Meta data description for RCM model simulations in ENSEMLES RT3

ERA40@50 Simulations

1. General:

1.1 Name of model
CLM – Climate Version of "Lokal-Modell"

1.2 Version
CLM 2.4.6

1. 3 Reference
Böhm, U., M. Kücken, W. Ahrens, A. Block, D. Hauffe, K. Keuler, B. Rockel, and A. Will, 2006: Clm - the climate version of lm: Brief description and long-term applications. COSMO Newsletter, 6.

1.4 URL
www.clm-community.eu

2. Model setup:

2.1 Grid specifications:
2.1.1 Projection
rotated [lat/lon] co-ordinates

2.1.2 Number of horizontal grid points
[95 / 85] excl. sponge zone, [115/105] incl. the sponge zone of 10 grid points

2.1.3 Number vertical levels
32 vertical levels

2.1.4 Type of vertical coordinate
terrain following height co-ordinates

2.2 Soil and surface specifications
2.2.1 Name of soil and SVAT model
soil model: TERRA3D
SVAT model: BATS

2.2.2 Physiographical data

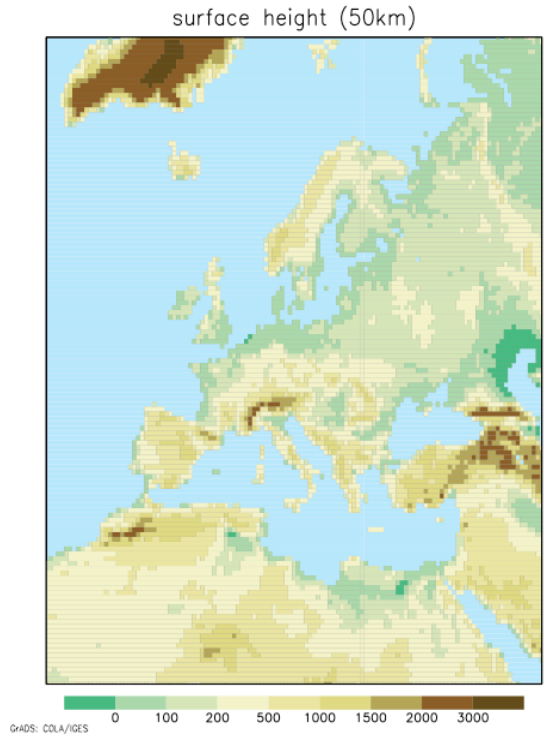

Figure 1: surface height,
source: GTOPO30

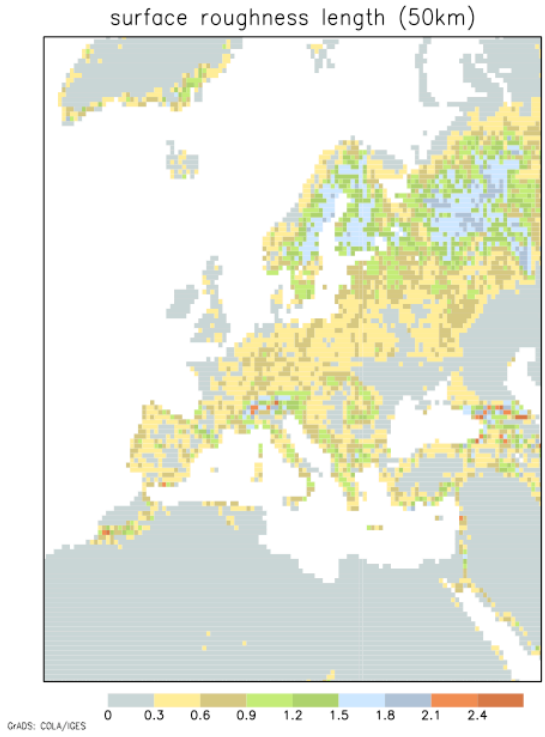

Figure 2: surface roughness length,
source: orograph. component: GTOPO30,
vegetation. component: ecoclimap

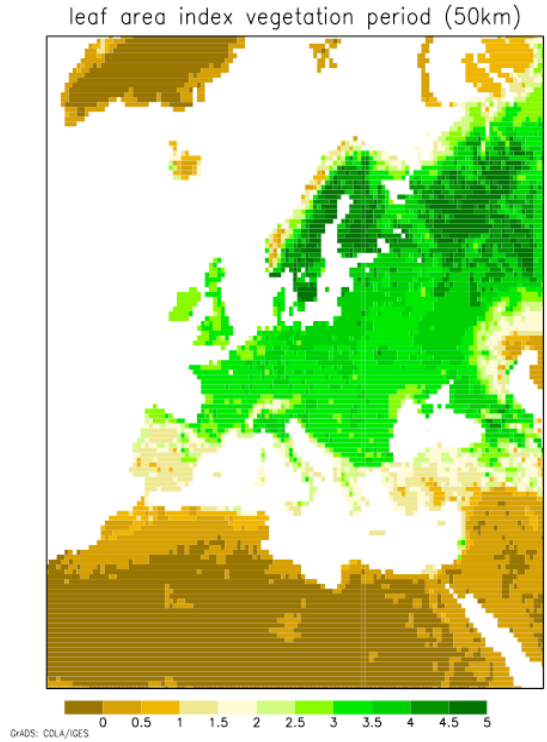

Figure 3: leaf area index vegetation period,
source: ecoclimap July

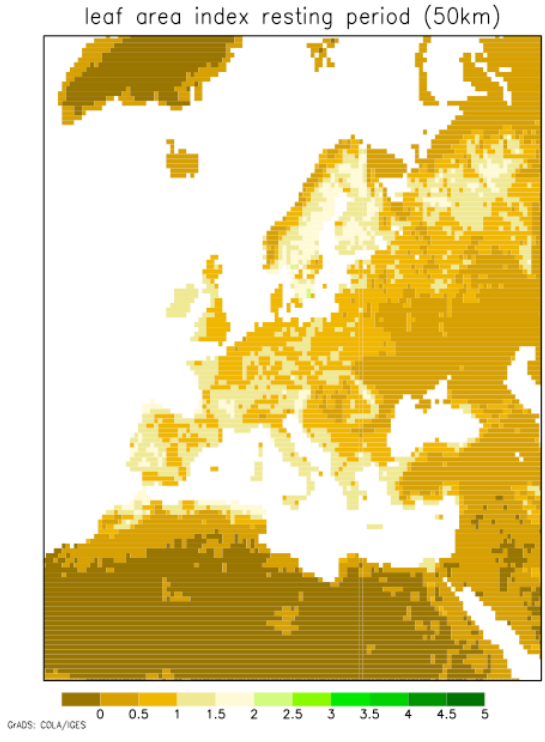

Figure 4: leaf area index resting period,
source: ecoclimap January

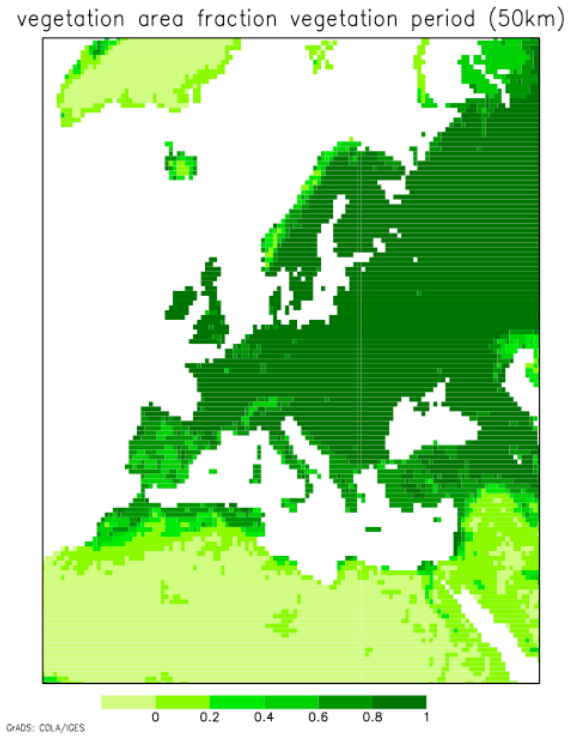

Figure 5: vegetation area fraction vegetation period, source: ecoclimap July

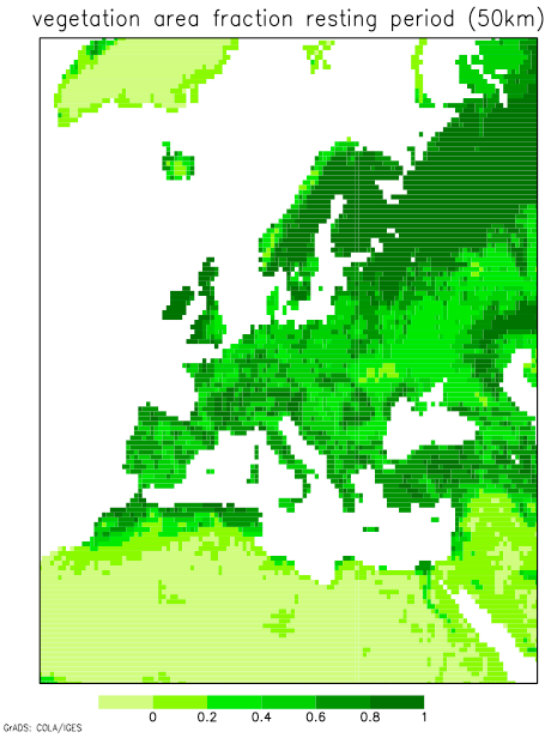

Figure 6: vegetation area fraction resting period, source: ecoclimap January

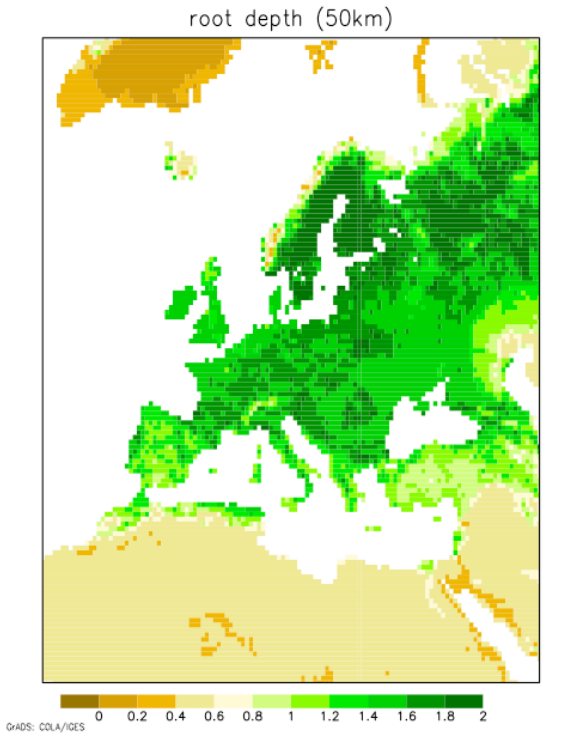

Figure 7: root depth
source: ecoclimap

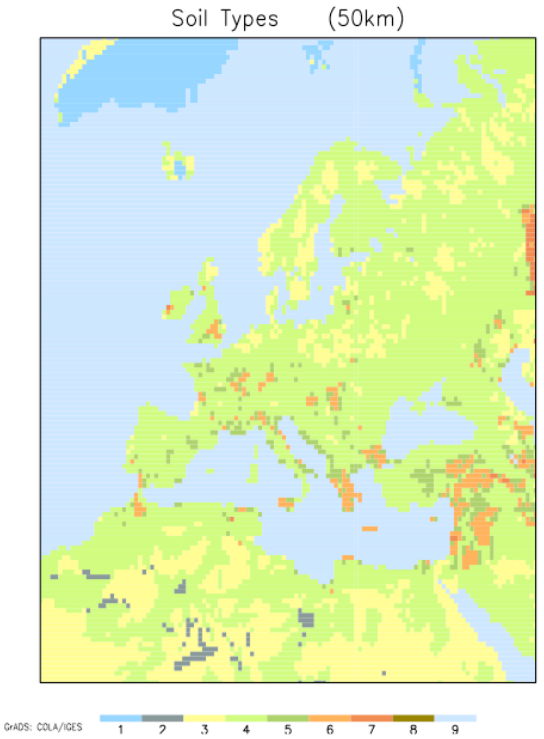

Figure 8: soil type, (1-ice, 2-rock, 3-sand, 4-sany-loam, 5-loam, 6-clay-loam, 7-clay, 8-peat, 9-sea water)
source: FAO

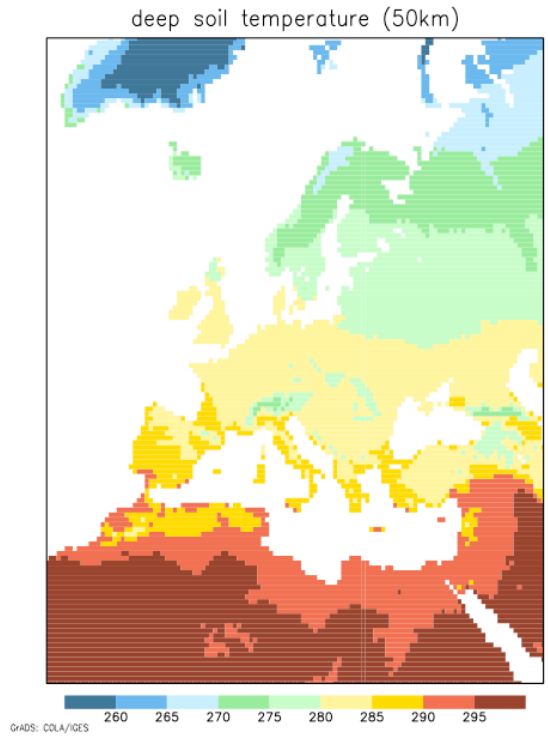

Figure 9: deep soil temperature
source: CRU

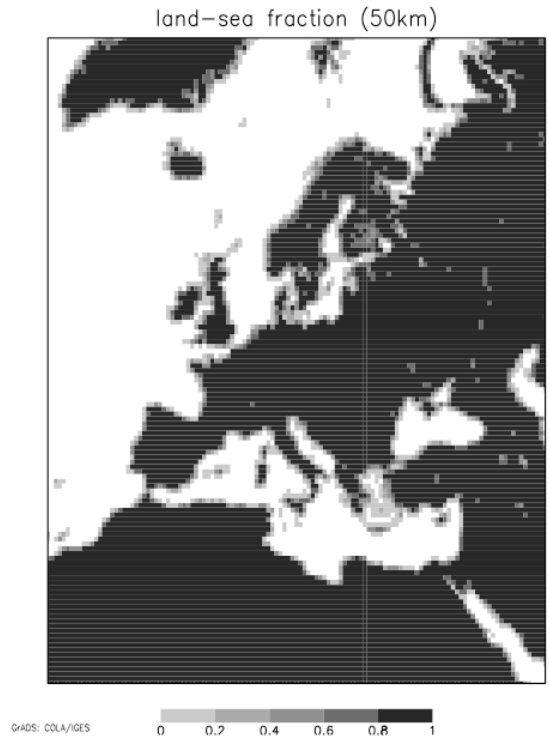

Figure 10: land-sea fraction
source: global ecosystems data

2.3 External Forcings
solar constant: 1368 W/m2
green house gas concentration: 360 ppm
aerosol: constant for rural areas, urban areas, desert areas and sea (J.F. Geleyn, ECMWF 4.11.1982)

4. Additional information on model set up

Convection scheme: Tiedke
Gust parameterisation: Goyette, S., O. Brasseur, M. Beniston: 2003, Application of a new wind gust parameterization: Multiscale case studies performed with the Canadian regional climate model, J. Geophys. Res., VOL. 108, NO. D13, 4374, doi:10.1029/202JD002646.

5. Information on the performance

The downward radiation is up to 40% too low during summer period. A possible reason may be too large cloud cover.

6. Email address for contact person:
GKSS Simulations (with spectral nudging):Burkhardt.Rockel@gkss.de
ETHZ Simulations (without spectral nudging): Daniel.luethi@env.ethz.de