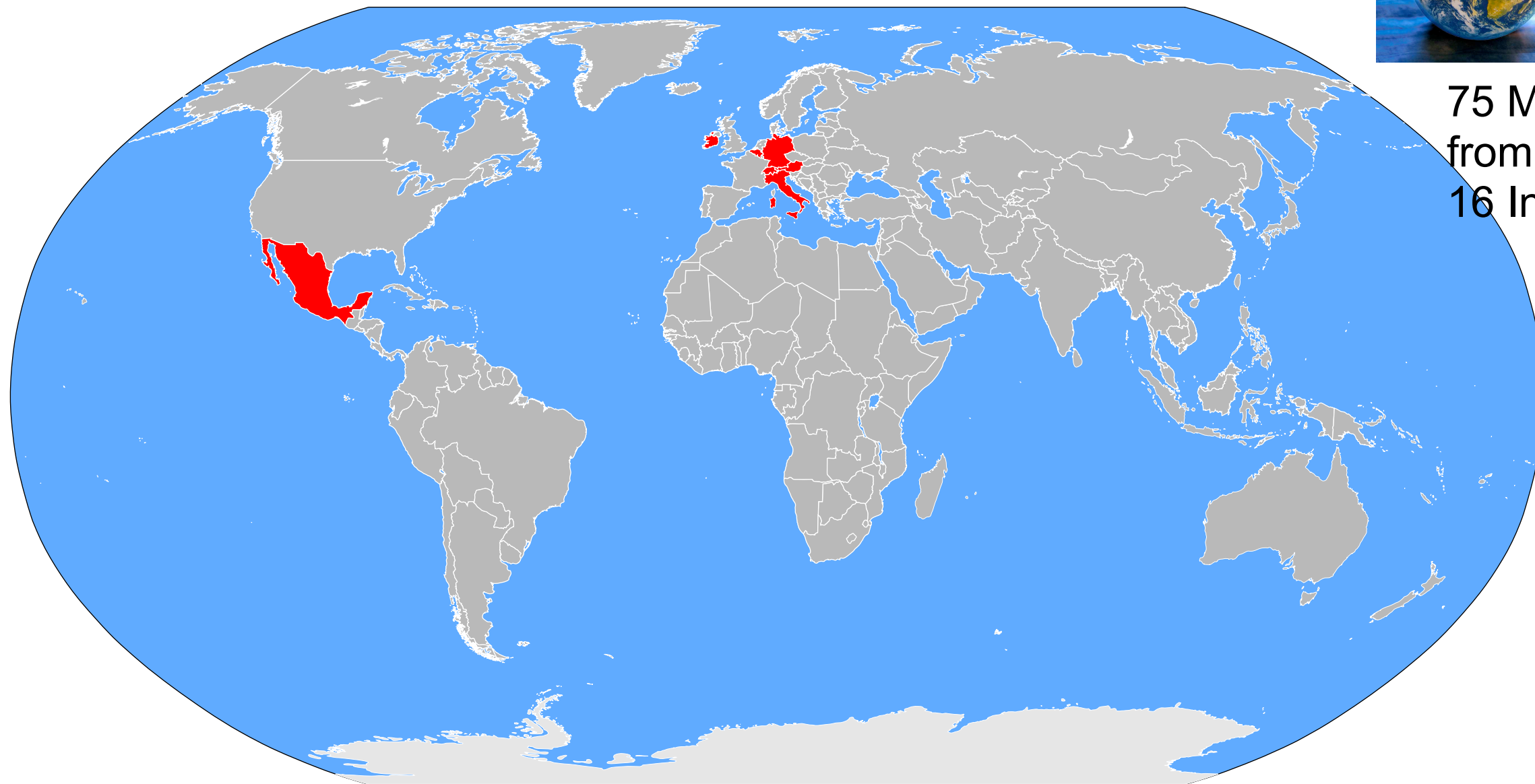


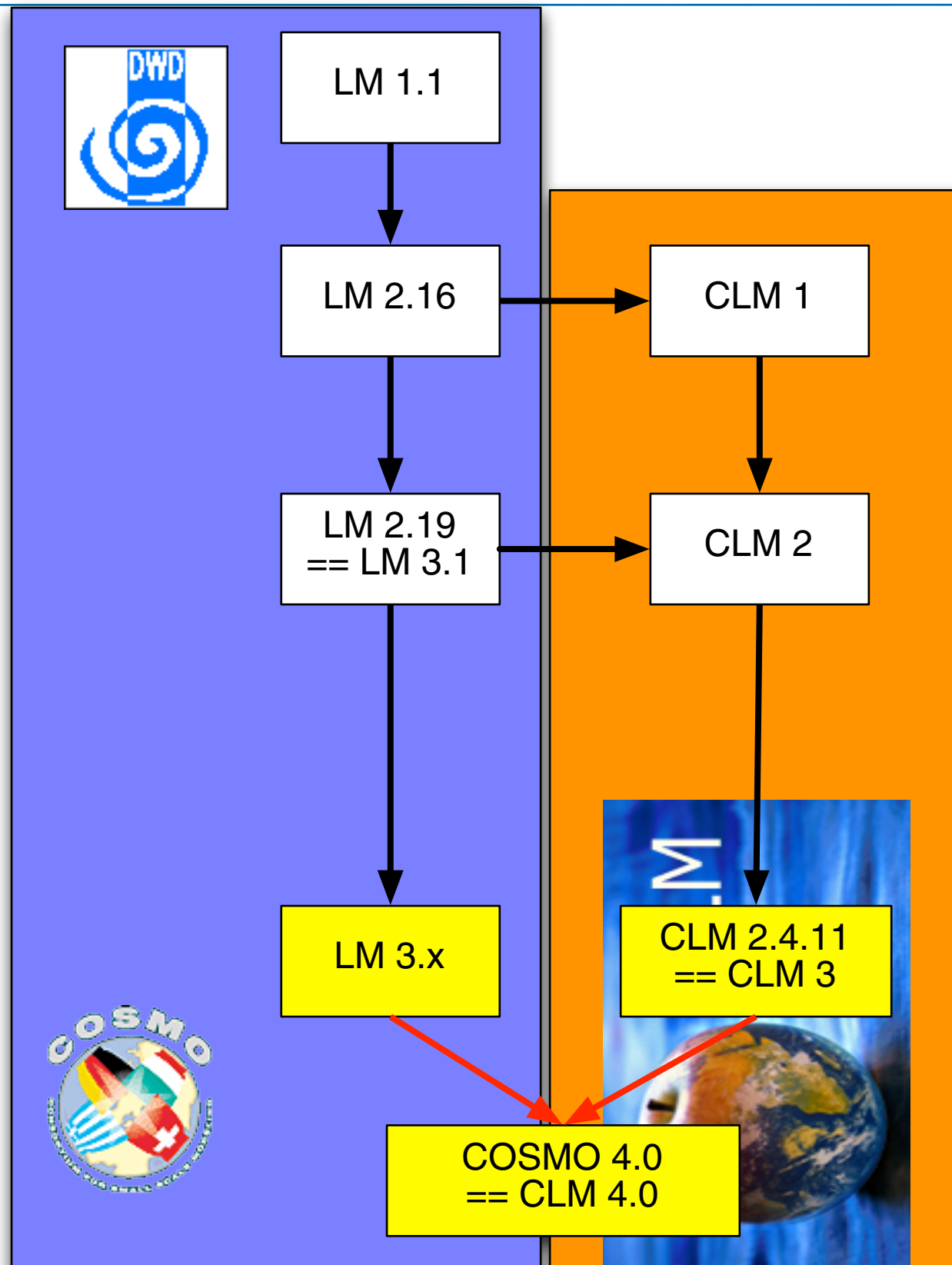


75 Members
from
16 Institutions



Application of FLake in the CLM-Community Burkhardt Rockel

COSMO (LM) / CLM History



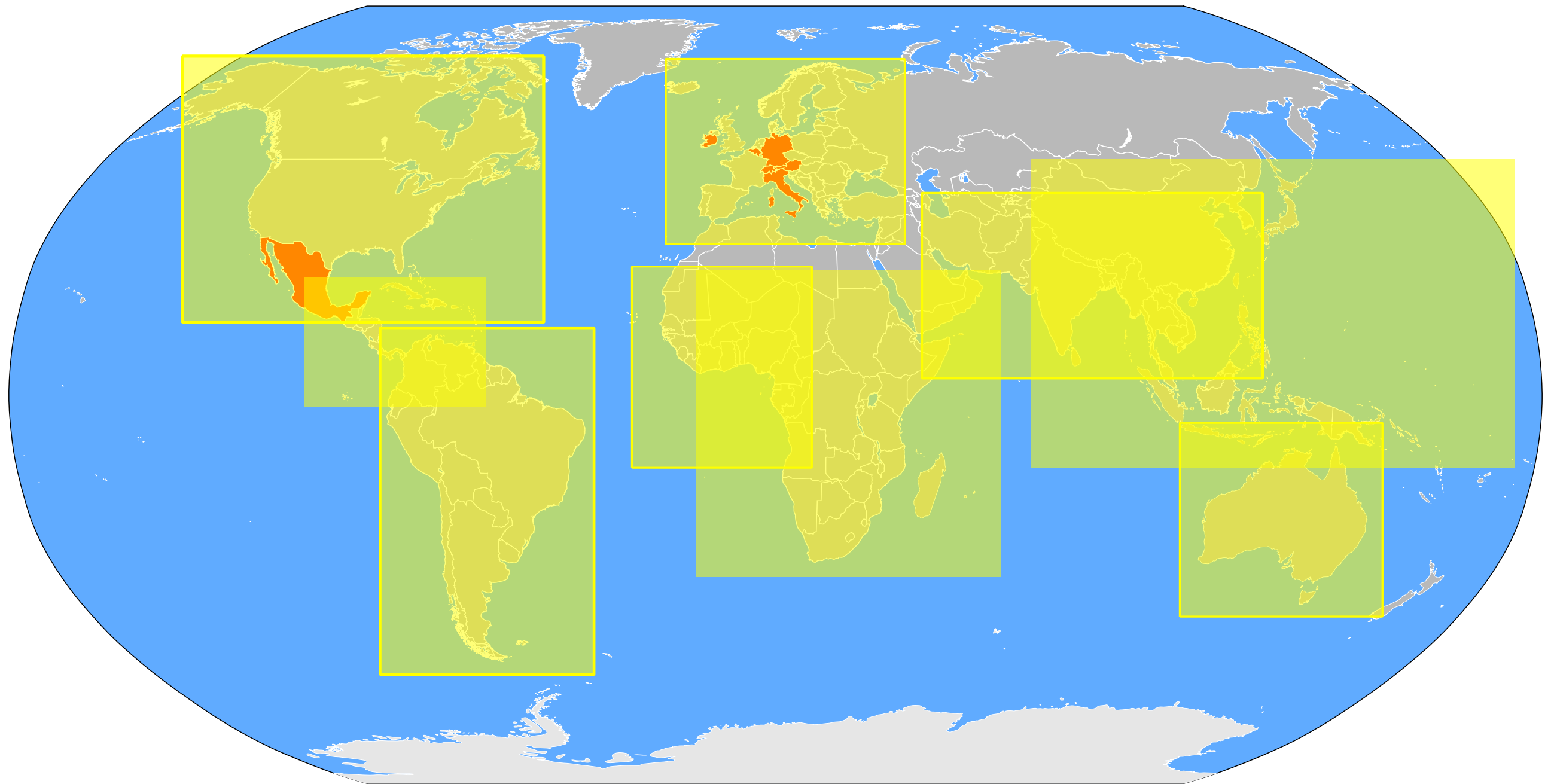
1996 1. Beta LM Version
 1998 1. official LM Version
 1999 LM operational
 1999 Start of CLM Development

2004 First Climate Scenario with CLM
 (EU Project PRUDENCE)

2005 Community Model Status

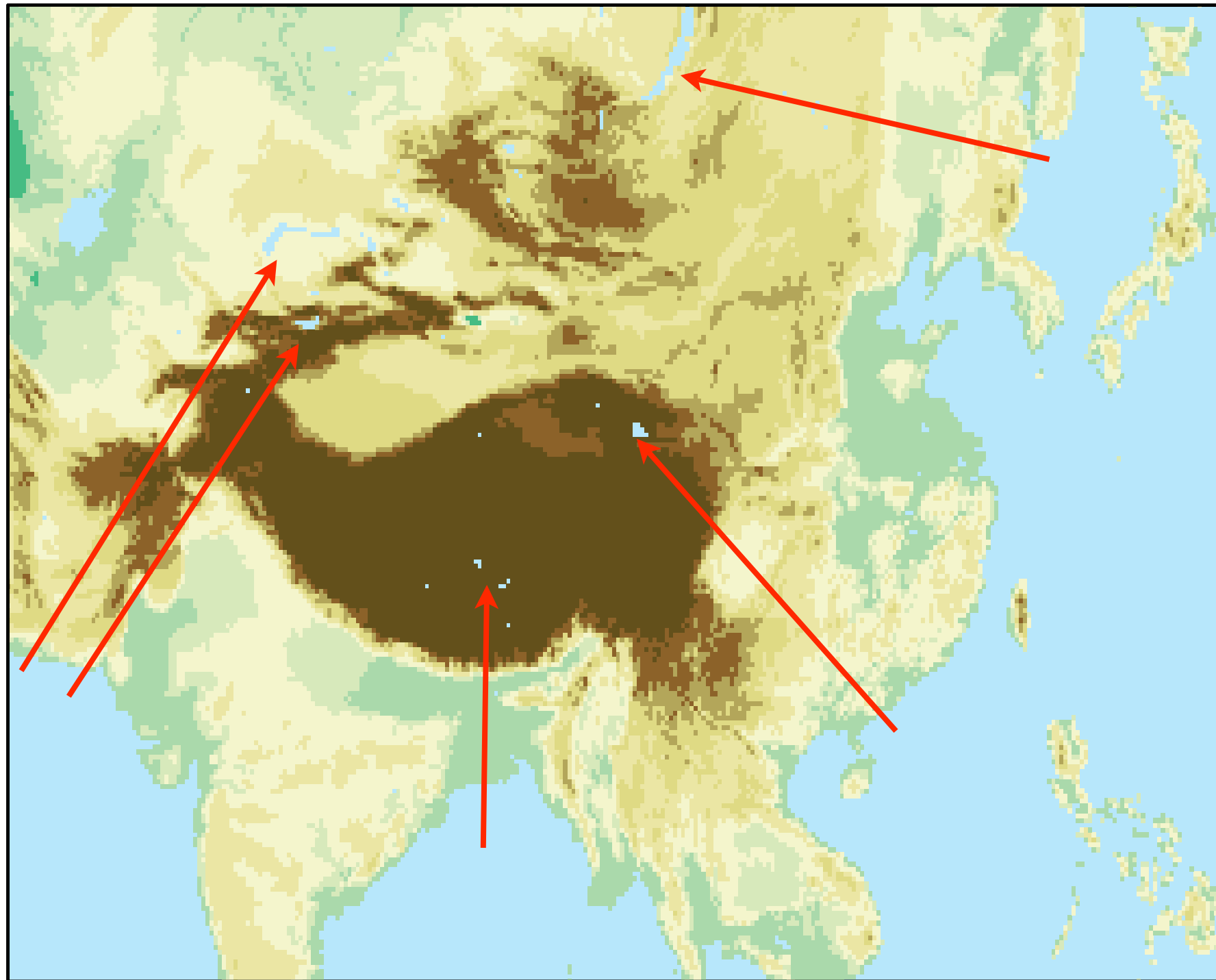
End of 2007 Merging LM and CLM into COSMO 4.0 (includes FLake)
 Climate mode of COSMO is called CCLM

CCLM Domains



Grid mesh size between 2 - 50 km

LST and SST





Climate sensitivity to renaturation of open-cast mines

Klaus Keuler, Brandenburg University of Technology, Cottbus

We intend to investigate the influence of renaturation of open-cast mines in Lusatia (southern Brandenburg) on regional (local) climate.

Here, large lignite open pits (representing some kind of desert regions) are flooded and will be changed into a number of lakes spreaded over a wide area of southern Brandenburg and eastern Saxonia.

For a number of sensitivity studies we plan to use the lake model option in CCLM on horizontal scales of kilometers. One major objective is to investigate how large the affected area of landscape changes has to be to result in a detectable climate change signal.





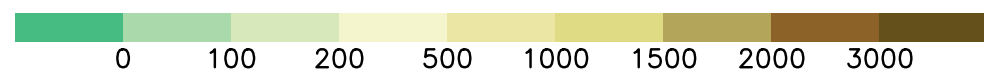
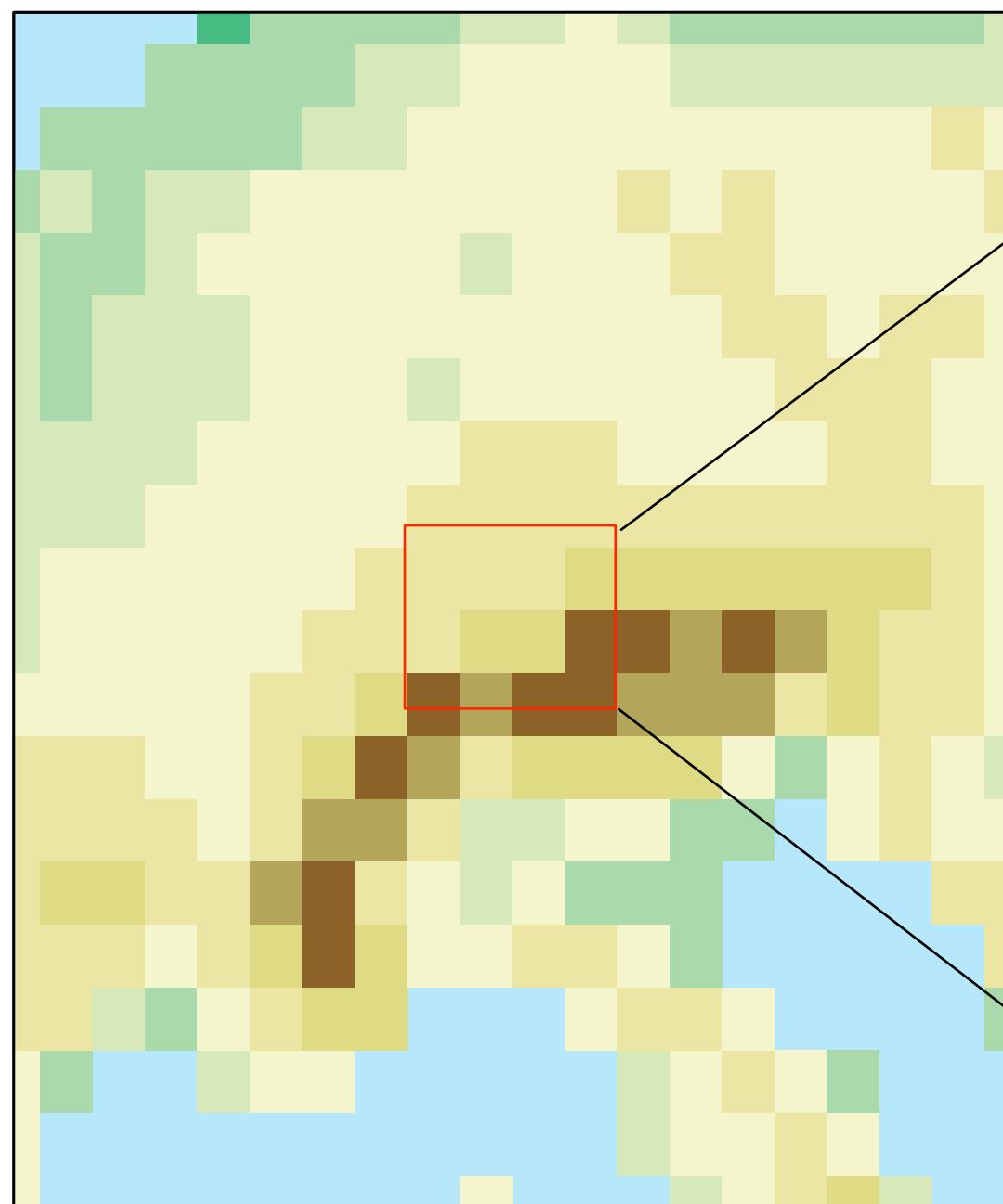


Forschungszentrum Karlsruhe
in der Helmholtz-Gemeinschaft

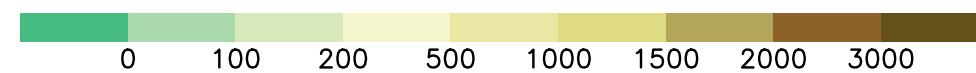
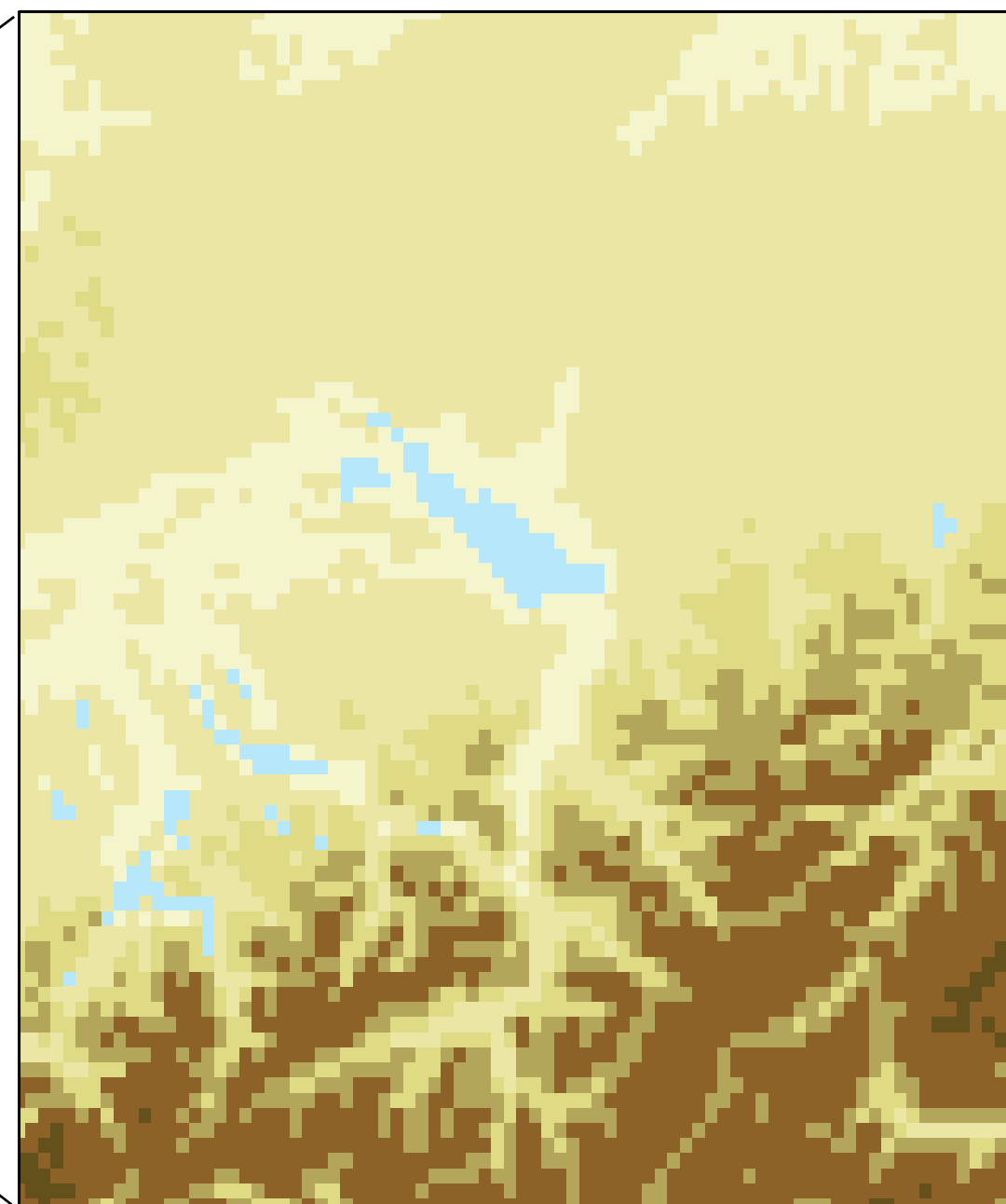
Climatology for the Lake Constance area

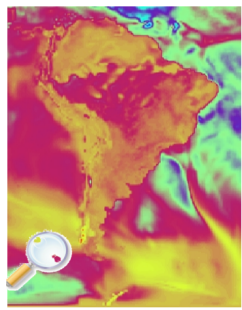
Gerd Schaedler, Research Centre Karlsruhe

$dx = 50 \text{ km}$



$dx = 3 \text{ km}$

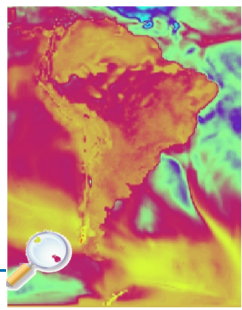




Regional climate modelling in southern South America for the Holocene and the 21st century

REGCLIMOSS

Sebastian Wagner, GKSS Research Center, Paleoclimate



Aims of the project



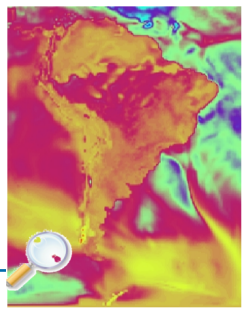
Reconstruct lake level changes during different time periods of the Holocene for lakes in central and southern South America

why ?

In the paleoclimate community, especially on the empirical proxy-related side, a large number of hypotheses for changes of large-scale phenomena (e.g. Southern Westerlies, ENSO) are based on lake level changes in the past.



To test the validity of those hypotheses it is necessary to directly model lake level changes



Approach



Forward modelling of lake levels:

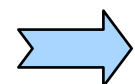
GCM: large scale forcing for CLM



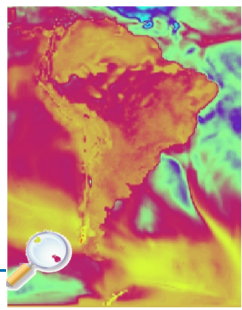
CLM: prognostic output variables for local climate controlling lake level changes
(precipitation, evaporation, humidity, surface winds)



Routine for calculation of Lake Level Changes



to assess lake level changes for multi-millennial time scales,
setup of statistical downscaling models between large scale GCM forcing and
lake level changes



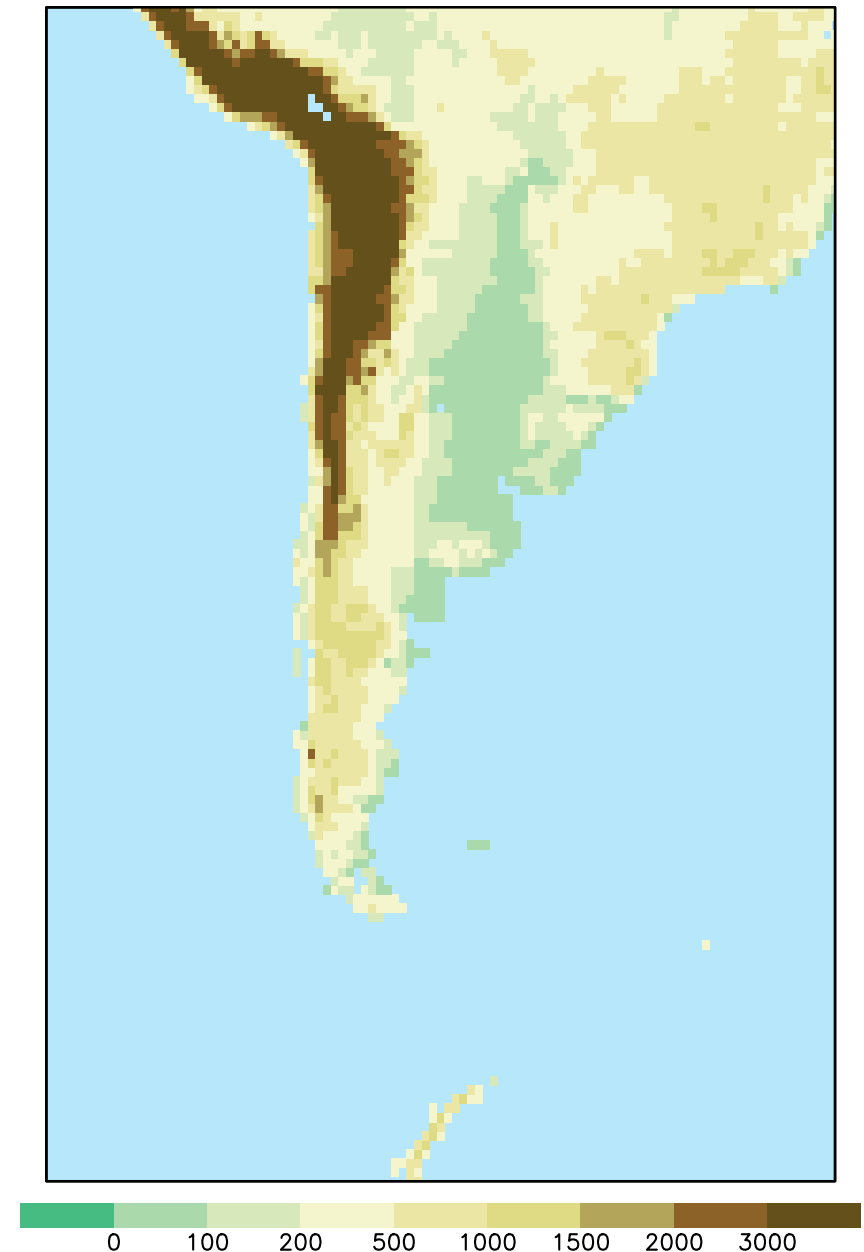
Further needs specifically for CLM



On- or offline routine estimating lake level changes based on prognostic output of CLM. This routine would be of great interest not only in the framework of the project REGCLIMOSS

For further information please send an e-mail to sebastian.wagner@gkss.de

Thank you in advance!



FLake + TERRA



Problem: low lake depth (e.g. 1m), temporal lakes (e.g. Pantanal, Camarques)

Coupling of lake model (e.g. FLake) with soil model (.e.g. TERRA) in that case?