

## **ERA40@50 Simulations**

### **1. General:**

1.1 Name of model: REMO

1.2 Version: 5.7

1.3 Reference: Jacob, D., 2001: A note to the simulation of the annual and inter-annual variability of the water budget over the Baltic Sea drainage basin. Meteorology and Atmospheric Physics, Vol.77, Issue 1-4, 61-73

Jacob, D., U. Andrae, G. Elgered, C. Fortelius, L. P. Graham, S. D. Jackson, U. Karstens, Chr. Koepken, R. Lindau, R. Podzun, B. Rockel, F. Rubel, H.B. Sass, R.N.D. Smith, B.J.J.M. Van den Hurk, X. Yang, 2001: A Comprehensive Model Intercomparison Study Investigating the Water Budget during the BALTEX-PIDCAP Period. Meteorology and Atmospheric Physics, Vol.77, Issue 1-4, 19-43.

1.4 URL: <http://www.mpimet.mpg.de/?id=73&L=1>

### **2. Model setup:**

2.1 Grid specifications:

2.1.1 Projection: Rotated spherical coordinate system

2.1.2 Number of horizontal grid points: 109x121

2.1.3 Number vertical levels: 27

2.1.4 Type of vertical coordinate: Hybrid

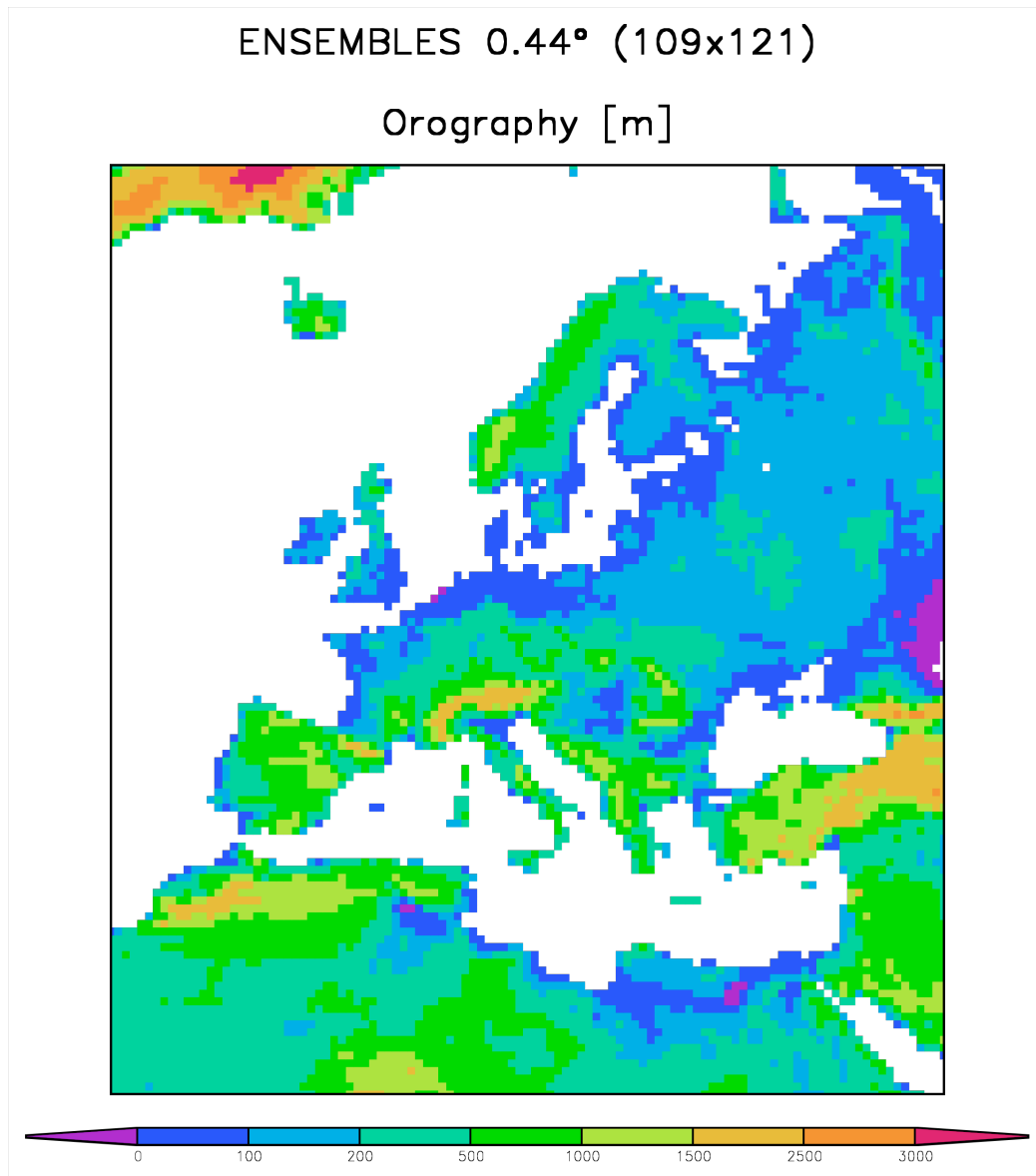
2.2 Soil and surface specifications

2.2.1 Name of soil and SVAT model. -/-

### 2.2.2 Physiographical data:

Orography:

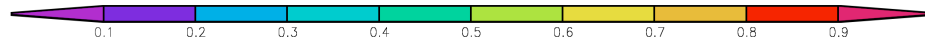
GTOPO30



Land sea mask: LSB2 (MPIMET-Report 336; 2002)

ENSEMBLES 0.44° (109x121)

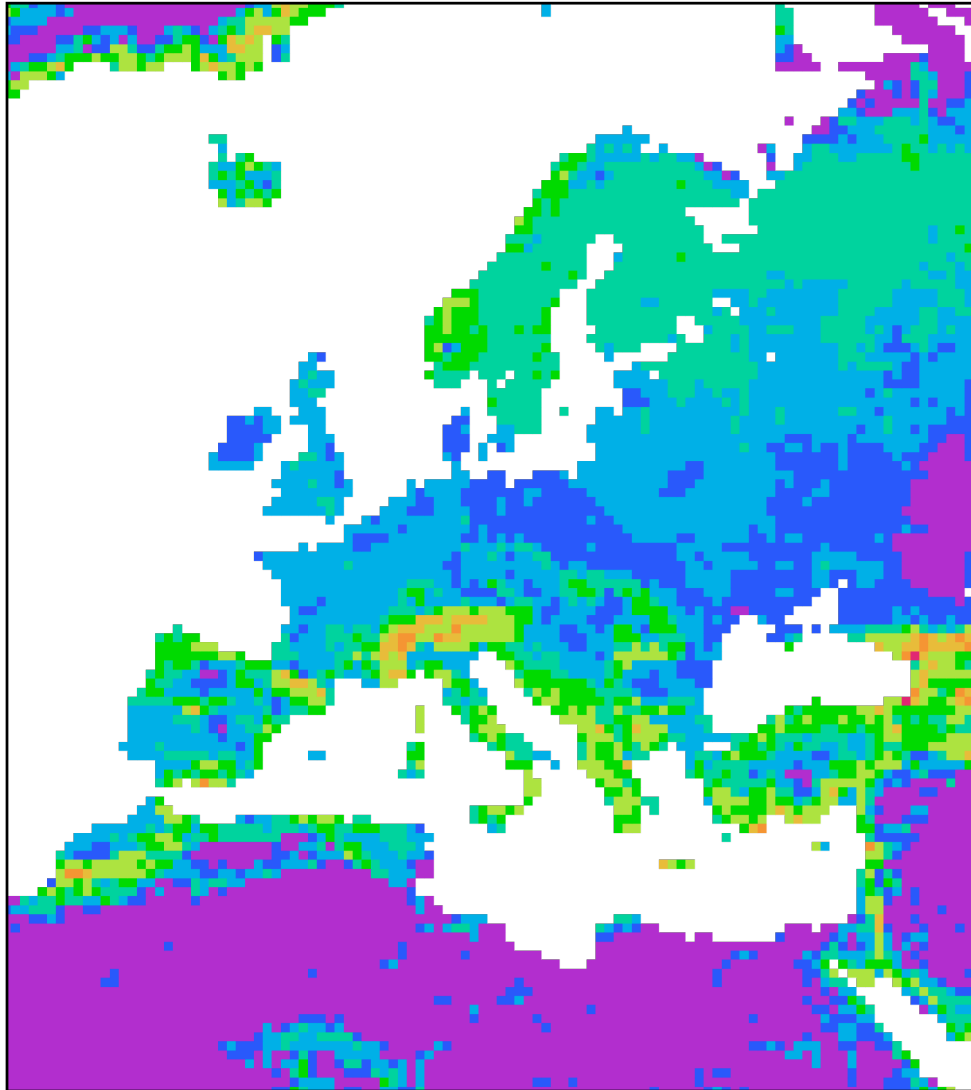
Land sea mask [fract.]



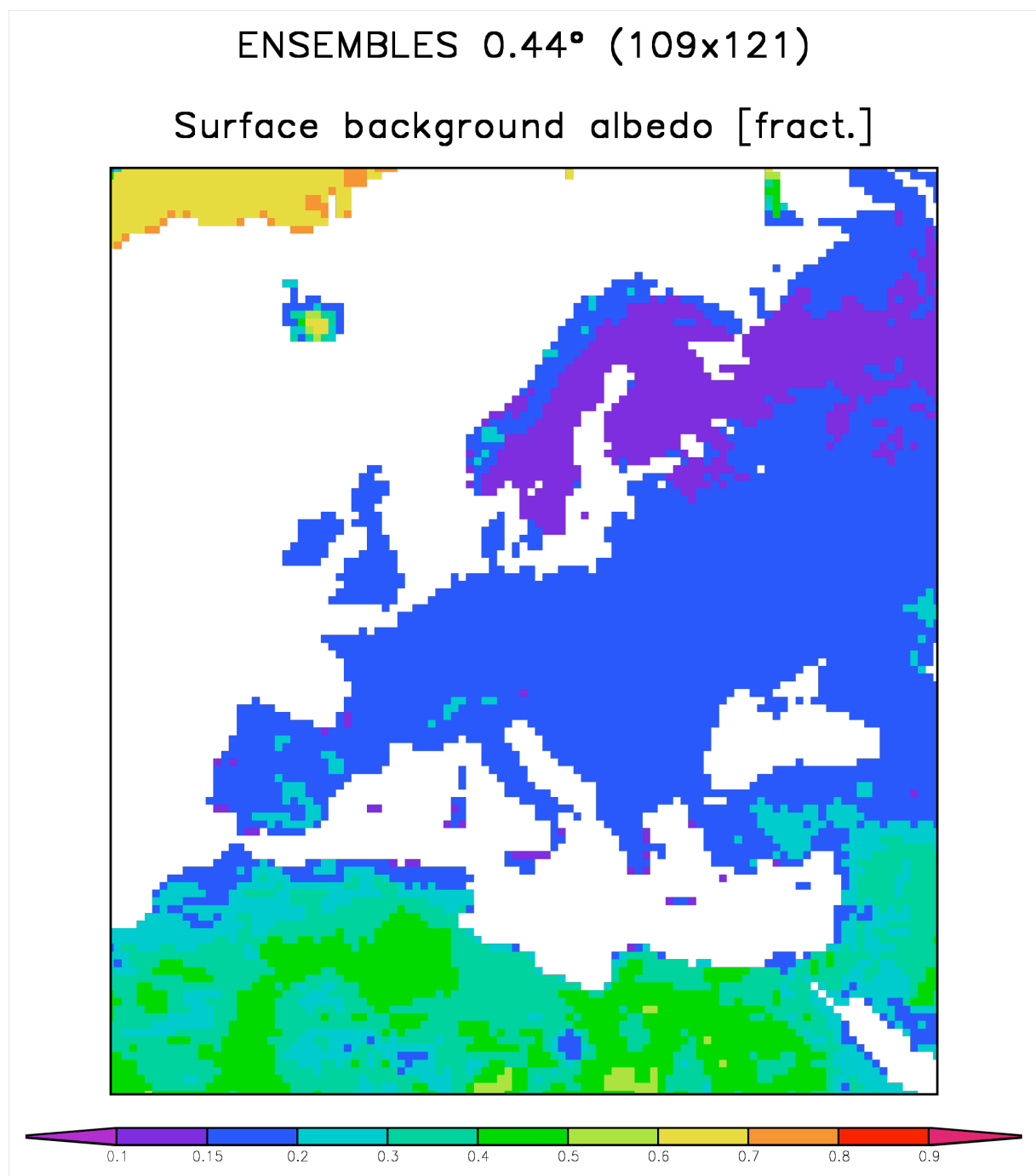
Surface roughness length: land: topographical part from GTOPO30;  
sea: Charnock formula

ENSEMBLES 0.44° (109x121)

Surface roughness length [m]



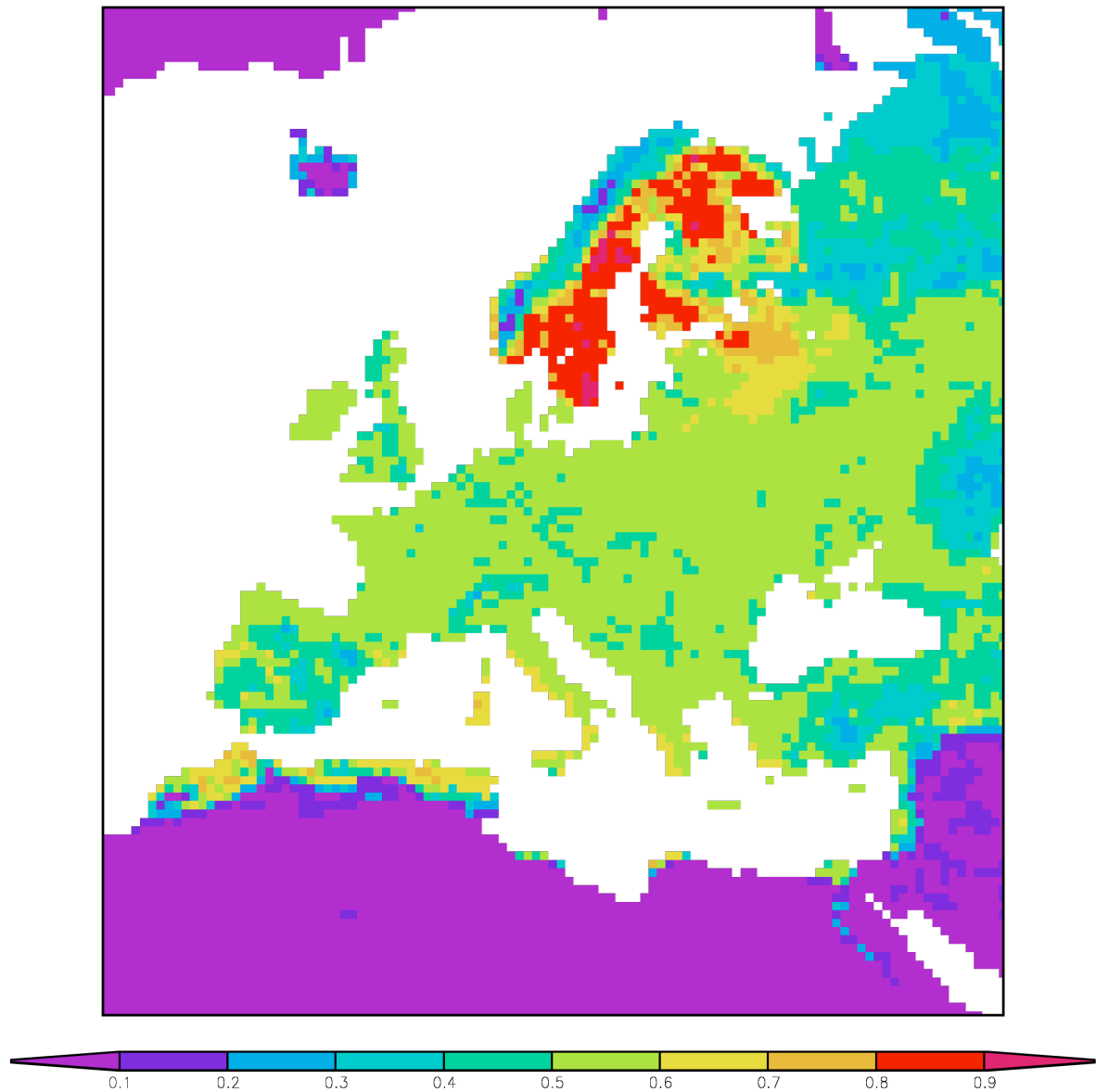
Surface background albedo: MODIS/TERRA and LSB2  
(monthly varying values; annual mean is shown in figure)



Vegetation ratio: LSB2  
(monthly varying values; annual mean is shown in figure)

ENSEMBLES 0.44° (109x121)

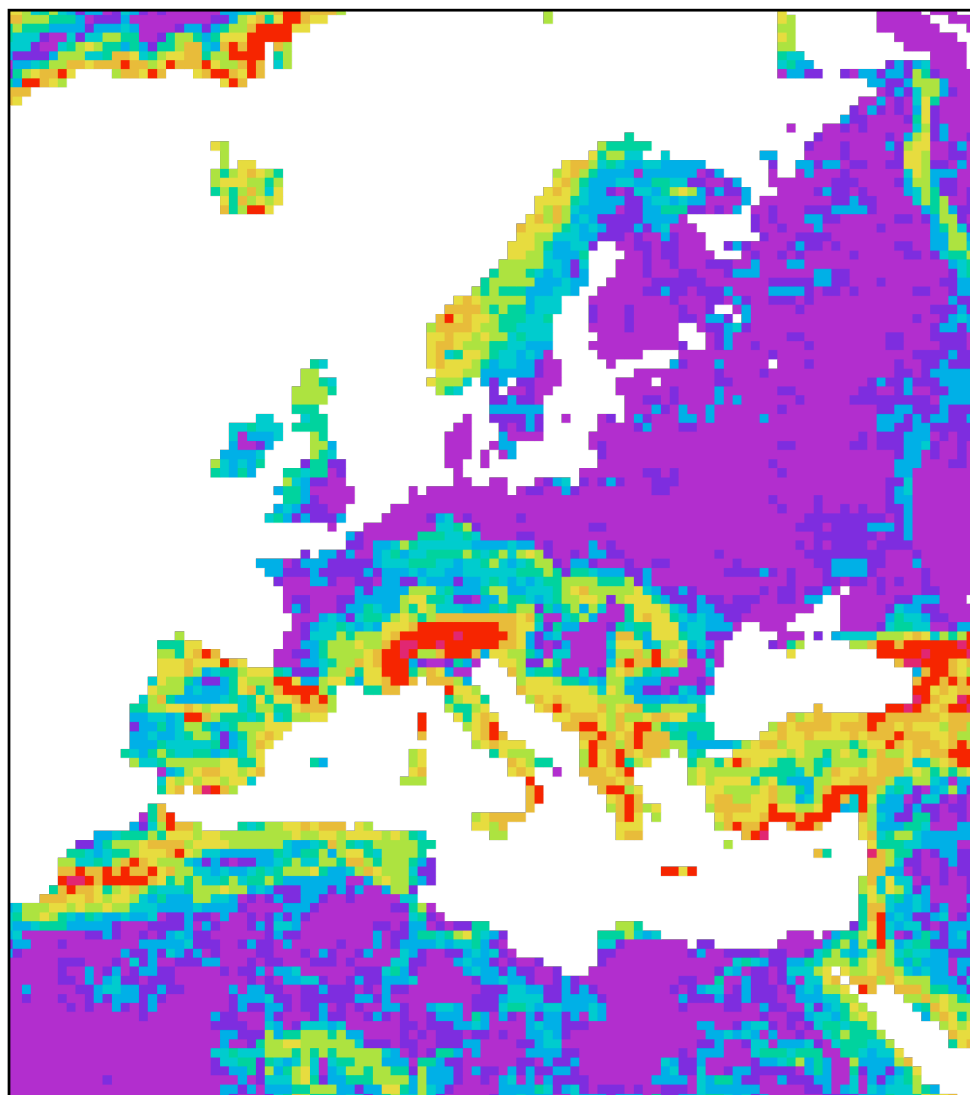
Vegetation ratio



Orographic variance: GTOPO30

ENSEMBLES 0.44° (109x121)

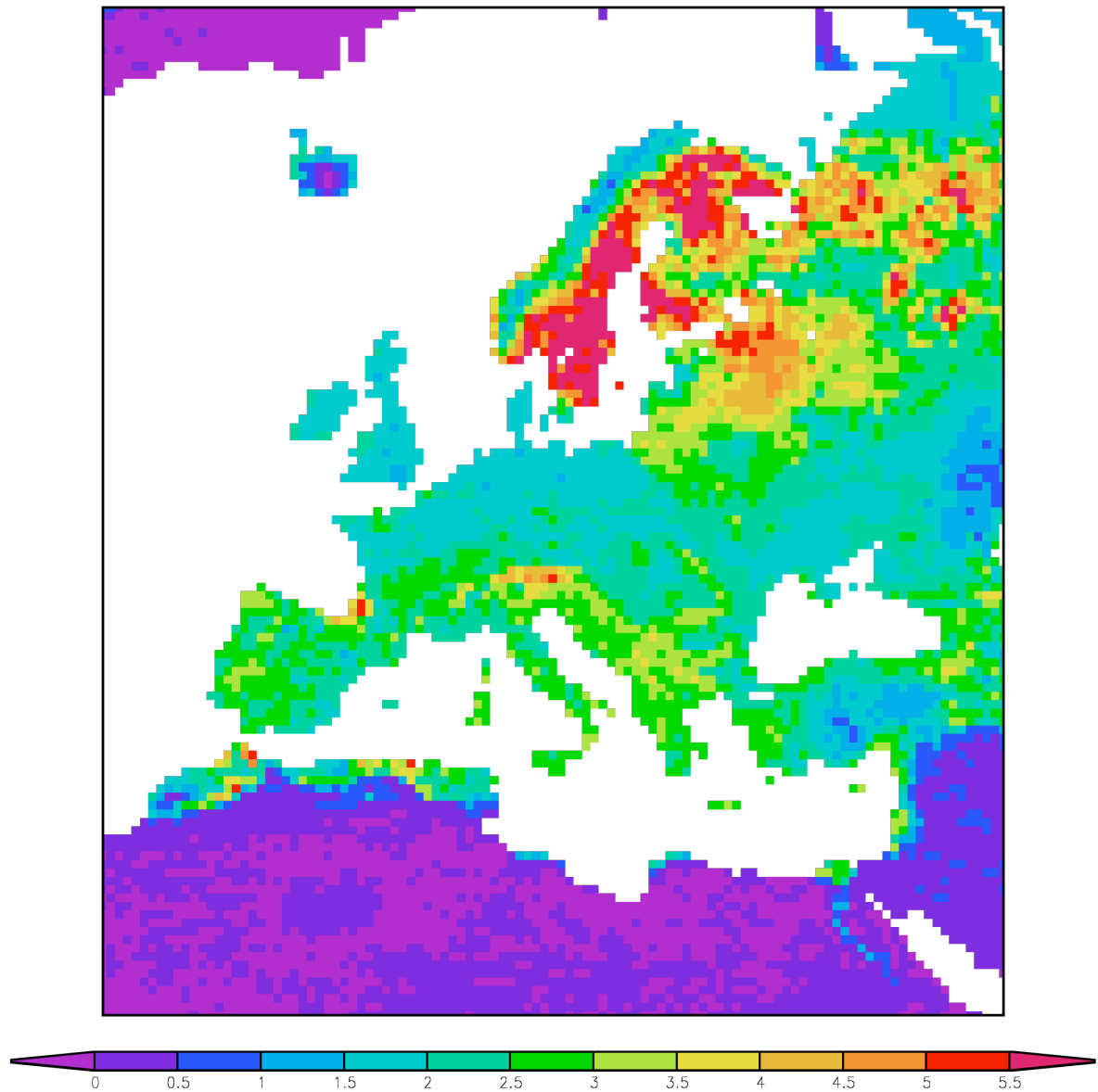
Orographic variance



Leaf area index: LSP2  
(monthly varying values; annual mean is shown in figure)

ENSEMBLES 0.44° (109x121)

leaf area index

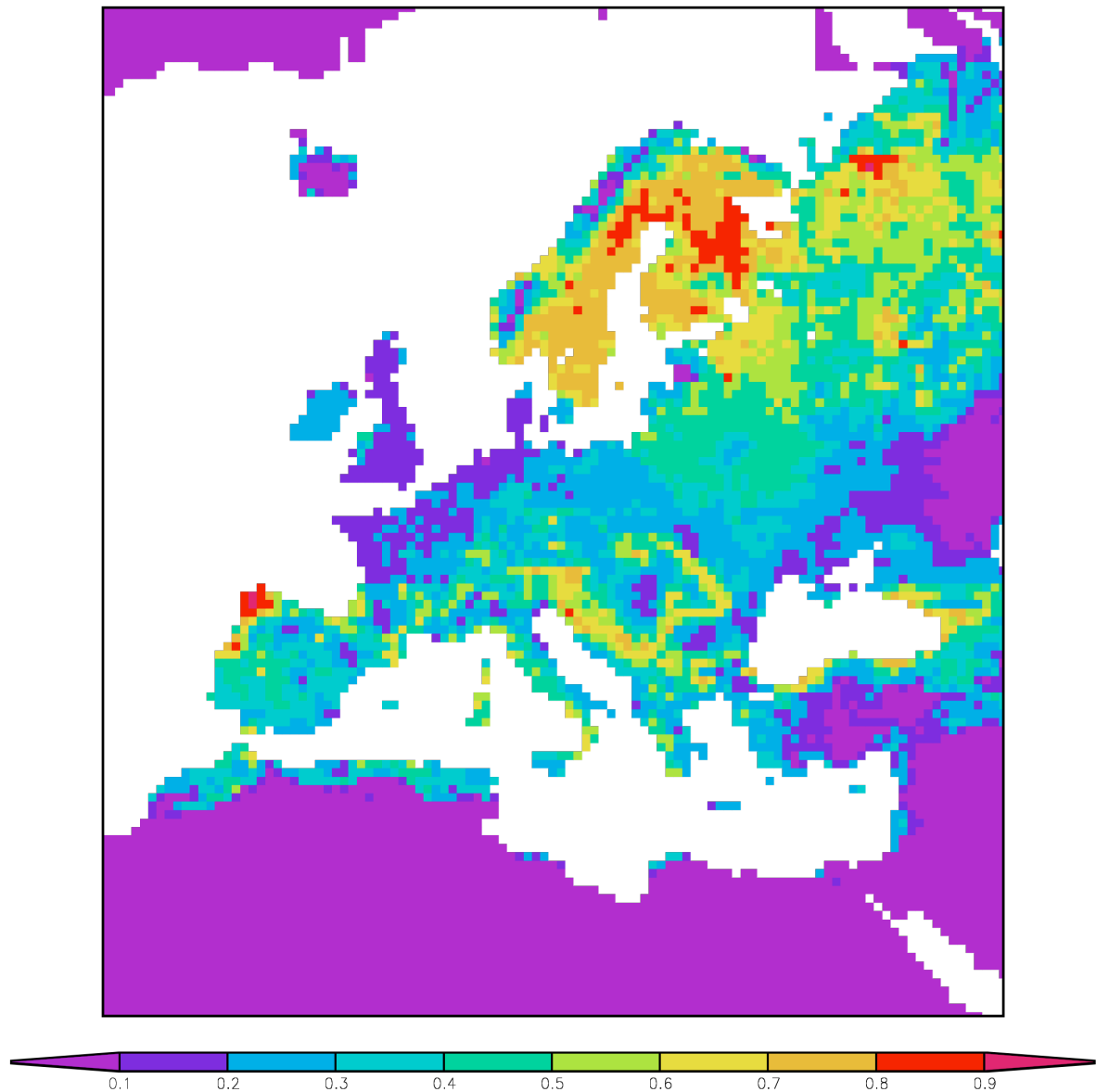




Forest partition: LSP2

ENSEMBLES 0.44° (109x121)

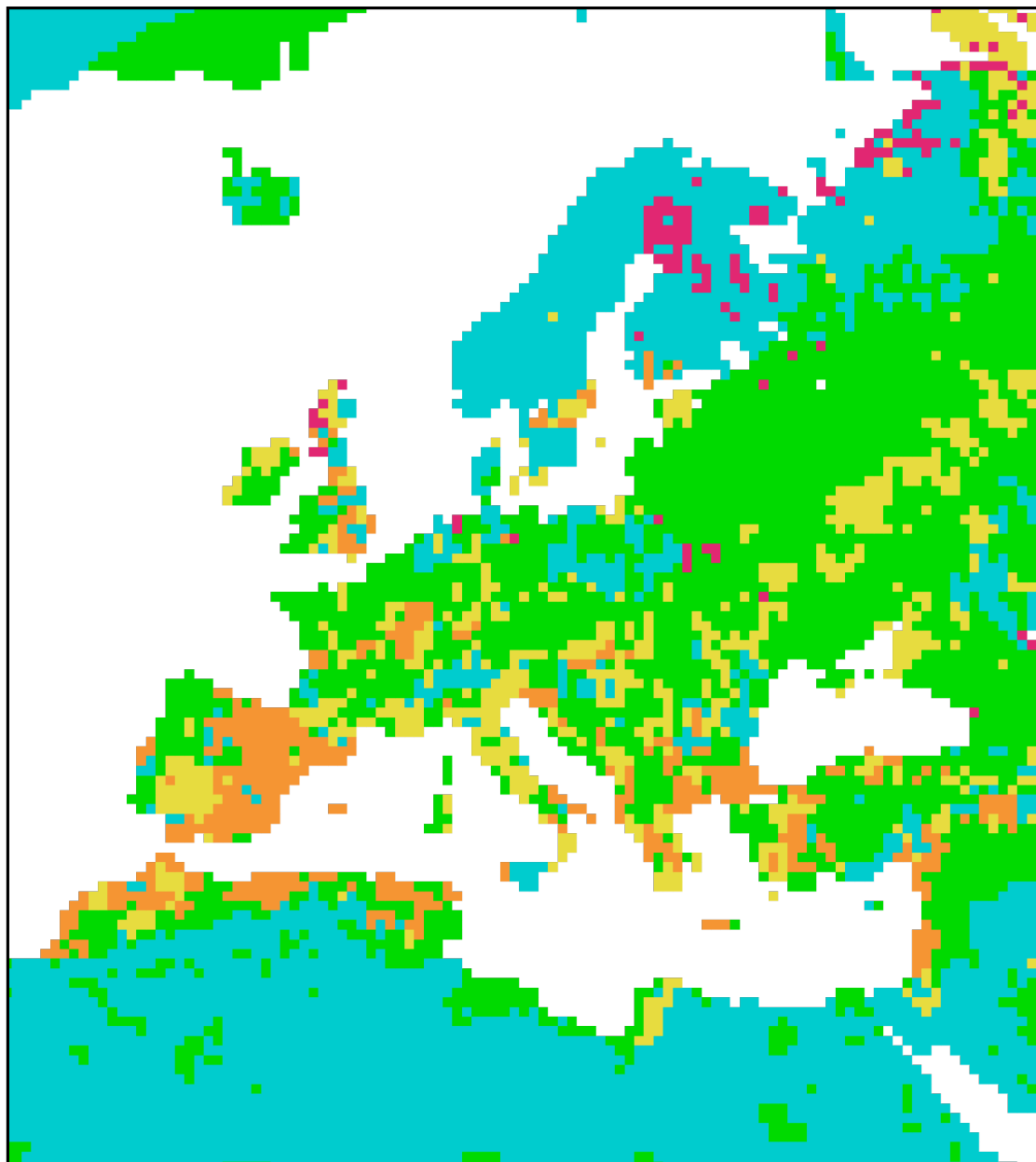
Forest



Soil data flags:      FAO

ENSEMBLES 0.44° (109x121)

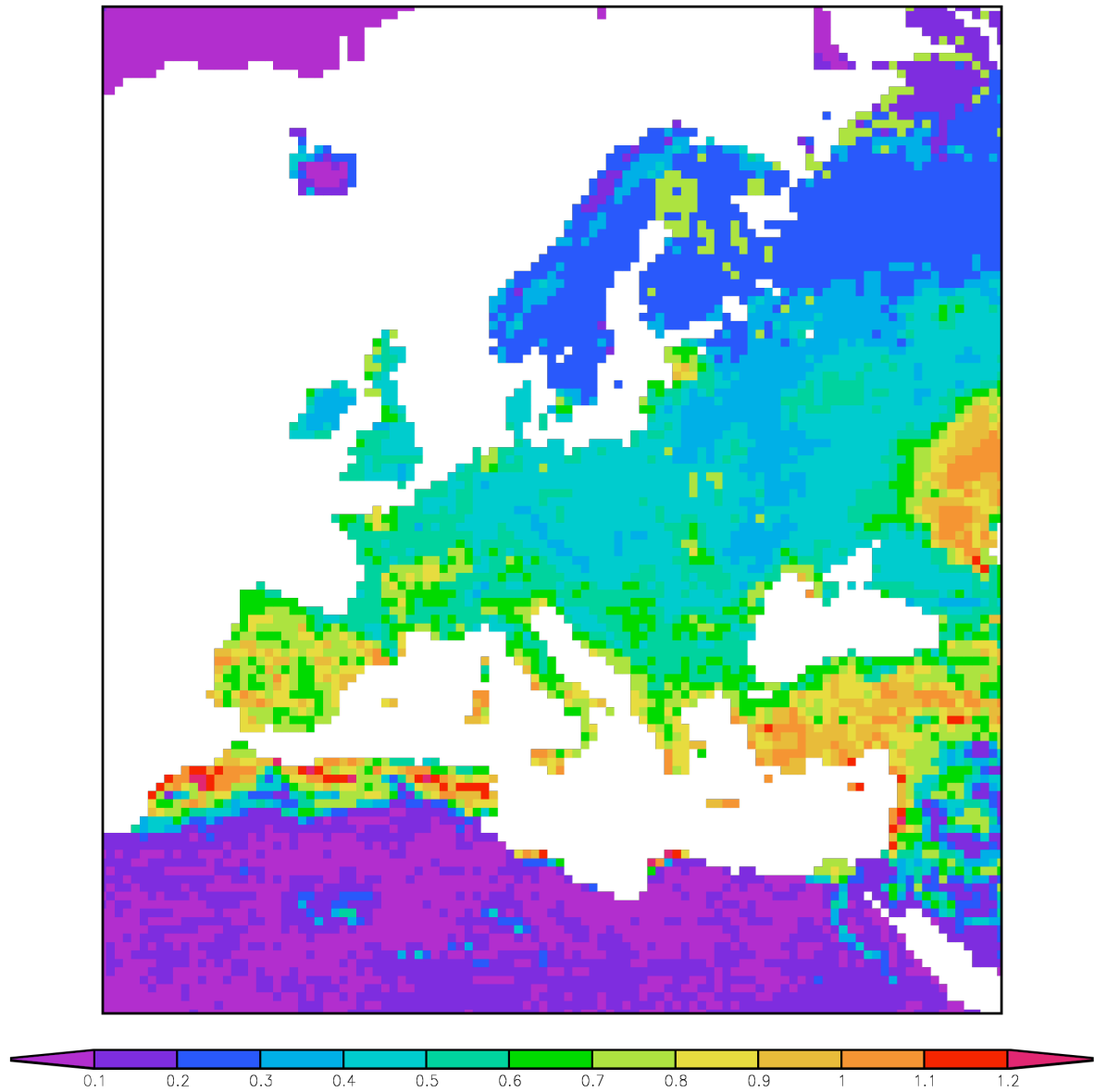
FAO data set (soil data flags)



field capacity of soil: LSP2

ENSEMBLES 0.44° (109x121)

Field capacity of soil [m]



### 2.3 External Forcings:

- fixed solar constant
- fixed GHC concentrations (for comparison also a run with changing GHC-concentrations has been carried out)
- aerosol forcing: TANRE background aerosol (temporal and spatial constant)

## 4. Additional information on model set up

*details of the experiment not yet covered by the description above (max. 1 page)*

## 5. Information on the performance

e.g. known issues of the model run; specific systematic biases; behaviour with respect to identifiable extreme events (flooding and/or heat waves) *(max 2 pages incl. figures)*

## 6. Email address for contact person:

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