

# 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 economist with expertise in environmental, resource, agriculture, and fisheries economics, as well as food security, climate change, econometrics, and data science. I also have extensive knowledge in international and macroeconomics, finance, geospatial statistics, earth-system modeling, ecology, biological oceanography, complex systems, information theory, and entomology.

## PROFESSIONAL APPOINTMENTS

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- 2019—present **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

### In review

- [7] Watson, James R. and **Woodill, A. John**. "Anticipating Illegal Maritime Activities from Anomalous Multiscale Fleet Behavior". In review at Conservation Letters. [[Complex Systems](#) / [Fisheries](#)]
- [6] **Woodill, A. John**, Kavanaugh, Maria, Harte, Michael, and Watson, James R. "Predicting Illegal Fishing on the Patagonian Shelf." In review at Fish and Fisheries. [[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." In review at Journal of Agriculture and Food Research. [[Decision Theory](#) / [Precision Agriculture](#)]

### Published

- [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](#)]

## Working papers

**Woodill, A. John** "Estimate Temperature Exposure for the Contiguous United States from 1900-2013: A Relative Anomaly Spline Interpolation Technique." [Climate / Data Product]

**Woodill, A. John** "Nonlinear Temperature Effects and Short-run Adaptation of the American Dust Bowl" [Climate Econometrics / Agriculture]

**Woodill, A. John** and Roberts, Michael J. "Adaptation and the Envelope Theorem" [Climate Econometrics / Agriculture]

**Woodill, A. John** and Roberts, Michael J. "Adaptation to Climate Change: Disentangling Revenue and Crop Responses" [Climate Econometrics / Agriculture]

Villarino, Ernesto, Watson, James R., **Woodill, A. John**, Jonsson, Bror, Barton, Andrew D., Gasol, Josep M., Massana, Ramon, Giner, Caterina R., Salazar, Guillem, Duarte, Carlos, Irigoien, Xabier, Chust, Guillem. "Large-scale microbial connectivity across ocean depth." [[Oceanography](#)]

## TEACHING

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2020 **Guest Lecturer**, Geography 351 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

## 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

**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

**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.

## 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:** Python (10 yrs), R (10 yrs), STAN, STATA, SAS, SQL, Matlab, C/C++, Julia, Bash

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

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