



POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH

EU-level assessments and scenarios

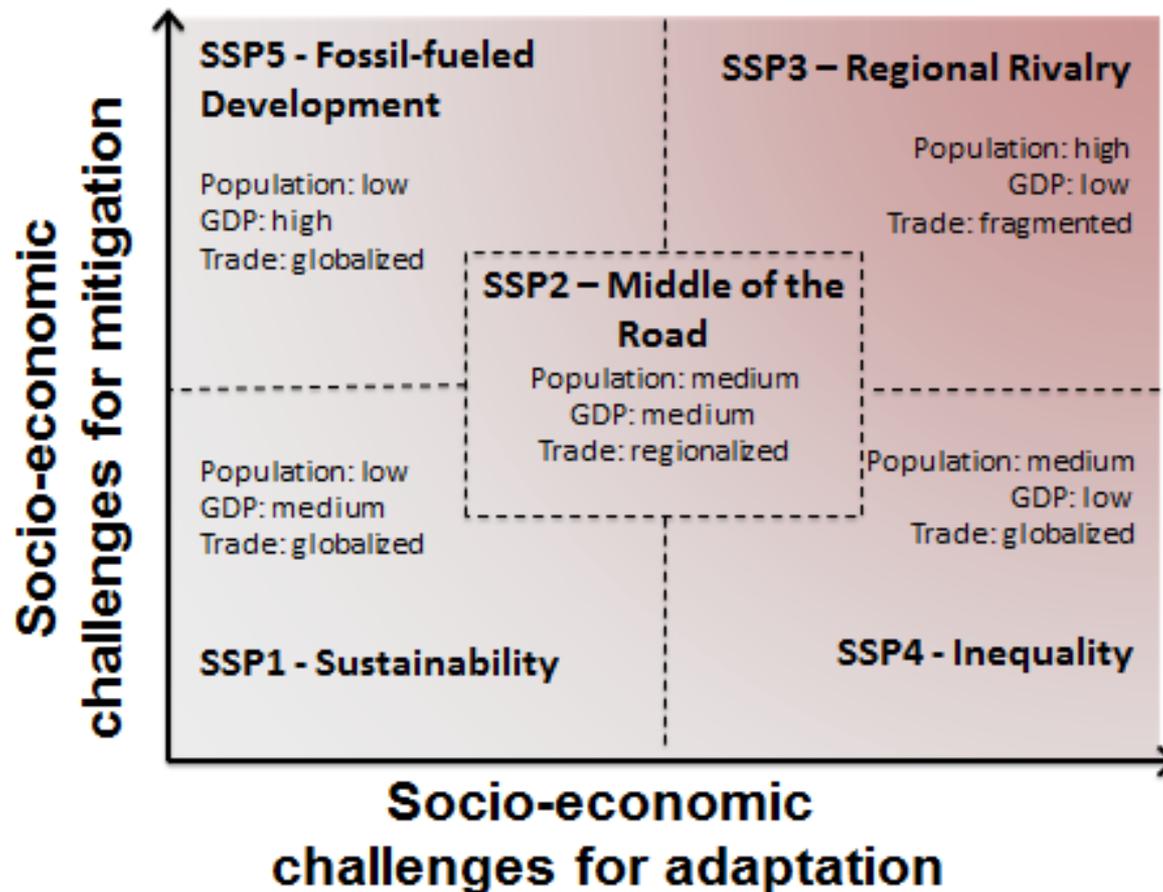


Hermann Lotze-Campen and the MACSUR team

Key policy-relevant questions

- **What is the future of agricultural prices?**
- **How will agricultural production and food consumption evolve?**
- **How will climate change impacts and mitigation affect...**
 - **Prices**
 - **Land use**
 - **Trade**
 - **Undernourishment**

Shared Socio-economic Pathways (SSP)

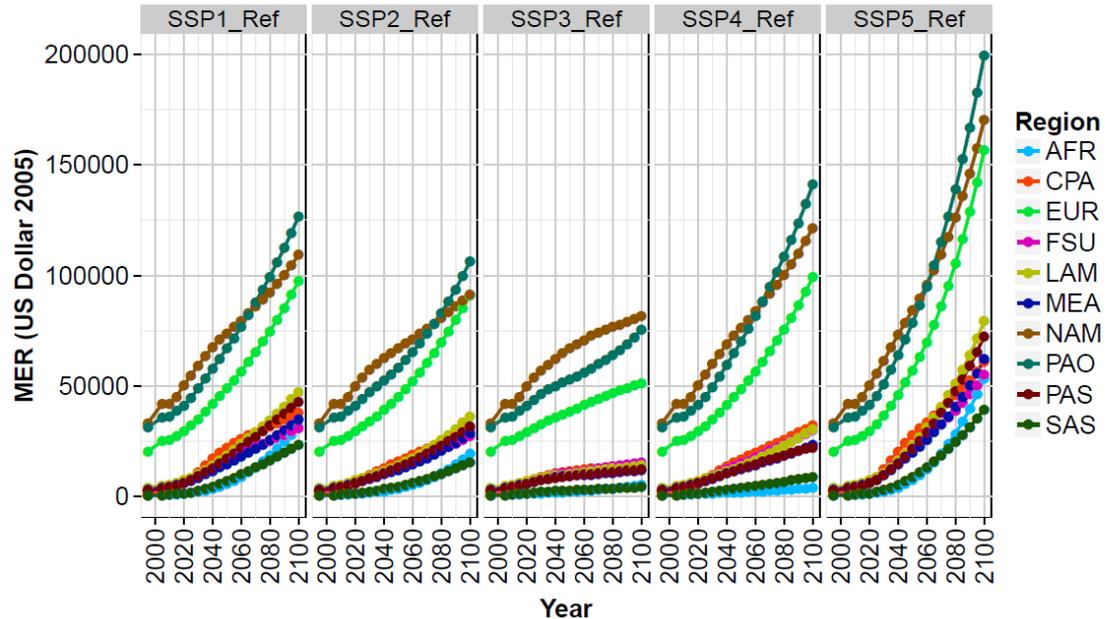
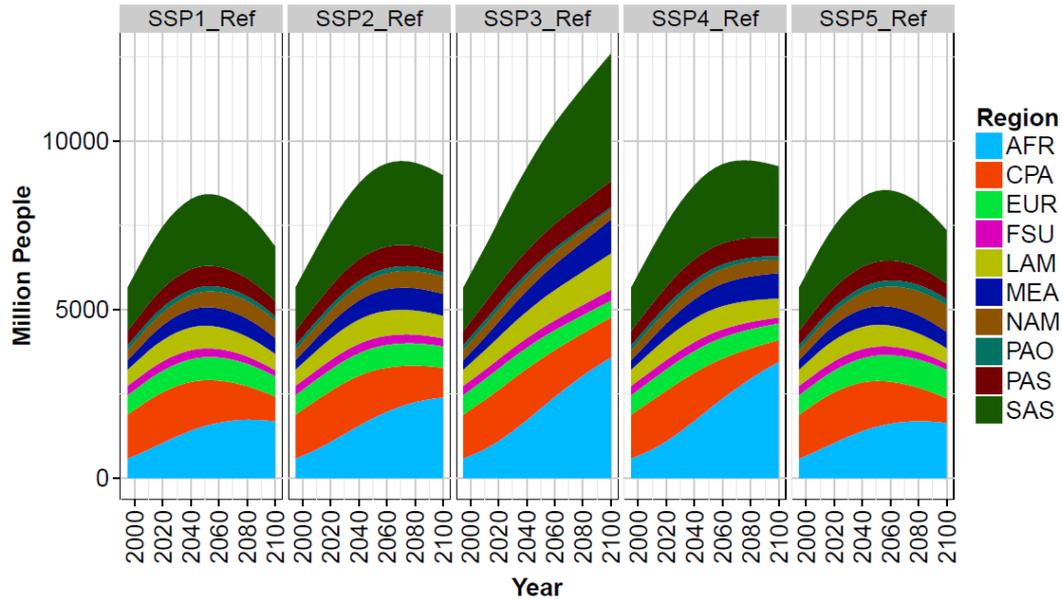


O'Neil et al. GEC 2015

Combining SSPs with Representative Concentration Pathways (RCP)

Climate	SSP1	SSP2	SSP3	SSP4	SSP5
RCP 8.5					
RCP 6.0					
RCP 4.5					
RCP 2.6					

Quantitative inputs: Population & GDP

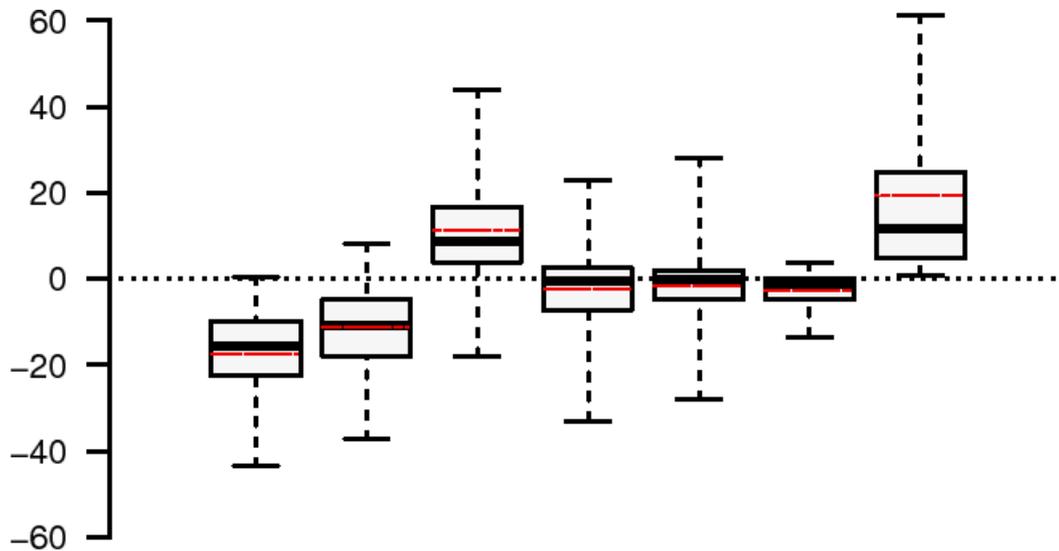


Based on IIASA 2015:

<https://secure.iiasa.ac.at/web-apps/ene/SspDb>

Climate induced changes in agricultural prices by 2050

Percent change



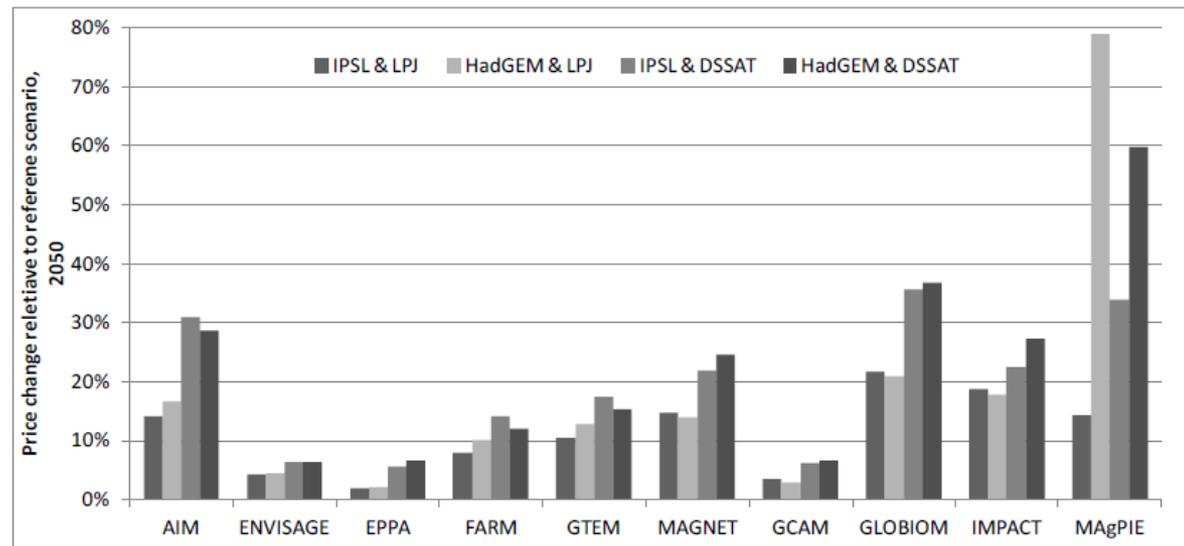
	YEXO	YTOT	AREA	PROD	TRSH	CONS	PRICE
n	2891	2891	2891	2891	2891	2891	2891
Mean	-0.17	-0.11	0.11	-0.02	-0.01	-0.03	0.2
SD	(0.13)	(0.17)	(0.25)	(0.25)	(0.26)	(0.06)	(0.24)

Nelson et al.,
PNAS, 2014



Von Lampe et al., Ag.Econ. 2014

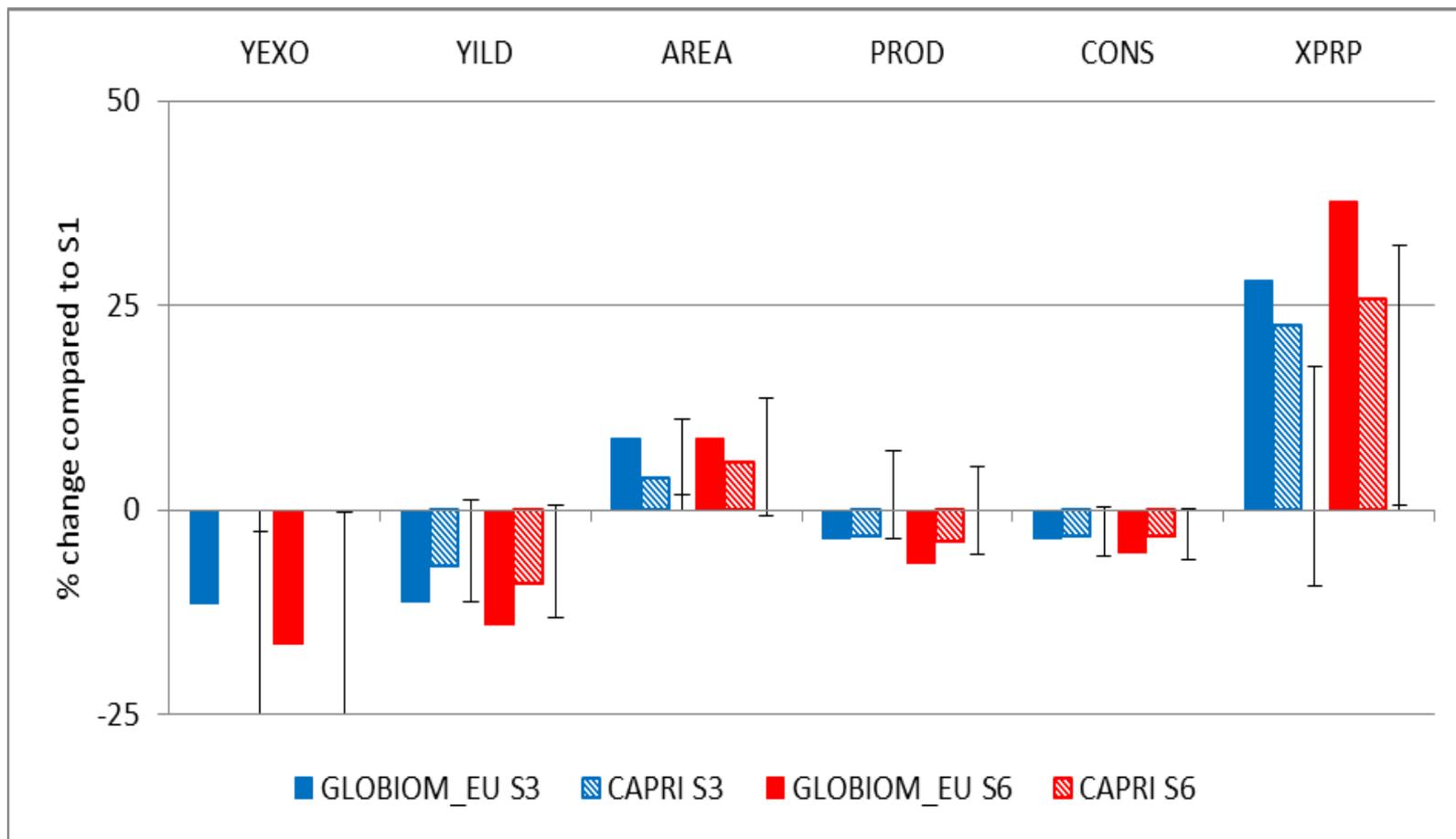
<http://www.agmp.org/global-economics-team/>



Source: Model results as of February 15, 2013

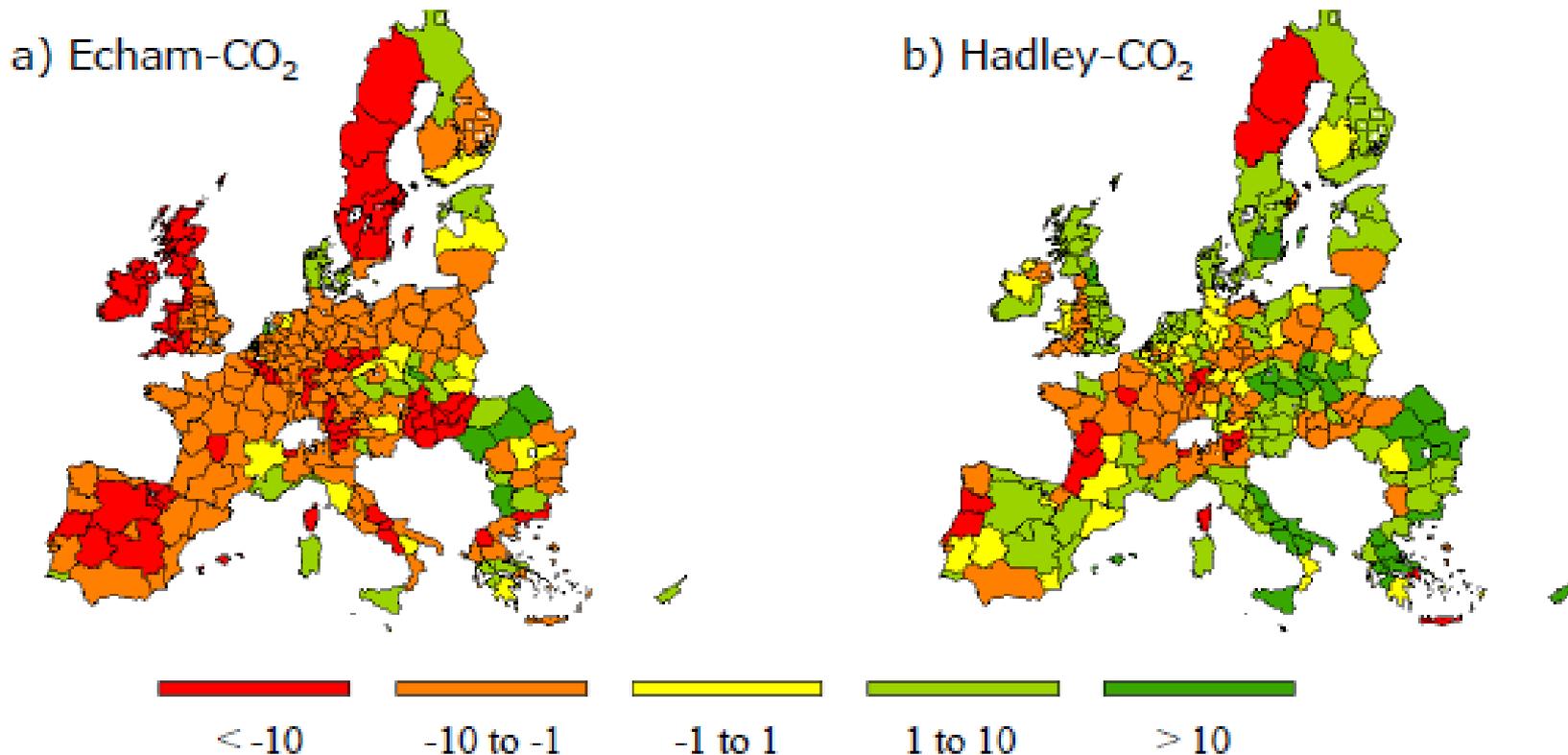
Note: All changes relative to the reference scenario for the same year.

Climate change impacts for Europe (difference compared to baseline)



Frank et al., EAAE 2014; http://ageconsearch.umn.edu/bitstream/183025/2/Frank-Climate_change_impacts_on_European_agriculture-224_a.pdf

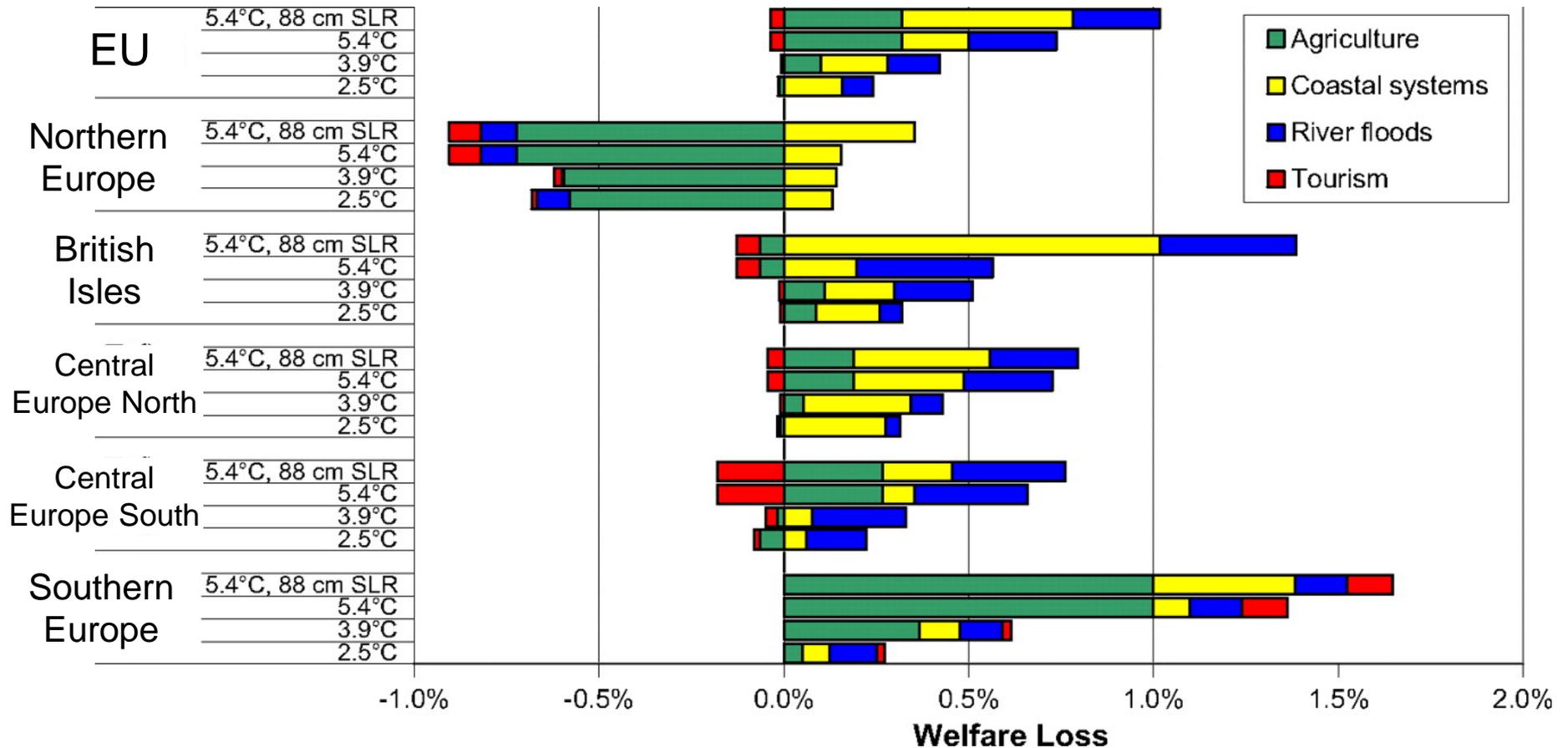
European aggregate often masks large regional differences



Regional agricultural income [% change from baseline], CAPRI model, 2030, SRES A1B

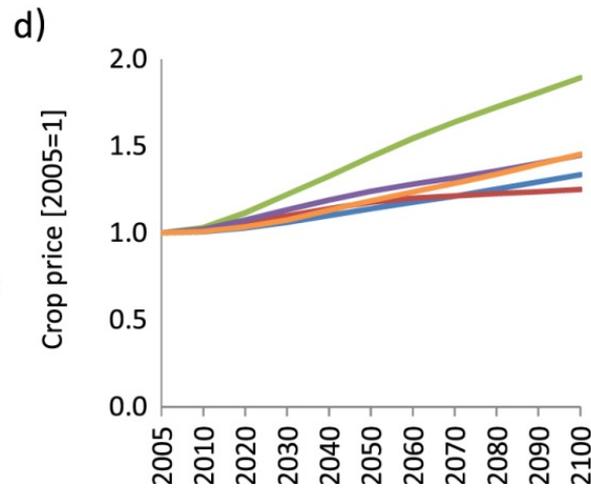
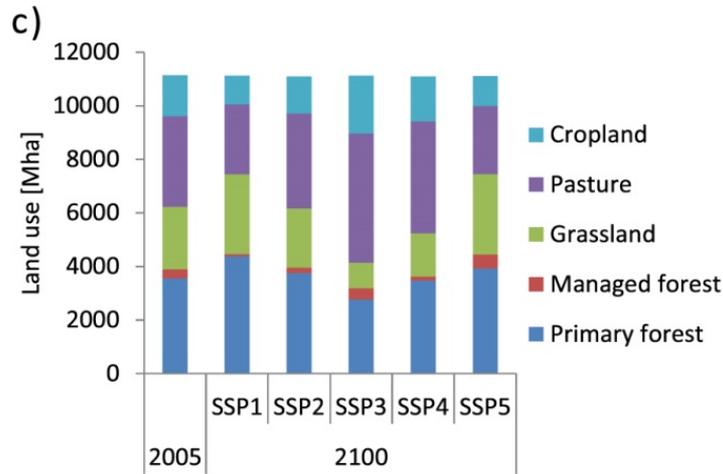
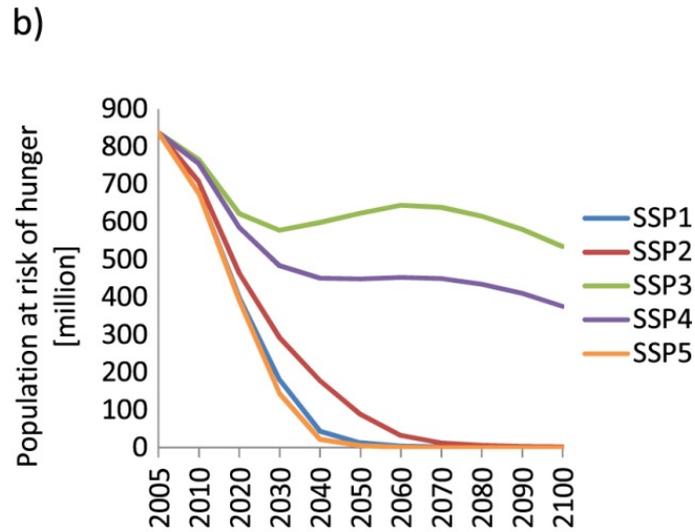
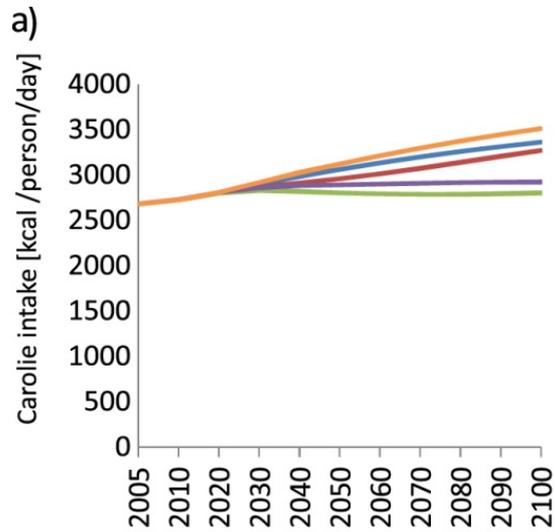
Source: Blanco, Maria, Fabien Ramos, and Benjamin Van Doorslaer. 2014. "Economic Impacts of Climate Change on Agrifood Markets : A Bio-Economic Approach with a Focus on the EU." In *Poster Paper Prepared for Presentation at the EAAE 2014 Congress "Agri-Food and Rural Innovations for Healthier Societies."*

Few comparisons across sectors



Ciscar et al., PNAS 2011: 2080s, comparative static analysis

Assessing the risk of hunger



Access AgMIP Global Economics results at DataM on the web



www.datamweb.com/datam/

data m Home Gallery My Reports News About data User Guide FAQ Agmip Project

Search Countries (0) Commodities (0) Attributes (0) Browse Data Create Report

Data by Topics

- AGRICULTURAL MARKET OUTLOOK
- AGRICULTURAL TRADE
- MACRO-ECONOMIC CONTEXT
- PRICES
- AGRICULTURAL PRODUCTION
- AgMIP**
AgMIP
AGMIP
- BIOECONOMY
- FOODSECURE

data m