



FACCE-JPI Knowledge Hub



Modelling European **A**griculture with **C**limate Change
for Food **S**ecurity

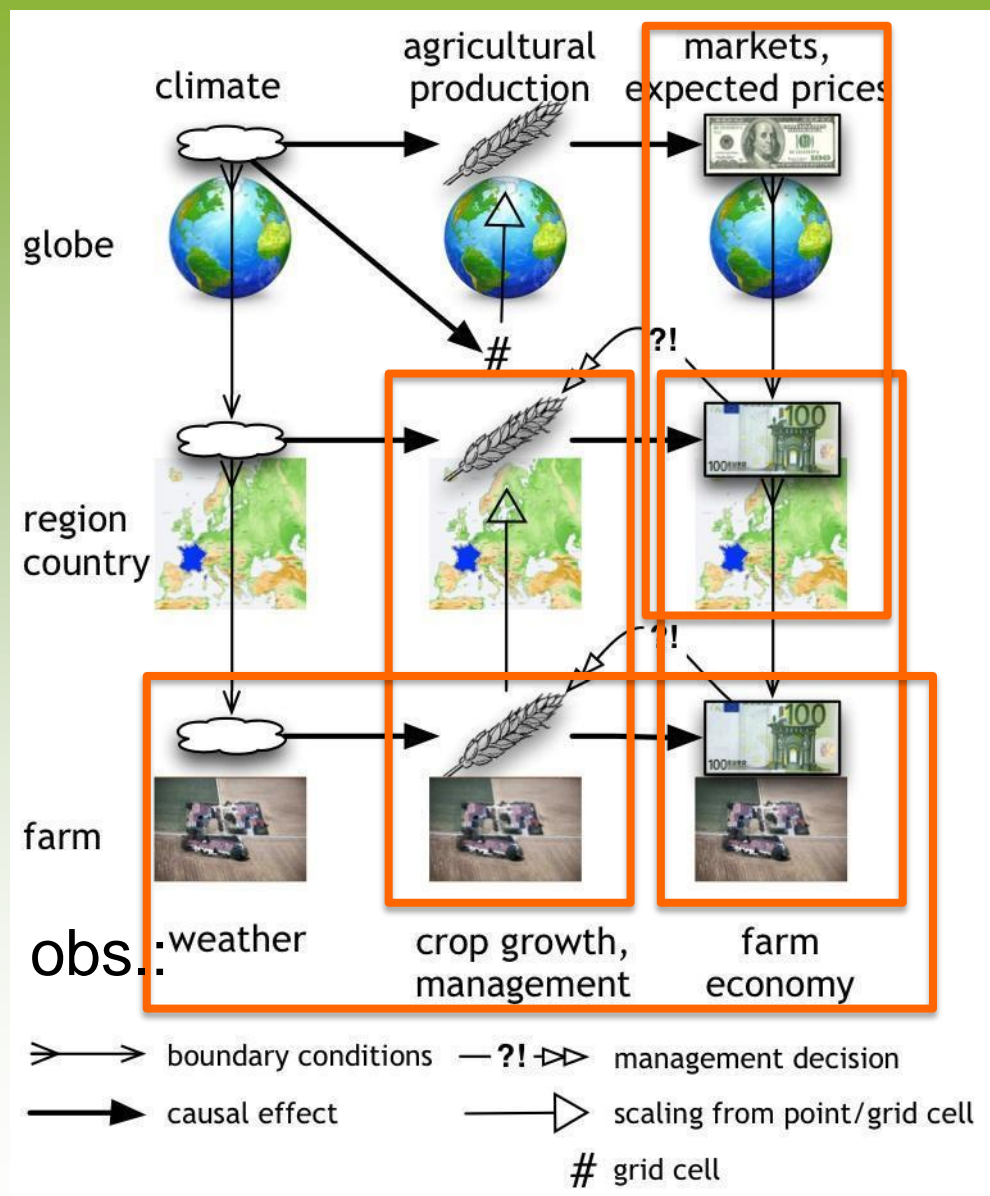
Floor Brouwer

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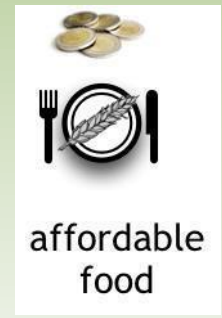


Knowledge Hub

- An instrument building on the concept of “Networks of excellence”. The Knowledge Hub will strengthen the European capacity in modelling agriculture with climate change and food security
- Brings together **research groups *already are funded*** in a thematic area
- Funding from national bodies include **coordination costs, travel expenses and thematic workshops.** Countries may choose to support research and/or mobility.



Modelling capacity – transdisciplinary and multi-scale integration





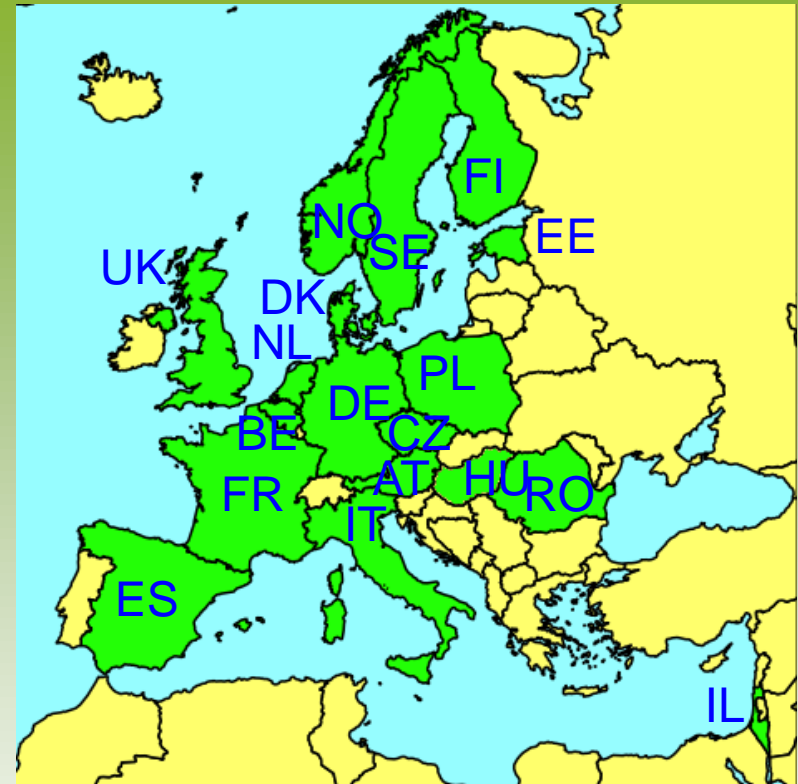
MACSUR aims

- improve and integrate models
 - crop and livestock production, farms, and national & international agri-food markets
- improve integration & links
 - of models for selected farming systems and regions
- provide hands-on training
 - to junior and experienced researchers in integrative modeling
- identify risks and consequences of adaptation and mitigation in agriculture for better availability, accessibility & affordability of food





- MACSUR in 2012,
17 countries,
180 members, 0-1M €
- MACSUR in 2015,
18 countries,
300 members,
phase 2 started in June
2015 (⇒ May 2017)
- output after 3 years
 - 300 papers
 - 500 presentations
 - 20 workshops/conferences
 - 13 funded new projects
 - 20 PhD/MSc students



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Key activities in MACSUR

- Good-practice approaches/guidelines
- Model comparison & improvement
- Uncertainty and risk assessments
 - data, assumptions, scaling, model linking, new approaches
- Regional case studies: impacts, adaptation
 - description, output comparison, new approaches
- Capacity building: courses, staff exchange
- Impact assessments for Europe & regions
 - Adaptation and mitigation options, sustainability aspects
- Networking: meetings, new projects, AgMIP et al.
- Involvement of actors in policy, research and practice (EU, nat'l, regional)



Collaboration with AgMIP

- AgMIP: Agricultural Model Inter-Comparison and Improvement Project: crops, economy, livestock
- led by four US Pis
- common data \Rightarrow different models \Rightarrow comparison of results; uncertainty assessment
- many MACSUR members participate, MoU
- AgMIP members participate in MACSUR tasks
- joint papers, European proportion, often 50%
- MACSUR leads/initiated crop rotations, uncertainty, response surfaces, permanent grasslands

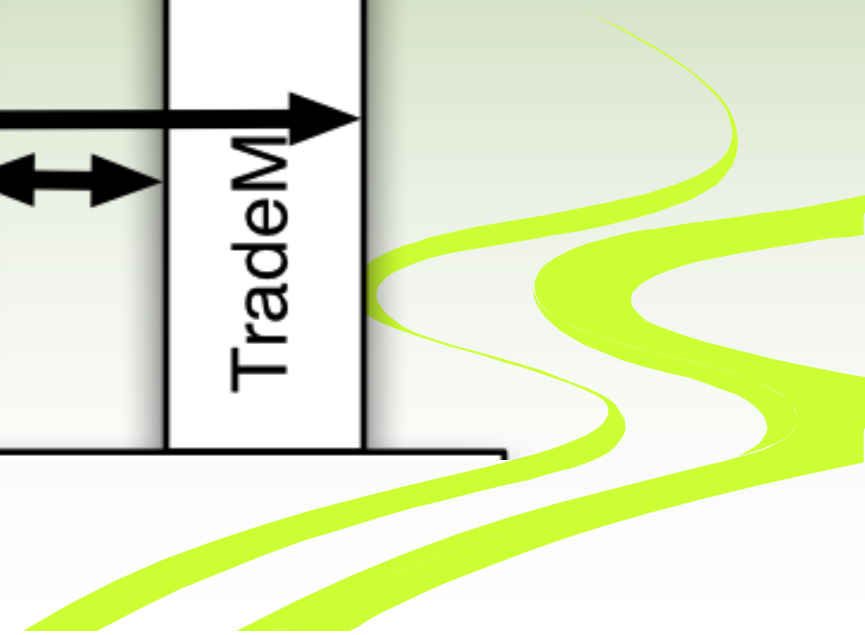
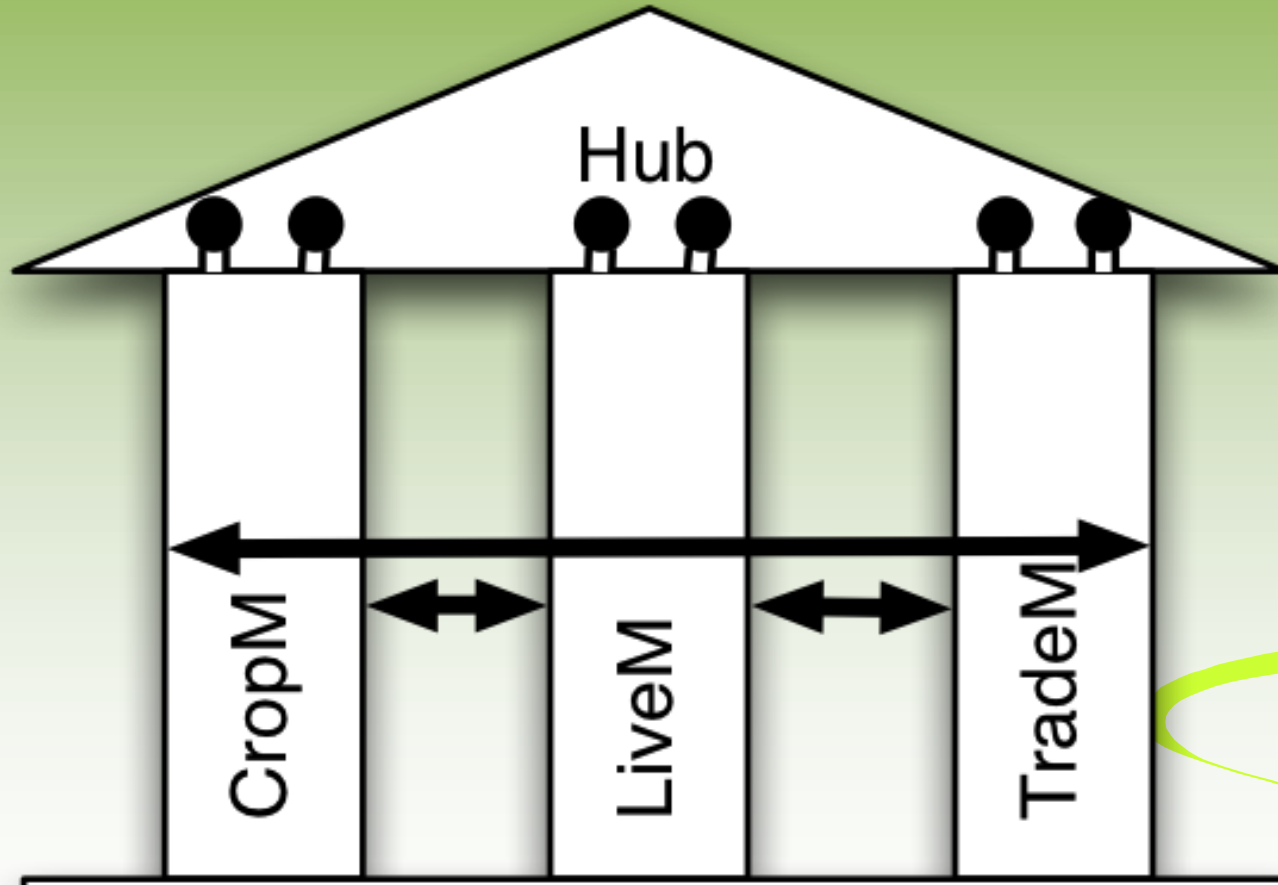


AgMIP and MACSUR mutually benefit from collaboration

- MACSUR contributes to AgMIP and prominently participates in global fora debating food security, agriculture and climate change
- Through AgMIP, MACSUR is able to contribute to the international food security and climate change debate. Example: steps are taken to have food security into AR6 of IPCC

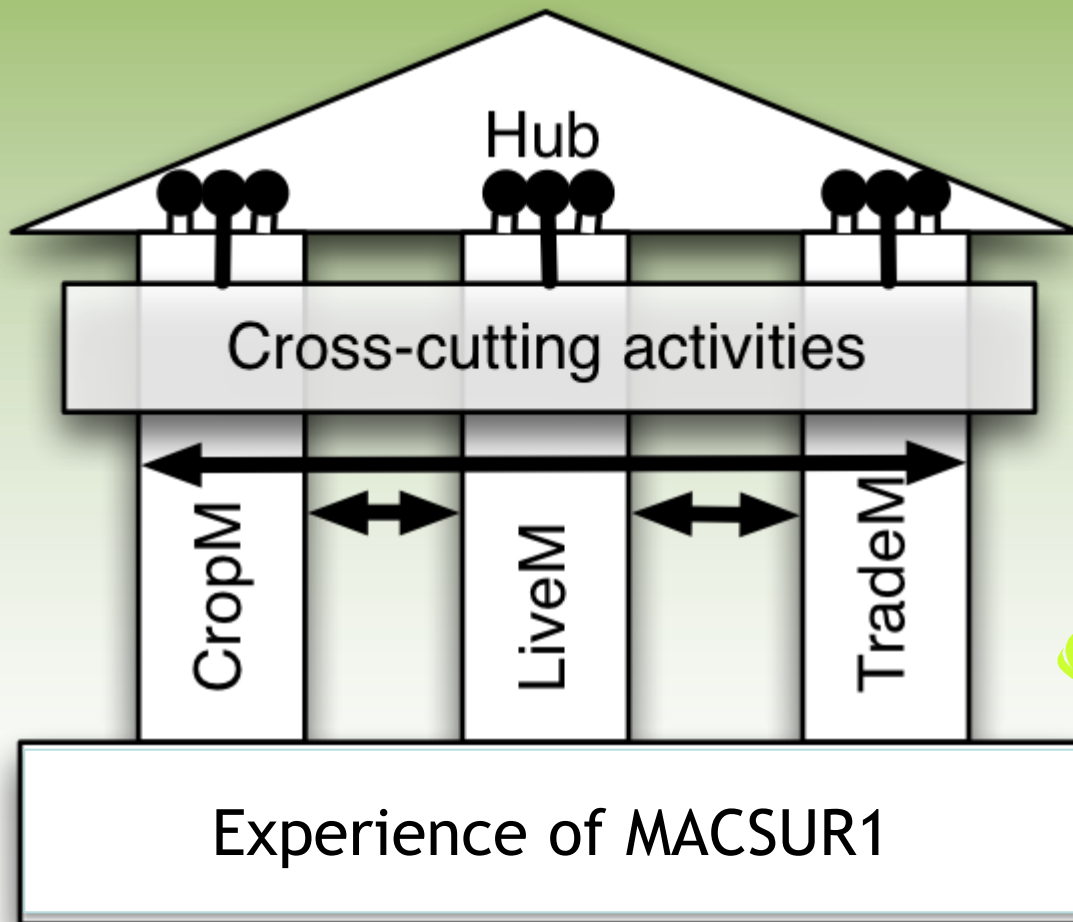


MACSUR structure





MACSUR2: Cross-cutting activities





New activities in MACSUR

- Variability and extreme climatic events
- Identifying sustainable opportunities to reduce yield gaps in Europe
- Feeding livestock
- Impact on ecosystem services and rural development
- Mitigation options in agriculture





Planning for 2017-2022

- Outline knowledge agenda by March 2016
 - research plan
 - structure
 - funding options
 - presentation to decisionmakers and potential funders
- Opportunity for collaboration





Potential for alignment

- MACSUR - alignment of research between partner countries, opportunities for thematic engagement
- However, the research capacity does not necessarily fit with the funding
- MACSUR seeks for improving means of knowledge exchange between science, business and policy (international workshop in October 2016)



For further information
please visit: www.macsur.eu