

# A. John Woodill

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## EDUCATION

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- 2018 Ph.D. Economics, University of Hawaii at Manoa  
Fields: Environmental and Resource, International Trade and Macroeconomics, Finance
- 2015 M.A. Economics, University of Hawaii at Manoa
- 2013 B.A. Economics—Quantitative Analysis, San Diego State University, *Summa Cum Laude*
- 2010 A.S. Computer and Information Science, San Diego Mesa/City College
- 2004 Civil Engineer Journeyman, Community College of the Air Force

## SCIENTIFIC EXPERTISE

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I am an **interdisciplinary Environmental Economist** that brings a multi-faceted approach to solving complex environmental issues. I use advanced analytics in computer science and econometrics to address tough environmental problems that span several disciplines, such as resource, agriculture, and fisheries economics, finance, food security, climate change, complex systems, oceanography, earth systems, ecology, and entomology.

## PROFESSIONAL APPOINTMENTS

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- 2022—present **Research Associate**, College of Earth, Ocean, and Atmospheric Sciences  
Oregon State University
- 2019—2022 **Postdoctoral Scholar**, College of Earth, Ocean, and Atmospheric Sciences  
Oregon State University—Advisor: James R. Watson
- 2014—2018 **Graduate Research Assistant**, Natural Resources and Environmental Management  
University of Hawaii at Manoa—Advisors: PingSun Leung and Stuart T. Nakamoto
- 2015 **Research Analyst**, Food and Agriculture Organization of the United Nations  
University of Hawaii at Manoa—Advisor: Philippe Jeanneaux
- 2013 **Research Assistant**, San Diego State University—Advisor: Thitima Puttitanun

## HONORS AND AWARDS

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- 2018 Economic Department Travel Award - University of Hawaii
- 2018 College Travel Funds for Professional Development in Research  
University of Hawaii
- 2018 Graduate Student Organization Travel Award - University of Hawaii
- 2015 Food and Agriculture Organization of the United Nations Travel Award  
University of Hawaii
- 2013 Weintraub Paper Award—“Mining for Bitcoins: an Econometric Analysis.”  
San Diego State University
- 2011 Future Scholars Award — San Diego State University

## PATENTS

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Watson, James R., **Woodill, A. John**, Kavanaugh, Maria. “An Operational Forecasting System Based On Anomalous Behaviors In Complex Systems.” U.S. Patent Application No. 63/027,651 May 20, 2020.

## PEER REVIEWED PUBLICATIONS

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### In review

- [9] Nicolás X. Gómez-Andújar, **A. John Woodill**, Ciera Villegas, James R. Watson. “The Impact of Conflict on Commercial Fishing Effort in Puerto Rico.” In review at *Environmental Research Letters*. September 2022

### Published

- [8] Villarino, Ernesto, James R. Watson, Guillem Chust, **A. John Woodill**, Benjamin Klempay, Bror Jonsson, Josep M. Gasol et al. "Global beta diversity patterns of microbial communities in the surface and deep ocean." *Global Ecology and Biogeography* (2022). [[Oceanography](#)]
- [7] Watson, James R., and **A. John Woodill**. "Detecting illegal maritime activities from anomalous multiscale fleet behaviours." *Fish and Fisheries* (2022). [[Complex Systems](#) / [Fisheries](#)]
- [6] **Woodill, A. John**, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Ocean Seascapes Predict Distant-water Fishing Vessel Incursions into Exclusive Economic Zones.” *Fish and Fisheries*. (2021) [[Machine Learning](#) / [Fisheries](#)]

- [5] **Woodill, A. John**, Nakamoto, S. T., Kawabata, A. M., Leung, PingSun. “Optimal Spraying and Harvesting Strategy to Combat CBB: A Dynamic Approach.” *Journal of Agriculture and Food Research*. (2021) [Decision Theory / [Precision Agriculture](#)]
- [4] **Woodill, A. John**, Nakamoto, Stuart T., Kawabata, Andrea M., Arita, Shawn, and Leung, PingSun. "The Impact of CBB on the Economics of Coffee Production in Hawai‘i: 2007–2012 USDA Census Analysis." College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, Insect Pests, IP-46 (May 2019). [[Agriculture](#)]
- [3] **Woodill, A. John**, Nakamoto, S. T., Kawabata, A. M., Leung, PingSun. “To Spray or Not to Spray: A Decision Analysis of Coffee Berry Borer in Hawaii.” *Insects* (2017): 1-16 [Decision Theory / [Precision Agriculture](#)]
- [2] **Woodill, A. John**, Hemachandra, Dilini, Nakamoto, Stuart T., and Leung, PingSun. "The Economics of Coffee Production in Hawai‘i." *Economic Issues* 25 (2014): 1-9. [[Agriculture](#)]
- [1] Richardson, G. Manning, Bowers, Janet, **Woodill, A. John**, Barr, Joseph R., Gawron, Jean Mark, and Levine, Richard A. "Topic Models: A Tutorial with R." *International Journal of Semantic Computing* 8, no. 01 (2014): 85-98. [[Natural Language Processing](#)]

## RESEARCH GRANTS AND PROPOSALS

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### Active Grant Funding

2020-2024, Co-Principal Investigator — “High-Resolution Vineyard Nutrition Research Project”, a collaborative effort between WSU and Cornell, UC Davis, Oregon State, Rochester Institute of Technology, Virginia Tech, and USDA-ARS, funded through the National Institute of Food and Agriculture’s Specialty Crop Research Initiative Coordinated Agricultural Projects (CAP) grant (\$4.75 million)

2022-2024, Co-Principal Investigator — “The Yield-Quality Paradigm: Using Long-Term, Multi-Vineyard Data to Understand Yield Management into the Future”, a collaborative effort at OSU with Patty Skinkis and Katie McLaughlin to disentangle field-level decision-making with a 10-year robust panel dataset that allows us to identify nutrient treatments and climate change impacts, USDA ARS Northwest Center for Small Fruits Research grant (\$104,585)

## TEACHING

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2021 **Guest Lecturer**, Geography 361 and 561—Species Distribution Modeling  
Oregon State University

2020 **Guest Lecturer**, Geography 361 and 561—Climate Econometrics  
Oregon State University

- 2017 **Graduate Student Instructor (Online)**, Economics 358—Environmental Economics  
University of Hawaii
- 2012 **Teaching Assistant**, Math 150—Calculus I  
San Diego State University

## TECHNICAL SKILLS

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### **Statistical/Mathematical Methods**

Non/Semi/Parametric Regressions, Machine/Deep Learning—Classification and Regression, Bayesian, Dynamic Programming, Stochastic Programming, Complex Systems, Information Theory, Agent-based Modeling, and Natural Language Processing

**Programming/Statistical Languages (order of exp):** Python, R, STAN, STATA, SAS, SQL, Matlab, C/C++, Julia, Bash

**Cloud Platforms:** Google Cloud, Amazon Web Services

**Tools:** ETL/Production Workflows, Docker, Kubernetes, Shiny, Dask, Flask, Dash, Plotly, Travis CI, Github Actions, Jupyter, git, LaTeX, Python-pypi, R-dev-tools

## PROFESSIONAL SERVICE

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### **Chaired Sessions in Conferences**

- 2018 **6th World Congress of Environmental and Resource Economists (WCERE)**  
Dimensions of Adaptation and its Potential to Mitigate Harm to Agriculture  
Co-host with Michael J. Roberts  
University of Gothenburg, Sweden

### **Journal Referee**

Journal of the European Economic Association, Environmental Research Letters, Agricultural and Forest Meteorology, Journal of Environmental Economics and Management, Nature Communications, Sustainability

### **Professional Memberships**

Association of Environmental and Resource Economists, Agricultural & Applied Economics Association, American Geophysical Union

## PRESENTATIONS

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### Seminars/Workshops

- 2022** **Woodill, A. John**, Nicolás Gómez Andújar, Jonathan Sweeney, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Measuring the Economic Value of Dynamic Oceanographic Seascapes.” Ocean Sciences Meeting (online).
- 2021** **Woodill, A. John**, Nicolás Gómez Andújar, Jonathan Sweeney, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Measuring the Economic Value of Dynamic Oceanographic Seascapes.” Yale Environmental Economics Workshop (online).
- 2019** Watson, James R. and **Woodill, A. John** “Anticipating Illegal Maritime Activities from Anomalous Multiscale Fleet Behavior.” NASA Biodiversity and Ecological Forecasting Team Meeting, Washington D.C.
- Woodill, A. John** and Roberts, Michael J. “Adaptation and the Envelope Theorem.” Applied Economics Working Group, Oregon State University.
- 2017** **Woodill A. John**. “Blinder-Oaxaca Decomposition Workshop.” Applied Microeconomics Workshop, University of Hawaii at Manoa.
- Woodill A. John**. “Crop Choice and Climate Change.” Applied Microeconomics Workshop, University of Hawaii at Manoa.
- Woodill, A. John** and Roberts, Michael J. “Adaptation Along the Envelope: Evidence from U.S. Agriculture.” Seminar in Energy and Environmental Policy, University of Hawaii at Manoa.
- 2016** **Woodill A. John**. “Optimal Water Extraction in California’s Central Valley Under Snow Pack Uncertainty.” Applied Microeconomics Workshop, University of Hawaii at Manoa.
- Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Decision Tree Analysis of Coffee Berry Borer in Hawaii.” CTAHR/COE Student Research Symposium, University of Hawaii at Manoa.
- 2015** **Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Decision Tree Analysis of Coffee Berry Borer in Hawaii.” Seminar in Energy and Environmental Policy, University of Hawaii at Manoa.
- ### Invited Presentation
- 2022** **Woodill, A. John**, Nicolás Gómez Andújar, Jonathan Sweeney, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Measuring the Economic Value of Dynamic Oceanographic Seascapes.” Ocean Sciences, Honolulu, HI (online).
- 2020** **Woodill, A. John**, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Predicting Illegal Fishing on the Patagonian Shelf.” Ocean Sciences, San Diego, CA.

**2019** **Woodill, A. John**, Kavanaugh, Maria, Harte, Michael, and Watson, James R. “Predicting Illegal Fishing on the Patagonian Shelf.” AGU Fall Conference, San Francisco, CA.

**Woodill, A. John** and Roberts, Michael J. “Adaptation and the Envelope Theorem.” Association of Environmental and Resource Economists Summer Conference, Lake Tahoe, CA.

**2018** **Woodill, A. John** and Roberts, Michael J. “Adaptation to Climate Change: Disentangling Revenue and Crop Responses.” World Congress of Environmental and Resource Economists, Gothenburg, Sweden

**2016** **Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Decision Tree Analysis of Coffee Berry Borer in Hawaii.” Coffee Berry Borer Conference, Kona, Hawaii.

**Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Decision Tree Analysis of Coffee Berry Borer in Hawaii.” Coffee Berry Borer Summit, CTAHR, Komohana Research and Extension Center, Hilo, Hawaii.

**2015** **Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “CBB Decision Tree Model.” VetAgro Seminar of EIDER/METAFORT Team, Clermont- Ferrand, France.

**Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Geographical Indication of Kona Coffee.” World Expo: Forum Origin, Diversity, and Territories, Milan, Italy.

**Woodill, A. John**, Stuart T. Nakamoto, Andrea M. Kawabata, and PingSun Leung. “Geographical Indication of Kona Coffee.” Università Cattolica del Sacro Cuore of Piacenza, Piacenza, Italy.