

# Aquatic/blue foods under stress & opportunities for action

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Aquatic foods for climate action: Showcasing solutions to increase ambition

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Food and Agriculture Organization  
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Environmental  
Defense  
Fund

Stanford

Center for  
Ocean Solutions





## Aquatic or blue foods (marine + freshwater) are a high-quality, affordable, low-carbon source of nutrition for billions of people

- Rich in essential micronutrients and fatty acids
- Small-scale fisheries provide livelihoods to nearly 500 million people
- Aquatic food trade is 11% of agricultural trade by value
- Carbon footprint generally lower than or on par with that of chicken

# CLIMATE THREATS TO BLUE FOOD SYSTEMS

MARINE FISHERIES



FRESHWATER FISHERIES



MARINE AQUACULTURE



FRESHWATER AQUACULTURE



BRACKISH AQUACULTURE



SUPPLY CHAINS



HEAT EXTREMES



SPECIES DISTRIBUTION



OCEAN ACIDIFICATION



STORMS



SEA LEVEL RISE



LOSS OF SEA ICE



DROUGHT



FLOODING



PESTS AND PATHOGENS



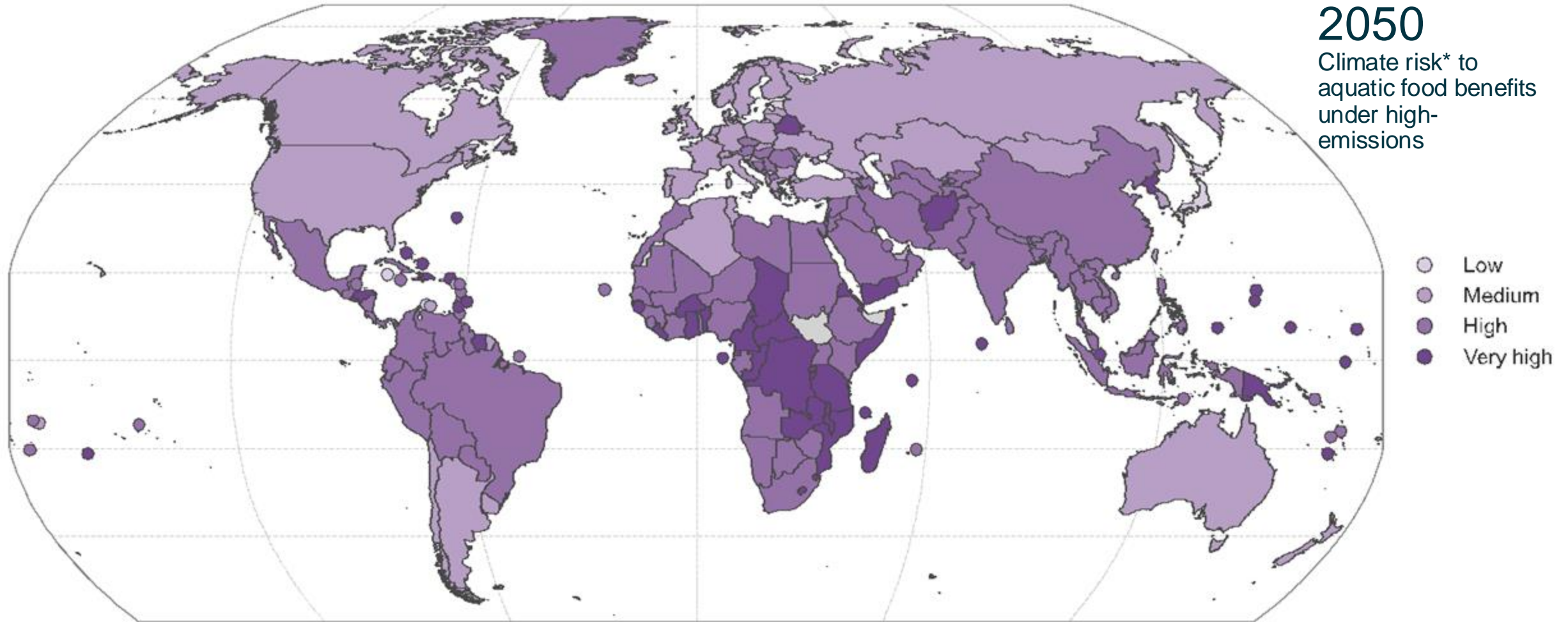
CROP LOSSES

Data obtained from: Tigchelaar, M., Cheung, W.W.L., Mohammed, E.Y. et al. Compound climate risks threaten aquatic food system benefits. Nat Food 2, 673–682 (2021). <https://doi.org/10.1038/s43016-021-00368-9>

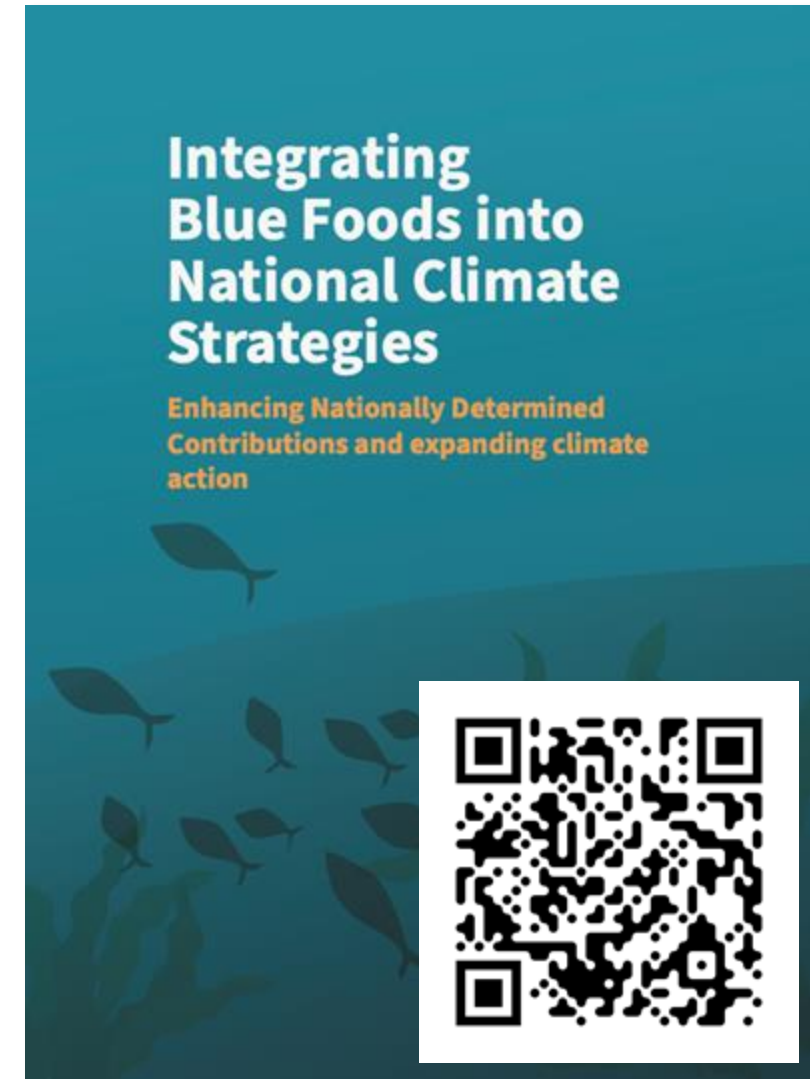
This graphic was developed as part of the Blue Food Assessment



# (Very) high levels of climate risk\* to aquatic food benefits by 2050 across Africa, S/SE Asia, Indo-Pacific, SIDS



# Growing evidence can guide countries in including aquatic foods in national climate strategies





## Capture fisheries production

Develop sustainable & climate-adaptive fisheries management

Reduce emissions from fishing

Support climate-adaptive livelihoods & practices for fishers & fishing communities



## Aquaculture production

Improve aquaculture feed & feeding management to reduce GHG emissions

Transition aquaculture energy inputs to renewables & reduced energy use

Promote expansion of low-input, integrated &/or non-fed aquaculture systems

Support climate-adaptive tech & practices



## Blue food supply chains

Reduce loss & waste & enhance circularity

Reduce emissions from energy use & operations



## Consumption & diets

Integrate sustainable, low-carbon blue foods into food procurement, planning & assistance programs

Help consumers shift to sustainably produced, low-footprint blue foods



## Blue foods & coastal blue carbon habitats

Reduce impact of aquaculture & fisheries on blue carbon habitats

Implement blue carbon habitat management & restoration for carbon storage & adaptation



## Enabling policy measures for cross-cutting challenges

Research & development

Develop & maintain robust data collection, monitoring & prediction systems

Improve equitable access to finance, knowledge, government support & resources

Ensure collaboration and inclusive management, planning & decision-making