CLIMATE RISK ASSESSMENT OF THE SMALL-SCALE FISHERIES OF GALICIA

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Objectives

- Identify the main target species according the type of gear and cofradía
- Estimate hazard metrics for the main target species of the SSF of Galicia
- Calculate climatic hazards for the fishers relative to their catch composition
- Estimate levels of climate exposure based on diversity of portfolio
- Calculate social sensitivity metrics based on economic resources
- Estimate the social adaptive capacity of the fishers based on social indicators
- Assess the climate risk of the small-scale fisheries of Galicia as a function of the cofradia and main gears deployed

Methodology

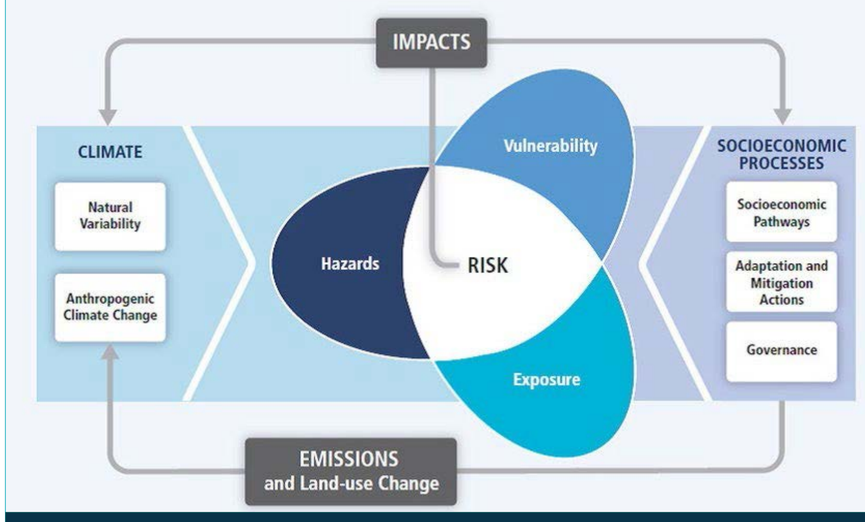


Fig. 1 - Climate Risk Assessment framework by the IPCC (2014)

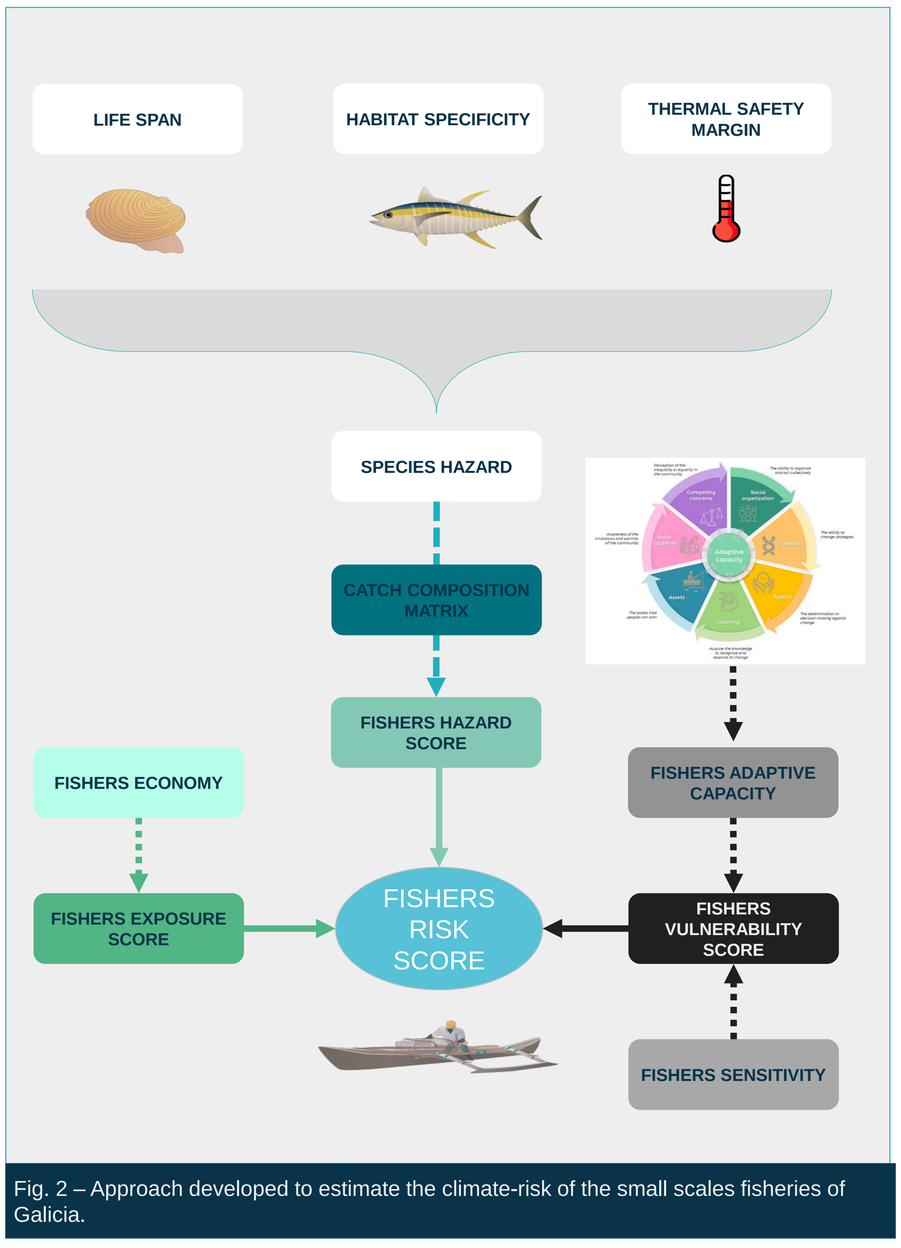


Fig. 2 – Approach developed to estimate the climate-risk of the small scales fisheries of Galicia.

Preliminary results

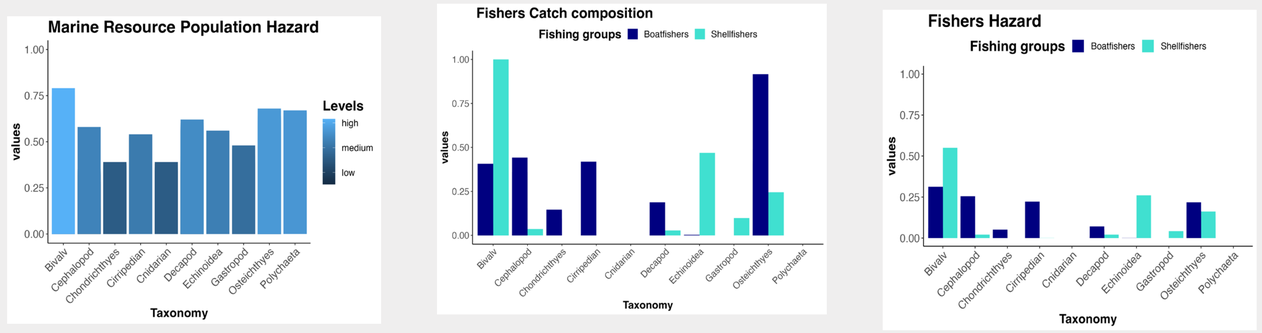


Fig. 3 - The hazard scores vary across the target species groups, with bivalves having the highest scores (left figure). The catch composition differs across the on-boat fishers and shellfishers (central figure), which intengrated with the hazard scores of the fish groups gives different hazard scores for the fishers in relation to their type of permit.

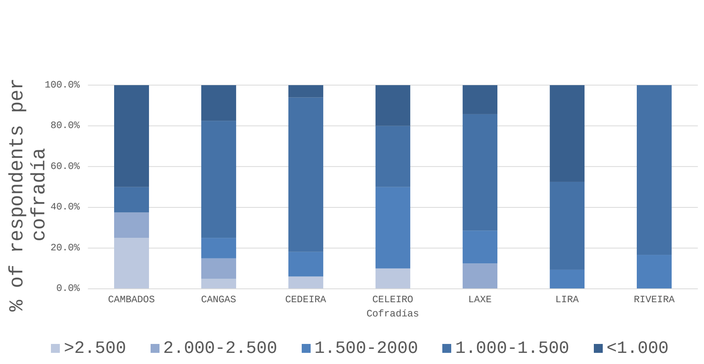


Fig. 4 – The sensitivity of the fishers was measured in terms of their incomes. We have found significant differences across cofradías.

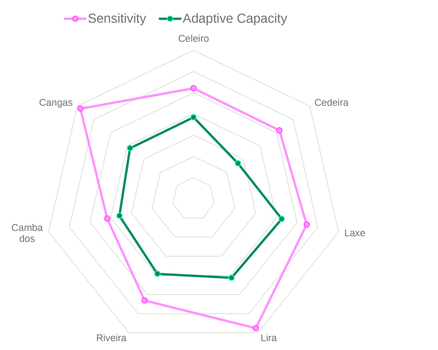


Fig. 5 – The vulnerability is calculated as the difference between the sensitivity and the adaptive capacity (see Fig. 6).

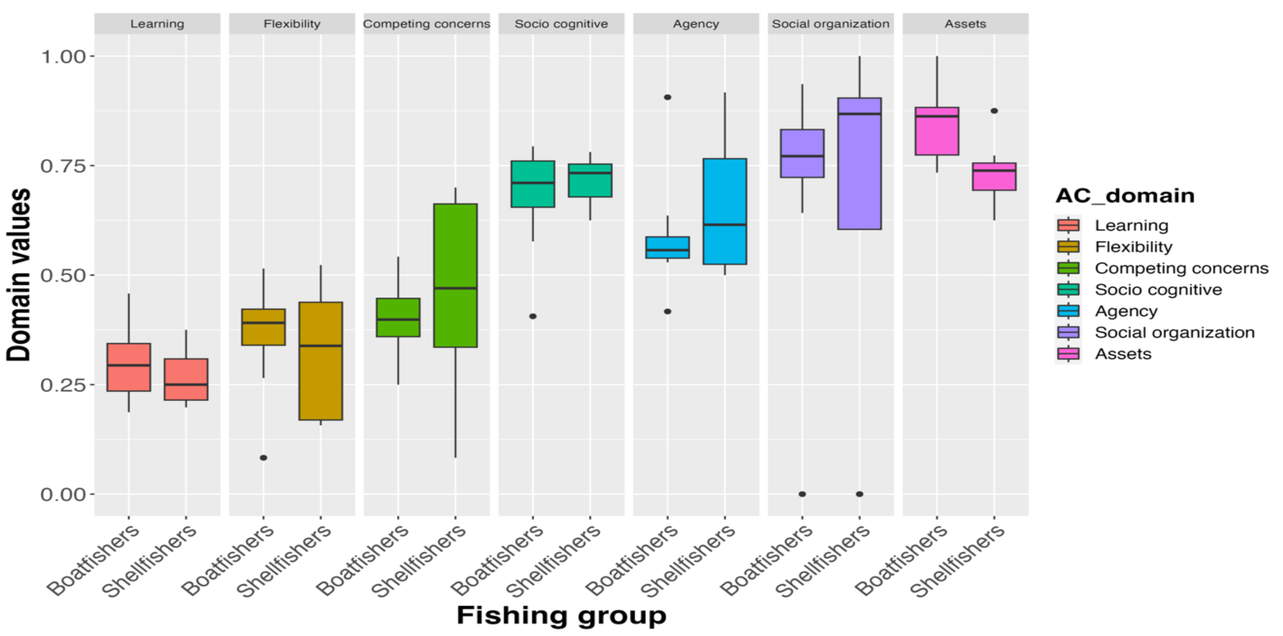
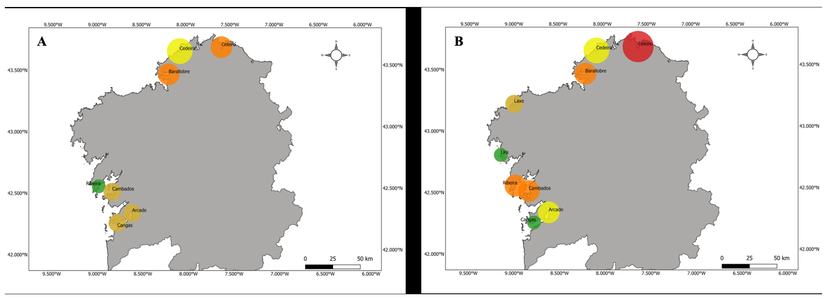


Fig. 6 – The adaptive capacity is measured based on 6 domains as described by Cinner et al. (2016)

Fig. 7 - For shellfishers (panel A) the risk seems to be higher at the northern cofradías, specially Celeiro and Barallobre. For on-boat fishers (panel B) the highest risk was detected at Celeiro. The risk of on-boat fishers seems to be more variable geographically.



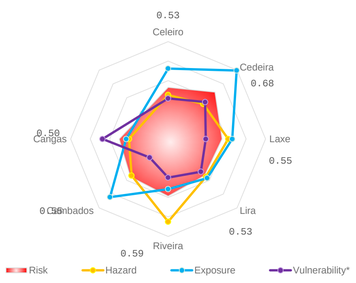


Fig. 8 - The different dimensions of risk are distributed across the cofradías in a very different way. Understanding the reasons behind this finding is fundamental to develop effective policies for adaptation and mitigation.

Next steps

- Introduce consumer preferences on the assessment.
- Map the risk estimated and its dimensions across the cofradías of Galicia, in order to understand the drivers of risk at each cofradia.
- Understand the variation found across the social indicators of risk.
- Propose adaptation and mitigation measures based on the results obtained.
- Compare the hazard scores of the species with other similar scores found in the literature. Explore adaptation options based on portfolio.

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