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# Modelling global land use in CAPRI

*Linking options with regional projects*



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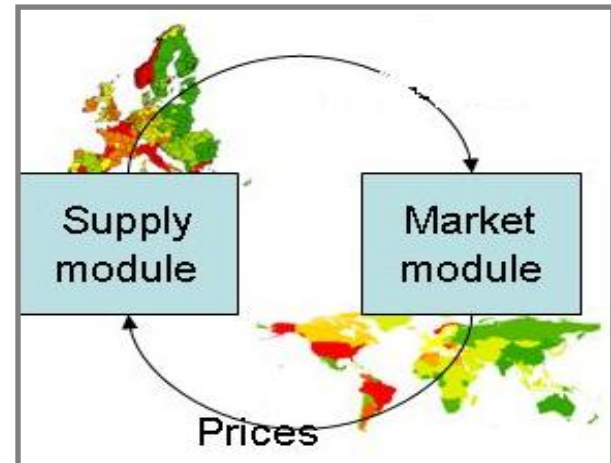
[www.sustainable-landmanagement.net](http://www.sustainable-landmanagement.net)

Status Conference 2013, 18.04.2013, Berlin

# CAPRI (Common Agricultural Policy Regionalised Impact Analysis) Model

- **Global agricultural sector model**

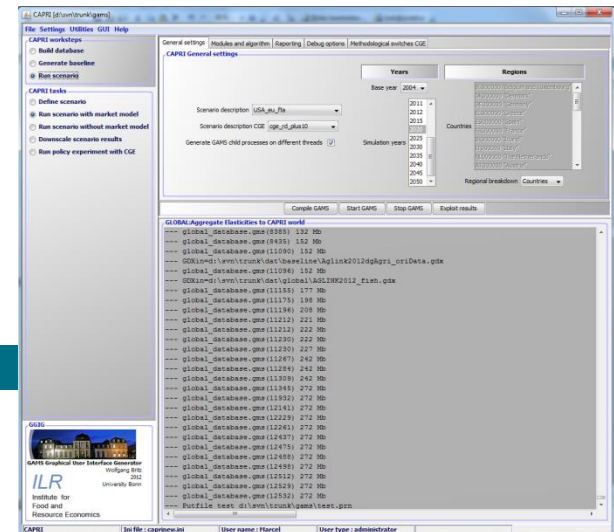
- Traditional focus on EU regions and the CAP for European NUTS 2 regions or farmtypes (supply module)
- Coupled with a global spatial Market/Trade module for about 60 countries and 30 trade blocks



Quelle: CAPRI Modelling System. <http://www.capri-model.org/projects.htm>

- **GAMS – based system**

- GDX Format
- Graphical User Interface:  
Exploit here:  
<http://www.capri-model.org/regView.htm>

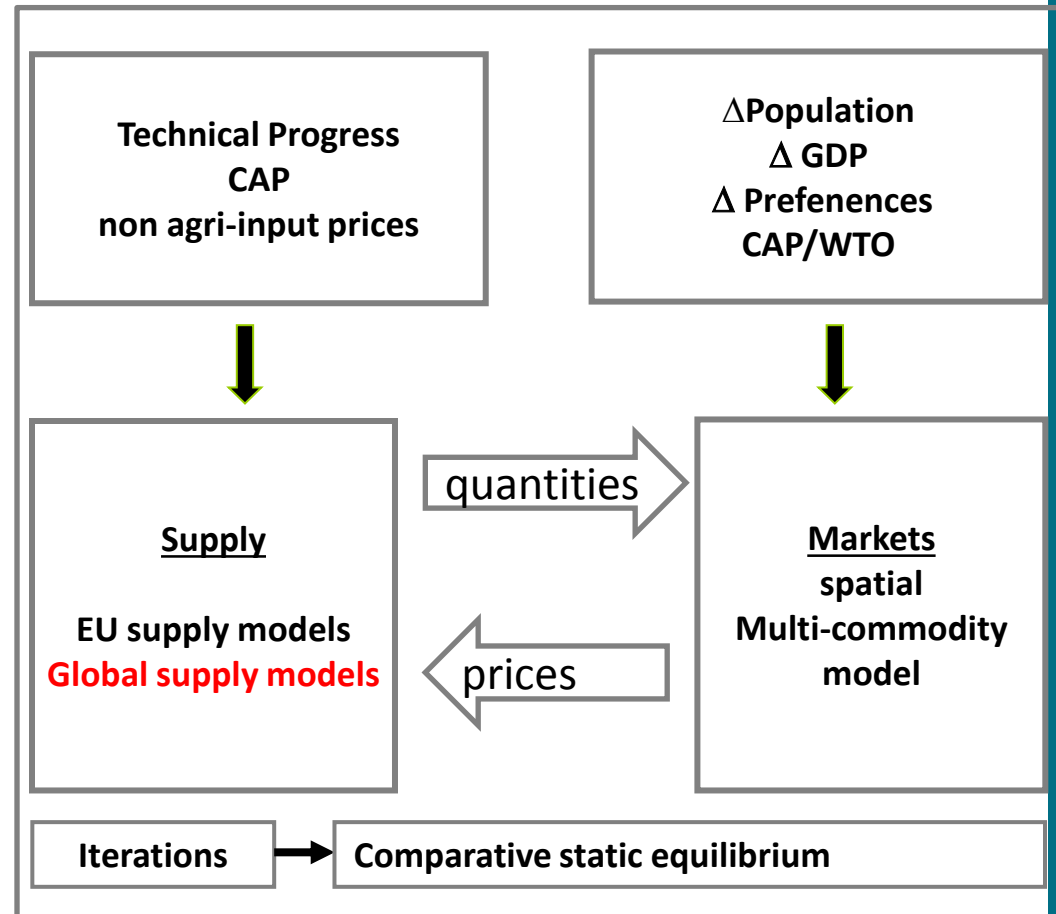


# CAPRI for GLUES

## 1. Improvements

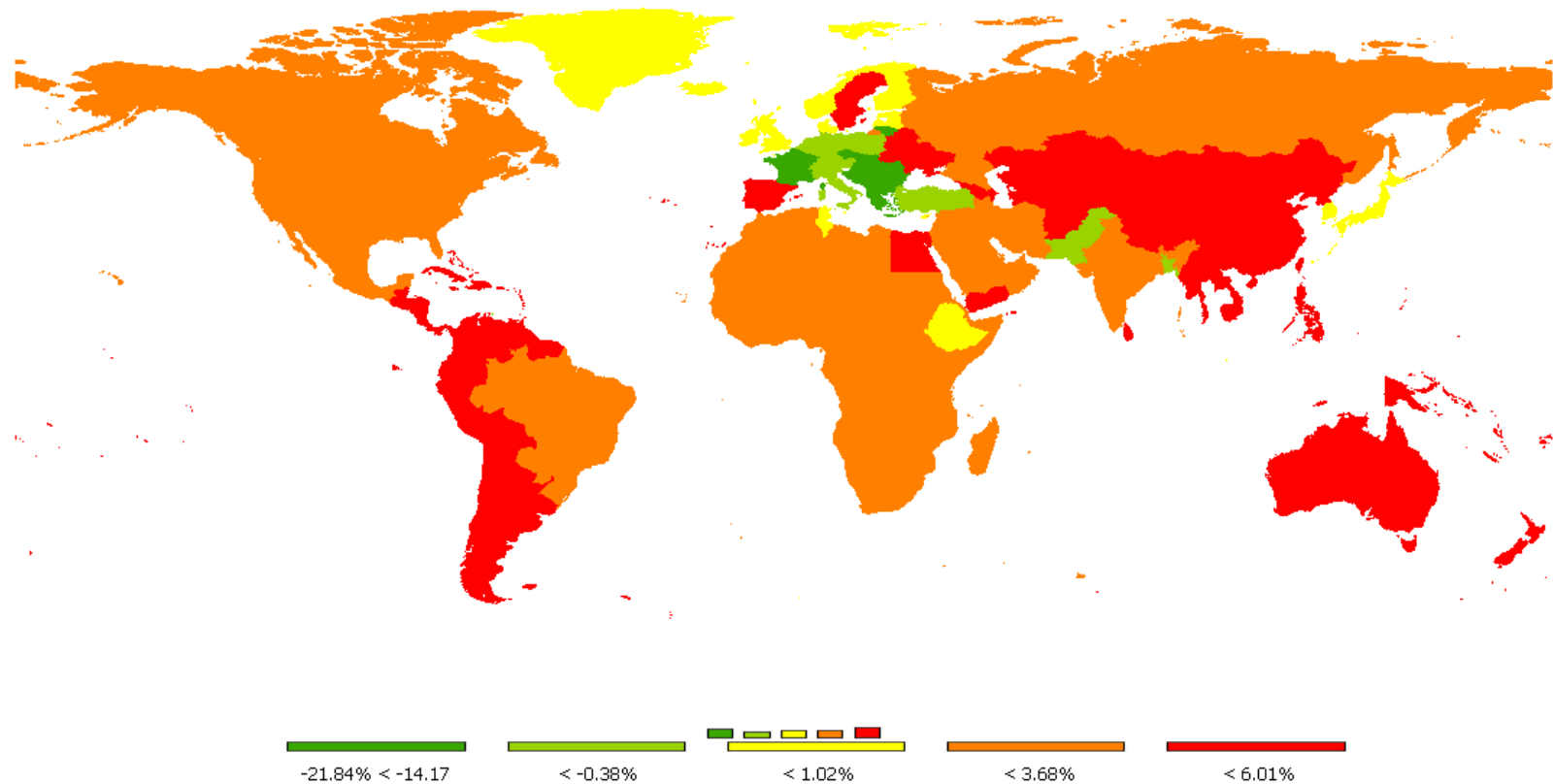
### *Representation of Landuse of Agriculture*

- **EU supply module**  
*traditionally available*
- **Global Market module**  
*implemented*
- **Aggregation of results to GLUES regions and dissemination through the GLUES GDI**  
*ongoing*
- **Global (sub national) supply module**  
*ongoing*

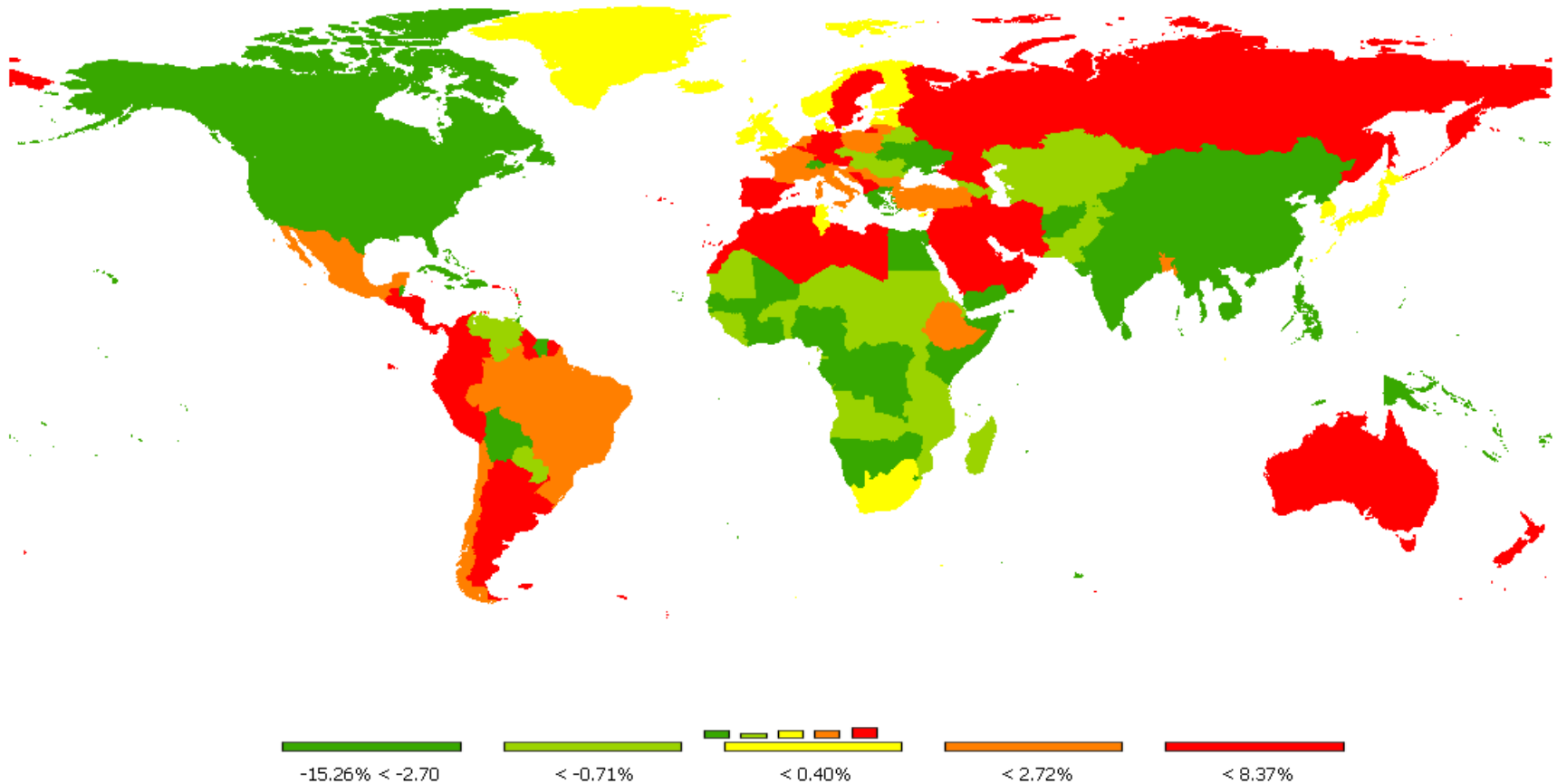


Quelle: Jansson, T.; Wieck, Ch.; Perez Dominguez, P.; Britz, W.: Auswirkungen der Mid Term Review-Beschlüsse auf die Landnutzung in europäischen Regionen und Betrieben – eine quantitative Analyse mit dem CAPRI Modellsystem. Gewisola 2010.

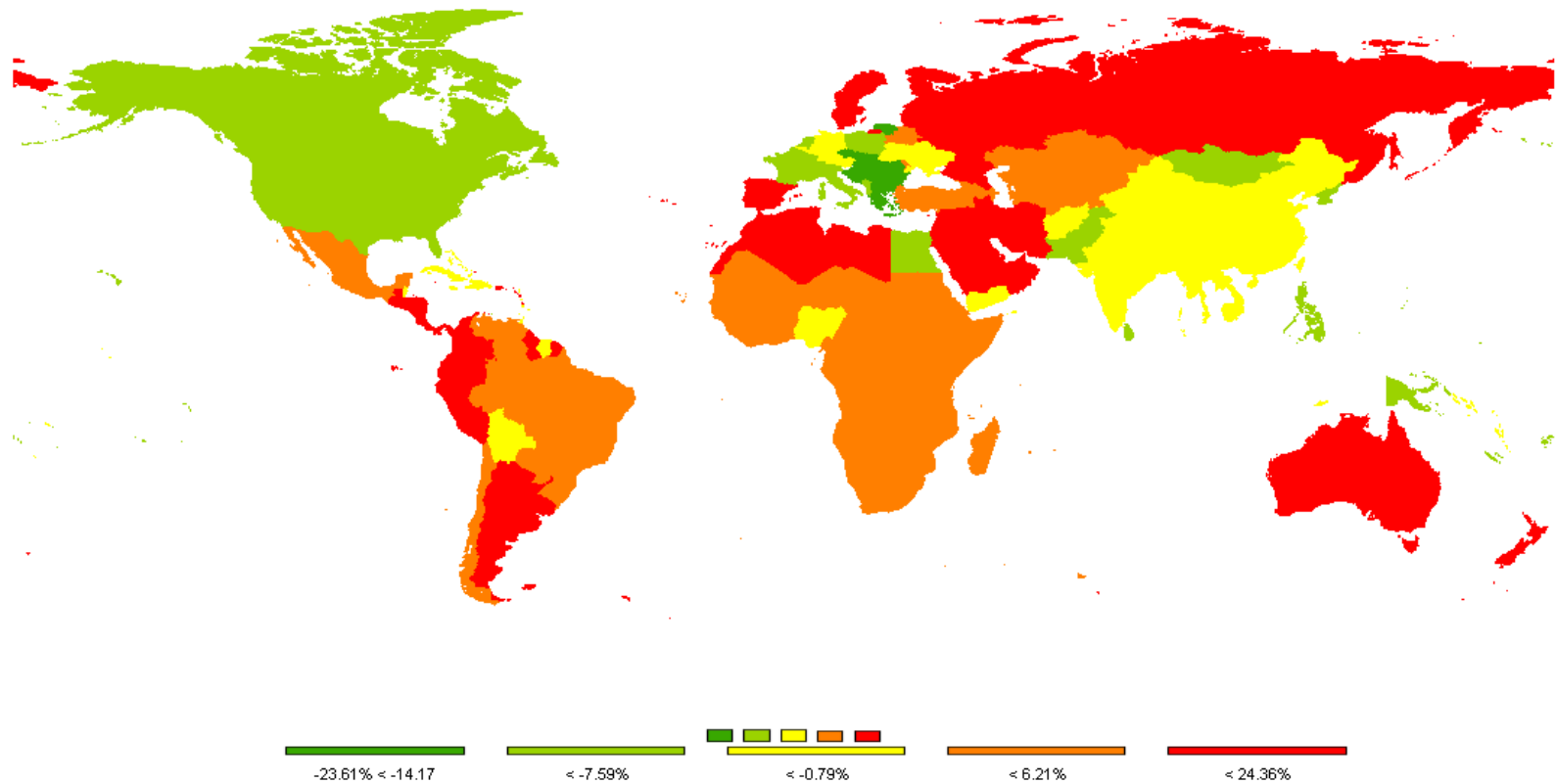
## Yield shocks on Maize



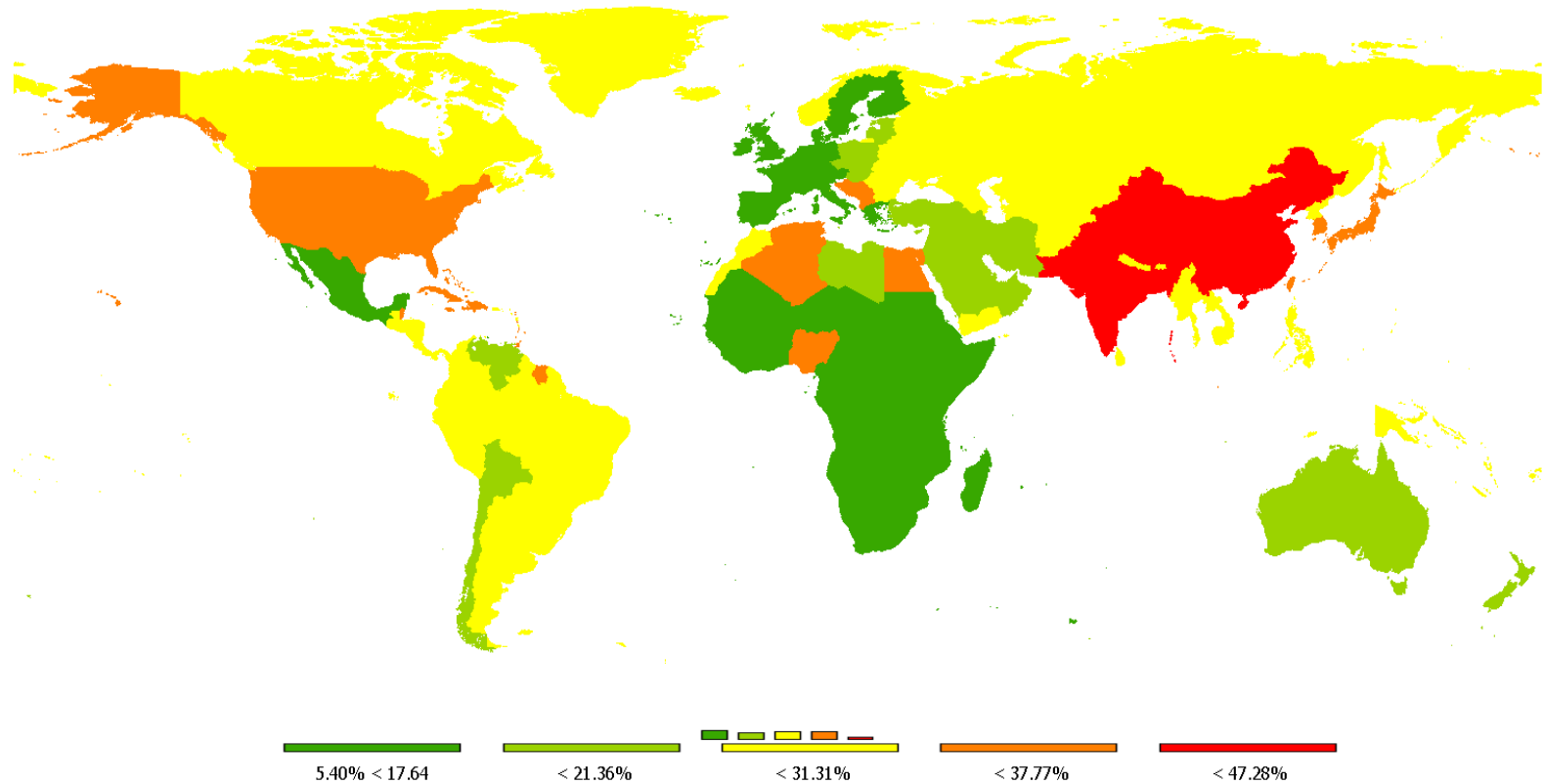
# Global maize areas after yield shock relative to Baseline



# Global maize production after yield shock relative to Baseline



# Global maize prices after yield shock relative to Baseline



# LINKING OF CAPRI RESULTS TO REGIONAL PROJECTS

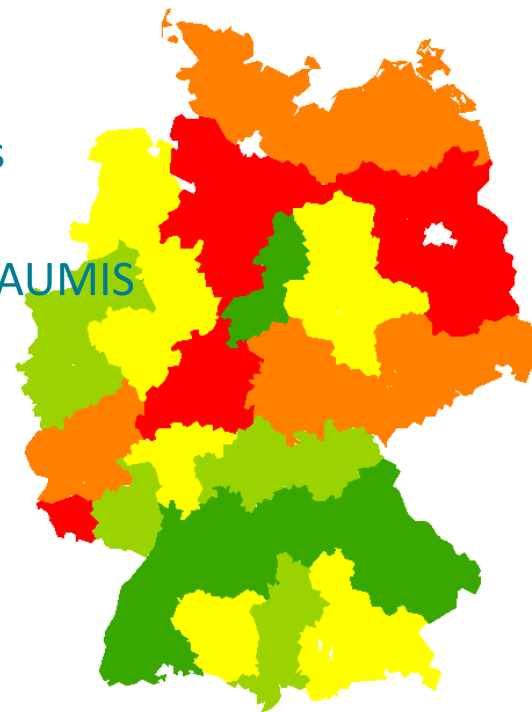
## (1) CC-LANDSTRAT



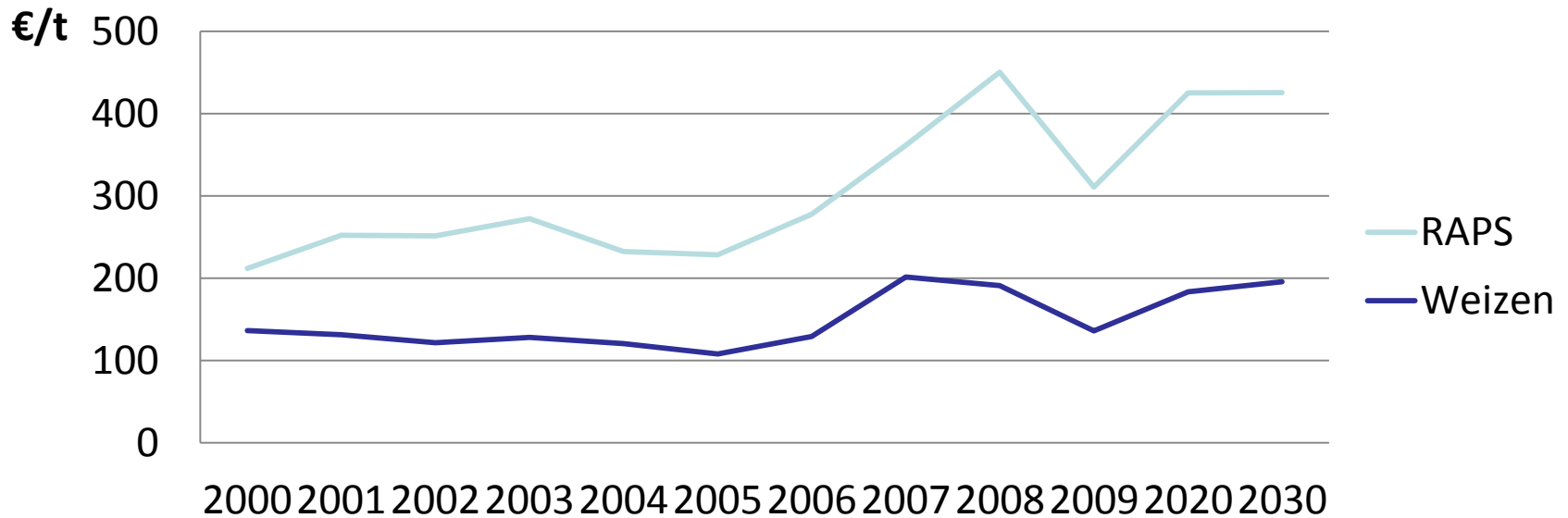


# LINKING TWO AGRICULTURAL SECTOR MODELS

- RAUMIS is a very detailed Agricultural sector model for Germany and is used in the CC-Lanstrat project
- Links to CAPRI have already been used in some studies
- Because: No feedback from international Markets in RAUMIS
- Which CAPRI results are useful for RAUMIS?

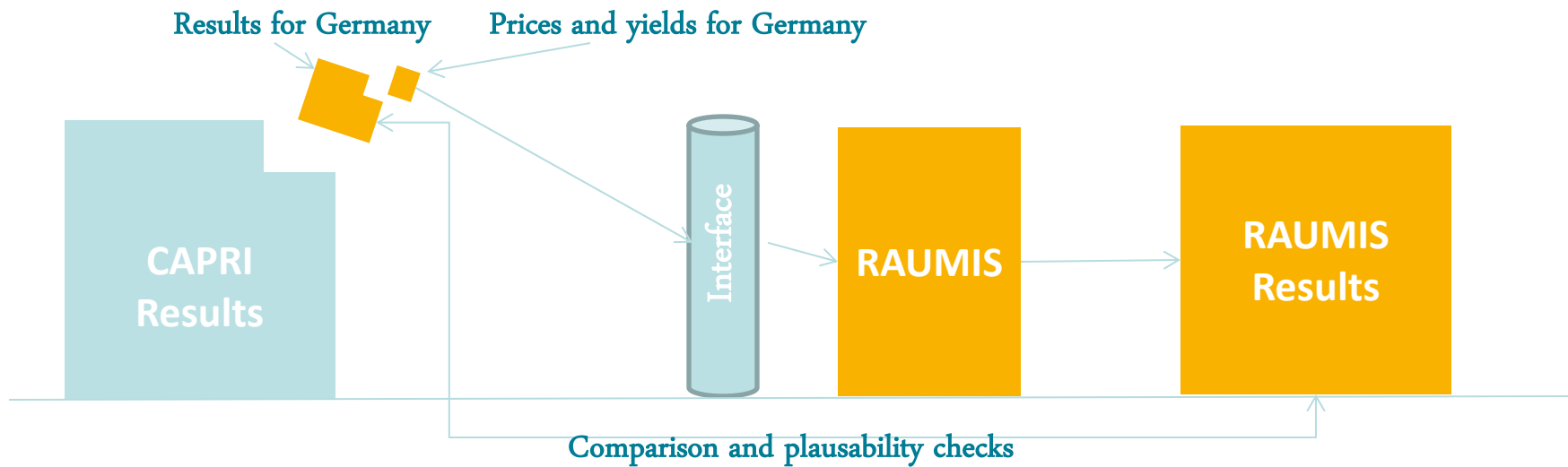


## EXAMPLE: EU MARKET PRICES - BASELINE



Contrary to previous decades, agricultural prices are projected to stay on a higher level.

## CAPRI AND RAUMIS



CAPRI provides the price vector and yield trends for RAUMIS for all scenarios

# LINKING OF CAPRI RESULTS TO REGIONAL PROJECTS

## (2) CARBIOICIAL



# LINKING CAPRI WITH THE CARBIOCAL PROJECT

- Current CAPRI Version can only provide results on national level for Brazil
- With a flexible supply module CAPRI will be able to simulate Agricultural supply and land use on the level of the two CARBIOCAL regions: PARA and MATO GROSSO
- Necessary Data will be provided by CARBIOCAL team

## PARA

*strong influx of smallholders and landless on search for new land*  
*extensive cattle ranching*  
*highest rates of deforestation*

## Mato Grosso

*Intensive Cattle ranching*  
*Strong population growth*  
*Modernized, mechanized soybean cultivation*

*Criteria To be a “good candidate” for a separate Region in CAPRI: Economic size compared to national level and Characteristics deviating from the national average.*



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**Thank you for your attention!**

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