

AGROCLIMA-SSP v1.1

**A tool for Scientific Support to Policies
for strategy assessment in agricultural
systems under climate change
scenarios**

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What are **AGROCLIMA-SSP tools?**

- Tools for assessment of CC related issues
- Data bases
- Browser and viewer of results
- Friendly synthesis of large content but avoiding generalisation
- Open experiments → feedback for new versions →

FAMILY OF CUSTOMIZED TOOLS

What are AGROCLIMA-SSP tools?

- The aim is to involve agronomists/crop modellers with the decision maker/planner → presenting complex modelling chains
- It is not a simulation platform
- The tool is not open → New versions needed for new combinations RCM-Crop-management

Climate scenarios from RCMs

- **PRUDENCE: multi-model ensemble**
 - 10 RCMs nested in HadAM3H, 50 km
 - Control run (1960-1999) and scenario SRES A2 (2070 - 2100)
- **AMAVEC: mixed-physics ensemble**
 - 5 parameterisations of PROMES RCM
 - 1 decade of PRUDENCE
- **ENSEMBLES: multi-model ensemble**
 - 14 RCMs, 25 km
 - Continuous simulation 1950-2050, SRES A1B

Crop & cropping systems

- Crop modelling
 - Compensatory effects of CC → Impact sign
 - Crop models: CERES, STICS, CROPSYST
 - Reference crops → indicators, growing season, no N stress, no biotic stress
 - Trees: Grapevine
 - Field crops: rainfed and irrigation
 - Summer: maize
 - Winter: wheat (autumn-sown spring & winter cultivars)
 - Outputs: RELATIVE changes
 - Yield, biomass, phenology, water use (ET, irrigation)
 - Extreme events: temperature and precipitation → climate-phenological indexes
- Feed back info to RCMs
- Adaptation strategies
- Uncertainty evaluation

Browser structure

- Climate → summary
- Impacts → PRUDENCE, AMAVEC
 - Mean and variability
 - Extremes
 - CO₂ effect
- Uncertainty—degree of coincidence
 - Sign of impact
 - Magnitud of impact: time series
 - Extremes
 - Soils
- Adaptation
 - Quantification of autonomous adaptation
 - Identification of strategies for genetics: phenophases duration, yield components
 - Extent of application: Maize vs wheat
- Conclusions
 - Summary and interpretation of results

Agroclima-SSP: Browser

About... References Contacts

Select the data you want to check:

- AGROCLIMA_SSP
 - FIELD CROPS
 - SUMMER CROPS
 - MAIZE
 - RESOLUTION_25KM
 - FROM_ENSEMBLES_DATA
 - RESOLUTION_50KM
 - ADAPTATIONS
 - IMPACTS
 - CO2 EFFECT
 - EXTREME EVENTS
 - MEAN TRENDS FROM AMAVEC DATA
 - MEAN TRENDS FROM PRUDENCE DATA
 - UNCERTAINTY
 - WINTER CROPS
 - IRRIGATED
 - SPRING WHEAT
 - WINTER WHEAT
 - RAINFED
 - SPRING WHEAT
 - WINTER WHEAT
 - TREE CROPS
 - GRAPEWINE

Agroclima-SSP: Content viewer

Info: Field crops, Winter crops, Rainfed, Spring wheat, Resolution_50km, Uncertainty, Main trends from prudence data 10RCMs_WSR

del impacto: Número de simulaciones (de las 10 posibles) que proyectan aumento o no variación de rendimiento del control, con datos de PRUDENCE, es decir, un "multi-model ensemble" de 10 RCMs diferentes.

MI, 2009. Incertidumbre en el signo de las tendencias medias de impacto. En: Ruiz-Ramos M, Rodríguez A y Mínguez MI,

Agroclima-SSP: Legend

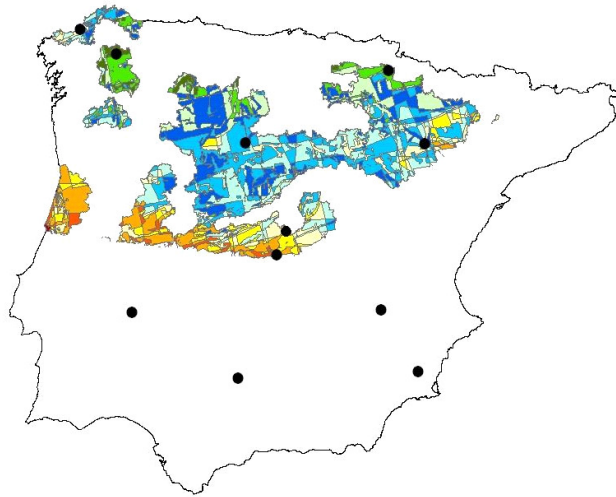
Number of projections of increasing / No variation of yield

0
1
2
3
4
5
6
7
8
9
10

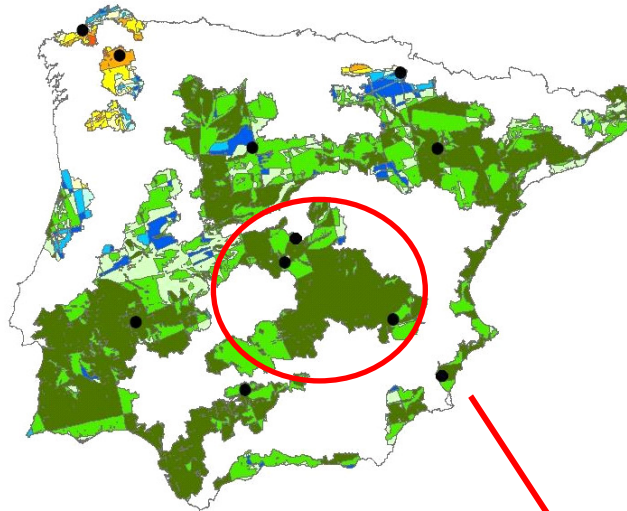
AGROCLIMA DEMO

Results: Uncertainty

- Sign of impact
- Impact magnitude

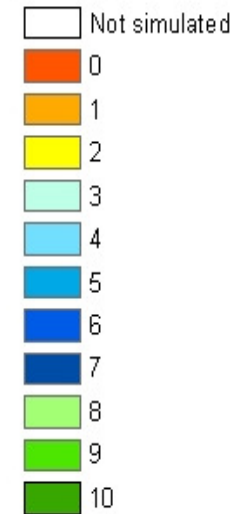


Rainfed Winter Wheat

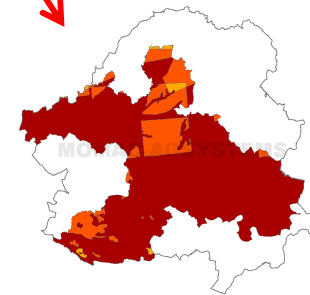


Rainfed Spring Wheat

Nb of RCMs predicting Yield increase



Irrigated Maize



AGROCLIMA-SSP for Co-Innovation

- Phase I: construction of the tool to organise, interpret results
- Presentation or distribution of AGROCLIMA v.1.1 to administration, extension services, insurance companies, etc
- Phase II: incorporating user's feedback → open experiments → new versions: Phase I

- Thank you!