

CONTACT INFORMATION	1.202.564.1045 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., Agricultural and Applied Economics University of Illinois at Urbana-Champaign, IL Department: Agricultural and Consumer Economics Dissertation: <i>Estimating Demand for Environmental Amenities, Now and Later</i> *Received 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 Department: Economics 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 Department: Economics 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	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ol>	
PAPERS IN PREPARATION	<ol style="list-style-type: none"> <li>1. <i>Recreation Elasticities of Mountain Snowpack and Implications for a Changing Climate</i> with Peter Christensen (under review)</li> </ol>	

	<ol style="list-style-type: none"> <li>2. <i>A Recreation Demand Model for Mountain Snowpack</i></li> <li>3. <i>Heavy Rain Events, Toxic Sites, and Drinking Water Quality</i> with Wes Austin and Siyu Pan</li> <li>4. <i>Climate Benefits of Nutrient Management in Aquatic Ecosystems</i> with Jake Beaulieu, Elizabeth Kopits, and Chris Moore</li> <li>5. <i>Buying the Farm and the Distribution of Local and Cultural Benefits from Farmland Conservation</i> with Amy W. Ando and Frederick Nyanzu</li> <li>6. <i>Using Discrete Choice Experiments as a Tool for Teaching Consumer Theory: A Case Study in an Intermediate Microeconomics Course</i></li> </ol>	
GOVERNMENT COMMITTEES	Federal Efforts to Address Harmful Algal Blooms and Hypoxia Government Accountability Office	2020
RESEARCH POSITIONS	<p><i>Big Data in Environmental Economics and Policy</i> Bridge economics with computer science University of Illinois at Urbana-Champaign, IL</p> <p><i>Cultural Divide in WTP: Rural-Urban Preferences</i> An Integrated assessment framework for water quality University of Illinois at Urbana-Champaign, IL</p> <p>Land Conservation on the Rural-Urban Fringe Estimating the distributional impacts of land conservation University of Illinois at Urbana-Champaign, IL</p> <p>Dissecting the Energy Efficiency Gap in Home Weatherization Randomized control trial, quasi-experimental, and machine learning University of Illinois at Urbana-Champaign, IL</p>	<p>2017-2020</p> <p>2016-2020</p> <p>2019-2020</p> <p>2016-2018</p>
TEACHING EXPERIENCE	<p><i>Environmental Economics (ENVS 210)</i> Salisbury University, MD <i>Online</i>: 40 students Undergraduate Credit: 3 Hours</p> <p><i>Intermediate Microeconomics (ACE 398)</i> University of Illinois at Urbana-Champaign, IL <i>Lecture</i>: 65 students Undergraduate Credit: 3 Hours Teaching Evaluation Scores: 4.9/5</p> <p><i>Microcomputer Applications (ACE 161)</i> 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</p>	<p>SP21</p> <p>SP19 (TA), FA19</p> <p>SP18, SU18, FA18</p>
TEACHING CERTIFICATES AND AWARDS	<p><i>List of Teachers Ranked as Excellent</i> University of Illinois at Urbana-Champaign, IL Top-rated faculty and instructors; ★ indicates top 10%</p> <p><i>Soaring with Online Learning</i> Salisbury University, MD</p> <p><i>ACES Teaching and Learning Academy Course</i></p>	<p>FA19, SP19*, FA18 SU18, SP18*</p> <p>SP21</p> <p>FA17</p>

	University of Illinois at Urbana-Champaign, IL	
	Teacher Scholar Certificate	FA19
	University of Illinois at Urbana-Champaign, IL	
	Exploration of pedagogy from a discipline-based perspective	
	Graduate Teacher Certificate	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	
	Louis V. Logeman Teaching Award	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
	Woods Hole Oceanographic Institution, Washington, D.C. (virtual)	
	<i>Using Web-sourced Data to Estimate the Demand for Climate Amenities</i>	2019
	Camp Resources, Asheville, NC (invited presentation of learning tutorial)	
SELECTED PRESENTATIONS	<i>Preferences for Environmental Quality across the Rural-Urban Divide</i>	
	The Social Cost of Water Pollution and IAM Workshop, Ithaca, NY	2019
	Annual W4133: Multistate Research Project, Austin, TX	2018
	<i>You are Here: Bringing New Life, and Methods, to Stated Preference Research</i>	
	The Workshop on Enviro Economics and Data Science, 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 (3), American Journal of Agricultural Economics (4), Land Economics (1), Environmental and Resource Economics (1), Regional Science and Urban Economics (1), Landscape and Urban Planning (2), Land Use Policy (1), Ecological Economics (2)	
	<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 — <i>Instructor</i>	2019 - 2020
	Teaching Teachers how to Teach	
	<b>Community Outreach</b>	
	ACES Family Academies — <i>Short Course</i>	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 up to 6 employees and contractors.	
REFERENCES	Amy W. Ando, Ph.D.	
	Professor, Department of Agricultural and Consumer Economics	
	University of Illinois at Urbana-Champaign, IL	
	amyando@illinois.edu	
	Klaus Moeltner, Ph.D.	
	Professor, Department of Agricultural and Applied Economics	
	Virginia Tech, VA	
	moeltner@vt.edu	
	Peter Christensen, Ph.D.	
	Assistant Professor, Department of Agricultural and Consumer Economics	
	University of Illinois at Urbana-Champaign, IL	
	pchrist@illinois.edu	
	Al McGartland, Ph.D.	
	Director	
	U.S. EPA National Center for Environmental Economics	
	Washington, DC	
	mcartland.al@epa.gov	
PROGRAMMING	• STATA, R, Julia, MATLAB, python, ArcPy, ArcGIS, L <sup>A</sup> T <sub>E</sub> X, Office	
LANGUAGES	• English (native), American Sign Language (fluent)	

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**Dissertation Abstracts****Recreation Elasticities of Mountain Snowpack and Implications for a Changing Climate**

with Peter Christensen

*Dissertation Chapter I*

Throughout the winter months in mountain towns across the globe, humans anxiously monitor ever-changing snowpack conditions to decide when and where to ski. We model the behavioral response to this climate amenity by pairing a unique panel of 13 million short-term property rental transactions with daily local weather, daily resort snowpack, and daily resort snowfall in every major ski 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 state-specific snowpack elasticities and model recreation patterns throughout a typical season. Lastly, we combine downscaled projections of resort-specific snowpack under future climate scenarios to estimate within and across season visitation patterns during mid and late-century conditions. Our model predicts that resort markets could face reductions in local snow-related revenue of -40% to -80%, 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 \$1.64 billion (RCP4.5) and \$2.36 billion (RCP8.5) by the end of the century.

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

I estimate demand parameters for wintertime recreation in the contiguous United States. I make two primary contributions in this paper: 1) I provide estimates of the MWTP for mountain snowpack at the national and regional levels; and 2) I construct a matrix of substitution elasticities between US resort markets. Both contributions invoke random utility to estimate structural parameters in the utility functions of alpine skiers. For the first contribution (1), I maintain trip-level micro data to estimate marginal utilities subsequent MWTP. I develop a new instrument to address price endogeneity concerns for use in a 2SLS instrumental variables approach. For the second contribution (2), I aggregate the trip-level data to market-level and calculate daily market shares. This allows me to recover substitution patterns in the form of elasticities, providing insight into how skiers move across markets based on changes in mountain snowpack. Both contributions are important for understanding consumer welfare in the alpine skiing market and the implications of a changing climate.

**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.