

From the field-scale AquaCrop model to a regional gridded crop model

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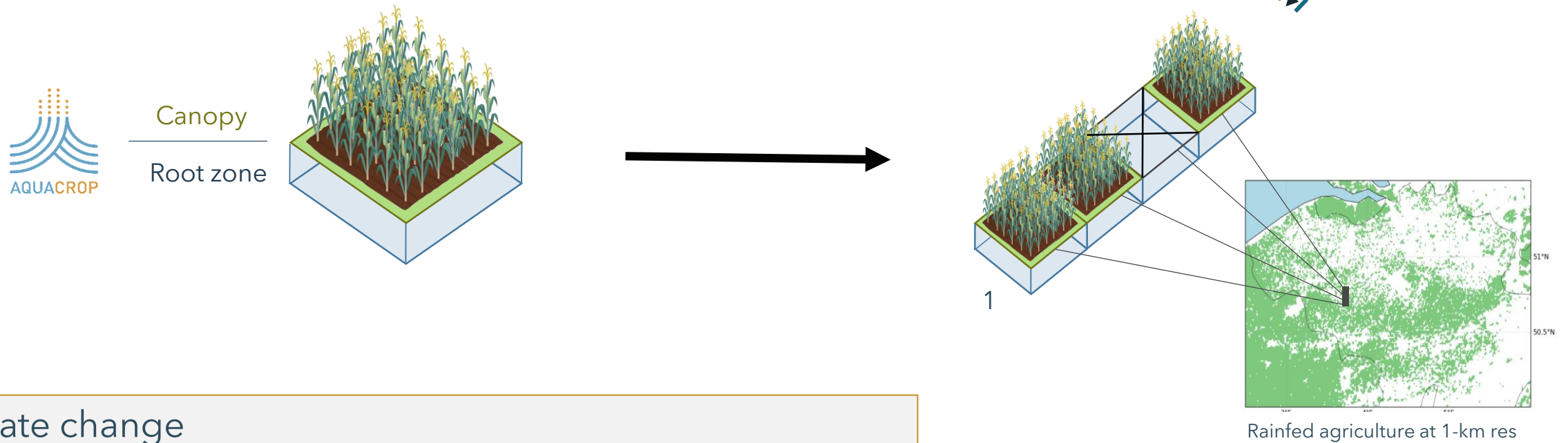
Supervised by

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Approach

Field to spatial crop model

1. Simulate biomass development and soil moisture over Europe at 1-km resolution
2. Evaluate with Remote Sensing data: optical & microwave products

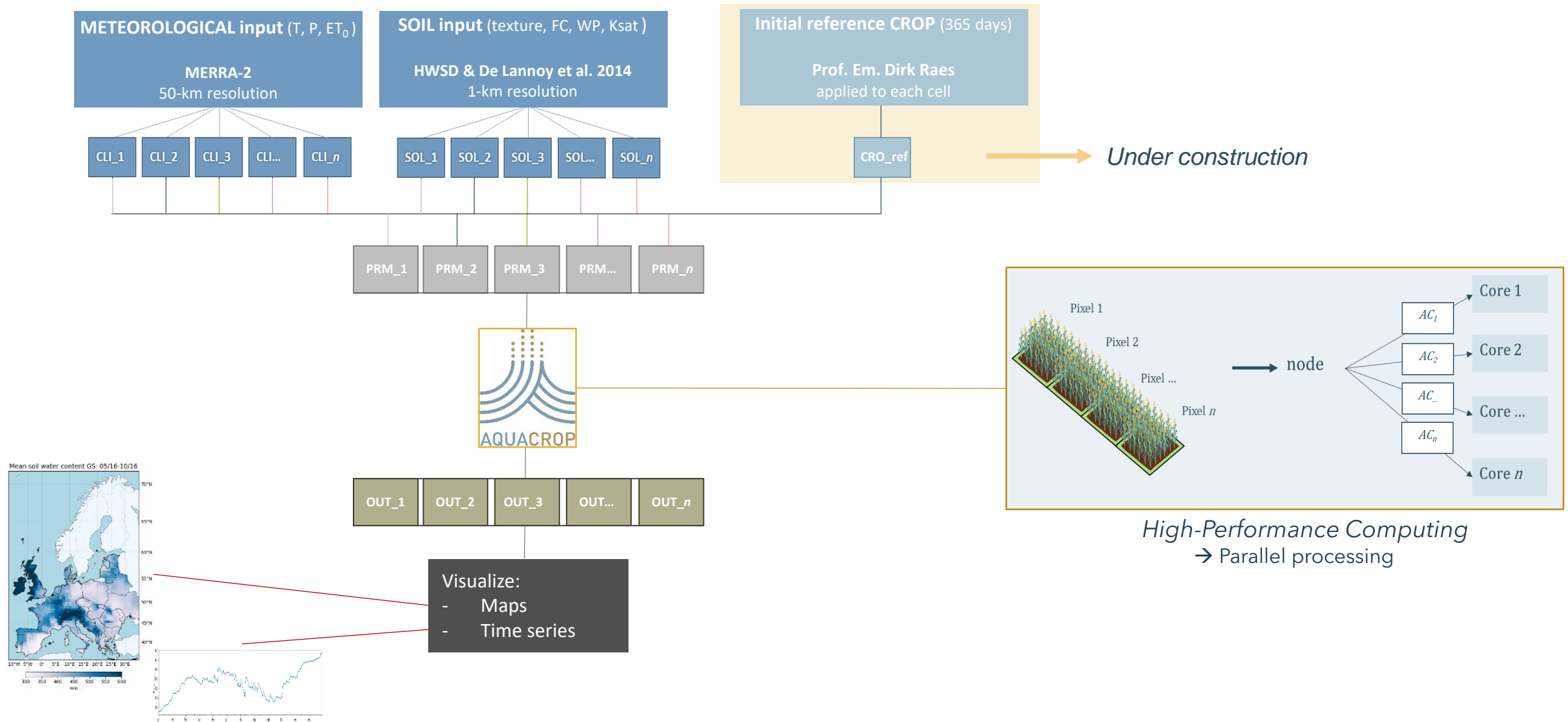


Climate change

Simulate future biomass production and changes in soil moisture

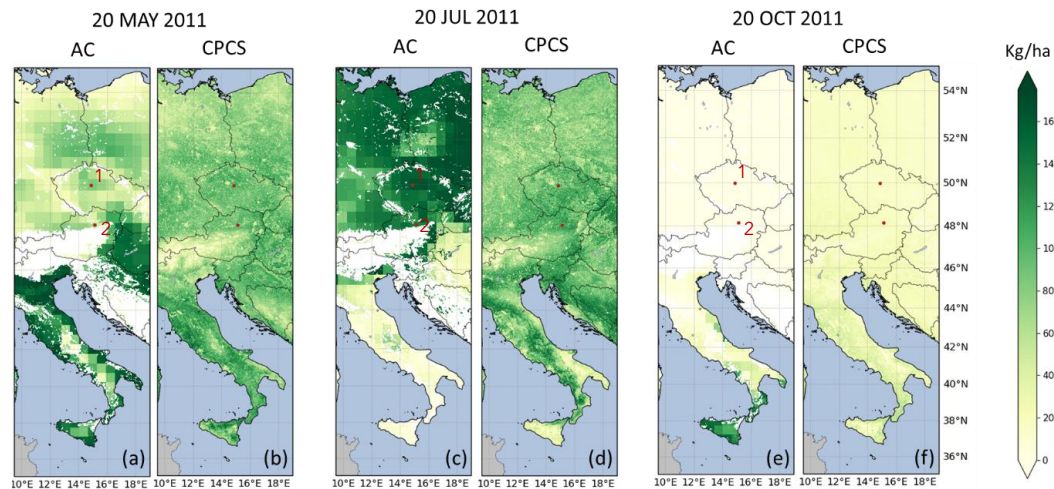
Need for shifts in irrigation? When, where?

Model structure



Biomass production: Initial evaluation

- High temporal accuracy vs. low spatial accuracy
- Influence of coarse scale climate input (50-km res) clearly visible
→ Temperature and water stress main limiting factors to biomass growth



AquaCrop (AC) biomass evaluated with Copernicus (CPCS) Dry Matter Productivity (DMP) from the SPOT-satellite

- Good temporal correlations for northern countries vs. low correlations in the South
→ **New runs with calibrated crop file suggests improved correlations entire domain**

