Risks of climate change to seafood sustainability through the lens of the MSC ecolabelling program

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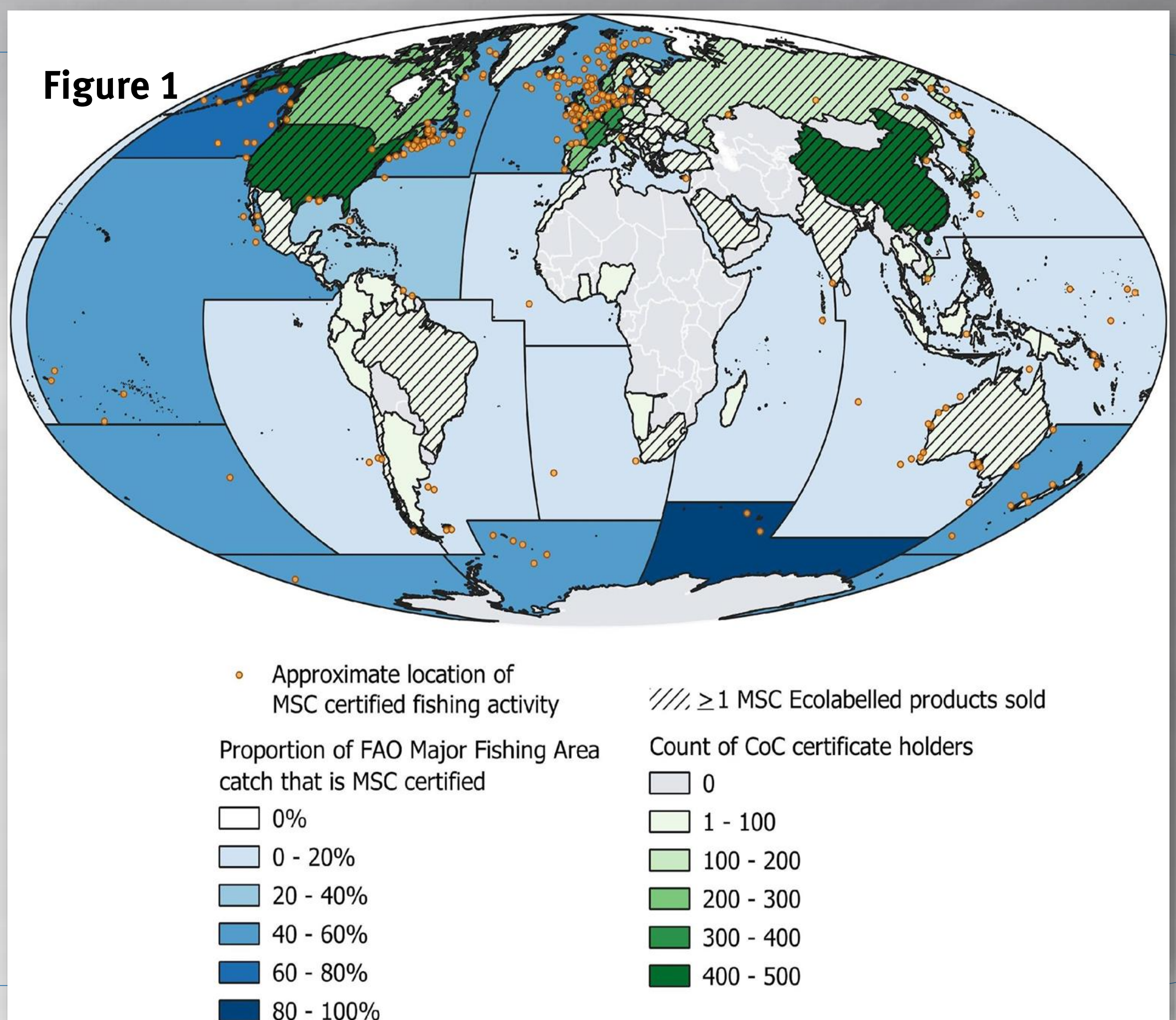
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- Managing fisheries sustainably should increase their climate resilience. Yet, climate change is putting sustainable fishing at risk, even in the best-resourced management systems, with profound consequences for nature and people.

- A risk assessment can help prioritise high vulnerability regions, where predicted biological impacts are high, but institutional capacity is insufficient. To this end, large scale yet high resolution data on climate-resilient fisheries governance capacity are needed.

- The Marine Stewardship Council (MSC), an internationally-renowned seafood ecolabeling program, currently engages over 500 fisheries with many different target species, gear types and scales across the globe (Fig.1).

- Each fishery has a public certification report containing detailed sustainability assessments by third party auditors. These are evaluated against MSC's Fisheries Standard indicators, organised under 3 Principles: (1) Sustainable stocks (2) Minimizing environmental impacts (3) Effective management.

Figure 1

- Approximate location of MSC certified fishing activity
- ///. ≥1 MSC Ecolabelled products sold

Proportion of FAO Major Fishing Area catch that is MSC certified
- 0%
- 0 - 20%
- 20 - 40%
- 40 - 60%
- 60 - 80%
- 80 - 100%

Count of CoC certificate holders
- 0
- 1 - 100
- 100 - 200
- 200 - 300
- 300 - 400
- 400 - 500

Principle 3
Effective management
All fisheries need to meet all local, national and international laws and have an effective management system in place.

Governance and Policy
- PI 3.1.1: Legal and/or Customary Framework
- PI 3.1.2: Consultation, Roles & Responsibilities
- PI 3.1.3: Long Term Objectives

Fishery Specific Management System
- PI 3.2.1: Fishery Specific Objectives
- PI 3.2.2: Decision Making Processes
- PI 3.2.3: Compliance & Enforcement
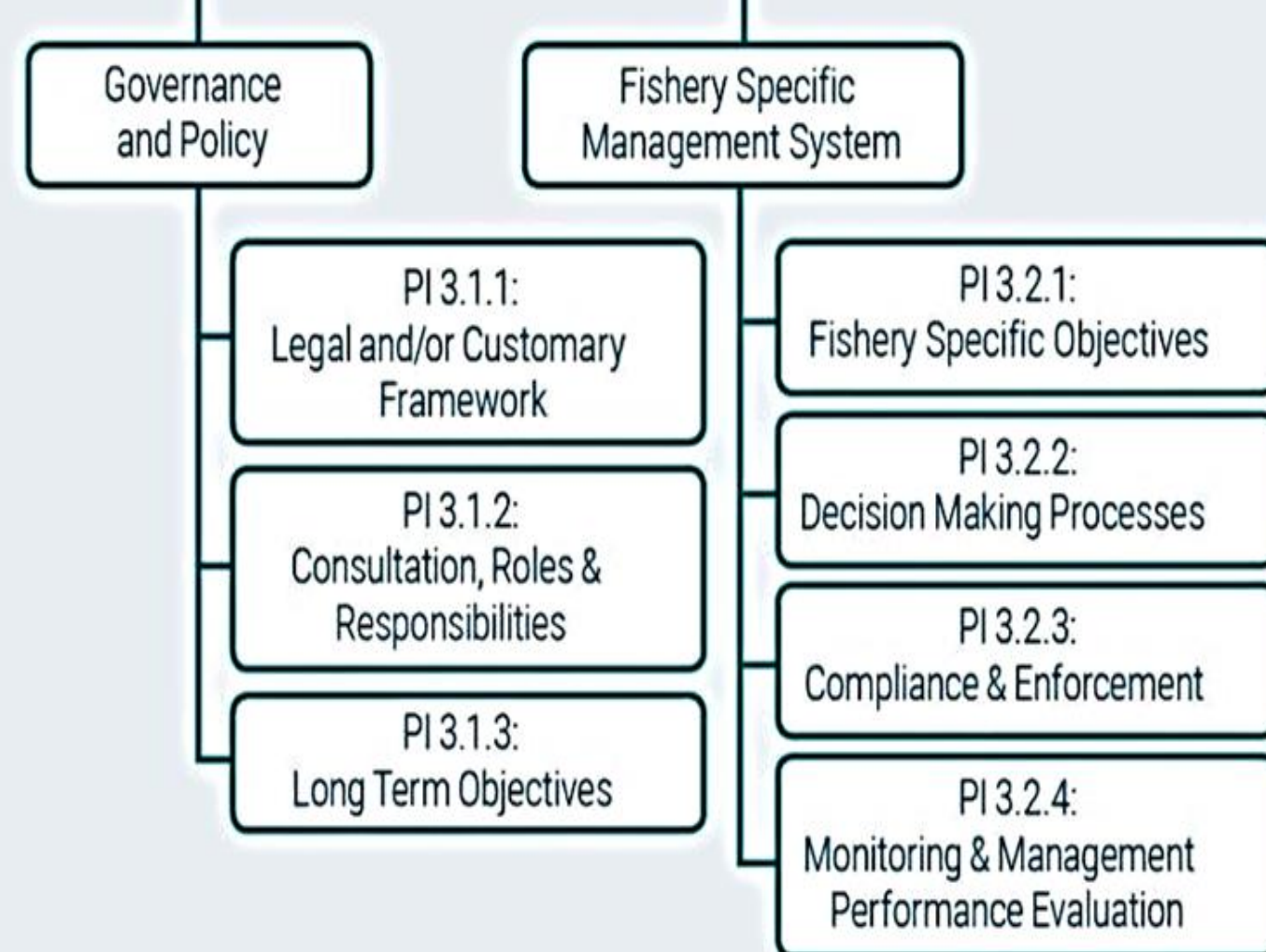- PI 3.2.4: Monitoring & Management Performance Evaluation

Figure 2

- The MSC **Assessment of Risks posed by Climate Change to sustainable seafood (ARC)** project will provide a large scale, spatially explicit risk assessment.

- It combines published climate change stressor data [1][2] with management resilience proxies based on MSC Fisheries Standard Principle 3 indicators of 'effective management' (Fig. 2).

Next steps include:
- Ground-truthing through case studies.
- Complementing certificate data with pre-assessments (i.e., rapid assessments for non certified fisheries) so as to cover geographic gaps.
- Adding supply chain data to estimate sustainable seafood trade vulnerabilities.

Expected outcomes:
- Through the lens of the MSC Fisheries Standard performance indicators for stocks, ecosystems and governance, we will provide a reproducible, global scale evaluation approach to how key climate-resilient management traits can be studied in different parts of the world, considering their implications for sustainable seafood value chains.
- Lessons learned may help inform the future iteration of the MSC Fisheries Standard, to ensure it keeps incentivizing sustainable practices.

References: [1] Tittensor et al., *Nat. Clim. Chang.* 11, 973–981 (2021). https://doi.org/10.1038/s41558-021-01173-9; [2] Palacios-Abrantes et al., *Glob. Ch. Biol.* 28(7),2312-2326 (2022) https://doi.org/10.1111/gcb.16058

For initial results:
DON'T MISS
Lauren Koerner's talk
Session S1, April 21, @12:00pm

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