CONTACT INFORMATION

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Washington, DC 20460

POSITIONS

U.S. Environmental Protection Agency, Office of Policy — 2020 - *present*
Economist
National Center for Environmental Economics, Washington D.C.

Salisbury University — Spring 2021
Adjunct Professor
Fulton School of Liberal Arts, Salisbury, MD

EDUCATION

Ph.D., Applied Economics — 2020
University of Illinois at Urbana-Champaign, IL
Dissertation: *Estimating Demand for Environmental Amenities, Now and Later*
ACE Most Outstanding Dissertation Award, 2021
Committee: Amy Ando (chair), Klaus Moeltner, Ben Gramig, Peter Christensen

M.S., Policy Economics — 2015
University of Illinois at Urbana-Champaign, IL
Thesis: *Divesting from the Golden State: A Case Study of Local Foods Systems Using Propensity Score Matching Within Panel Data*
Advisor: Geoffrey Hewings

B.S., Economics — 2013
Colorado State University, Fort Collins, CO
Thesis: *Co-integration of Industry to Estimate Business Cycles, Developing Employment and Revenue Projections for the State of Colorado*
Advisors: Stephan Weiler and Harvey Cutler

FIELDS

Primary
Environmental and Resource Economics
Applied Econometrics

Secondary
Environmental Policy
Climate Change

REFEREED JOURNAL PUBLICATIONS

1. *Overlooked Benefits of Nutrient Reductions in the Mississippi River Basin* with Amy W. Ando. 2020. Land Economics. 96:589-607; doi:10.3368/wple.96.4.589.
2. *Willingness-to-Volunteer and Stability of Preferences between Cities: Estimating the Benefits of Stormwater Management* 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. *Benefits of the Fire Mitigation Ecosystem Service in The Great Dismal Swamp National Wildlife Refuge, Virginia, USA* 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. Phasing Down Production and Consumption of Hydrofluorocarbons — 2021
   Chapter 4: Benefits, The Social Cost of Hydrofluorocarbons; Chapter 6: Environmental Justice Analysis; Chapter 8: Uncertainty Surrounding the Social Costs of Hydrofluorocarbons

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. *Recreation Elasticities of Mountain Snowpack and Implications for a Changing Climate* with Peter Christensen (under review)
2. *A Recreation Demand Model for Mountain Snowpack*
3. *Heavy Rain Events, Toxic Sites, and Drinking Water Quality* with Wes Austin and Siyu Pan
4. *Climate Benefits of Nutrient Management in Aquatic Ecosystems* with Jake Beaulieu, Elizabeth Kopits, and Chris Moore
5. *Buying the Farm and the Distribution of Local and Cultural Benefits from Farmland Conservation* with Amy W. Ando, Corey Lang, and Frederick Nyanzu
6. *The Social Costs of Hydrofluorocarbons and the Climate Benefits from their Phaseout* with Tammy Tan
7. *Using Discrete Choice Experiments as a Tool for Teaching Consumer Theory: A Case Study in an Intermediate Microeconomics Course*

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

Big Data in Environmental Economics and Policy 2017-2020
Bridge economics with computer science
University of Illinois at Urbana-Champaign, IL

Cultural Divide in WTP: Rural-Urban Preferences 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 mearning
University of Illinois at Urbana-Champaign, IL

Teaching Experience

Environmental Economics (ENVS 210) — SP21
Salisbury University, MD
Online: 40 students
Undergraduate Credit: 3 Hours

Intermediate Microeconomics (ACE 398) — SP19 (TA), FA19
University of Illinois at Urbana-Champaign, IL
Lecture: 65 students
Undergraduate Credit: 3 Hours
Teaching Evaluation Scores: 4.9/5

Microcomputer Applications (ACE 161) — SP18, SU18, FA18
University of Illinois at Urbana-Champaign, IL
Lecture: 50 students, *Online*: 100 students
Undergraduate Credit: 3 Hours
Teaching Evaluation Scores: 4.8/5

Teaching Certificates and Awards

List of Teachers Ranked as Excellent — FA19, SP19*, FA18, SU18, SP18*
University of Illinois at Urbana-Champaign, IL
Top-rated faculty and instructors; $\star$ indicates top 10%

Soaring with Online Learning — SP21
Salisbury University, MD

ACES Teaching and Learning Academy Course — FA17
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

U.S. Socioeconomic Impacts of Harmful Algal Blooms Workshop — 2020
Woods Hole Oceanographic Institution, Washington, D.C. (virtual)

Using Web-sourced Data to Estimate the Demand for Climate Amenities — 2019
Camp Resources, Asheville, NC (invited presentation of learning tutorial)

Selected Presentations

Preferences for Environmental Quality across the Rural-Urban Divide
The Social Cost of Water Pollution and IAM Workshop, Ithaca, NY — 2019
Annual W4133: Multistate Research Project, Austin, TX — 2018

You are Here: Bringing New Life, and Methods, to Stated Preference Research
The Workshop on Enviro Economics and Data Science, Portland, OR — 2019

The Price of Powder: Evidence on the Demand for Snow from Property Rentals
Annual W4133: Multistate Research Project, Santa Fe, NM 2019

Big Mountain Losses for Small Mountain Towns and the Ski Industry
Program in Environmental and Resource Economics, Urbana, IL 2018

Health Benefits of the Fire Mitigation Ecosystem Service
BioEcon 19th Annual, Tilburg, Netherlands 2017

Service and Leadership

Referee

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

Department and Campus

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

Community Outreach

ACES Family Academies — *Short Course* July 2019
Economics: The Fun and Seldom Seen Kind

Additional Experience

Economist

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.

Project Coordinator

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.

Owner and Founder

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

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
mcgartland.al@epa.gov

PROGRAMMING
- R, STATA, julia, MATLAB, python, ArcGIS, LaTeX, Office

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

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.