Feedstock	2021
	Chapter 4: Benefits, The Social Cost of Hydrofluorocarbons; Chapter 6: Environmental Justice Analysis	
	3. The Social Cost of Carbon, Methane, and Nitrous Oxide	2021
	Interim Estimates under Executive Order 13990	
PAPERS IN PREPARATION	1. <i>Recreation Elasticities of Mountain Snowpack and Implications for a Changing Climate</i> with Peter Christensen (revise and resubmit)	
	2. <i>A Recreation Demand Model for Mountain Snowpack</i>	
	3. <i>Heavy Rain Events, Toxic Sites, and Drinking Water Quality</i> with Wes Austin and Siyu Pan	
	4. <i>Climate Benefits of Nutrient Management in Aquatic Ecosystems</i> with Jake Beaulieu, Elizabeth Kopits, and Chris Moore	
	5. <i>Buying the Farm and the Distribution of Local and Cultural Benefits from Farmland Conservation</i> with Amy W. Ando, Corey Lang, and Frederick Nyanzu	
	6. <i>The Social Costs of Hydrofluorocarbons and the Climate Benefits from their Phaseout</i> with Tammy Tan	
	7. <i>Using Discrete Choice Experiments as a Tool for Teaching Consumer Theory: A Case Study in an Intermediate Microeconomics Course</i>	
FEDERAL COMMITTEES, WORKGROUPS	Interagency Working Group on Social Cost of Greenhouse Gases	2021-2022
	Technical Working Groups: Damage Functions, Discounting, Socioeconomic and Emissions Scenarios, Climate Science	
	Federal Efforts to Address Harmful Algal Blooms and Hypoxia	2020-2021
	Government Accountability Office	
RESEARCH POSITIONS	<i>Big Data in Environmental Economics and Policy</i>	2017-2020
	Bridge economics with computer science	
	University of Illinois at Urbana-Champaign, IL	
	<i>Cultural Divide in WTP: Rural-Urban Preferences</i>	2016-2020
	An Integrated assessment framework for water quality	
	University of Illinois at Urbana-Champaign, IL	
	Land Conservation on the Rural-Urban Fringe	2019-2020
	Estimating the distributional impacts of land conservation	
	University of Illinois at Urbana-Champaign, IL	
	Dissecting the Energy Efficiency Gap in Home Weatherization	2016-2018
	Randomized control trial, quasi-experimental, and machine learning	
	University of Illinois at Urbana-Champaign, IL	

TEACHING EXPERIENCE	<a href="#">Environmental Economics (ENVS 210)</a>	SP21
	Salisbury University, MD <i>Online</i> : 40 students Undergraduate Credit: 3 Hours	
	<a href="#">Intermediate Microeconomics (ACE 398)</a>	SP19 (TA), FA19
	University of Illinois at Urbana-Champaign, IL <i>Lecture</i> : 65 students Undergraduate Credit: 3 Hours Teaching Evaluation Scores: 4.9/5	
	<a href="#">Microcomputer Applications (ACE 161)</a>	SP18, SU18, FA18
	University of Illinois at Urbana-Champaign, IL <i>Lecture</i> : 50 students, <i>Online</i> : 100 students Undergraduate Credit: 3 Hours Teaching Evaluation Scores: 4.8/5	
TEACHING CERTIFICATES AND AWARDS	<a href="#">List of Teachers Ranked as Excellent</a>	FA19, SP19*, FA18 SU18, SP18*
	University of Illinois at Urbana-Champaign, IL Top-rated faculty and instructors; * indicates top 10%	
	<a href="#">Soaring with Online Learning</a>	SP21
	Salisbury University, MD	
	<a href="#">ACES Teaching and Learning Academy Course</a>	FA17
	University of Illinois at Urbana-Champaign, IL	
	<a href="#">Teacher's Scholar Certificate</a>	FA19
	University of Illinois at Urbana-Champaign, IL Exploration of pedagogy from a discipline-based perspective	
	<a href="#">Graduate Teacher Certificate</a>	FA19
	University of Illinois at Urbana-Champaign, IL Documented teaching experience, development, and reflective practice	
AWARDS	Most Outstanding Dissertation Award	2021
	Department of Agriculture and Consumer Economics	
	<a href="#">Louis V. Logeman Teaching Award</a>	2020
	College of Ag., Consumer and Environmental Sciences	
	Most Outstanding Second Year Research Paper	2018
	Department of Agriculture and Consumer Economics	
	Outstanding Ph.D. Student	2018
	Department of Agriculture and Consumer Economics	
	Gamma Sigma Delta	2017
	Honor Society of Agriculture	
INVITED PRESENTATIONS	<i>U.S. Socioeconomic Impacts of Harmful Algal Blooms Workshop</i>	2020
	<a href="#">Woods Hole Oceanographic Institution</a> , Washington, D.C. (virtual)	
	<i>Using Web-sourced Data to Estimate the Demand for Climate Amenities</i>	2019
	<a href="#">Camp Resources</a> , Asheville, NC (invited presentation of learning tutorial)	
SELECTED PRESENTATIONS	<i>Preferences for Environmental Quality across the Rural-Urban Divide</i>	
	<a href="#">The Social Cost of Water Pollution and IAM Workshop</a> , Ithaca, NY	2019
	<a href="#">Annual W4133: Multistate Research Project</a> , Austin, TX	2018
	<i>You are Here: Bringing New Life, and Methods, to Stated Preference Research</i>	
	<a href="#">The Workshop on Enviro Economics and Data Science</a> , Portland, OR	2019

	<i>The Price of Powder: Evidence on the Demand for Snow from Property Rentals</i> Annual W4133: Multistate Research Project, Santa Fe, NM 2019
	<i>Big Mountain Losses for Small Mountain Towns and the Ski Industry</i> Program in Environmental and Resource Economics, Urbana, IL 2018
	<i>Health Benefits of the Fire Mitigation Ecosystem Service</i> BioEcon 19th Annual, Tilburg, Netherlands 2017
SERVICE AND LEADERSHIP	<b>Referee</b> Journal of Environmental Economics and Management, American Journal of Agricultural Economics, Land Economics, Environmental and Resource Economics, Resource and Energy Economics, Regional Science and Urban Economics, Landscape and Urban Planning, Land Use Policy, Ecological Economics <b>Department and Campus</b> Student Sustainability Committee — Vice Chair 2018 - 2019 Land and Water Subcommittee — Chair 2017 - 2018 UIUC Campus Senate — Senator 2016 - 2018 Senate Executive Committee 2017 - 2018 Committee on Campus Operations 2016 - 2017 Program in Environmental Economics — Coordinator 2017 - 2018 Graduate Student Organization of ACE — Vice President 2016 - 2017 Graduate Academy for College Teaching — Instructor 2019 - 2020 Teaching Teachers how to Teach <b>Community Outreach</b> ACES Family Academies — Short Course July 2019 Economics: The Fun and Seldom Seen Kind
ADDITIONAL EXPERIENCE	<b>Economist</b> Department of the Interior, U.S. Geological Survey 2015 - 2020 Reston, VA Series: GS-0199-09 Supervisor: Emily Pindilli, 1.703.648.5732 Inform adaptive management decisions within the U.S. interior and abroad through interdisciplinary and inter-agency collaboration. Contribute to policy discussion and design. <b>Project Coordinator</b> The Global 2100 Project — Our Task, Inc. 2015 - 2017 Washington, DC Organize research and writing efforts across 25 researchers to develop a comprehensive analysis of global projections for climate, environment, population, agriculture, health, energy, education, conflict, and economic systems through the year 2100. <b>Owner and Founder</b> Parthum Construction 2005 - 2014 Laporte, CO Design and build custom homes and high-end residential remodels, manage large budgets (\$50k-\$1mil), supervise 2 employees and all sub-contractors.
REFERENCES	Amy W. Ando, Ph.D. Professor, Department of Agricultural and Consumer Economics University of Illinois at Urbana-Champaign, IL amyando@illinois.edu

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## PROGRAMMING

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## LANGUAGES

- English (native), American Sign Language (fluent)

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**Dissertation Abstracts****A Market for Snow: Modeling Winter Recreation Patterns Under Current and Future Climate**

with Peter Christensen

*Dissertation Chapter I*

Throughout the winter months across the globe, mountain communities and snow-enthusiasts alike anxiously monitor ever-changing snowpack conditions. We model the behavioral response to this climate amenity by pairing a unique panel of 12 million short-term property rental transactions with daily local weather, daily local snowpack, and daily local snowfall in every major ski resort market across the United States. Matching the spatial and temporal variation in the level of the amenity with that of related market transactions, we derive market-specific demand elasticities, explicitly account for substitution, to model recreation patterns throughout a typical season. Lastly, we combine downscaled projections of local snowpack under future climate scenarios to estimate within and across season trends in visitation during mid and late-century conditions. Our model predicts reductions in snow-related visitation of -40% to -60%, almost twice as large as previous estimates suggest. This translates to a lower-bound on the annual willingness to pay to avoid reductions in snowpack between \$1.23 billion (RCP4.5) and \$2.05 billion (RCP8.5) by the end of the century.

**A Recreational Demand Model for Snowpack***Dissertation Chapter II*

Mountain snowpack is a major driver of outdoor winter recreation and is greatly threatened by climate change. To quantify the consumer welfare underlying this climate amenity, we estimate structural parameters in the utility functions of alpine skiers and recover the marginal willingness to pay (MWTP) for mountain snowpack in each U.S. resort market. Regional variation in the MWTP for snowpack ranges from \$1.38/inch in the Midwest to \$4.24/inch in the Northeast. Using a binned snowpack model to estimate consumer surplus, we find it is increasing nonlinearly from \$18 on a day with between 10-20 inches to \$144 for 80-90 inches. Daily market shares are used to recover substitution patterns providing further insight into how skiers move across markets based on changes in mountain snowpack. We find that substitution is larger in the Mountain-West states, suggesting that these skiers are quite responsive to changes in snowpack within their own region. The Central-East states do experience substitution, but relatively smaller in magnitude than their western counterparts.

**Overlooked Benefits of Nutrient Reductions in the Mississippi River Basin**

with Amy W. Ando

*Dissertation Chapter III*

Improvements in local surface water quality in the Mississippi River Basin (MRB) can contribute to the regional environmental goals of reducing hypoxia in the Gulf of Mexico. To inform estimates of the benefits of water quality policy, we use a choice experiment survey in a typical sub-watershed of the MRB to estimate willingness to pay for local environmental improvements and helping to reduce hypoxia far downstream. We find that residents place large values on reduced local algal blooms, improved local fish populations and diversity, and meeting local commitments to help with the regional environmental problem.