

# Economics outside the box: Social-ecological perspectives on human security and Indigenous fisheries

The Nippon Foundation - University of British Columbia  
**NEREUS PROGRAM**  
Predicting Future Oceans



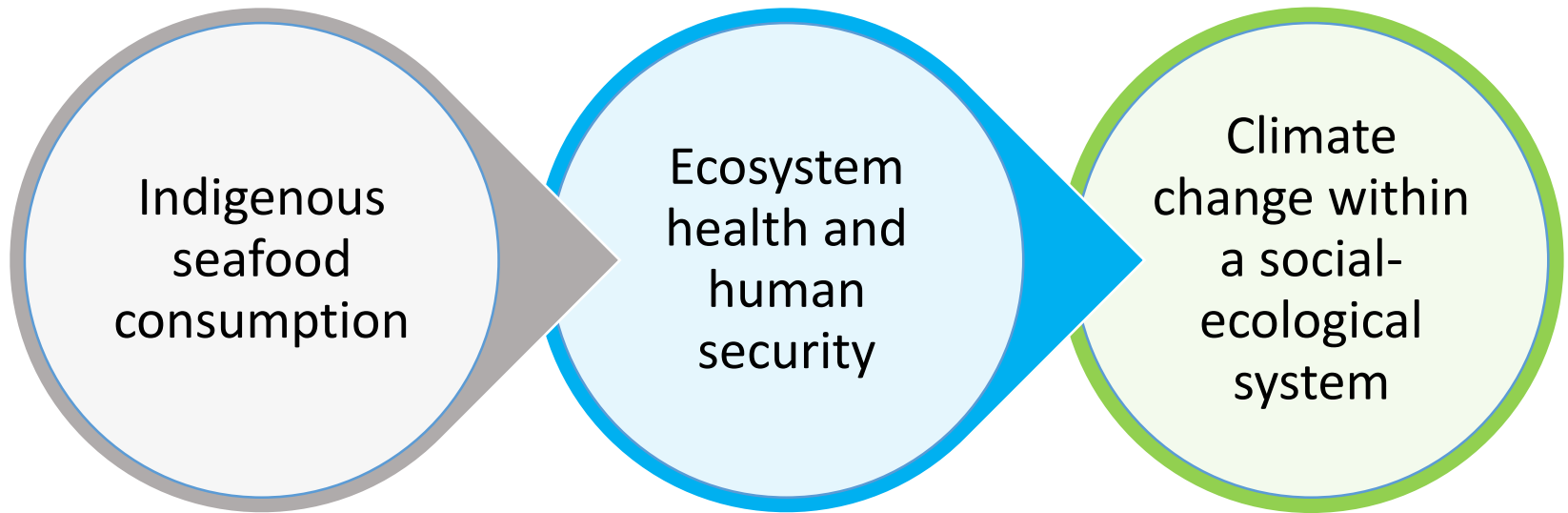
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**Andrés Cisneros-Montemayor**

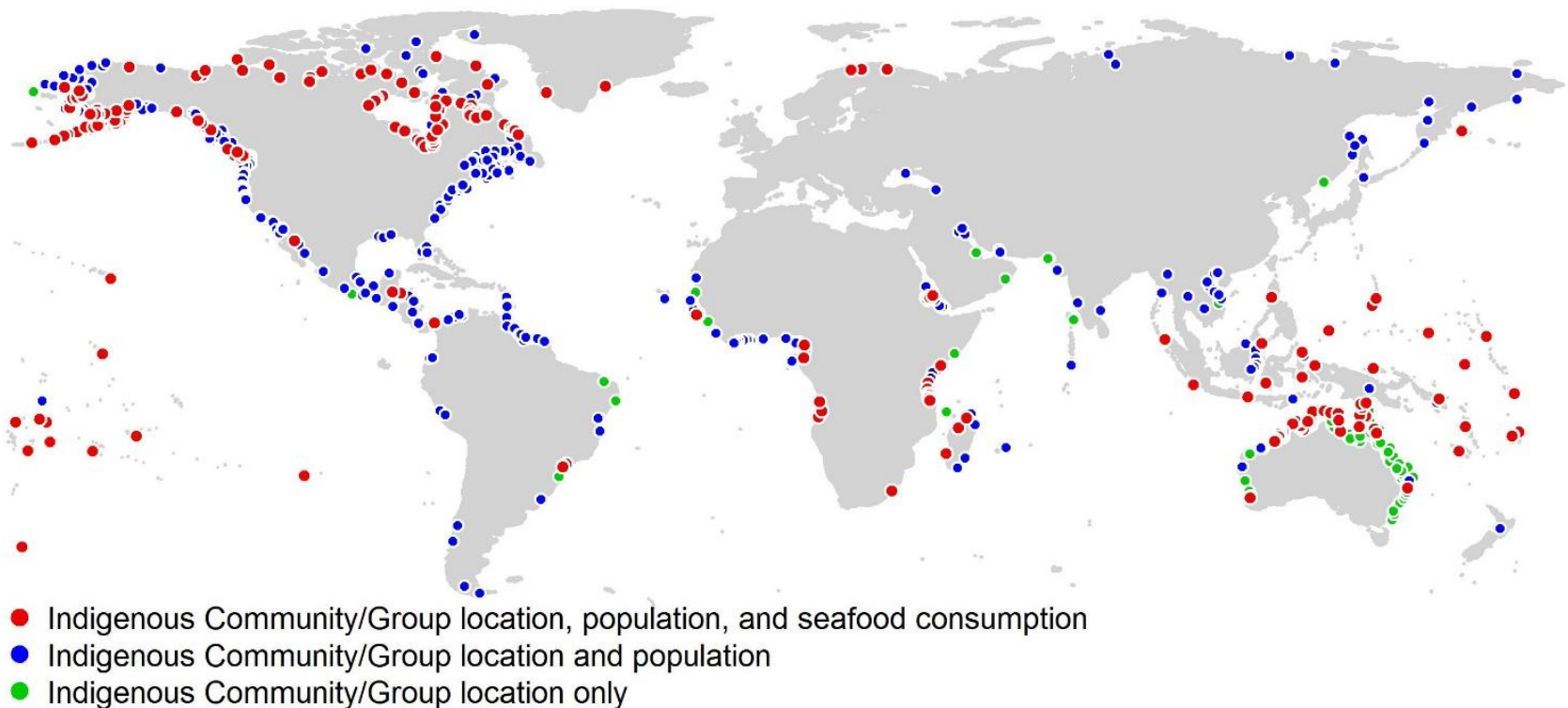
Institute for the Oceans and Fisheries, UBC

Nereus Annual Meeting, Vancouver, June 1 2016



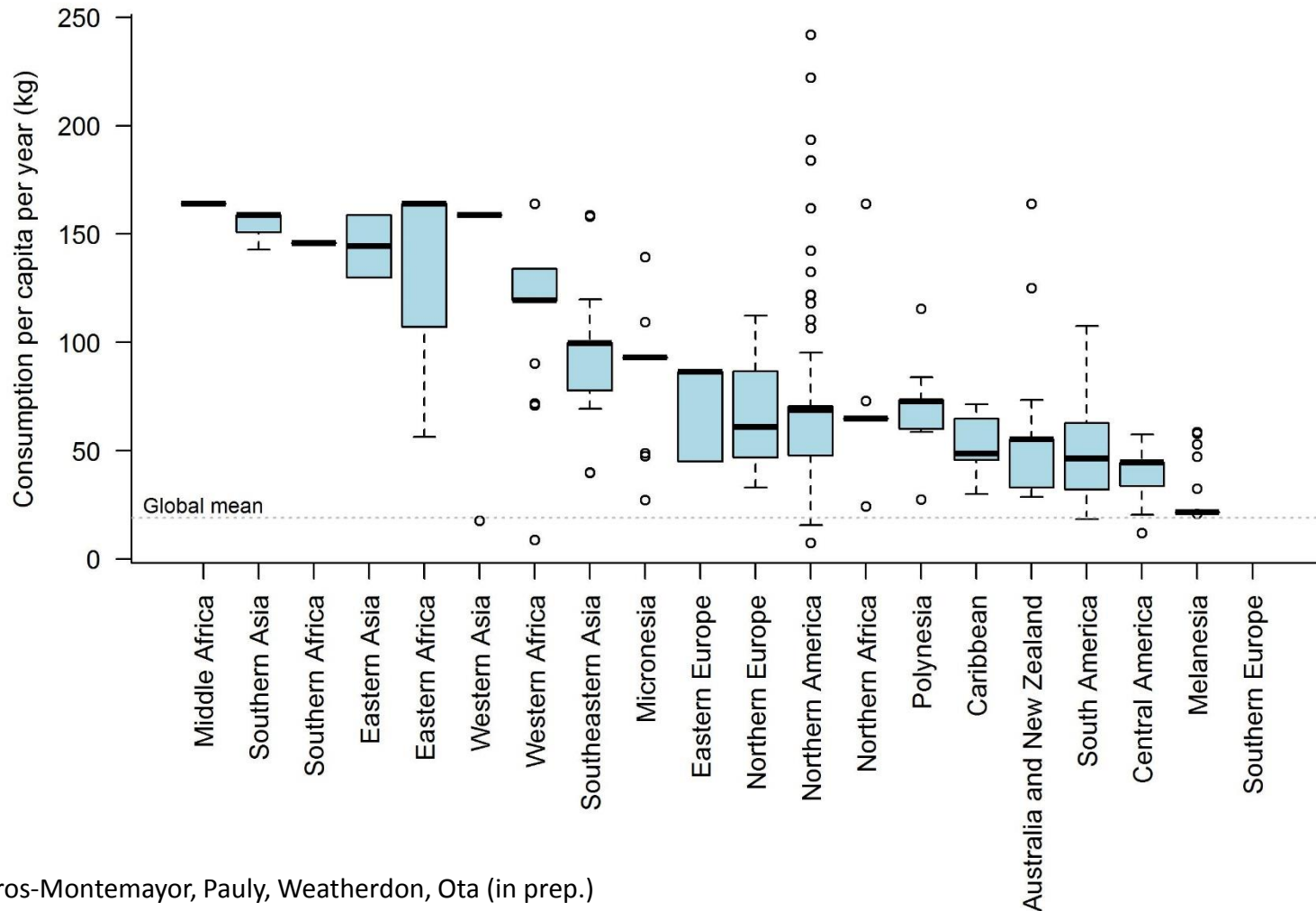
# Indigenous seafood consumption

- A total of 1,900 individual communities and 600 groups are represented in the database, representing 27 million people;
- These span all 5 global regions, 20 subregions, and 87 maritime states.



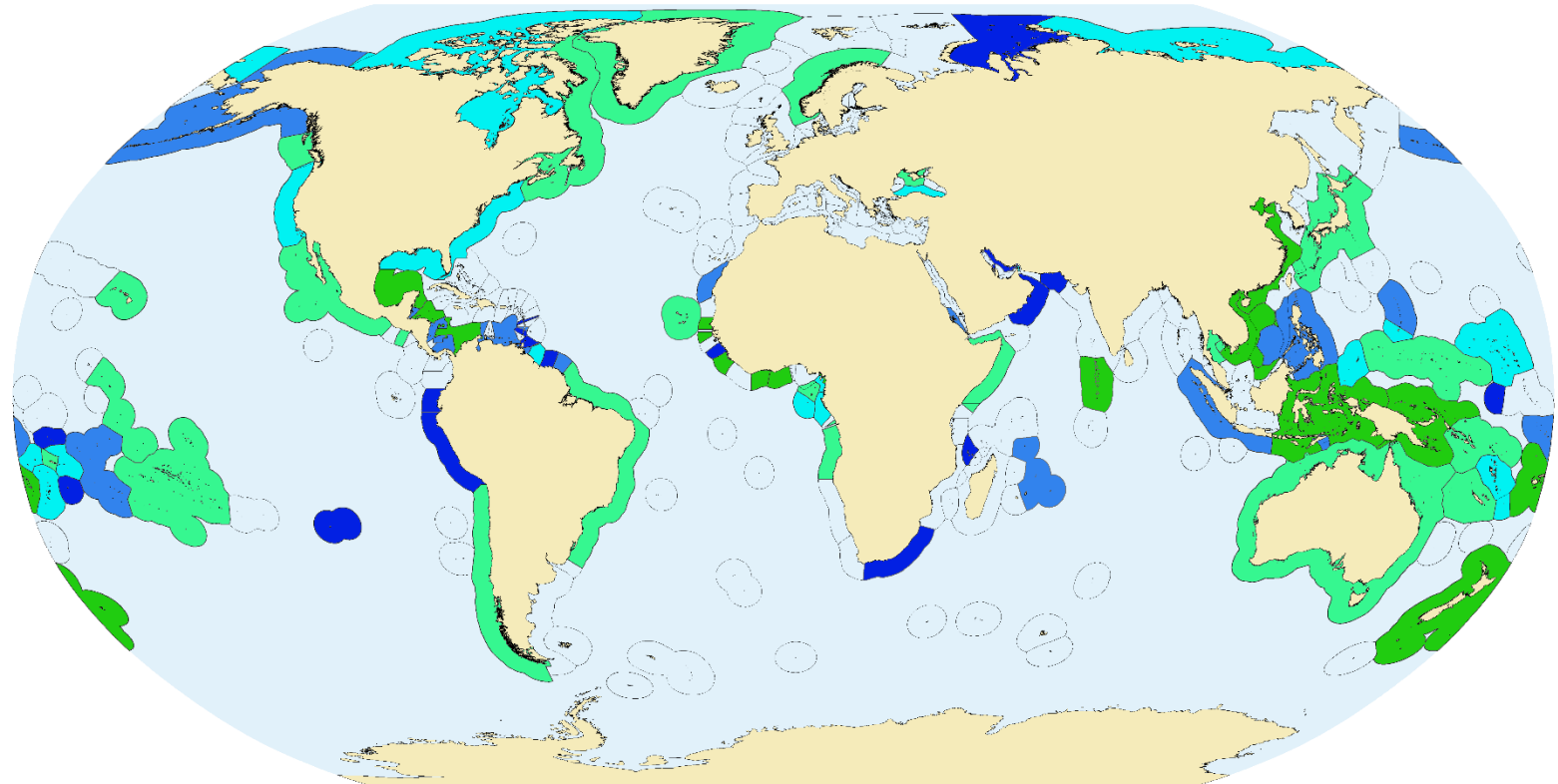
# Indigenous seafood consumption

- Per capita consumption of seafood is an average of 15 times higher than corresponding countries.



# Indigenous seafood consumption

- An estimated total of ~2 million metric tonnes of seafood are consumed annually by coastal Indigenous groups;
- This is equal to 2-3% of global fisheries catch.

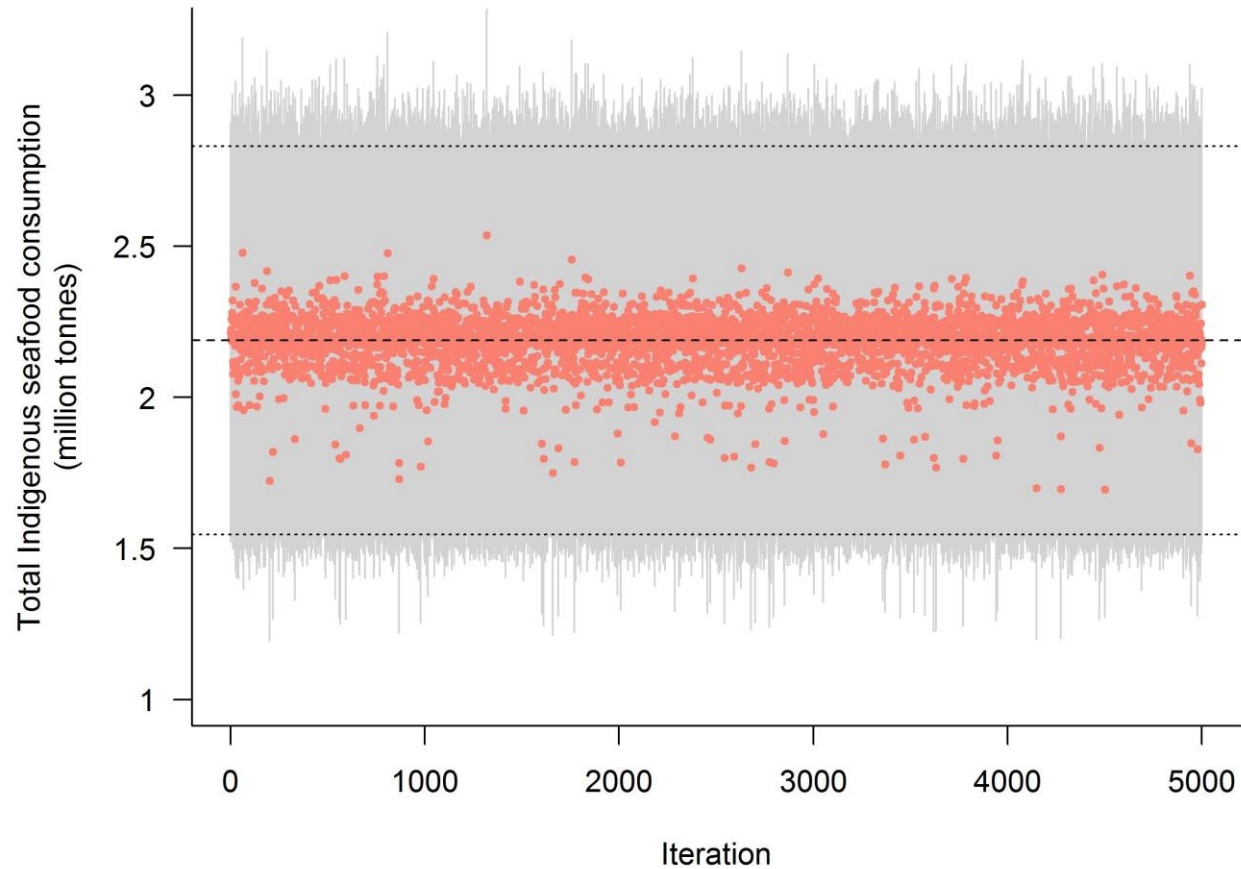


Indigenous subsistence catch (tonnes)

**< 300**   **301 - 1,500**   **1,501 - 4,000**   **4,001 - 20,000**   **> 20,000**

# Indigenous seafood consumption

Indigenous seafood consumption estimates



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# Indigenous seafood consumption

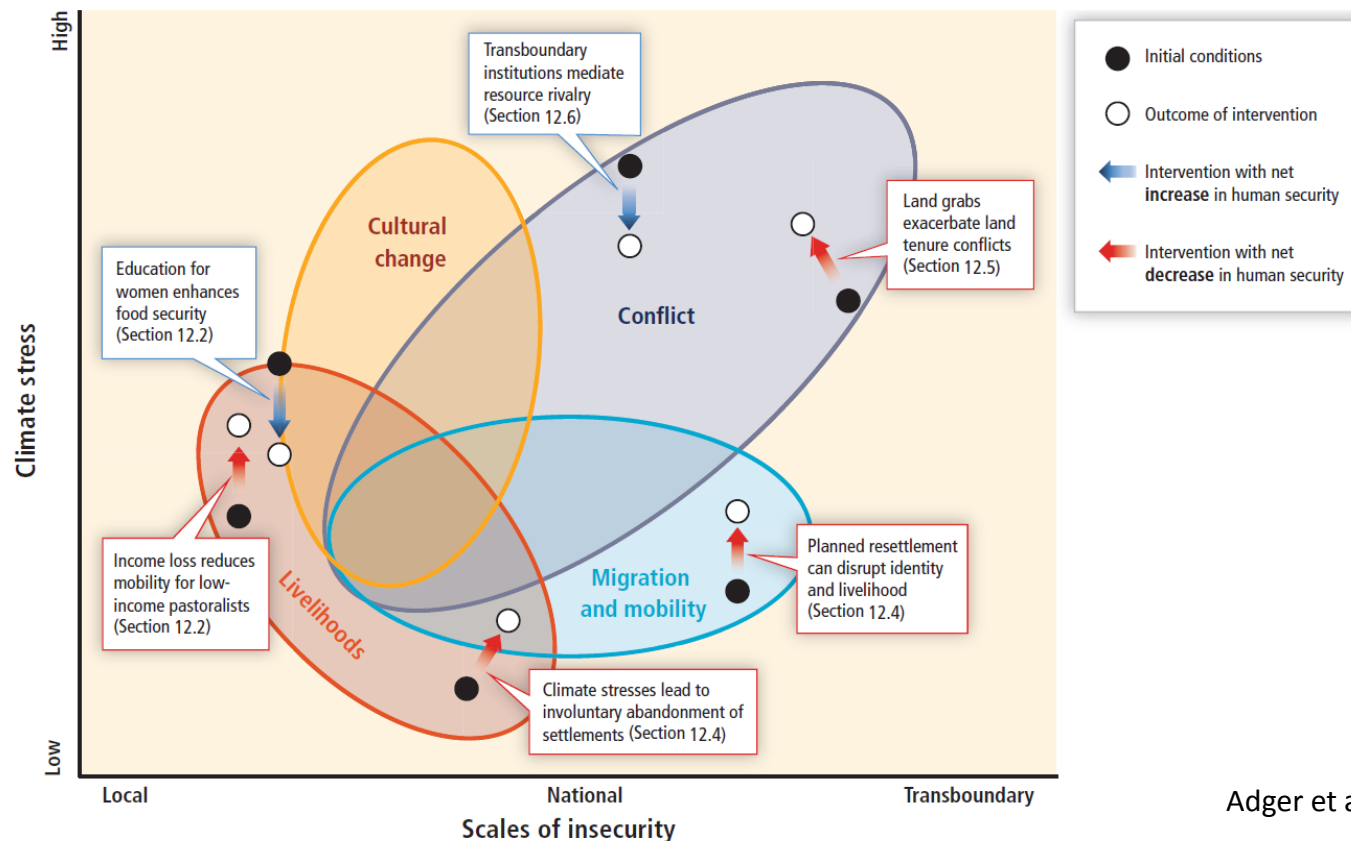
## Implications for policy

- First quantitative picture of Indigenous fisheries;
- Highlights key gaps in (qualitative and quantitative) research, but also policy;
- How do we incorporate this information into resource management?
- How does resource use/scarcity influence wider social conflicts?

# Ecosystem health and human security

- Coastal Indigenous case studies reflect underlying serious issues related to social and ecological system components;
- These are prevalent in, but not limited to, Indigenous communities.

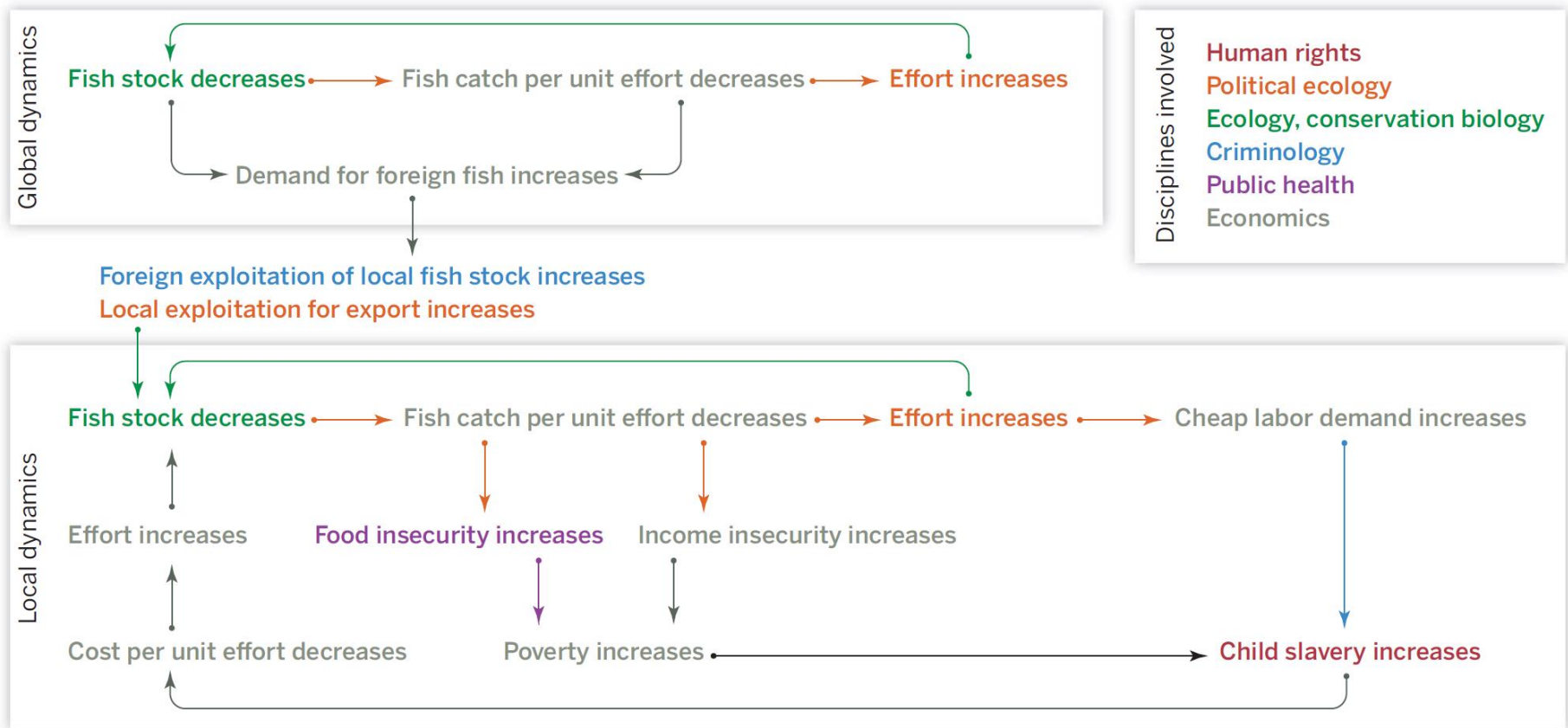
## Conceptual linkages between human security and climate stress





# Ecosystem health and human security

## Linking mechanisms between human security and marine ecosystem health

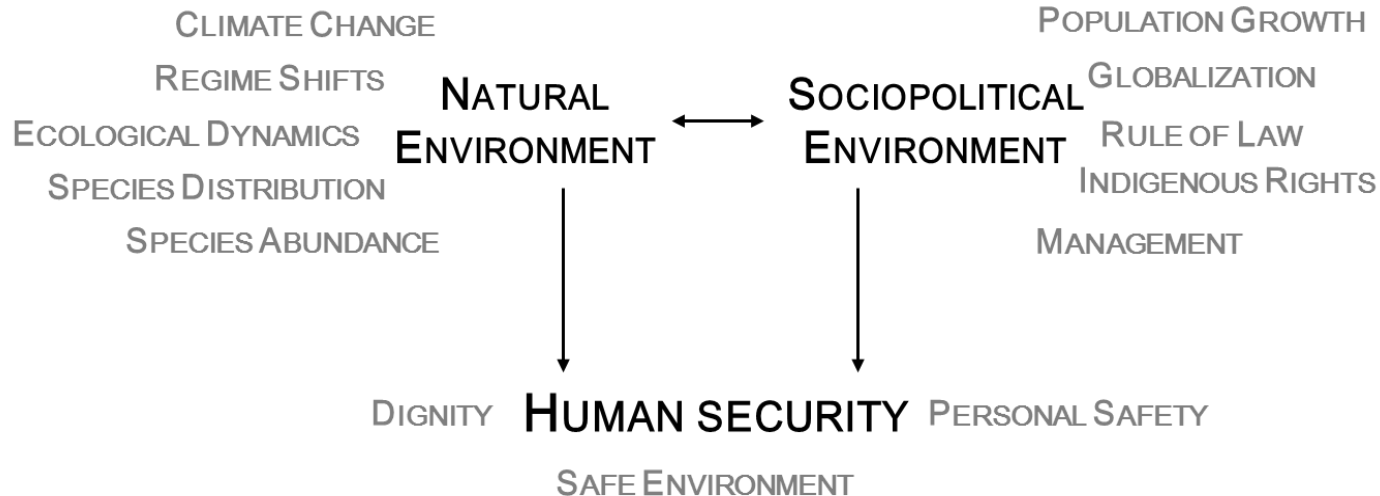


# Ecosystem health and human security

- Can we see evidence of social-ecological links influencing human security?
- Is ecosystem status a key causal factor in human conflict?

## Marine ecosystem health

## Governance



## Human conflicts

# Ecosystem health and human security

Morning Mix

## Nearly 550 modern-day slaves were rescued from Indonesia's fish trade. And that's just the beginning.

By Abby Phillip April 10, 2015



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### Solutions sought to resolve conflict over Indigenous fishing rights

By Nick McLaren  
Posted 2 Jul 2015, 11:14pm

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### INTERNATIONAL

## Lagosians seek justice after demolitions



## Slavery scandals: Unpacking labour challenges and policy responses within the off-shore fisheries sector



Melissa Marschke<sup>a,\*</sup>, Peter Vandergeest<sup>b</sup>

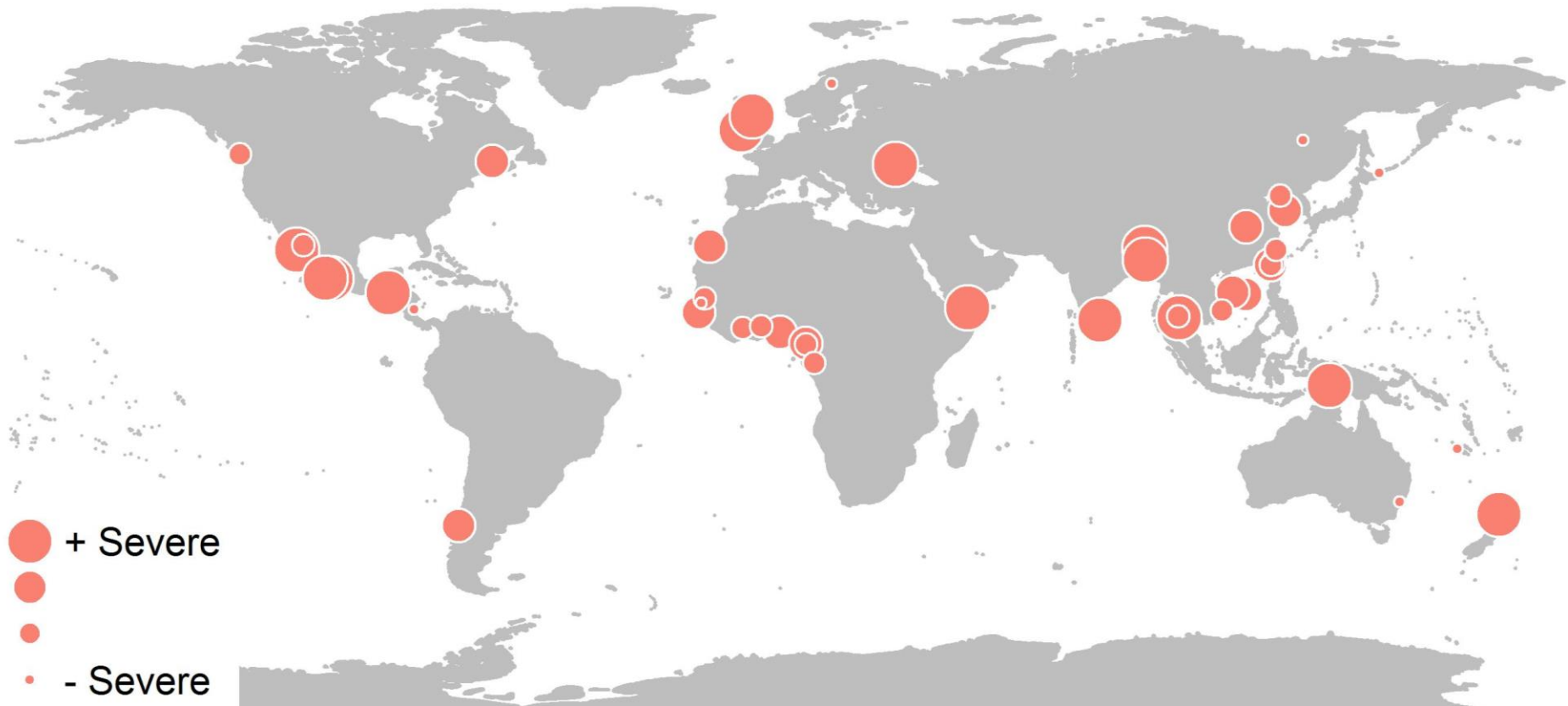
<sup>a</sup> University of Ottawa, 120 University Private, Ottawa, ON, Canada  
<sup>b</sup> York University, 4700 Keele Road, Toronto, ON, Canada

## Toman pescadores cucapás oficinas de Sagarpa en Mexicali

f t p G+ + 0

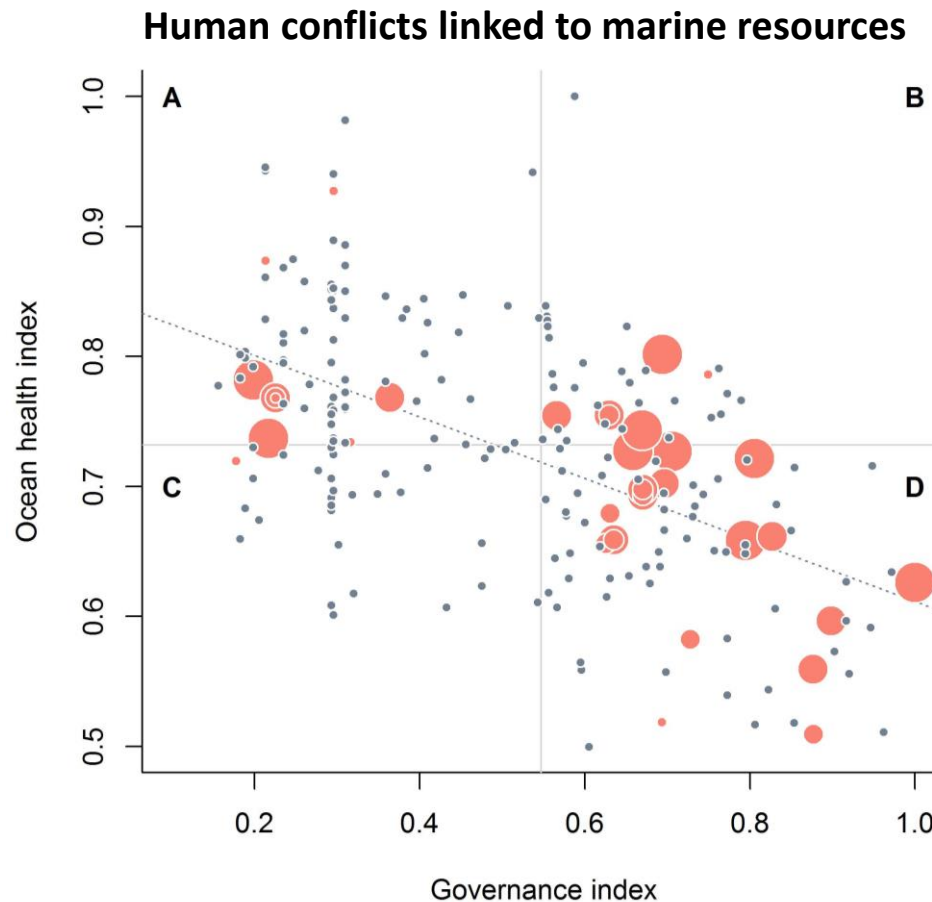
# Ecosystem health and human security

## Reported cases of human conflict linked with marine resources



# Ecosystem health and human security

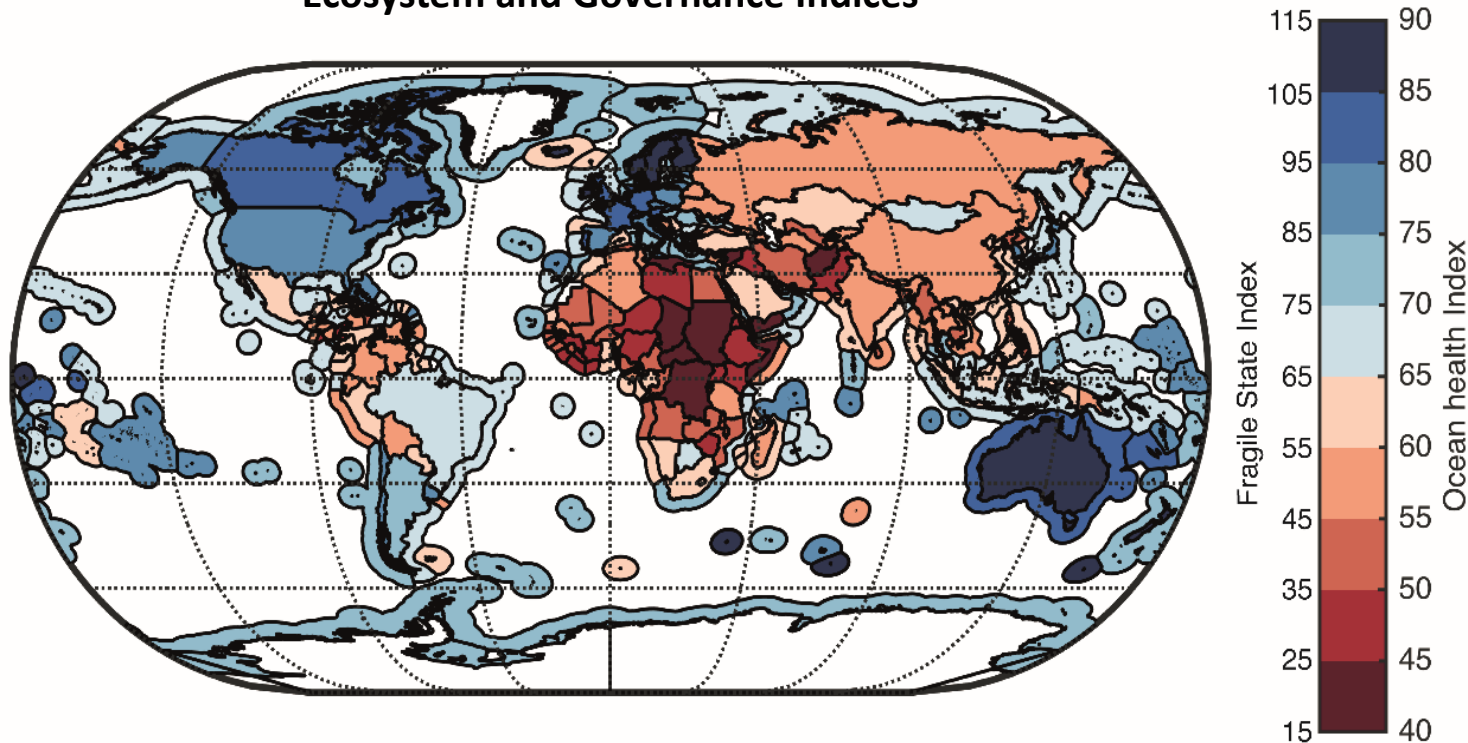
- There is evidence for links between marine ecosystem health, governance, and human security, but with complex mechanisms;
- The crucial factor is not ecological status, but overarching governance.



# Ecosystem health and human security

- Mapping out factors contributing to environmentally-triggered conflict;
- Once key mechanisms are clarified, we can project risk of increased conflict and identify vulnerable geographic areas.

**Ecosystem and Governance Indices**



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# Ecosystem health and human security

## Questions that lead to more questions...

- What are the mechanisms shaping social-ecological dynamics?
- What social/ecological issues are we missing?
- How are data, concepts, and analyses biased?
- What can we do to decrease risk and severity of environmentally-triggered conflict?

# Oceans as social-ecological systems

- Ecosystems are complex. Humans are *really* complex.



El Zancudo, Panama



Kyuquot, BC

Golfito, Costa Rica







# Thank you!

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