



# FishMIP Sectoral Update Jan, 2021

ISIMIP offers a framework for consistent climate change impact projections within and across sectors – see isimip.org

climate projections

RCP scenarios from CMIP

& CORDEX archives

Socio-economic input SSP scenarios

Impact models global & regional

agriculture
biomes
coastal infrastructure
fisheries
agro-economics

water
Forests
health
energy
permafrost

- Synthesis of impacts at different levels of global warming
- Quantification of uncertainties
- Model improvement
- Cross-sectoral interactions
- Cross-scale intercomparison
- Focus topics (e.g. extreme events, adaptation)





### **Update since last ISIMIP workshop 6 months ago:**

ISIMIP 3b/Phase 1 FishMIP: 46 global simulation runs across 9 models (including 3 new global models) and 26 regional simulation runs across 14 regional models (including at least 3 new models, at least 2 more in progress).

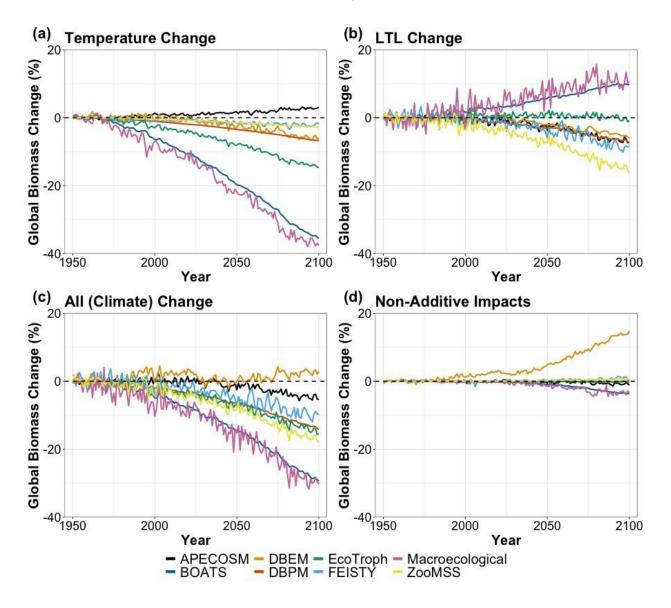
**Open science**: We set up the FishMIP Github organisation to share new tools and code resources

**Soc Driver dataset**: We have provided new standardised historical global fishing effort and catch datasets to modellers and ISIMIP, spanning 1950-2015. Steps towards pre-1950 has begun.

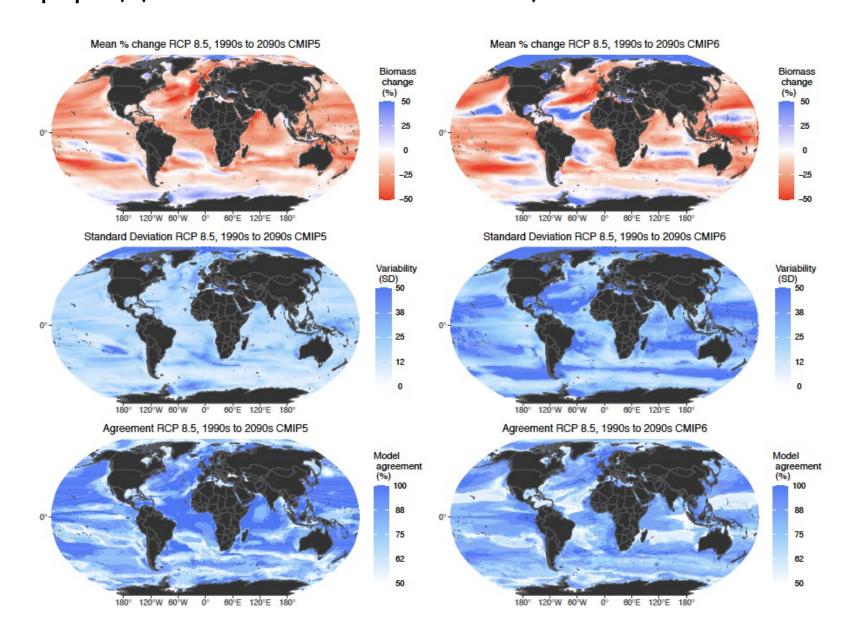
**IPCC AR6 Papers**: 1 key paper (on disentangling drivers of model variation has been submitted), 4+ papers in draft.

Paper updates...

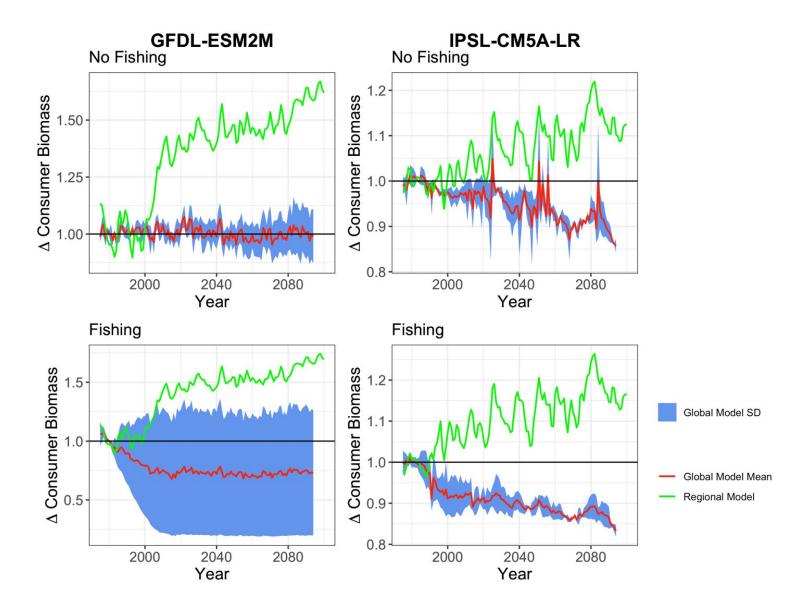
Distentangling effects of NPP and temperature on marine ecosystem projections (Ryan Heneghen et al. Geo Sci Mod Dev, submitted)



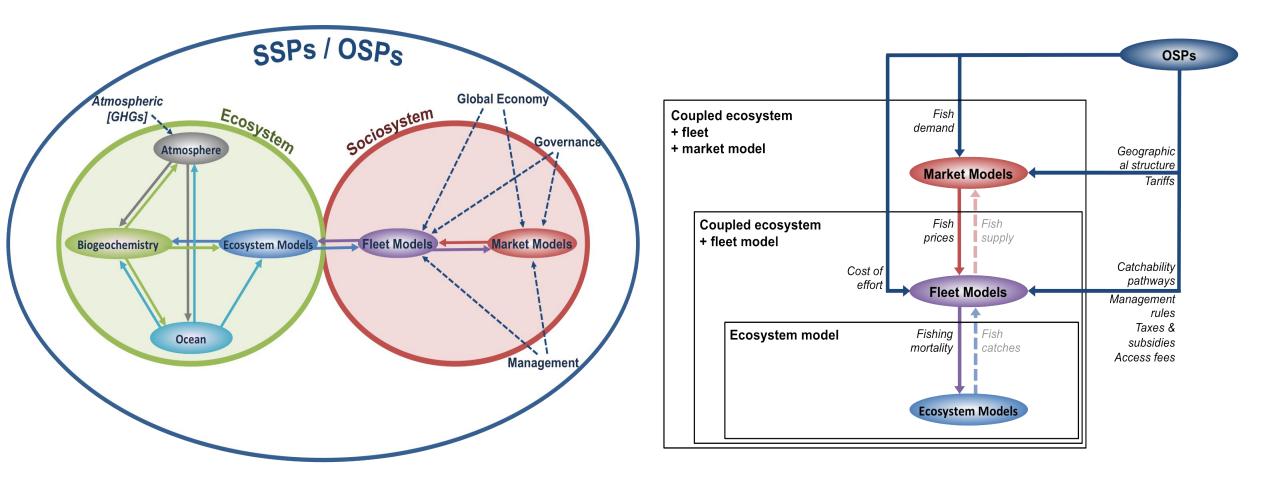
Consequences of next generation earth system models for marine ecosystems. (FishMIP general CMIP6 paper) (Derek Tittensor et al in draft)



More or less fish in future oceans? The importance of scale for climate change projections (Tyler Eddy et al. in draft)

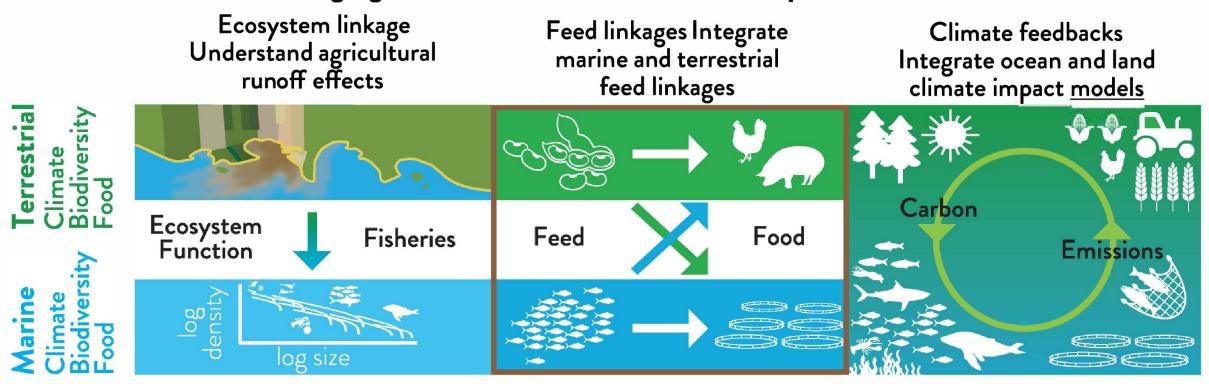


## Ocean sustainability pathways+ (Olivier Maury et al. in draft)



Improving cross-sectoral linkages (Julia Blanchard et al., perspective piece in draft)

## Bridging the land-sea divide in climate impact models

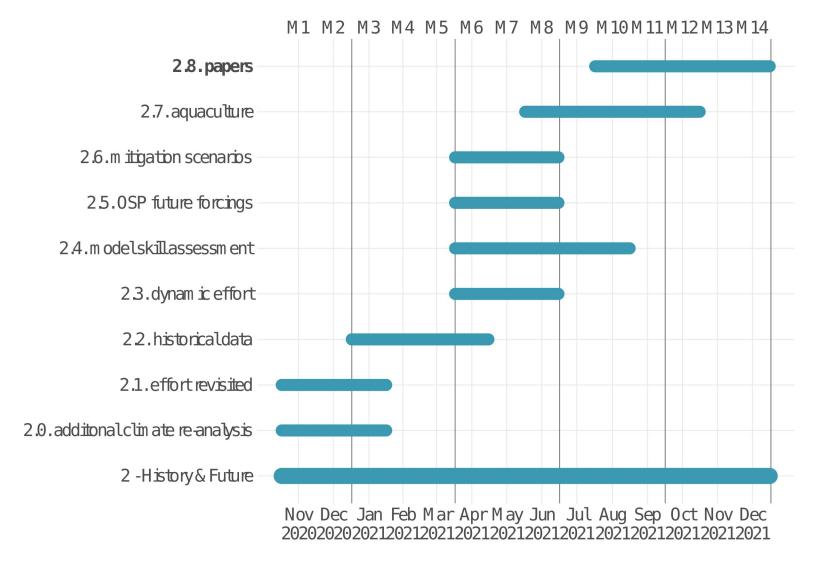


 Proposed a cross-sector Fisheries-Agriculture-Aquaculture-Biodiversity session in 6-12 months

# Other paper ideas:

- EcoTroph amplification (Vianney Guibourd de Luzinais, Didier Gascuel et al.)
- Regional models beyond biomass: ecosystem indicator responses
- Global and regional models: size spectrum as emergent constraint for improving model uncertainty (Julia Blanchard/Ryan Heneghan/Camll Novaglio et al)
- Protocol + Validation study using catch and biomass data across models
- Ideas we can also brainstorm at more focused modelling workshop
  - Google spreadsheet: https://docs.google.com/spreadsheets/d/1GgUvpm1cEVyjJuWHkdjuHNN68arRZ\_Gfgr\_yyf9v6nM/edit#gid=0

# Next steps: phase 2 (ISIMIP 3b & 3a)



- Complete ISI-MIP 3b
- Historical Fishing 1850-1950
- Future OSP+ scenarios (soc drivers)
- ISI-MIP 3a
  - New re-analysis forcings
  - Model evaluation
- New sector: aquaculture

Model runs target – towards mid/end of 2021

\*NEED TO REVISIT THIS PLAN\*

## FishMIP structure

#### **Coordination Team**

- BIG THANK YOU to Derek Tittensor (lead) & Eric Galbraith (global coordinator)
- BIG WELCOME to Colleen Petrik, Ryan Heneghan, Camilla Novaglio, Yannick Rousseau

## **Steering Group**

- ex-officio members, coordinators, other MIP coordinators

## **NEW: Working Groups within FISHMIP**

- Example ideas: Model improvement; Focal Regions for detailed work; Aquaculture; Tools & Analyses; etc..
- These will provide a synergistic focus for groups, and topics for folks to apply for more focused funding supported by FishMIP

BIG WELCOME TO all new members! Keep spreading the word

# Funding

- Australian Research Council
  - Dec 2020 Future Fellowship Submitted (my time/team/support, includes ISIMIP cross-sectoral work)
  - March 31<sup>st</sup> Linkage Infrastructure Equipment Funding includes data and computational resources tools, esp. if subscribed to international facilities, up to 5 years – improved tools for fishMIP modeler and end-user community: including key bottlenecks such as harmonised model inputs and outputs, validation and analyses
    - Looking for partner organisations (international and national) who may be able to to contribute in kind/cash even small amounts for work you are planning to do
- Other potential funding sources?
  - AccelNet (USA)
  - iDIV (working groups)
  - Moore
  - Belmont

# Upcoming workshops/conferences

- FishMIP Scenarios WG paper Jan/Feb (zoom, Olivier)
- FishMIP CMIP5-6 modellers paper update (zoom, late Feb/when results ready to discuss)
- Next ISIMIP cross-sectoral 6 + 12 months?

#### Conferences:

- American Fisheries Society Proposed Global Model Session (Ken Andersen)-November 6-10, 2021, Baltimore, Maryland
- World Fisheries Congress Mon, 20 Sept 2021 Fri, 24 Sept 2021, Adelaide Australia
- Others?

# Any other items?