

# Phoebe Woodworth-Jefcoats, Ph.D.

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## Education

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| University of Hawai'i, Honolulu, HI  | Marine Biology                | Ph.D. 2019 |
| Dissertation: Climate and Fishing Impacts on North Pacific Fisheries: Insights and Projections from Contrasting Approaches to Ecosystem Modeling |                               |            |
| Advisor: Jeffrey Drazen  |                               |            |
| University of Miami, Coral Gables, FL Meteorology & Physical Oceanography M.S. 2005  |                               |            |
| Thesis: Water Vapor Exchange between West Africa and the Tropical Atlantic   |                               |            |
| Advisor: Chidong Zhang   |                               |            |
| University of Oklahoma, Norman, OK   | Meteorology, <i>cum laude</i> | B.S. 2003  |
| Minor: Mathematics   |                               |            |
| Study abroad: Meteorology, University of Reading, Reading, UK, 2002  |                               |            |

## Employment

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|--|---------------------|
| Research Oceanographer   | Apr 2010 – present  |
| National Oceanic and Atmospheric Administration (NOAA)   |                     |
| <ul style="list-style-type: none"><li>Lead climate-focused research projects, including identifying appropriate data, determining analytical approaches, conducting code-based analyses, and communicating final results through a range of products to diverse audiences</li><li>Conduct and advance research and collaborations focused on defining mechanistic relationships among climate, fishery, and ecosystem dynamics</li><li>Respond to requests for peer review of manuscripts and proposals</li><li>Provide scientific advice to regional and national constituents regarding ocean ecosystem change</li><li>Develop agency-branded dashboards and automated reports in R, Shiny, and Quarto</li><li>Develop automated Quarto templates for producing agency-branded reports that merge R-based data analysis with writing workflows</li></ul> |                     |
| Data Research Specialist   | Jan 2009 – Apr 2010 |
| Joint Institute for Marine and Atmospheric Research  |                     |
| <ul style="list-style-type: none"><li>Analyze, summarize, and visualize oceanographic and ecological data</li></ul>  |                     |
| Lecturer   | Aug – Dec 2009      |
| Kapi'olani Community College   |                     |
| <ul style="list-style-type: none"><li>Prepare and deliver introductory oceanography lectures, assignments, and exams</li></ul>   |                     |
| Commissioned Officer   | Feb 2006 – Jan 2009 |
| National Oceanic and Atmospheric Administration (NOAA) Commissioned Corps  |                     |
| <ul style="list-style-type: none"><li>Manager, Environmental Products, NOAA Southwest Fisheries Science Center, Environmental Research Division, May 2008 – Jan 2009</li><li>Navigation Officer, NOAA Ship <i>Ka'imimoana</i>, Jan 2007 – Apr 2008</li><li>Junior Officer, NOAA Ship <i>Ka'imimoana</i>, May 2006 – Apr 2008</li><li>Basic Officer Training Course, Feb – May 2006</li></ul>   |                     |

## **Current Climate Partnerships and Collaborations**

Regional Ecosystem Model Co-Coordinator  
Member Sep 2023 – present  
Jun 2018 – present

Fisheries and Marine Ecosystem Model Intercomparison Project (FishMIP)

- Develop modeling protocols to ensure inter-model comparability
- Contribute to intercomparison syntheses including peer reviewed journal articles and FAO reports

Lead Mar 2023 – present

NOAA Fisheries Pacific Islands Region Emissions Inventory and Reduction Plan

- Build project team, develop and document methodology, identify appropriate operational data, collaborate across operations to assess realistic scope for reductions
- Project is the first of its kind across both NOAA Fisheries and NOAA

Climate Science Point of Contact Dec 2016 – present

NOAA Pacific Islands Fisheries Science Center (PIFSC)

- Oversee PIFSC implementation of NOAA Fisheries climate initiatives
- Coordinate climate work with regional and national partners
- Advise the distribution of funding to advance NOAA Fisheries climate priorities

Member Nov 2016 – present

North Pacific Marine Science Organization (PICES) Section on Climate Change Effects on Marine Ecosystems

- Advance understanding of climate change impacts through international collaboration
- One of three US government representatives in Section

Steering committee member Mar 2014 – present

NOAA Fisheries National Ecosystem Modeling Workshop (NEMoW)

- Advance ecosystem modeling development and application of modeling results

## **Current Influential Leadership Roles**

Chair June 2025 – present  
Member Dec 2023 – May 2025

NOAA Pacific Islands Fisheries Science Center Student Opportunities Committee

- Coordinate undergraduate internships, graduate assistantships, and other student opportunities
- Expand flexibilities of opportunities to reach a broader swath interested students

Steering Committee Member Jun 2022 – present

Founding Coordinator May 2017 – May 2022

Annual Collaborative Climate Workshop

- Plan and lead workshops that engage participants across the scientist–manager “divide” to ensure regional climate science evolves to meet current management needs
- Workshop is the first of its kind in NOAA Fisheries and has served as a model for others

Founding Coordinator Nov 2018 – present

Pelagic Roundtable

- Informal, cross-divisional, cross-Science Center monthly meeting of staff working on pelagic topics
- Venue for sharing ideas, troubleshooting, asking questions, and fostering collaborations

Coordinator Sep 2015 – present  
Climate and Ocean Indicators, annual pelagic Stock Assessment and Fisheries Evaluation (SAFE) reports  

- Co-develop indicators, update indicators as scientific understanding evolves
- Develop novel communication methods to augment legally mandated static report and increase climate awareness, e.g.:
  - Public-facing climate indicator dashboard that allows users to interact with data and plain-language descriptions: <https://connect.fisheries.noaa.gov/PelagicClimateSAFE/>

## Advising and Technical Training

Organizer and Co-lead Mar 2025 – present  
GitHub Clinics at NOAA Pacific Islands Fisheries Science Center  

- Informal peer-to-peer clinics to help staff learn git and GitHub
- Designed to facilitate collaboration and safeguard work products in the face of unprecedeted uncertainty

Developer Feb 2025 – present  
NOAA Pacific Islands Fisheries Science Center Quarto templates  

- R-based and designed to merge data analysis with agency branded publication standards
- Open source:
  - [https://github.com/noaa-pifsc/PIFSC\\_DataReport\\_Template](https://github.com/noaa-pifsc/PIFSC_DataReport_Template)
  - [https://github.com/noaa-pifsc/PIFSC\\_TechMemo\\_Template](https://github.com/noaa-pifsc/PIFSC_TechMemo_Template)
  - [https://github.com/noaa-pifsc/PIFSC\\_AdminReport\\_Template](https://github.com/noaa-pifsc/PIFSC_AdminReport_Template)

Data Visualization Editor Oct 2022 – present  
NOAA Pacific Islands Fisheries Science Center  

- Ensure data visuals in agency publications align with best practices, develop guidelines and trainings, assist with code-based analytical graphics production, and edit visualizations in graphics software
- Pioneered role in response to identified need

Member Oct 2021 – present  
North Pacific Marine Science Organization (PICES) Advisory Panel on Science Communications  

- Advance science communication skills among PICES participants
- Sole US government representative on Panel

Co-mentor Summer 2017, 2021, 2024  
Pacific Islands Fisheries Science Center Young Scientist Opportunity  

- Undergraduate summer internships focused on climate science communication (2017, 2019) and diet composition of economically important fish (2024)

Founding Leader Summer 2017 – present  
Inouye Regional Center (IRC) Workshop on Presenting and Public Speaking  

- Tailored to undergraduate interns
- Frequently rated as interns' favorite/most-valuable internship activity

## **Technical Skills**

- Operating systems: Mac, Linux, MS Windows
- Project management: GitHub, Trello, Google Suite products (Sheets, Forms, Sites, Drives)
- Data analysis and visualization: Fluent in R, Matlab, Pyferret; Familiar with Python, SQL
- Dashboarding and communications: Quarto, Shiny, flexdashboard, MS Office, G Suite
- Graphics editing: Adobe Illustrator
- Version control and collaboration: Git and GitHub
- Instructional experience: Planning and leading workshops, symposia, in-person and written tutorials, and experiential learning

## **Professional Development**

- Openscapes:
  - Mentor Training: open science leadership and coaching; 2023, 2025
  - Champions Program: training and immersion in open science, Sep – Nov 2022
- Limited-time open access to Coursera provided by NOAA:
  - Design and Make Infographics, Michigan State University, Mar 2022
  - 4-course specialization in Graphic Design Elements for Non-Designers, University of Colorado Boulder, Mar 2022
  - 5-course specialization in Data Visualization and Dashboarding with R, Johns Hopkins University, Dec 2021
  - 3D Data Visualization for Science Communication, University of Illinois at Urbana-Champaign, Aug 2021
- Science communication:
  - American Fisheries Society Climate Ambassador, two-year training and engagement in climate change communication, Jan 2023 – Dec 2024
  - Story Circles workshop and 10-week course on introducing narrative and story into written science communication, Jan – May 2020
  - Alan Alda Center for Communicating Science workshop focused on using narrative and improv skills for one-on-one science communication, Jan 2020
  - COMPASS science communication training focused on interaction with multiple types of media and general audiences, Apr 2016
- Pacific Leadership Academy Emerging Leader course, Oct 2011 – Mar 2012
- Probability and Statistics for Air-Ocean Science, Naval Postgraduate School, 2008

## **Awards**

- NOAA Fisheries International Fellowship, awarded 2020, realized 2022 (pandemic delayed)
- Best Oral Presentation, North Pacific Marine Science Organization (PICES) Annual Meeting, Biological Oceanography Committee, 2019
- Denise B. Evans Fellowship in Oceanographic Research at the University of Hawai'i, 2016 – 2017
- Fernando Gabriel Leonida Memorial Scholarship, 2014
- Fisheries Bulletin Best Publication, 2009

**Scientific publications and presentations appended beginning next page**

## **Peer reviewer**

- Climatic Change
- Ecology and Evolution
- Ecosystems
- Fisheries Oceanography (Editorial Board member)
- Fishery Bulletin
- Geophysical Research Letters
- Geoscientific Model Development Discussions
- IPCC 6<sup>th</sup> Assessment Report Working Group II
- Marine Ecology Progress Series
- Marine Environmental Research
- Nature Communications
- Nature Scientific Reports
- Nature Sustainability
- PLoS ONE
- Progress in Oceanography
- Remote Sensing
- Reviews in Fish Biology and Fisheries
- The American Naturalist
- Trends in Ecology & Evolution
- World Ocean Assessment

## **Peer-Reviewed Publications**

Shi H, Rykaczewski RR, Suca JJ, Wren JKL, **Woodworth-Jefcoats P**, Domokos R, O'Malley JM, Kobayashi D, 2025. Variability of the Transition Zone Chlorophyll Front and its relationship to large-scale climate phenomena. *Progress in Oceanography*, 237: 103537.  
<https://doi.org/10.1016/j.pocean.2025.103537>

Karp MA, Cimino M, Craig JK, Crear DP, Haak C, Hazen EL, Kaplan I, Kobayashi DR, Moustahfid H, Muhsling B, Pinsky ML, Smith LA, Thorson JT, **Woodworth-Jefcoats PA**, 2025. Applications of species distribution modeling and future needs to support marine resource management. *ICES Journal of Marine Science*, 82(3): fsaf024. <https://doi.org/10.1093/icesjms/fsaf024>

Eddy TD, Heneghan RF, Bryndum-Buchholz A, Fulton EA, Harrison CS, Tittensor DP, Lotze HK, Ortega-Cisneros K, Novaglio C, Bianchi D, Büchner M, Bulman C, Cheung WWL, Christensen V, Coll M, Everett JD, Fierro-Arcos D, Galbraith ED, Gascuel D, Guiet J, Mackinson S, Maury O, Niiranen S, Oliveros-Ramos R, Palacios-Abrantes J, Piroddi C, du Pontavice H, Reum J, Richardson AJ, Schewe J, Shannon L, Shin Y-J, Steenbeek J, Volkholz J, Walker ND, **Woodworth-Jefcoats P**, Blanchard JL, 2025. Global and regional marine ecosystem models reveal key uncertainties in climate change projections. *Earth's Future*, 13, e2024EF005537.  
<https://doi.org/10.1029/2024EF005537>

Ortega-Cisneros K, Fierros-Arcos D, Lindmark M, Novaglio C, **Woodworth-Jefcoats P**, Eddy TD, Coll M, Fulton E, Oliveros-Ramos R, Reum J, Shin Y-J, Bulman C, Capitani L, Datta S, Murphy K, Rogers A, Shannon L, Whitehouse GA, Adekoya E, Dias BS, Fuster-Alonso A, Hansen C, Husson B, McGregor V, Morell A, Morzaria Luna H-N, Ouled-Cheikh J, Ruzicka J, Steenbeek J, Stollberg I, Subramaniam RC, Tulloch V, Bryndum-Buchholz A, Harrison CS, Heneghan R, Maury O, Pozo Buil M, Schewe J, Tittensor DP, Townsend H, Blanchard JL, 2025. An integrated global-to-regional scale workflow for simulating climate change impacts on marine ecosystems. *Earth's Future*, 13, e2024EF004826. <https://doi.org/10.1029/2024EF004826>

Wallmo K, Kleiber D, Tomberlin D, **Woodworth-Jefcoats P**, Oliver T, 2024. The diversity of science behind U.S. seafood. *Frontiers for Young Minds*, 12:1331893.  
<https://doi.org/10.3389/frym.2024.1331893>

Blanchard JL, Novaglio C, Maury O, Harrison CS, Petrik CM, Fierro-Arcos LD, Kelly Ortega-Cisneros K, Bryndum-Buchholz, Eddy TD, Heneghan R, Roberts K, Schewe J, Bianchi D, Guiet J, van Denderen DP, Palacios-Abrantes J, Liu X, Stock CA, Rousseau Y, Büchner M, Adekoya EO, Bulman C, Cheung W, Christensen V, Coll M, Capitani L, Datta S, Fulton EA, Fuster A, Garza V, Lengaigne M, Lindmark M, Murphy K, Ouled-Cheikh J, Prasad SS, Oliveros-Ramos R, Reum JC, Rynne N, Scherrer KJN, Shin Y-J, Steenbeek J, **Woodworth-Jefcoats P**, Wu Y-L, Tittensor DP, 2024. Detecting, attributing, and projecting global marine ecosystem and fisheries change: FishMIP 2.0. *Earth's Future*, 12, e2023EF004402. <https://doi.org/10.1029/2023EF004402>

Reum JCP, **Woodworth-Jefcoats P**, Novaglio C, Forestier R, Audzijonyte A, Gårdmark A, M. Lindmark, J. L. Blanchard, 2024. Temperature-dependence assumptions drive projected responses of diverse size-based food webs to warming. *Earth's Future*, 12, e2023EF003852.  
<https://doi.org/10.1029/2023EF003852>

**Woodworth-Jefcoats P**, Jahnke M, Howell EA, Kobayashi D, Miller C, Nichols R, Onuma M, 2023. Creating pathways for non-traditional graduate students. *Oceanography*, 36(4): 68-69.  
<https://doi.org/10.5670/oceanog.2024.105>

Frazier, AG, Johnson M-VV, Berio Fortini L, Giardina CP, Grecni ZN, Kane HH, Keener VW, King R, MacKenzie RA, Nobrega-Olivera M, Oleson KLL, Shuler CK, Singeo AK, Storlazzi CD, Wallsgrove RJ, **Woodworth-Jefcoats PA**, 2023. Ch. 30. Hawai'i and US-Affiliated Pacific Islands. In: Fifth National Climate Assessment. Crimmins AR, Avery CW, Easterling DR, et al., Eds. U.S. Global Change Research Program, Washington, DC, USA. <https://doi.org/10.7930/NCA5.2023.CH30>

Portner EJ, Mowatt-Larsen T, Cano-Lasso Carretero A, Contreras EA, **Woodworth-Jefcoats PA**, Frable BW, Choy CA, 2023. Harnessing a mesopelagic predator as a biological sampler reveals taxonomic and vertical resource partitioning among three poorly known deep-sea fishes. *Scientific Reports*, 13: 16078. <https://doi.org/10.1038/s41598-023-41298-9>

Arostegui MC, Braun CD, **Woodworth-Jefcoats PA**, Kobayashi DR, Gaube P, 2022. Anticyclonic eddies aggregate pelagic predators in a subtropical gyre. *Nature*, 609: 535-540.  
<https://doi.org/10.1038/s41586-022-05162-6>

Giddens J, Kobayashi DR, Mukai GNM, Asher J, Birkeland C, Fitchett MD, Hixon M, Hutchinson M, Mundy B, O'Malley J, Sabater M, Scott M, Stahl J, Toonen R, Trianni M, **Woodworth-Jefcoats PA**, Wren JK, Nelson M, 2022. Assessing the vulnerability of marine life to climate-change in the Pacific Islands Region. *PLoS ONE*, 17(7): e0270930. <https://doi.org/10.1371/journal.pone.0270930>

Heneghan RF, Galbraith E, Blanchard JL, Harrison C, Barrier N, Bulman C, Cheung W, Coll M, Eddy TD, Erauskin-Extramiana M, Everett JD, Fernandes-Salvador JA, Gascuel D, Guiet J, Maury O, Palacios-Abrantes J, Petrik CM, du Pontavice H, Richardson AJ, Steenbeek J, Tai TC, Volkholz J, **Woodworth-Jefcoats PA**, Tittensor DP, 2021. Disentangling diverse responses to climate change among global marine ecosystem models. *Progress in Oceanography*, 198:102659.  
<https://doi.org/10.1016/j.pocean.2021.102659>

Kearney KA, Bograd SJ, Drenkard EJ, Gomez F, Haltuch M, Hermann AJ, Jacox M, Kaplan IC, Koenigstein S, Luo JY, Masi M, Muhling B, Pozo Buil M, **Woodworth-Jefcoats PA**, 2021. Using global-scale earth system models for regional fisheries applications. *Frontiers in Marine Science*, 8:622206. <https://doi.org/10.3389/fmars.2021.622206>

Arostegui MC, Braun CD, **Woodworth-Jefcoats PA**, Kobayashi DR, Gaube P, 2020. Spatiotemporal segregation of ocean sunfish species (Molidae) in the eastern North Pacific. *Marine Ecology Progress Series*, 654:109-125. <https://doi.org/10.3354/meps13514>

**Woodworth-Jefcoats PA**, Wren JLK, 2020. Towards an environmental predictor of bigeye recruitment. *Fisheries Oceanography*, 29(5): 436-441. <https://doi.org/10.1111/fog.12487>

Lluch-Cota SE, **Woodworth-Jefcoats PA**, Itoh S, Peña A, Kimura S, Colas F (Editors), 2019. Understanding changes in transitional areas of the Pacific Ocean (Special Issue), *Deep-Sea Research II*, 169-170: 104688. <https://doi.org/10.1016/j.dsr2.2019.104688>

**Woodworth-Jefcoats PA**, Blanchard JL, Drazen JC, 2019. Relative impacts of simultaneous stressors on a pelagic marine ecosystem. *Frontiers in Marine Science*, 6: 383. <https://doi.org/10.3389/fmars.2019.00383>

**Woodworth-Jefcoats PA**, Polovina JJ, Drazen JC, 2018. Synergy among oceanographic variability, fishery expansion, and longline catch composition in the central North Pacific. *Fishery Bulletin*, 116(3): 228-239. <https://doi.org/10.7755/FB.116.3.2>

Peterson J, Griffis R, Zador SG, Sigler MF, Joyce JE, Hunsicker M, Bograd S, Crozier LG, McClatchie S, Morris Jr. JA, Peterson WT, Price C, **Woodworth-Jefcoats PA**, Karnauskas M, Munoz R, Schueler A, Craig JK, Bacheler N, Burton ML, Gore K, Kellison T, Hare JA, Friedland K, Miller TJ, 2017. Climate change impacts on fisheries and aquaculture of the United States, pp. 159 – 218. In: Phillips BF, Perez-Ramirez M [Eds.] *Climate Change Impacts on Fisheries and Aquaculture: A Global Analysis*. Wiley-Blackwell, 1048 p.

**Woodworth-Jefcoats PA**, Polovina JJ, Drazen JC, 2017. Climate change is projected to reduce carrying capacity and redistribute species richness in North Pacific pelagic marine ecosystems. *Global Change Biology*, 23(3): 1000-1008. <https://doi.org/10.1111/gcb.13471>

Choy CA, Wabnitz CCC, Weijerman M, **Woodworth-Jefcoats PA**, Polovina JJ, 2016. Finding the way to the top: how the composition of oceanic mid-trophic micronekton groups determines apex predator biomass in the central North Pacific. *Marine Ecology Progress Series*, 549: 9-25. <https://doi.org/10.3354/meps11680>

**Woodworth-Jefcoats PA**, Polovina JJ, Howell EA, Blanchard JL, 2015. Two takes on the ecosystem impacts of climate change and fishing: Comparing a size-based and a species-based ecosystem model in the central North Pacific. *Progress in Oceanography*, 138: 533-545. <https://doi.org/10.1016/j.pocean.2015.04.004>

Polovina JJ, **Woodworth-Jefcoats PA**, 2013. Fishery-induced changes in the subtropical Pacific pelagic ecosystem size structure: Observations and theory. *PLoS ONE*, 8(4): e62341. <https://doi.org/10.1371/journal.pone.0062341>

**Woodworth-Jefcoats PA**, Polovina JJ, Dunne JP, Blanchard JL, 2013. Ecosystem size structure response to 21<sup>st</sup> century climate projection: large fish abundance decreases in the central North Pacific and increases in the California Current. *Global Change Biology*, 19(3): 724-733.  
<https://doi.org/10.1111/gcb.12076>

Polovina JJ, **Woodworth PA**, 2012. Declines in phytoplankton cell size in the subtropical oceans estimated from satellite remotely-sensed temperature and chlorophyll, 1998 – 2007. *Deep Sea Research II*, 77-80: 82-88. <https://doi.org/10.1016/j.dsr2.2012.04.006>

**Woodworth PA**, Schorr GS, Baird RW, Webster DL, McSweeney DJ, Hanson MB, Andrews RD, Polovina JJ, 2012. Eddies as offshore foraging grounds for melon-headed whales (*Peponocephala electra*). *Marine Mammal Science*, 28(3): 638-647. <https://doi.org/10.1111/j.1748-7692.2011.00509.x>

Polovina JJ, Dunne JP, **Woodworth PA**, Howell EA, 2011. Projected expansions of the subtropical biome and contraction of the temperate and equatorial upwelling biomes in the North Pacific under global warming. *ICES Journal of Marine Science*, 68(6): 986-995. <https://doi.org/10.1093/icesjms/fsq198>

Batten S, Chen X, Flint EN, Freeland HJ, Holmes J, Howell E, Ichii T, Kaeriyama M, Landry M, Lunsford C, Mackas DL, Mate B, Matsuda K, McKinnell SM, Miller L, Morgan K, Peña A, Polovina JJ, Robert M, Seki MP, Sydeman WJ, Thompson SA, Whitney FA, **Woodworth P**, Yamaguchi A, 2011. Status and trends of the North Pacific oceanic region, 2003-2008, pp. 56-105 In: McKinnell SM and Dagg MJ [Eds.] *Marine Ecosystems of the North Pacific Ocean, 2003-2008*. PICES Special Publication 4, 393 p.

Polovina JJ, Abecassis M, Howell EA, **Woodworth P**, 2009. Changes among the upper trophic levels in the Central North Pacific subtropical gyre ecosystem, 1996–2006. *Fisheries Bulletin*, 107(4): 523–531.

Zhang C, **Woodworth P**, Gu G, 2006. The seasonal cycle in the lower troposphere over West Africa from sounding observations. *Quarterly Journal of the Royal Meteorological Society*, 132, 2561-2584.

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### Agency Reports and Technical Memoranda

**Woodworth-Jefcoats P**, Chan HL, Oliver T, Schmidt AL, 2025. Emissions inventory and reduction plan. U.S. Dept. of Commerce. NOAA Technical Memorandum. In Review.

Barlow AK, Lumsden B, **Woodworth-Jefcoats PA**, 2025. Summary report from the 6<sup>th</sup> Collaborative Climate Workshop, 9–11 April 2024 (Administrative Report Series, H-25-04). Pacific Islands Fisheries Science Center. <https://doi.org/10.25923/qy05-mm10>

**Woodworth-Jefcoats P**, Reum J, 2024. Tackling key uncertainties: ecological responses to warming, pp. 42. In: Blanchard JL, Novaglio C (editors), 2024. Climate change risks to marine ecosystems and fisheries – Projections to 2100 from the Fisheries and Marine Ecosystem Model Intercomparison Project. FAO Fisheries and Aquaculture Technical Paper, No. 707. Rome, FAO.  
<https://doi.org/10.4060/cd1379en>

Parke M, Lumsden B, Beidron I, Rykaczewski R, **Woodworth-Jefcoats P**, Wren J, Tanaka K, Ahrens R, Ruzicka J, O'Malley J, Dombrow C, 2023. Ecosystem-based fisheries (EBF) science in a data-limited region. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-PIFSC-141, 37 p. <https://doi.org/10.25923/2aec-eb81>

**Woodworth-Jefcoats P**, Jacobs A, Ahrens R, Barkley H, Barlow A, Bolen L, Carvalho F, Chung A, Crigler E, DeMello J, Fitchett M, Fox M, Asuka I, Larin P, Lumsden B, Makaiau J, McGregor M, Oliver T, O'Malley J, Richards B, Robinson S, Sabater M, Sculley M, Seeley M, Sweeney J, Tanaka K, Taylor K, Yamada Z, 2023. Pacific Islands Regional Action Plan to implement the NOAA Fisheries Climate Science Strategy Through 2024. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-PIFSC-142, 35 p. <https://doi.org/10.25923/2jjs-tx42>

Domokos R, Wren J, **Woodworth-Jefcoats P**, Rykaczewski R, Ruzicka J, Ahrens R, Barkley H, Whitney J, Oleson E, Kobayashi D, 2022. 10-year pelagic sampling strategy (2023-2032). PIFSC Administrative Report, H-23-03, 47 p. <https://doi.org/10.25923/nw52-tn17>

**Woodworth-Jefcoats PA**, Barlow AK, Lumsden B, 2022. Summary report from the 5<sup>th</sup> annual collaborative climate science workshop, 8–10 February 2022, PIFSC Administrative Report, H-22-04, 33 p. <https://doi.org/10.25923/rh4j-st93>

Peterson J, Griffis R, **Woodworth-Jefcoats P**, Jacobs A, Hollowed A, Farley E, Duffy-Anderson J, Dorn M, Hurst T, Moss J, Rogers L, Shotwell K, Garfield T, Zabel R, deReynier Y, Shott E, Crozier L, Bograd S, Mantua N, Samhouri J, Quinlan J, Gore K, Muñoz R, Leo J, Waters L, Burton M, Saba V, Borggaard D, Ferguson M, Morrison W, 2021. NOAA Fisheries Climate Science Strategy Five Year Progress Report. NOAA Tech. Memo. NMFS-F/SPO-228, 157 p.

**Woodworth-Jefcoats PA**, Ellgen S, Lumsden B, Jacobs A, Marra J, Mooney A, Sabater M, 2021. Summary report from the 4<sup>th</sup> annual collaborative climate science workshop, 13–15 October 2020, NOAA Admin Report, H-21-03, 34 p. <https://doi.org/10.25923/ezac-hk23>

Townsend H, Aydin K, Brodie S, DePiper G, deReynier Y, Harvey C, Haynie A, Hazen E, Kaplan I, Kasperski S, Kearney K, Large S, Lucey S, Masi M, Ortiz I, Reum J, Stawitz C, Tommasi D, Weijerman M, Whitehouse A, **Woodworth-Jefcoats P**, Lynch P, Osgood K, Link J (editors), 2020. Report of the 5<sup>th</sup> National Ecosystem Modeling Workshop (NEMoW 5): Progress in Ecosystem Modeling for Living Marine Resource Management. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-205, 72 p.

**Woodworth-Jefcoats PA**, Ellgen S, Garrison M, Jacobs A, Lumsden B, Marra J, Sabater M, 2020. Summary report from the 3<sup>rd</sup> annual collaborative climate science workshop, 11–12 September 2019, NOAA's Inouye Regional Center, Honolulu, HI. PIFSC Admin Report, H-20-03, 35 p. <https://doi.org/10.25923/56vx-1f34>

**Woodworth-Jefcoats PA**, Ellgen S, Jacobs A, Lumsden B, Spalding S, 2019. Summary report from the 2<sup>nd</sup> annual collaborative climate science workshop, 4–6 September 2018, NOAA's Inouye Regional Center, Honolulu, HI. NOAA Admin Report, H-19-02, 19 p. <https://doi.org/10.25923/v6a9-9892>

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Polovina J, Dreflak K, Baker J, Bloom S, Brooke S, Chan V, Ellgen S, Golden D, Hospital J, Van Houtan K, Kolinski S, Lumsden B, Maison K, Mansker M, Oliver T, Spalding S, **Woodworth-Jefcoats P**, 2016. Pacific Islands Regional Action Plan – NOAA Fisheries Climate Science Strategy. U.S. Department of Commerce, NOAA Tech Memo, NOAA-TM-NMFS-PIFSC-49, 33p.  
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### Presentations

Shi H, Rykaczewski R, Suca S, Wren J, Domokos R, O'Malley J, **Woodworth-Jefcoats P**, Kobayashi D, 2024. Variability of the transition zone chlorophyll front and its relationship to large-scale climate phenomena. CIMAR symposium 2024, Honolulu, HI, University of Hawai'i Cooperative Institute for Marine and Atmospheric Research. (Poster, presented by H Shi)

Suca JJ, Wren JKL, Rykaczewski RR, Ahrens R, Kobayashi D, **Woodworth-Jefcoats PA**, Welch H, Hazen E, 2024. Drivers of catch and bycatch rates in Hawai'i's longline fisheries. CIMAR symposium 2024. Honolulu, HI, University of Hawai'i Cooperative Institute for Marine and Atmospheric Research. (Presented by JJ Suca)

**Woodworth-Jefcoats PA**, 2024. FishMIP: Fisheries & Marine Ecosystem Model Intercomparison Project in the North Pacific. BECI Special Workshop: Bringing together models for fisheries management under climate change – Multiple model ensembles and inference to guide decision-making. PICES 2024 Annual Meeting, Honolulu, HI, North Pacific Marine Science Organization (PICES). *Invited Presentation.*

Tulloch V, Berry K, Blanchard J, Harrison C, Ortegas-Cisneros K, **Woodworth-Jefcoats P**, Brown R, 2024. North Pacific Ocean Marine Ecosystem Model Ensemble (NOMEME) to inform fisheries management under climate change. PICES 2024 Annual Meeting, Honolulu, HI, North Pacific Marine Science Organization (PICES). (Presented by V Tulloch)

Suca JJ, Wren JKL, Rykaczewski RR, Ahrens R, Kobayashi D, **Woodworth-Jefcoats PA**, Welch H, Hazen E, 2024. Oceanographic partitioning of target catch and by-catch rates in Hawai'i's longline fisheries. PICES 2024 Annual Meeting, Honolulu, HI, North Pacific Marine Science Organization (PICES). (Presented by JJ Suca)

Shi H, Rykaczewski R, Suca J, Wren J, Domokos R, O'Malley J, **Woodworth-Jefcoats P**, 2024. Drivers of variability in the Transition Zone Chlorophyll Front and its linkage to the Hawaii shallow-set longline fishery. PICES 2024 Annual Meeting, Honolulu, HI, North Pacific Marine Science Organization (PICES). (Presented by R Rykaczewski)

Reum JCP, **Woodworth-Jefcoats P**, Novaglio C, Forestier R, Audzijonyte A, Gårdmark A, Lindmark M, Blanchard JL, 2024. Temperature-dependence assumptions regarding fish growth drive projected responses of diverse size-based food webs to warming. PICES 2024 Annual Meeting, Honolulu, HI, North Pacific Marine Science Organization (PICES). (Presented by JCP Reum)

Suca JJ, Wren JLK, Ahrens R, Rykaczewski RR, **Woodworth-Jefcoats PA**, Kobayashi D, Welch H, Hazen E, 2024. Oceanographic partitioning of catch and by-catch rates in Hawai'i's shallow-set longline fishery. American Fisheries Society 154<sup>th</sup> Annual Meeting, Honolulu, HI, American Fisheries Society. (Presented by JJ Suca)

**Woodworth-Jefcoats P**, Jahnke M, Howell EA, Kobayashi D, Miller C, Nichols R, Onuma M, 2024. Making it Possible for Non-Traditional Students to Become Fisheries Scientists. American Fisheries Society 154<sup>th</sup> Annual Meeting, Honolulu, HI, American Fisheries Society.

Karp M, Griffis R, Lynch P, Haverland T, Kennedy J, Sunkara V, Craig K, Hazen E, Kaplan I, Kobayashi D, Large S, Morrison W, Moustahfid H, Pinsky M, **Woodworth-Jefcoats P**, 2023. NOAA Fisheries Distribution Mapping and Analysis Portal (DisMAP): Visualizing changing distributions. 5<sup>th</sup> Symposium on the Effects of Climate Change on the World's Ocean, Bergen, Norway. International Council for the Exploration of the Seas (ICES). (Presented by M Karp)

**Woodworth-Jefcoats P**, Wren J, Kobayashi DR, Fitchett M, 2023. Playing it SAFE: Stock Assessment and Fishery Evaluation indicators for climate-ready sustainable fisheries. 5<sup>th</sup> Symposium on the Effects of Climate Change on the World's Ocean, Bergen, Norway. International Council for the Exploration of the Seas (ICES).

**Woodworth-Jefcoats PA**, Reum J, Blanchard JL, 2022. FishMIP as a testbed for model development. FishMIP 2022 Hybrid Workshop, St. John's, Canada, Fisheries and Marine Ecosystem Model Intercomparison Project (FishMIP) and Memorial University.

Choy CA, Byrne SM, Wong-Ala JATK, Portner EJ, **Woodworth-Jefcoats PA**, 2021. Widespread plastic ingestion in an abundant pelagic fish species, *Alepisaurus ferox*, across the subtropical North Pacific. Virtual PICES Annual Meeting, North Pacific Marine Science Organization (PICES). (Presented by CA Choy)

**Woodworth-Jefcoats PA**, Wren JLK, 2020. Towards a plankton-based predictor of tuna recruitment. PICES Annual Meeting, North Pacific Marine Science Organization (PICES). (Presented by JLK Wren)

Chavarry J, Portner E, Muhling B, Polovina JJ, **Woodworth-Jefcoats PA**, Choy A, 2020. Examining surface and subsurface drivers of variability in the distribution of mesopelagic prey through the diet of longnose lancetfish, *Alepisaurus ferox*. 20<sup>th</sup> Ocean Sciences Meeting, San Diego, CA, American Geophysical Union. (poster and lightning talk, presented by J Chavarry)

**Woodworth-Jefcoats PA**, Blanchard JL, Drazen JC, 2020. Incorporating temperature into size spectrum modeling. International Symposium on Size Spectrum Models for Aquatic Ecosystems, Hobart, Australia, University of Tasmania and Commonwealth Scientific and Industrial Research Organisation.

**Woodworth-Jefcoats PA**, Hospital J, Wren JK, Medoff-Wong S, 2019. Ideas on how to incorporate EBFM into a pelagic longline tuna fishery. PICES Annual Meeting, Victoria, Canada, North Pacific Marine Science Organization (PICES).

**Woodworth-Jefcoats PA**, Blanchard JL, Drazen JC, 2019. The role of temperature in determining how species are differentially affected by climate change. PICES Annual Meeting, Victoria, Canada, North Pacific Marine Science Organization (PICES).

**Woodworth-Jefcoats PA**, Blanchard JL, Drazen JC, 2018. How do fishing and climate change interact to impact biomass available to future fisheries? 4<sup>th</sup> International symposium on the Effects of Climate Change on the World's Oceans, Washington, D.C., International Council for the Exploration of the Seas (ICES).

Brainard RE, Oliver T, McPhaden MJ, Cohen A, Vargas-Angel B, Barkley H, Venegas R, Heenan A, Rotjan R, Mangubhai S, Flint E, Hunter S, **Woodworth-Jefcoats P**, Bigelow K, 2018. Ecological impacts of the extreme 2015-2016 El Niño in the central equatorial Pacific, 4<sup>th</sup> International Symposium on the Effects of Climate Change on the World's Oceans, Washington, D.C., International Council for the Exploration of the Seas (ICES). (Presented by RE Brainard)

Balwani S, Marra JJ, Gove J, Oliver T, **Woodworth-Jefcoats P**, 2018. Approaches to utilizing indicators to improve understanding of climate change in the Pacific Islands, 4<sup>th</sup> International Symposium on the Effects of Climate Change on the World's Oceans, Washington, D.C., International Council for the Exploration of the Seas (ICES). (poster, presented by S Balwani)

Howell EA, Seki MP, **Woodworth-Jefcoats P**, Polovina JJ, 2018. Variation in phytoplankton composition between two North Pacific frontal zones along 158°W during winter-spring 2008–2015, PICES symposium on Understanding Changes in Transitional Areas of the Pacific, La Paz, Mexico, North Pacific Marine Science Organization (PICES). (Presented by EA Howell)

**Woodworth-Jefcoats PA**, Drazen JC, Polovina JJ, 2017. Climate-driven spatial redistribution of commercially valuable species in the pelagic North Pacific. AFS Annual Meeting, Tampa, FL, American Fisheries Society (AFS).

**Woodworth-Jefcoats PA**, 2017. Between the footprints of natural climate variability modes. Ocean Carbon and Biogeochemistry Summer Workshop, Woods Hole, MA, Ocean Carbon and Biogeochemistry Project.

*Invited presentation.*

**Woodworth-Jefcoats PA**, Polovina JJ, Drazen JC, 2016. Relationships between climate variability and fishery catch in the Central North Pacific. PICES Annual Meeting, San Diego, CA, North Pacific Marine Science Organization (PICES).

Polovina JJ, Wren JKL, **Woodworth-Jefcoats PA**, Choy CA, Stock C, 2016. Recent advances, ongoing challenges, and future directions in ecosystem approaches to fisheries management in the central North Pacific. PICES Annual Meeting, San Diego, CA, North Pacific Marine Science Organization (PICES). (Presented by JJ Polovina)

**Woodworth-Jefcoats PA**, Polovina JJ, Drazen JC, 2016. Climate change is projected to reduce carrying capacity in North Pacific pelagic marine ecosystems. PICES Annual Meeting, San Diego, CA, North Pacific Marine Science Organization (PICES).

**Woodworth-Jefcoats PA**, Polovina JJ, Drazen JC, 2016. Climate change impacts to North Pacific pelagic habitat are projected to lower carrying capacity, 18<sup>th</sup> Ocean Sciences Meeting, New Orleans, LA, American Geophysical Union.

**Woodworth-Jefcoats PA**, Polovina JJ, 2014. North Pacific climate change impacts as projected by a suite of CMIP5 model output. PICES Annual Meeting, Yeosu, Korea, North Pacific Marine Science Organization (PICES).

Choy CA, **Woodworth-Jefcoats PA**, Polovina JJ, 2014. Projected responses of the central North Pacific pelagic ecosystem to climate-induced changes in micronekton communities. PICES Annual Meeting, Yeosu, Korea, North Pacific Marine Science Organization (PICES). (Pres. by CA Choy)

**Woodworth-Jefcoats PA**, Polovina JJ, Howell EA, Blanchard JL, 2014. Examining the impacts of climate change and fishing from both species-based and size-based modeling perspectives. 17<sup>th</sup> Ocean Sciences Meeting, Honolulu, HI, American Geophysical Union. (poster)

**Woodworth PA**, Blanchard JL, Dunne JP, Polovina JJ, 2012. Using a size-based ecosystem model driven by a climate model to project the consequences of climate change on fish abundance and fisheries in the North Pacific. 16<sup>th</sup> Ocean Sciences Meeting, Salt Lake City, UT, Amer. Geophysical Union.

Polovina JJ, Abecassis M, Howell EA, **Woodworth P**, 2009: Trophic cascades among the upper trophic levels in the Central North Pacific subtropical gyre ecosystem. 60<sup>th</sup> Annual Tuna Conference, Lake Arrowhead, CA, Inter-American Tuna Commission and NOAA NMFS SWFSC.

**Woodworth P**, 2008: Taking the pulse of climate change. NOAA's TAO buoys go from "research" to "operational". 20<sup>th</sup> Conference on Climate Variability and Change, New Orleans, LA, American Meteorological Society. (poster)

Zhang C, **Woodworth P**, 2006. A new conceptual model for the meridional circulation of the West African monsoon. 27<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Monterey, CA, American Meteorological Society. (Presented by C Zhang)

**Woodworth P**, 2004. Origins of African dry-air outbreaks. 26<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Miami, FL, American Meteorological Society.