



MACSUR È Results from regional intercomparison/benchmark

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Model intercomparison

Identification and
documentation of datasets
(benchmark grassland sites)

Identification and
documentation of grassland
models



Sensitivity tests to changes of CO₂, temperature and precipitation

Run of un-calibrated and calibrated models



Evaluation of model performances

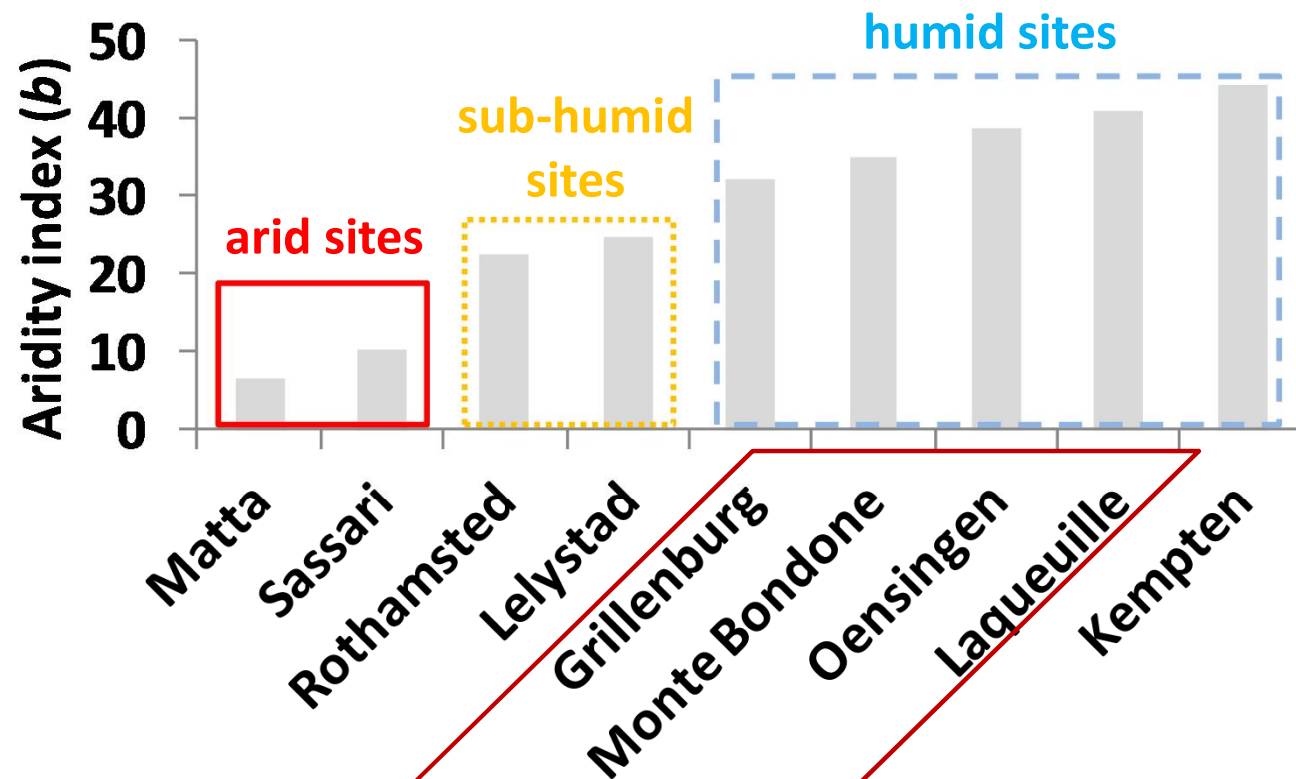
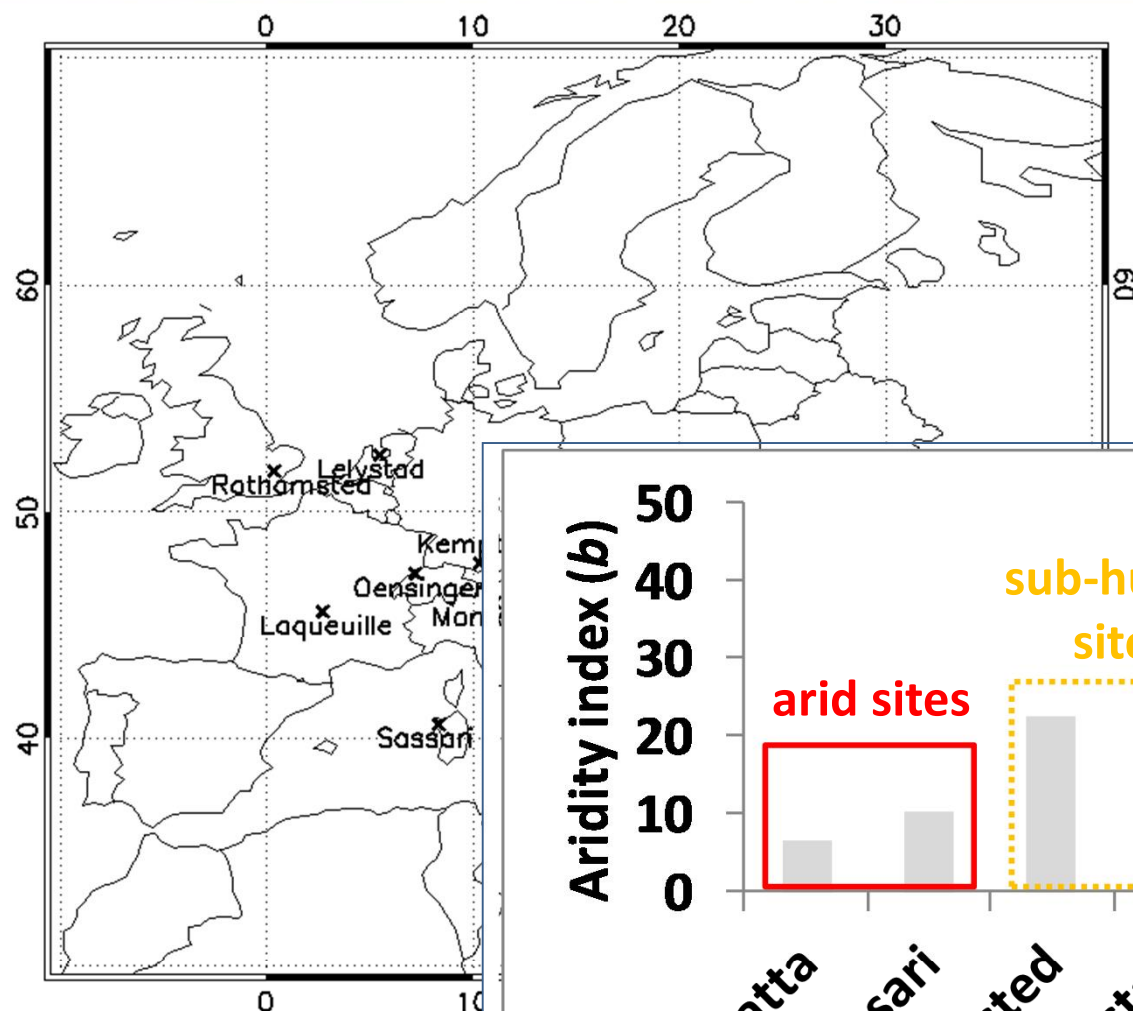


Uncertainty analyses



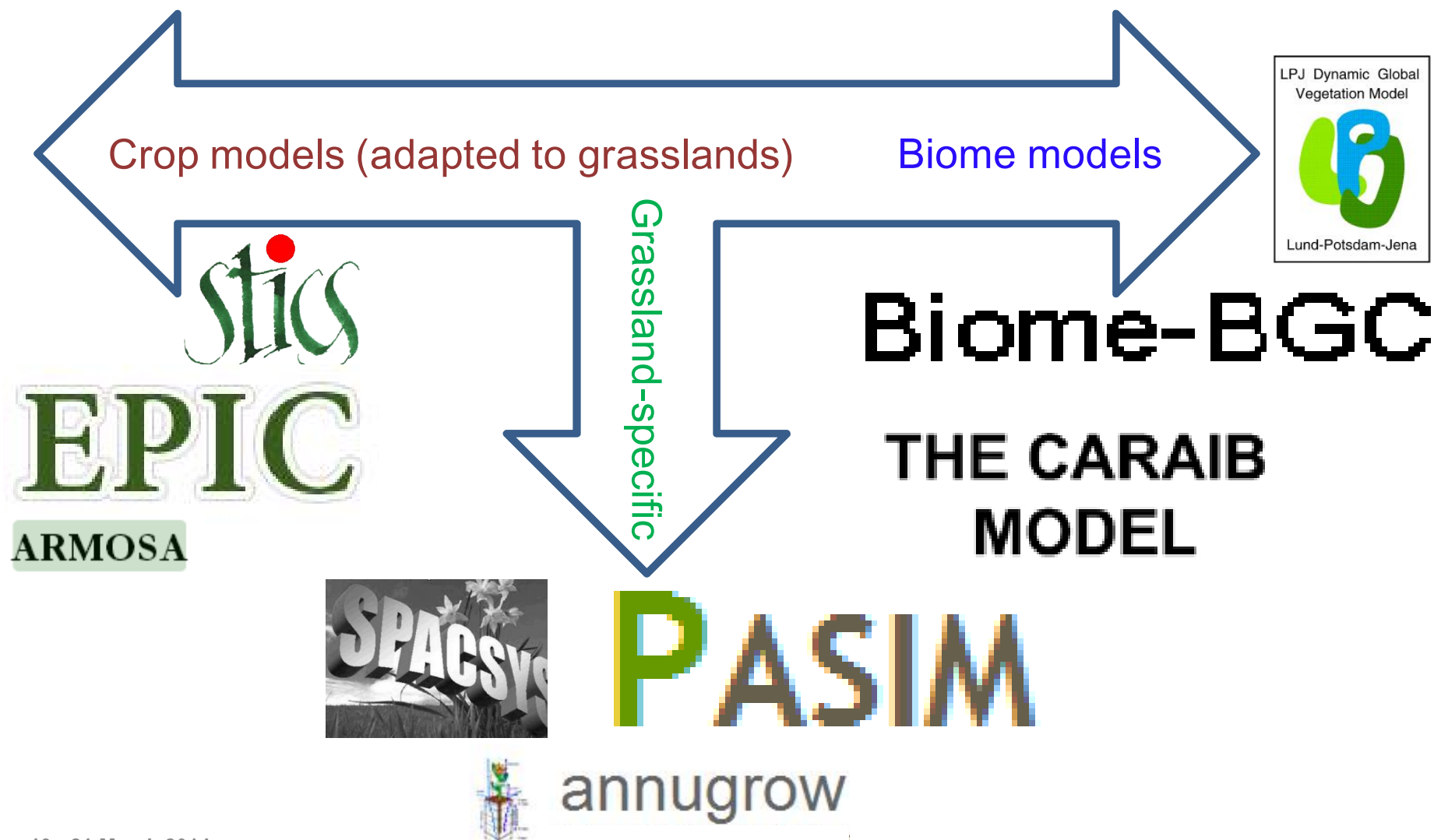


Permanent grassland sites (MACSUR - LiveM)





Identified models (MACSUR - LiveM)

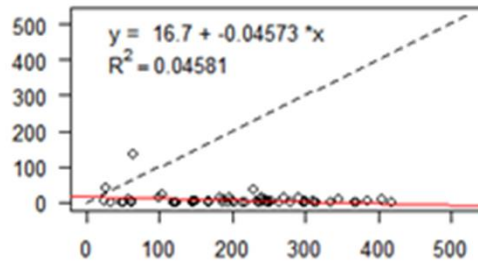


Rothamsted (United Kingdom) - multi-year (1981-2011) experimental site (cut in June and November, fertilized with 48 kg N ha⁻¹ yr⁻¹ in April)

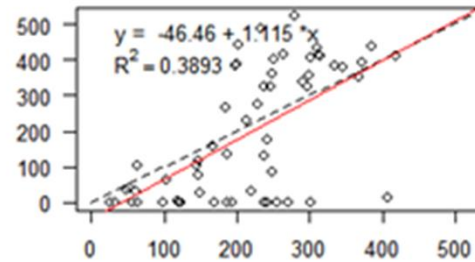
BLIND RUN (harvested biomass, g DM m⁻²)

Simulations

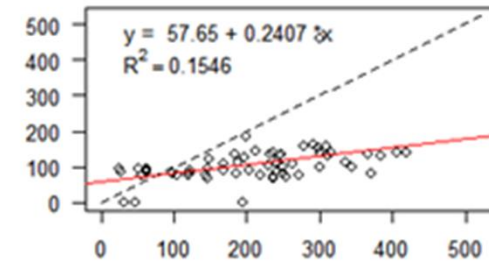
1



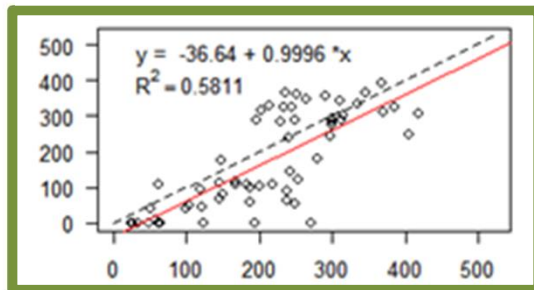
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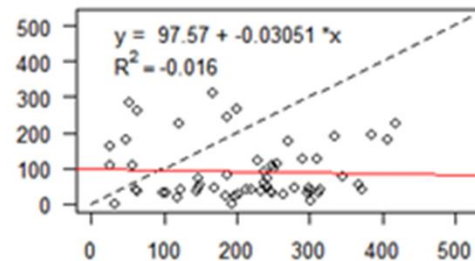
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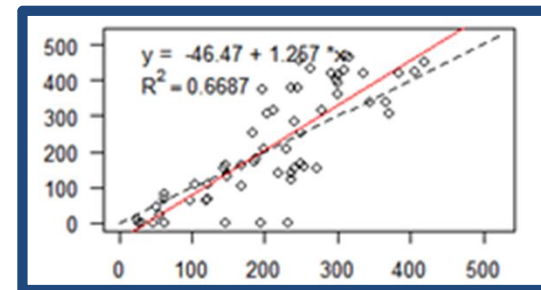
4 Grassland model



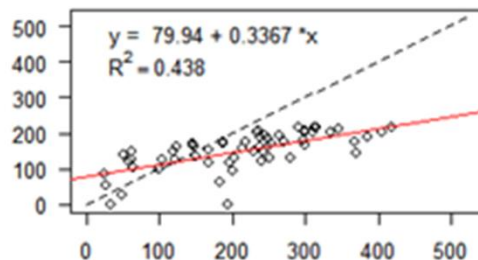
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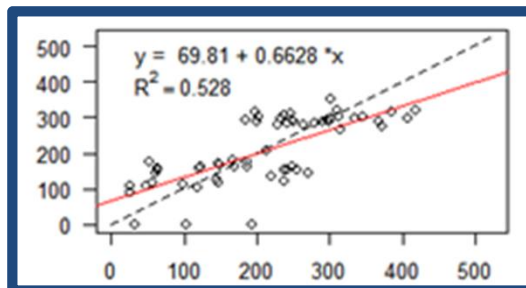
Crop models 6



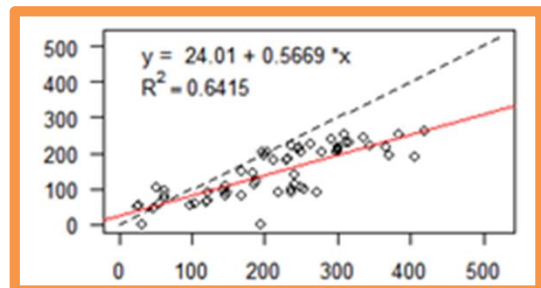
7



8



Mean



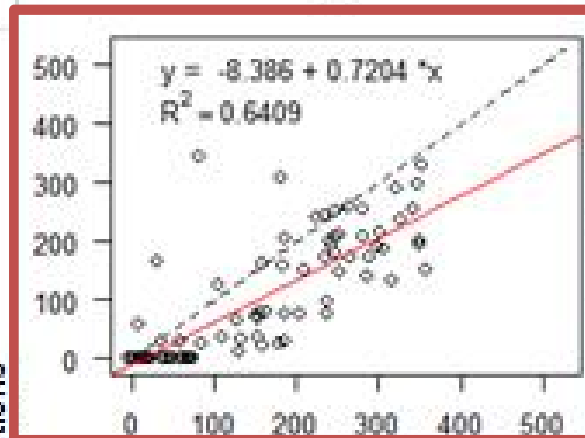
Observations

Oensingen (Switzerland) - multi-year (2002-2009) observational site (3-4 cuts per year, fertilized with 200 kg N ha⁻¹ yr⁻¹ in four events)

BLIND RUN (gross primary production, g C m⁻² month⁻¹) / 1

Biome models

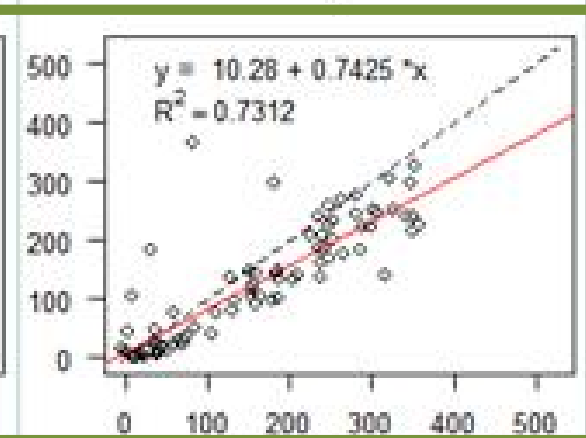
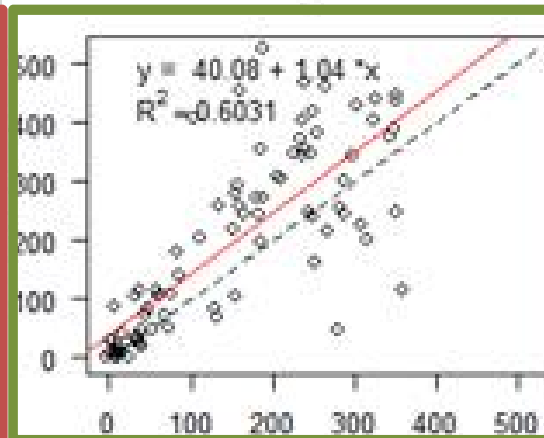
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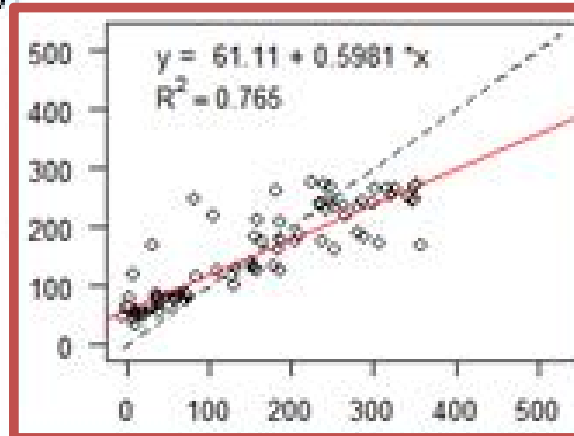
Grassland models

4

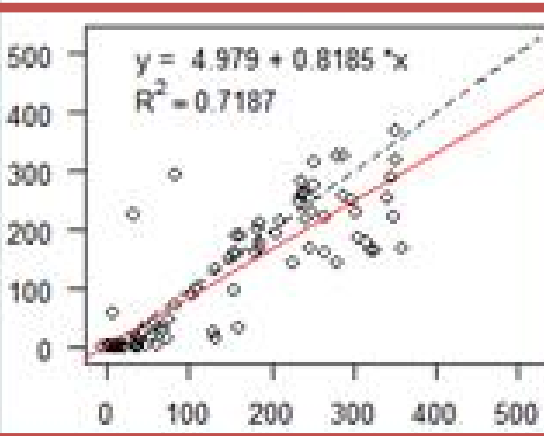


Simulations

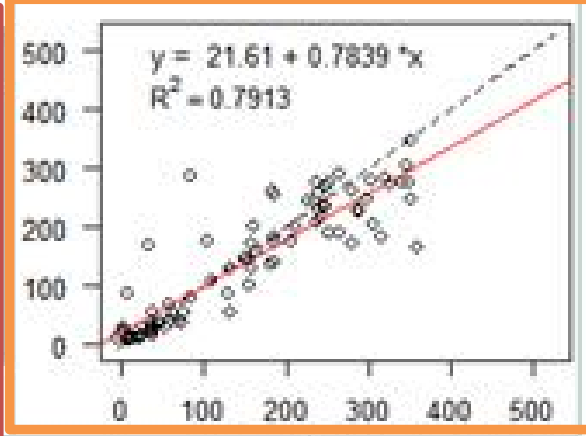
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9



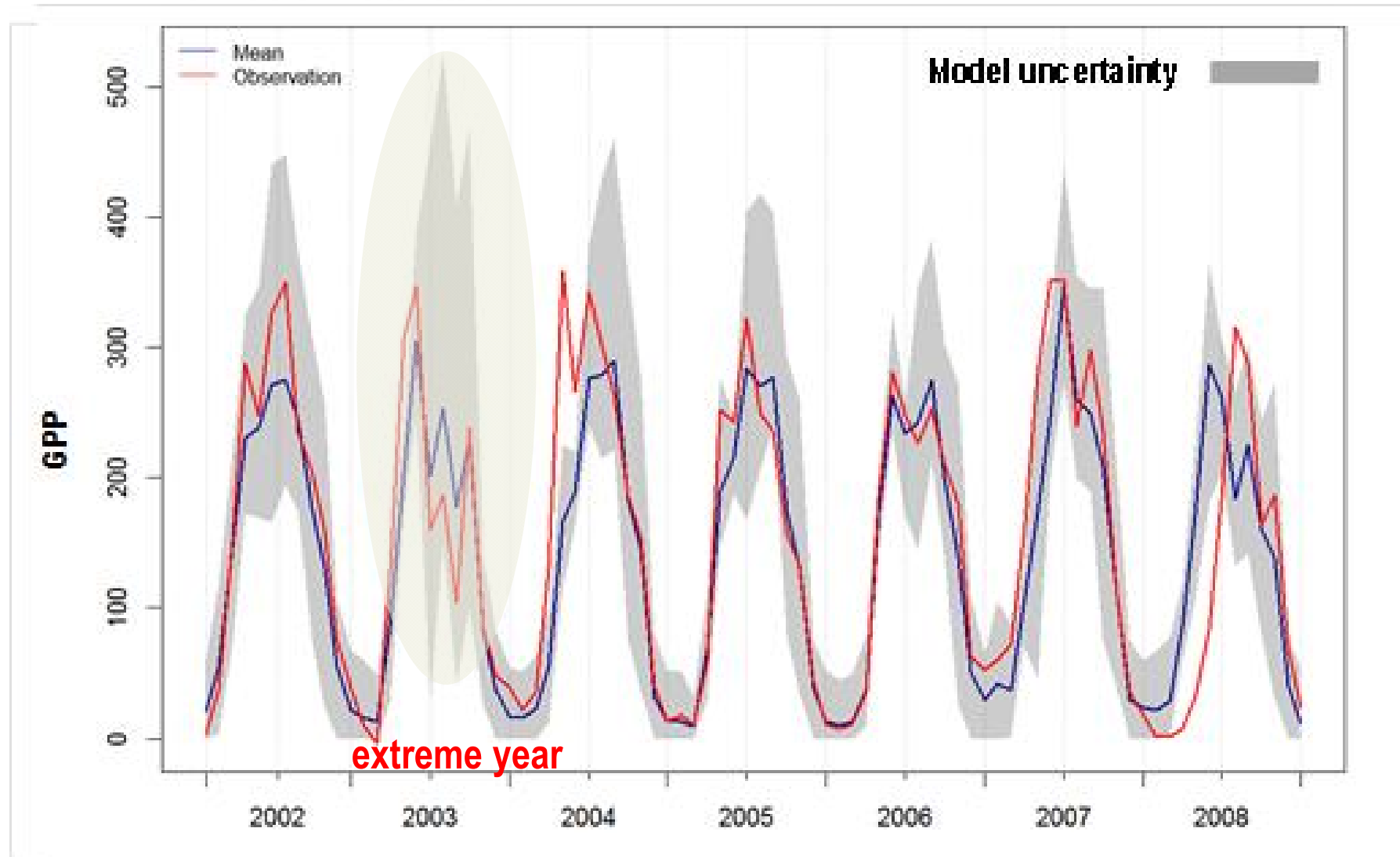
Mean



Observations

Oensingen (Switzerland) - multi-year (2002-2009) observational site (3-4 cuts per year, fertilized with 200 kg N ha⁻¹ yr⁻¹ in four events)

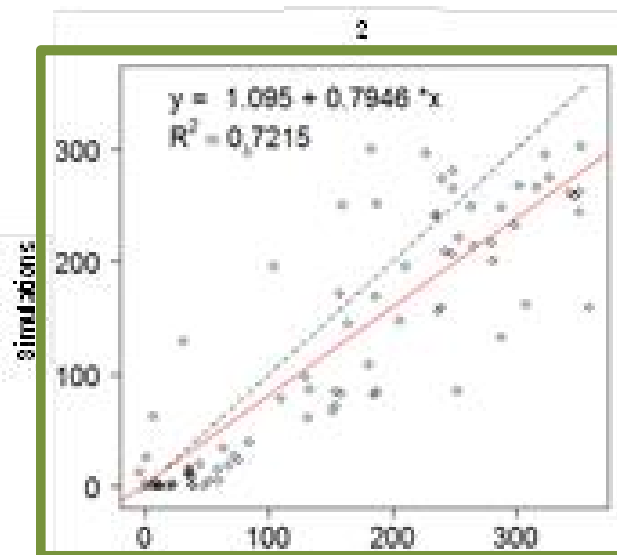
BLIND RUN (gross primary production, g C m⁻² month⁻¹) / 2



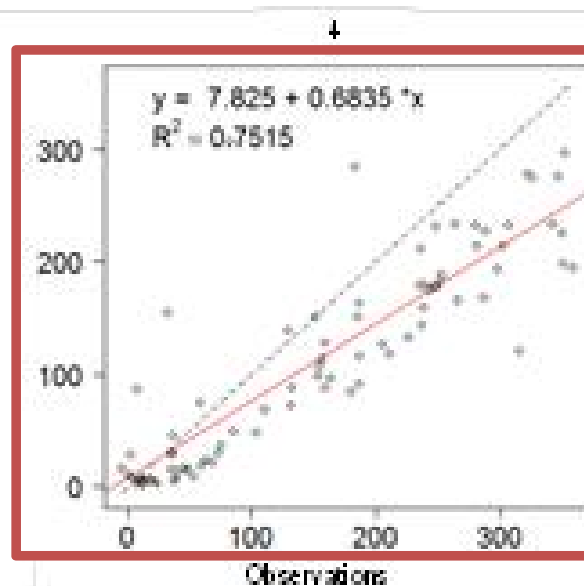
Oensingen (Switzerland) - multi-year (2002-2009) observational site (3-4 cuts per year, fertilized with 200 kg N ha⁻¹ yr⁻¹ in four events)

CALIBRATED RUN (gross primary production, g C m⁻² month⁻¹) / 2

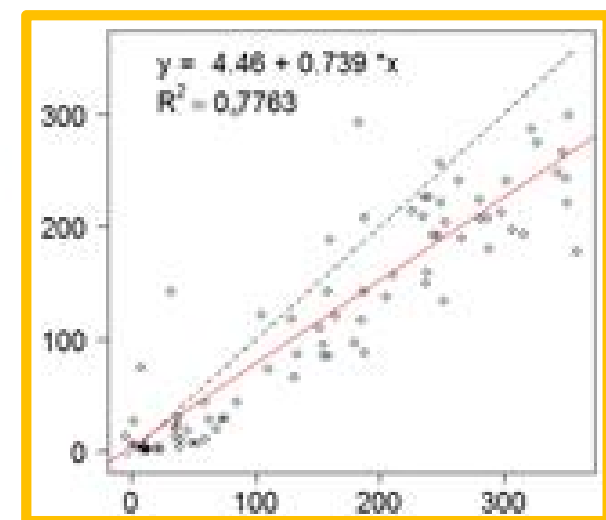
Grassland model



Biome model



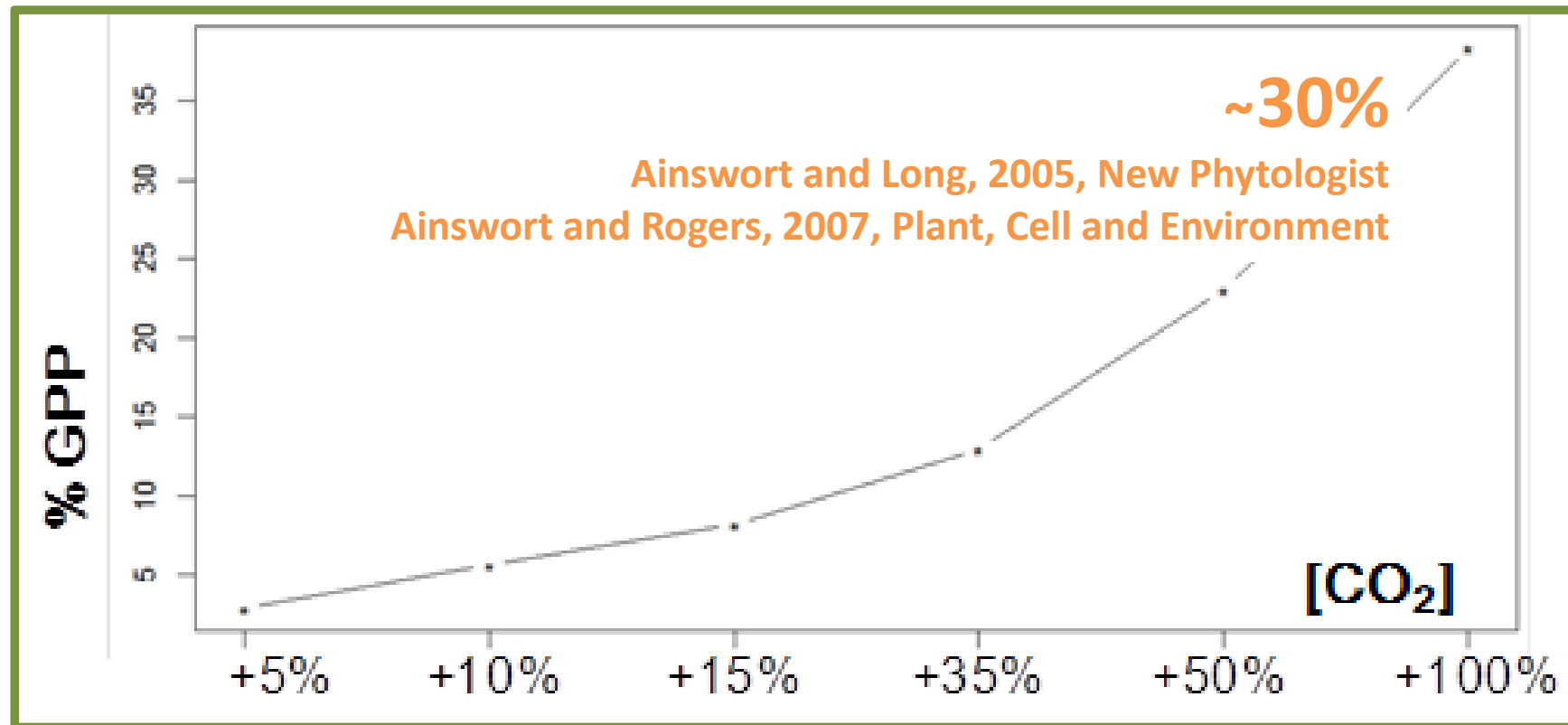
Mean



Laqueuille (France) - multi-year (2004-2010) observational site (intensively grazed system, fertilized with 200 kg N ha⁻¹ yr⁻¹)

SENSITIVITY TEST (gross primary production versus [CO₂])

Grassland model



Baseline: 380 ppmv



MACSUR Mid Term Conference

1st-3rd April, Sassari (Italy)

Lellei-Kovács et al., 2014, FACCE MACSUR Mid-Term Scientific Conference

Minet et al., 2014, FACCE MACSUR Mid-Term Scientific Conference

Ma et al., 2014, 7th International Congress on Environmental Modelling and Software



Bold visions for environmental modelling

15th-19th June, San Diego, CA (USA)



Congress of the European Society for Agronomy

25th-29th August, Debrecen (Hungary)

Ma et al., 2014, 13th Congress of the European Society for Agronomy