7th Meeting of the SBSTA Research Dialogue

Efforts undertaken to address the information gaps in climate change science

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ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

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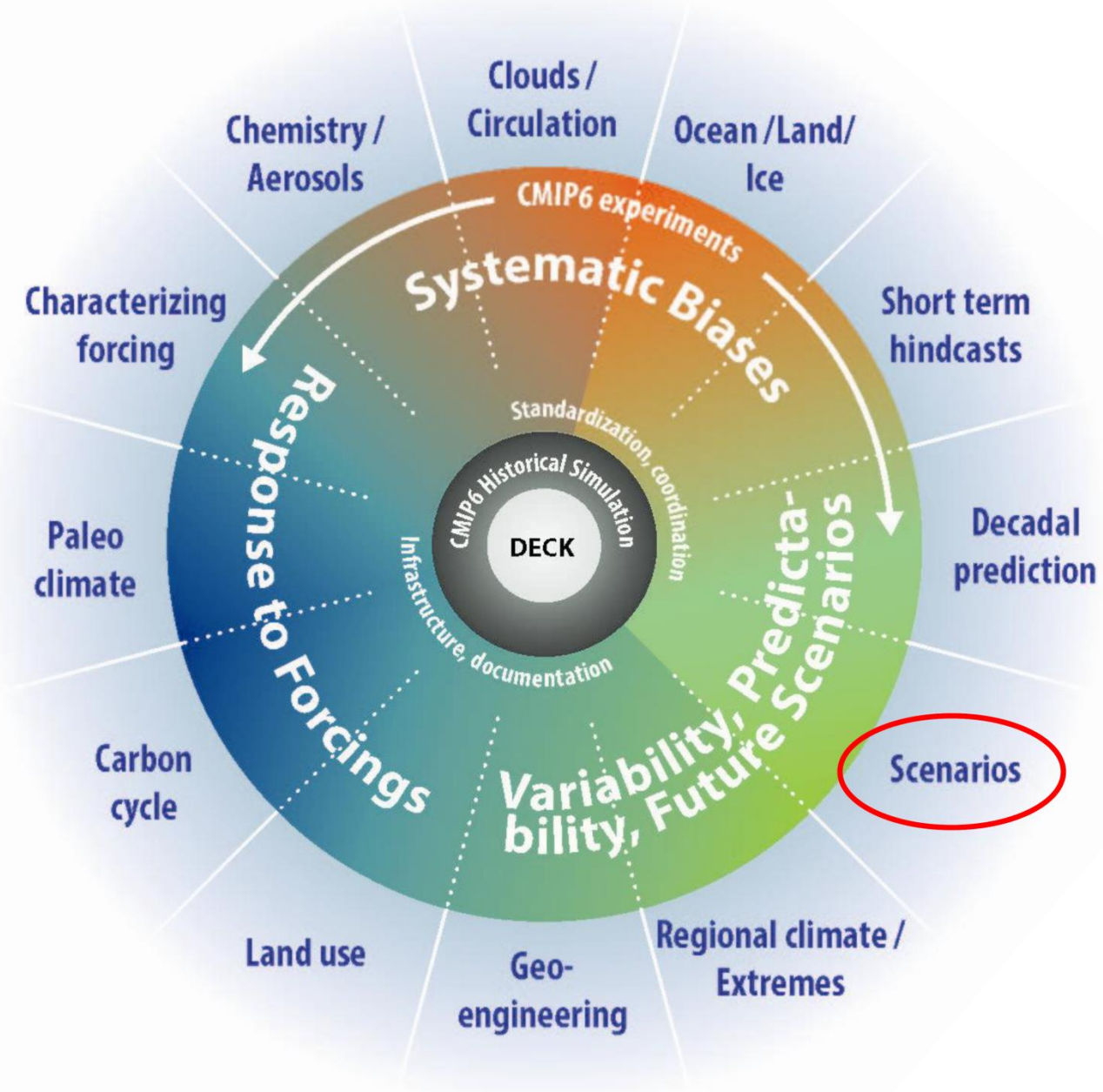
Efforts undertaken to address the information gaps in climate change science

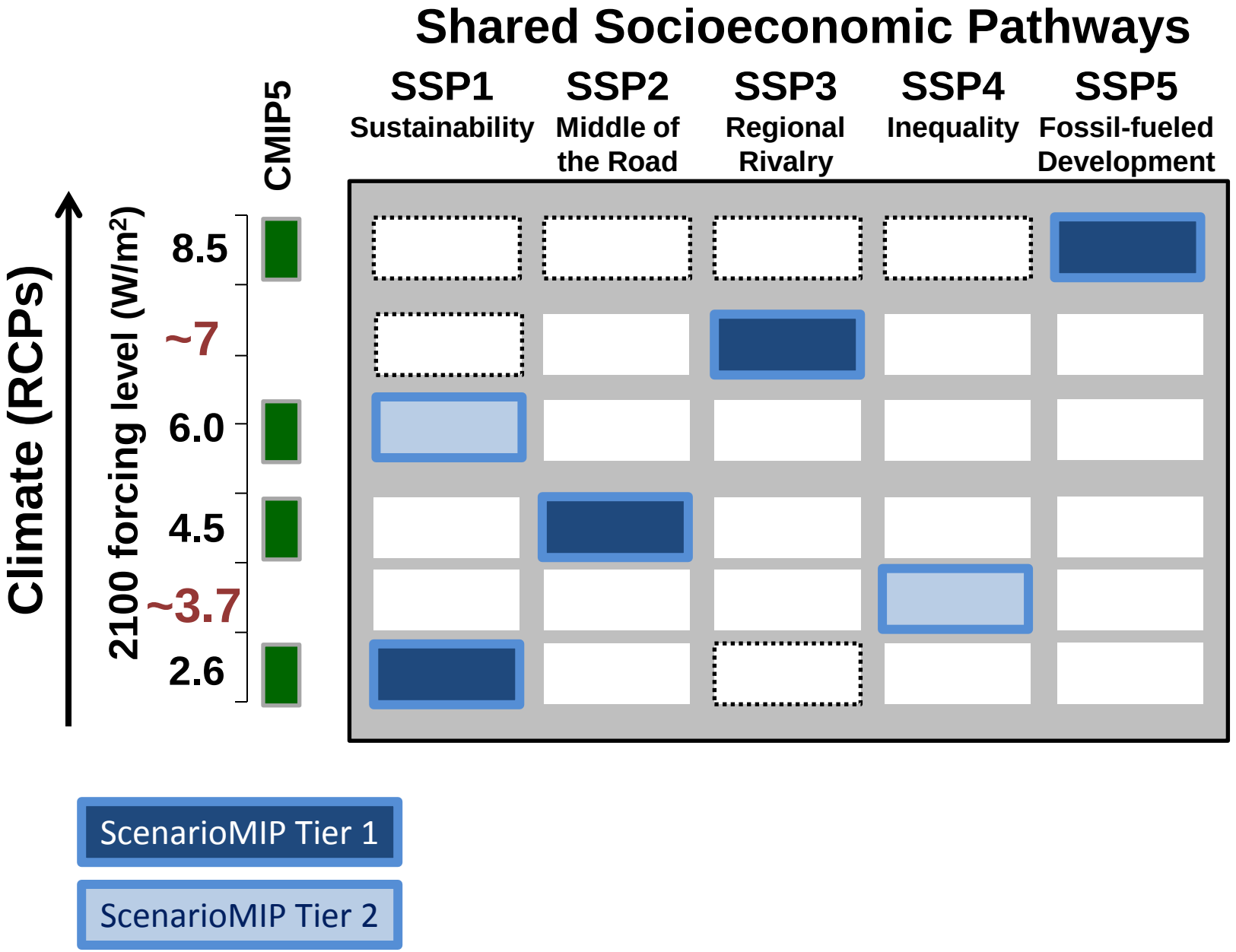
1. Scenario development
2. Examples of exciting new science

   targets, climate processes, human exposure,

   ecosystem services
3. Conclusions

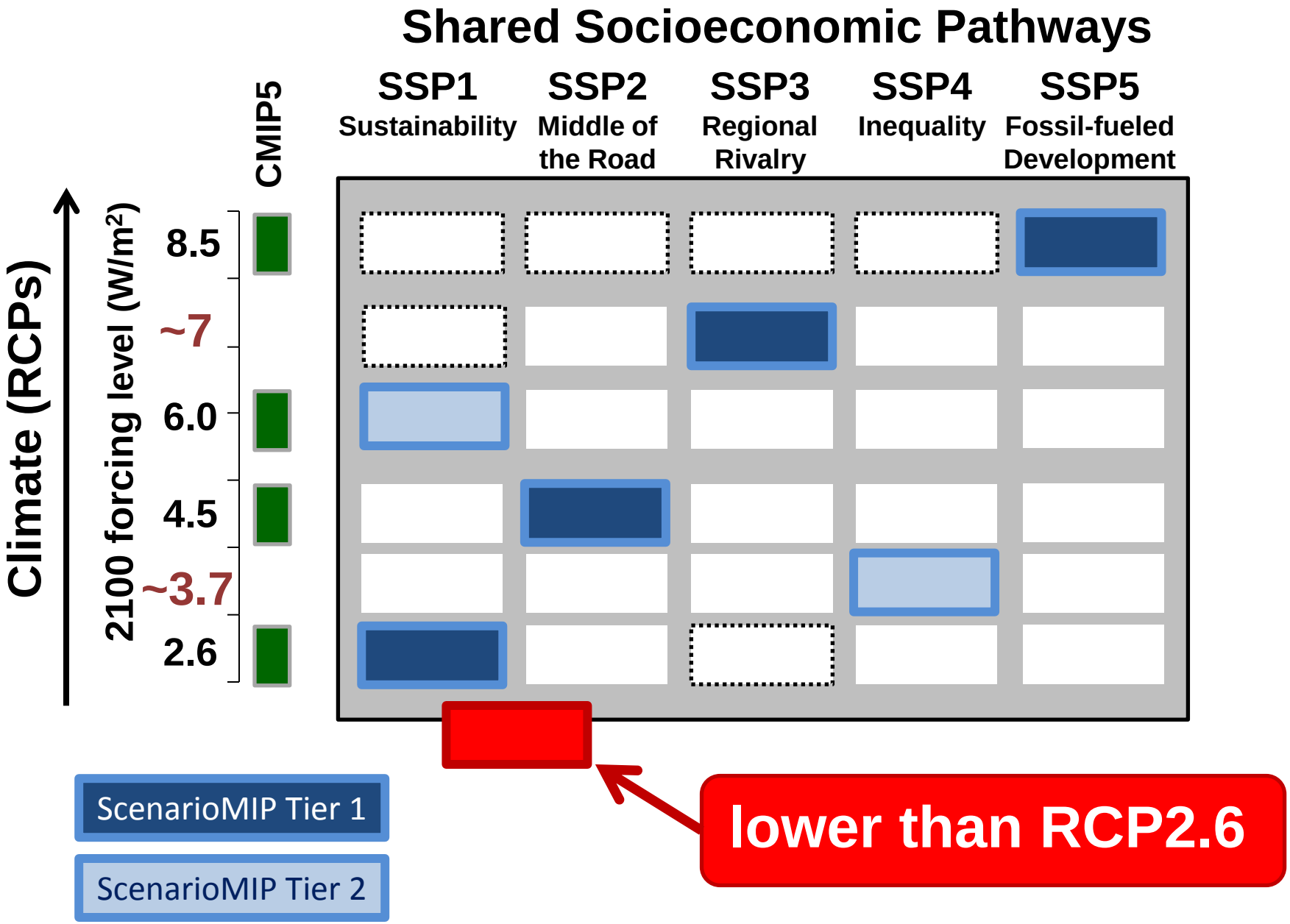

Clouds / Circulation
Chemistry / Aerosols
Ocean /Land/ Ice
CMIP6 experiments
Systematic Biases
Characterizing forcing
Short term hindcasts
Standardization, coordination
CMIP6 Historical Simulation
DECK
Infrastructure, documentation
Response to Forcings
Variability, Predicta- bility, Future Scenarios
Paleo climate
Decadal prediction
Carbon cycle
Scenarios
Land use
Geo- engineering
Regional climate / Extremes

Future Scenarios in CMIP6 (Current Proposal)



Eyring et al., CMIP6, ScenarioMIP, www.wcrp-climate.org

Future Scenarios in CMIP6 (Current Proposal)



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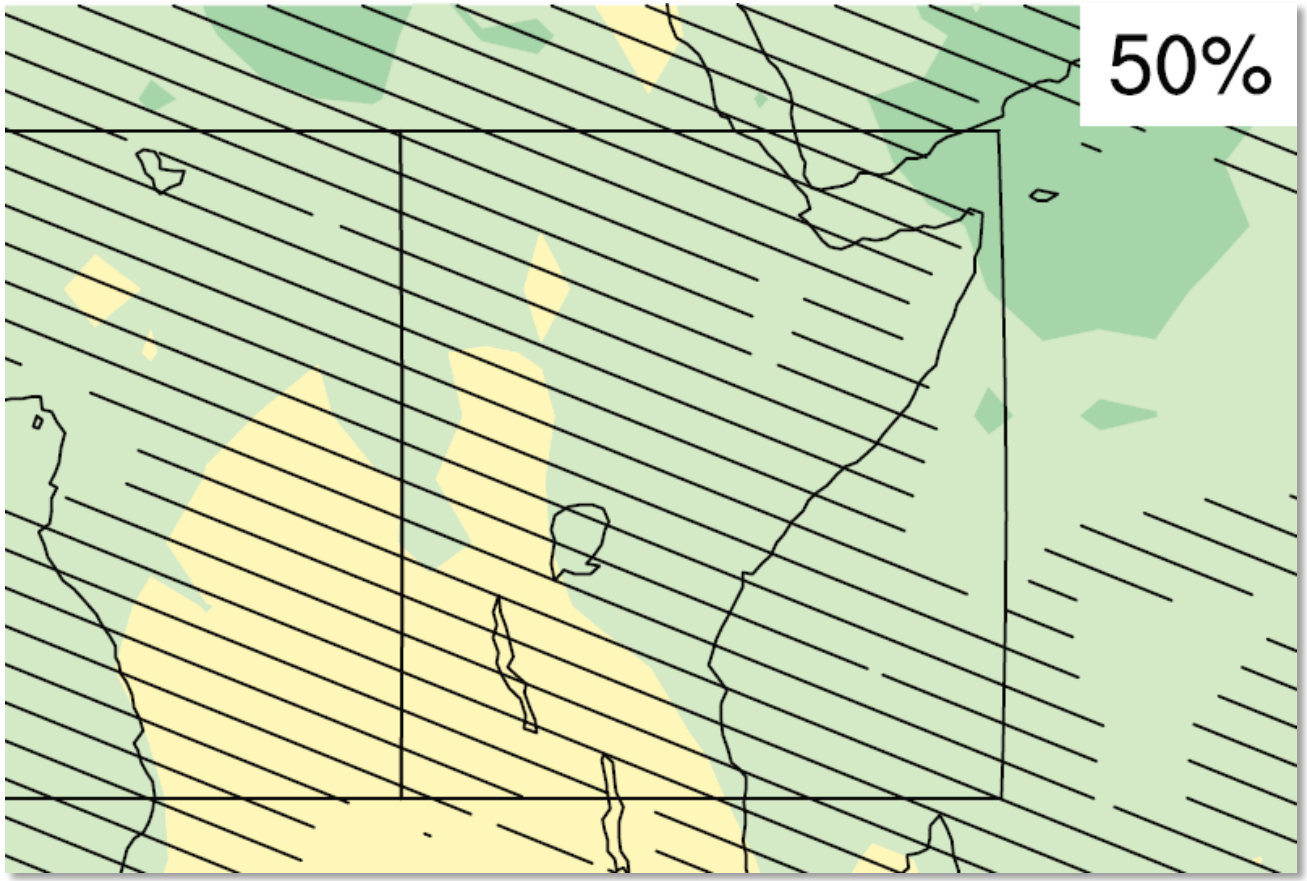
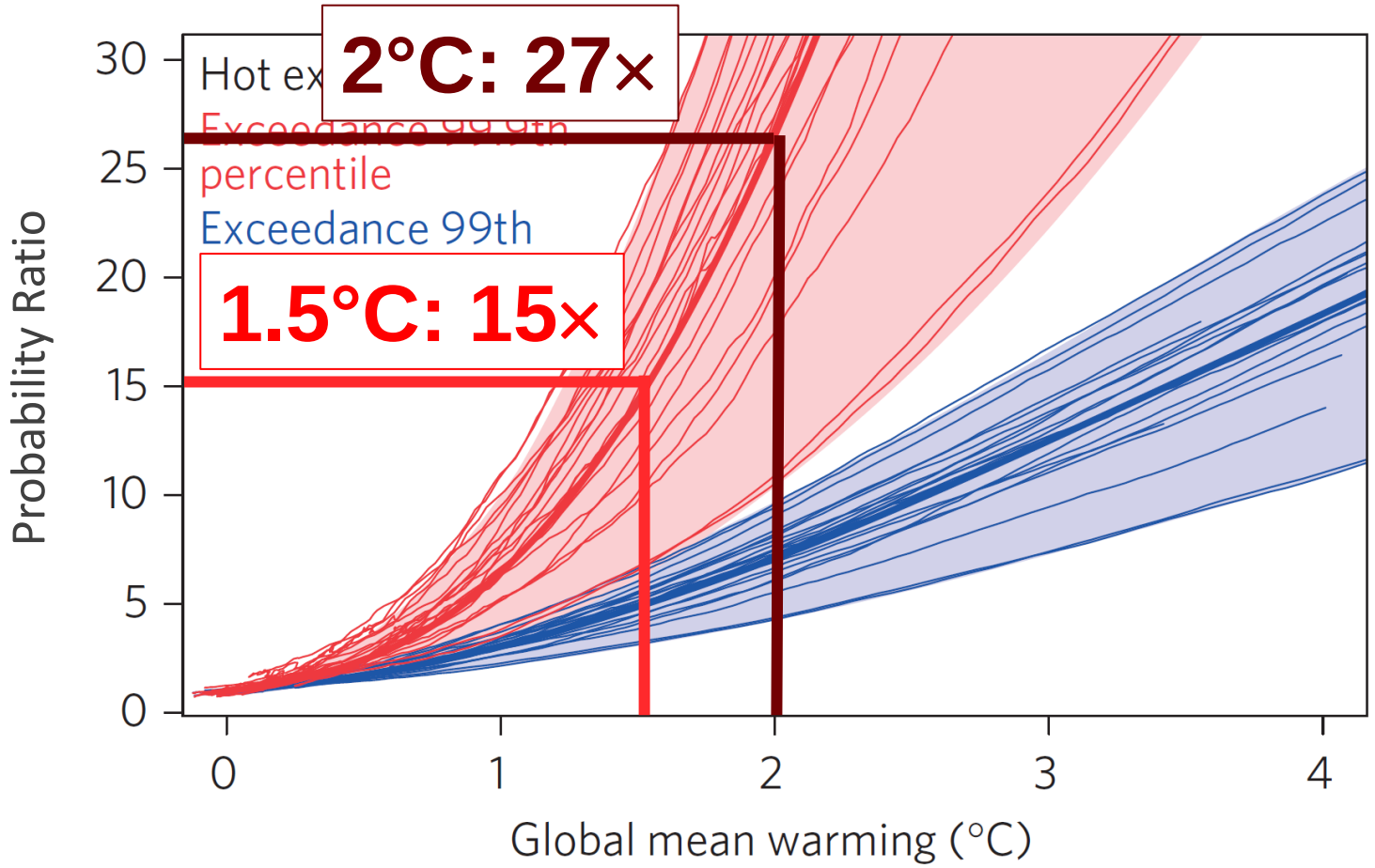
Difference between 1.5°C and 2°C target: Precipitation

IPCC WGI: Atlas of Global and Regional Climate Projections



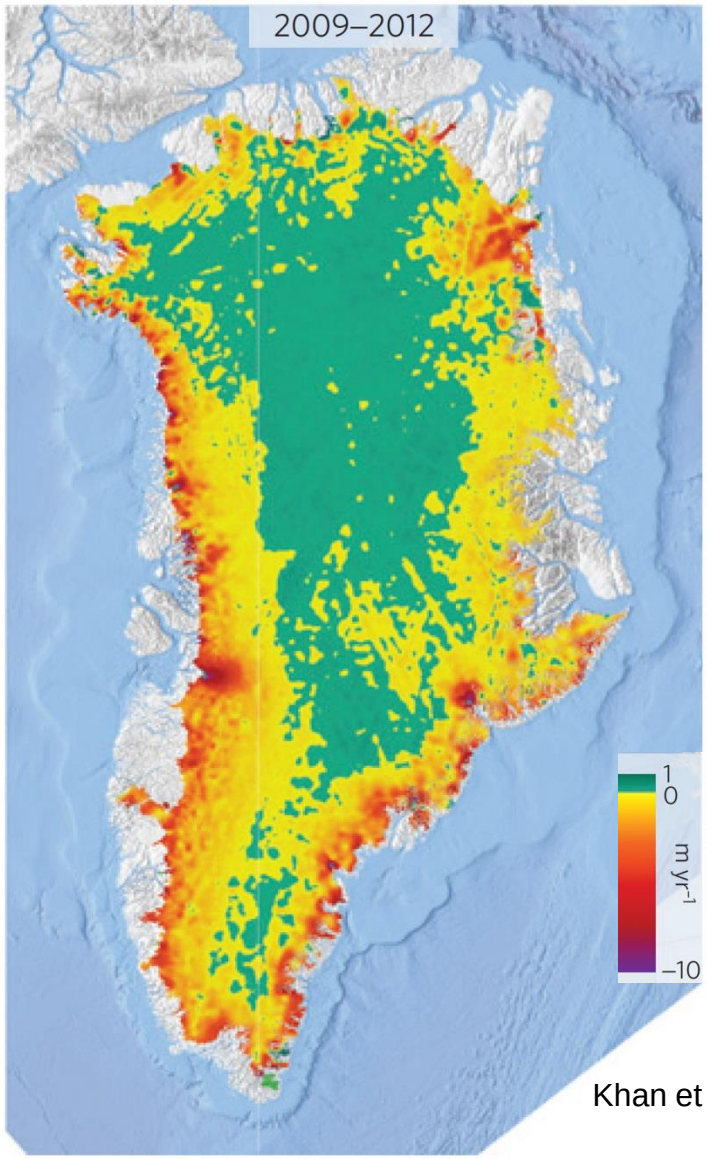
RCP 2.6 (annual, 2081-2100)

Difference between 1.5°C and 2°C target: Extreme events

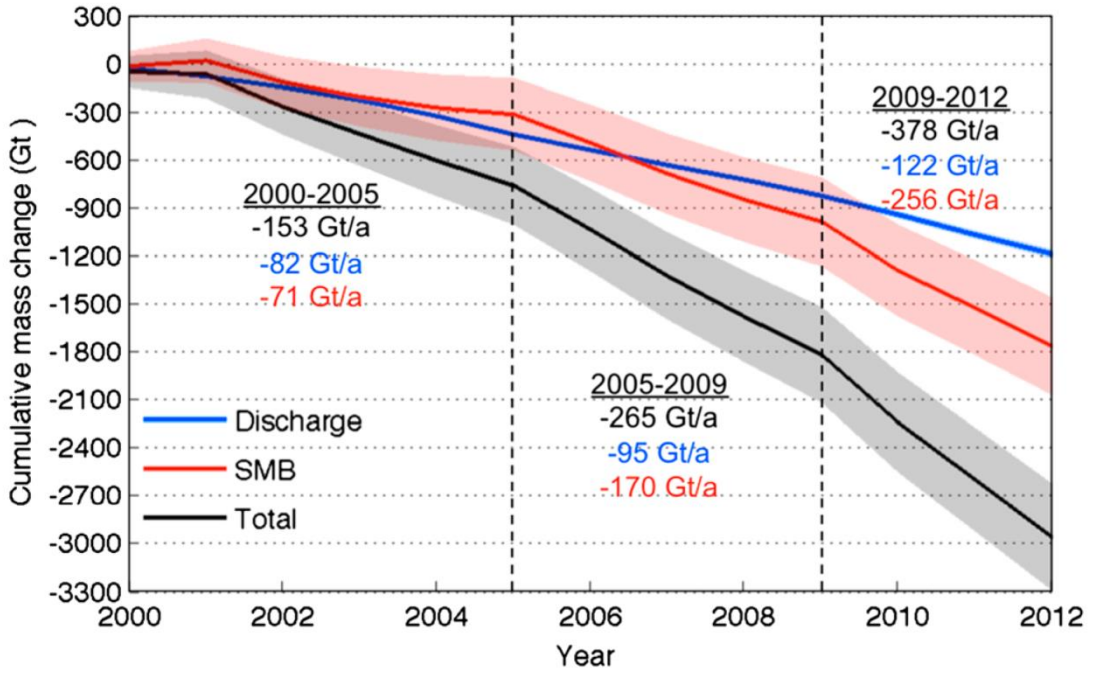


Fischer and Knutti 2015

Ice sheet changes, mass balance and sea level

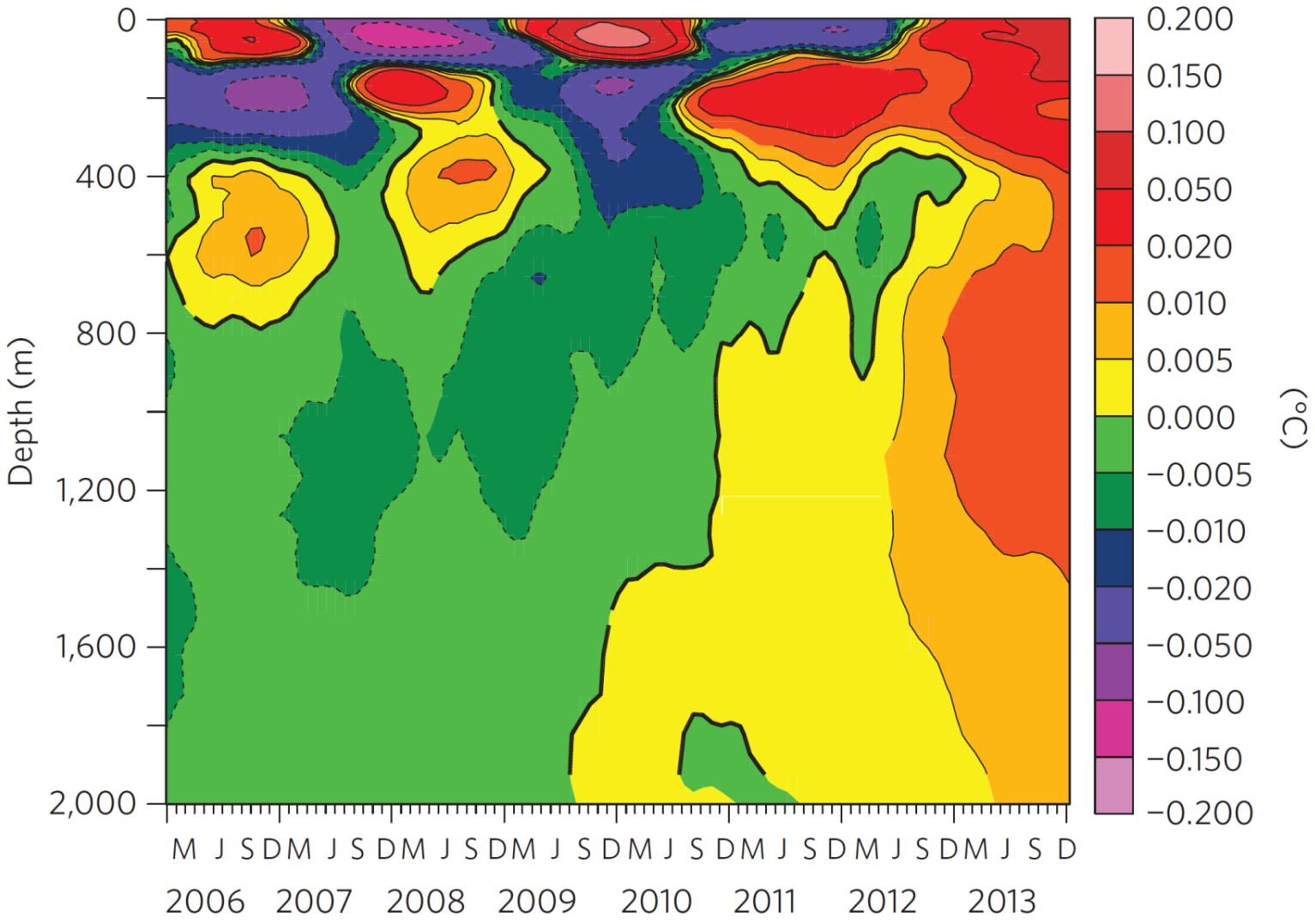


Khan et al. 2014



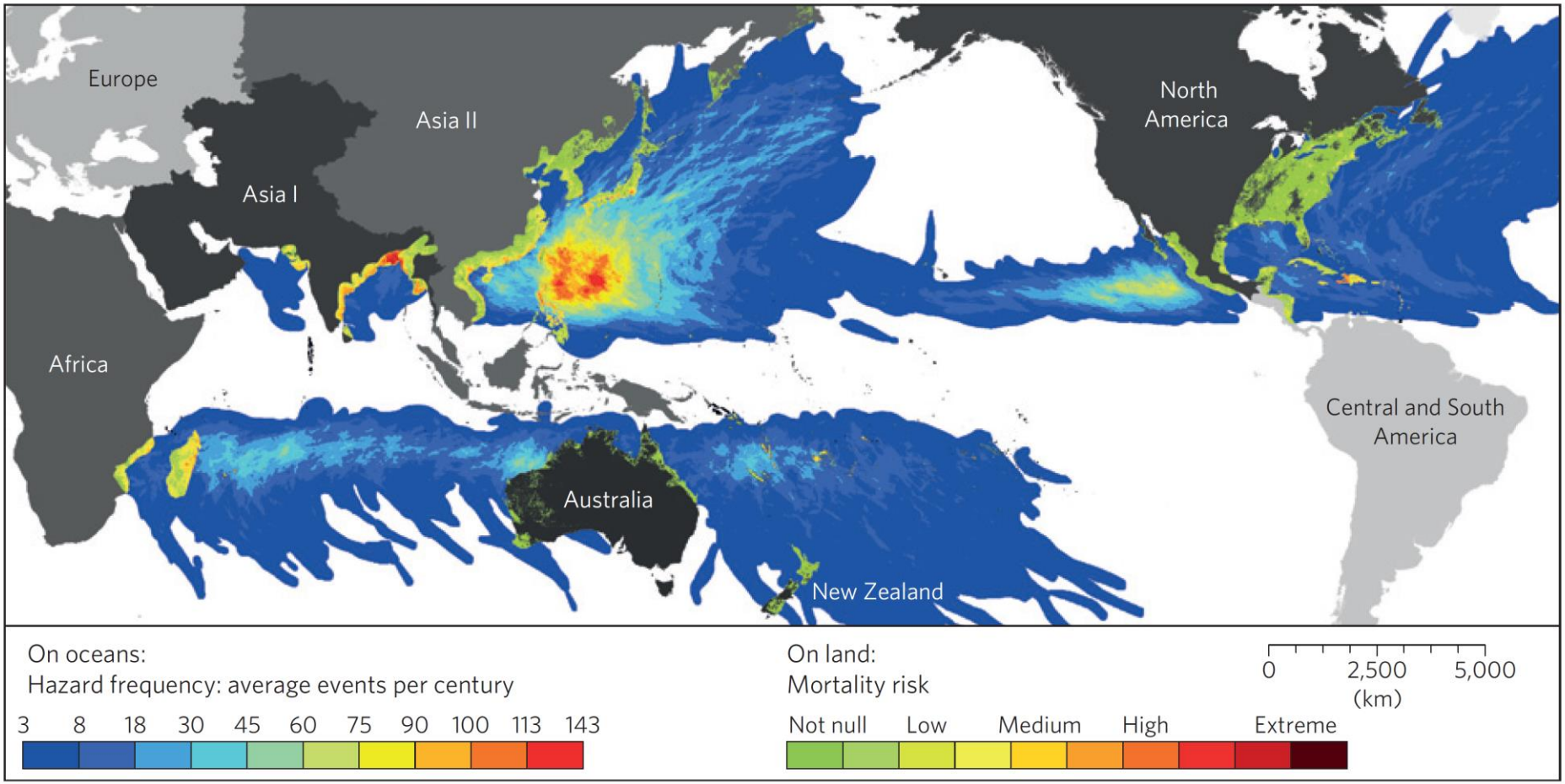
Enderlin et al. 2014

Ocean observations: Distribution of heat uptake



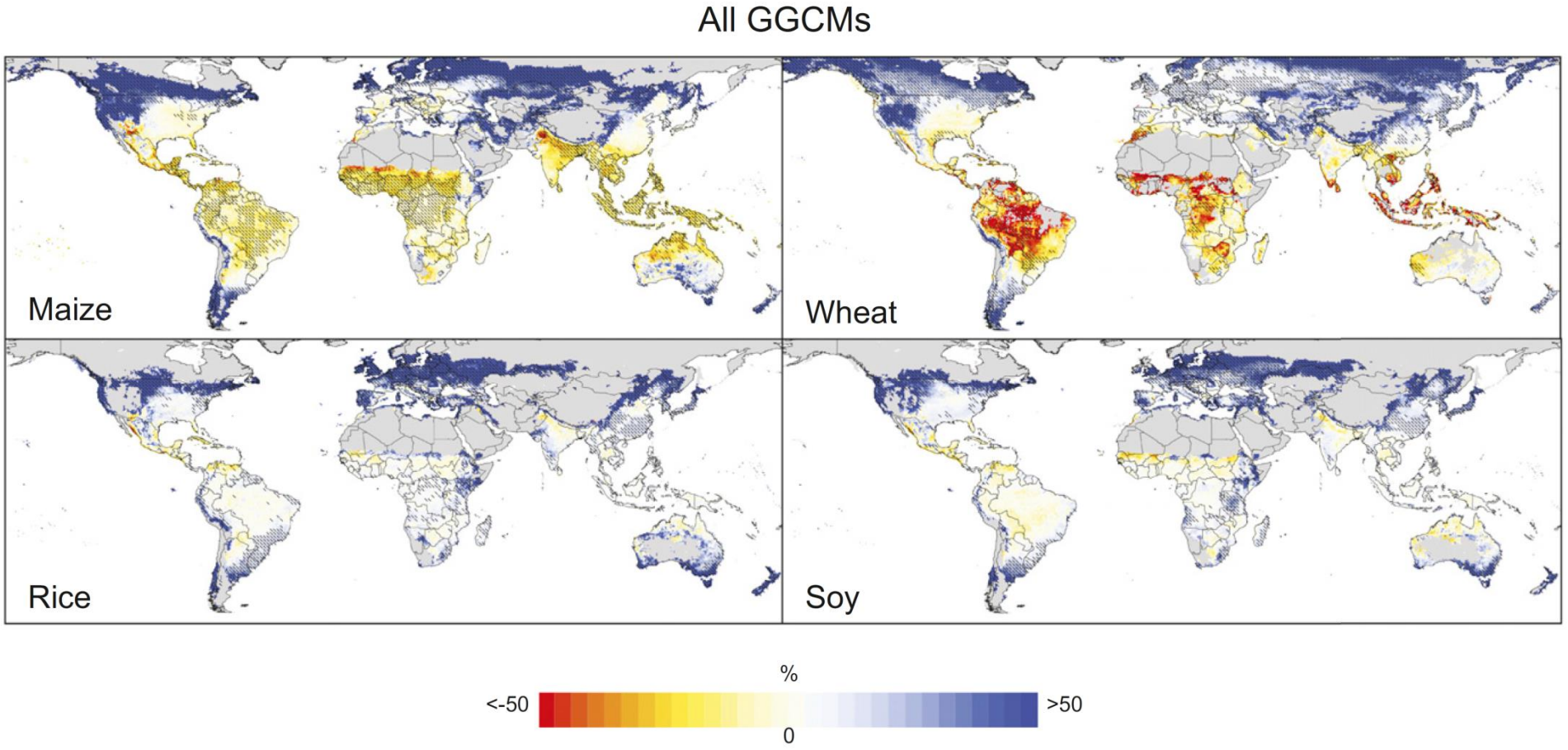
Roemmich et al. 2015

Human exposure: Quantified drivers



Peduzzi et al. 2012

AgMIP: Agricultural yield change under RCP8.5



Rosenzweig et al. 2014

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Conclusions

- IPCC AR5 has strengthened the **link across communities**
- Substantial bottom-up process of **scenario development**
- IPCC expert meetings and workshops **accelerate science**
- Science will become **more regional**, include more systems, and hence will be **more policy-relevant**
- The science community is well prepared to provide input to the **scoping of the forthcoming assessment**