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Dear Editors at *Nature Communications*,

I and my co-authors Dr. Nur Arafeh-Dalmau and Dr. Fiorenza Micheli are pleased to submit our manuscript "*Impacts of marine heatwaves on small-scale fisheries*" to be considered for publication as an article in *Nature Communications*, and as part of your collection on Marine Heatwaves.

We studied the influence of marine heatwaves on small-scale fisheries (SSFs), an important economic sector that provides employment and nutrition to millions of people worldwide, but that remains underrepresented in the literature. Our main finding is that marine heatwaves have variable effects but reduce aggregate fisheries production, even in the face of "winners" and "losers". We also show, for the first time, context-specific effects, where the impacts are larger for SSFs occurring near biogeographic transition zones, where target species find their distribution limit. These findings illuminate the vulnerability of SSFs to extreme environmental shocks, and highlight the need for policy and market strategies to sustain this crucially important sector in the face of climate change.

A notable and novel feature of our work is the high spatio-temporal resolution and large-scale coverage at which we estimate exposure to marine heatwaves and their impacts on fisheries production. We compiled and analyzed a unique 20-year long, spatially-explicit data set on the individual fishing operations from small-scale TURFs operating along ∼1,000 km the Baja California Peninsula in Mexico, which we paired with four decades of high-resolution observations of sea surface temperature and mid-century climate projections from 11 models of the CMIP6 project. Our work draws on methods and theory from fisheries science, marine ecology, biogeography, and climate change science. We believe the following is a comprehensive list of potential reviewers knowledgeable on these topics.

- Management and policy in small-scale fisheries, (with a focus on Mexico):
  - Dr. Eréndira Aceves-Bueno, Assistant Professor, School of Marine & Environmental Affairs, University of Washington (acevesb@uw.edu).
  - Dr. Andrés Cisneros-Montemayor, Assistant Professor, School of Resource and Environmental Management at Simon Fraser University (a_cisneros@sfu.ca).
- Impacts of climate change on fisheries:
  - Dr. Elena Ojea, Oportunius Research Professor, University of Vigo (elenaojea@uvigo.gal)
- Impacts of ocean warming on marine ecosystems:
  - Dr. Thomas Wernberg, School of Biological Sciences, The University of Western Australia

Oceans Deparment
Hopkins Marine Station, Pacific Grove, CA 93950

(thomas.wernberg@uwa.edu.au)

- Other experts in the field, but with a potential conflict of interest due to personal relationship:
  - Dr. Christopher Free, Research Faculty, Marine Science Institute, University of California at Santa Barbara (cfree@ucsb.edu)
  - Dr. Alexa Fredston, Assistant Professor, Department of Ocean Sciences, University of California, Santa Cruz (fredston@ucsc.edu)

Finally, we believe our work aligns with the collection's goal of publishing work that "explores the causes, characteristics and impacts of marine heatwaves", and that our contributions align with Nature Communications' broad and rigorous audience. Our findings and conclusions are relevant to fisheries scientists, marine ecologists, and climate scientists investigating the ecological and social implications of climate change, but also to environmental managers and policy makers that work to manage and sustain small-scale fisheries worldwide.

Our manuscript has not been submitted for consideration elsewhere, and all authors consent to this submission. Should you have any questions about our contribution, please don't hesitate to contact me.

Juan Carlos Villaseñor-Derbez, PhD
juancvd@stanford.edu
Oceans Department, Stanford Doerr School of Sustainability
Stanford University

Oceans Deparment
Hopkins Marine Station, Pacific Grove, CA 93950