

## Inter-Continental transferability Study ICTS

<http://icts.gkss.de>

# Present Status of Data Archive

- Results of 5 RCMs (MOLTs and gridded data) archived in the CEOP model data archive, 1 RCM in progress

Model	Simulation	CEOP Data Archive	
		Molts	Grid
CCLM			
CRCM			
GEM-LAM			
RCA3			
RegCM3			
RSM			

- Anounced in the latest GEWEX/CEOP Newsletter
- Phase 1 archiving finished

Time Period (2000)2001--2004

## MOLTS

- Reference site grid box and eight adjacent
- up to 44 quantities
- up to 39 reference site locations
- 3 hourly temporal resolution

## Gridded

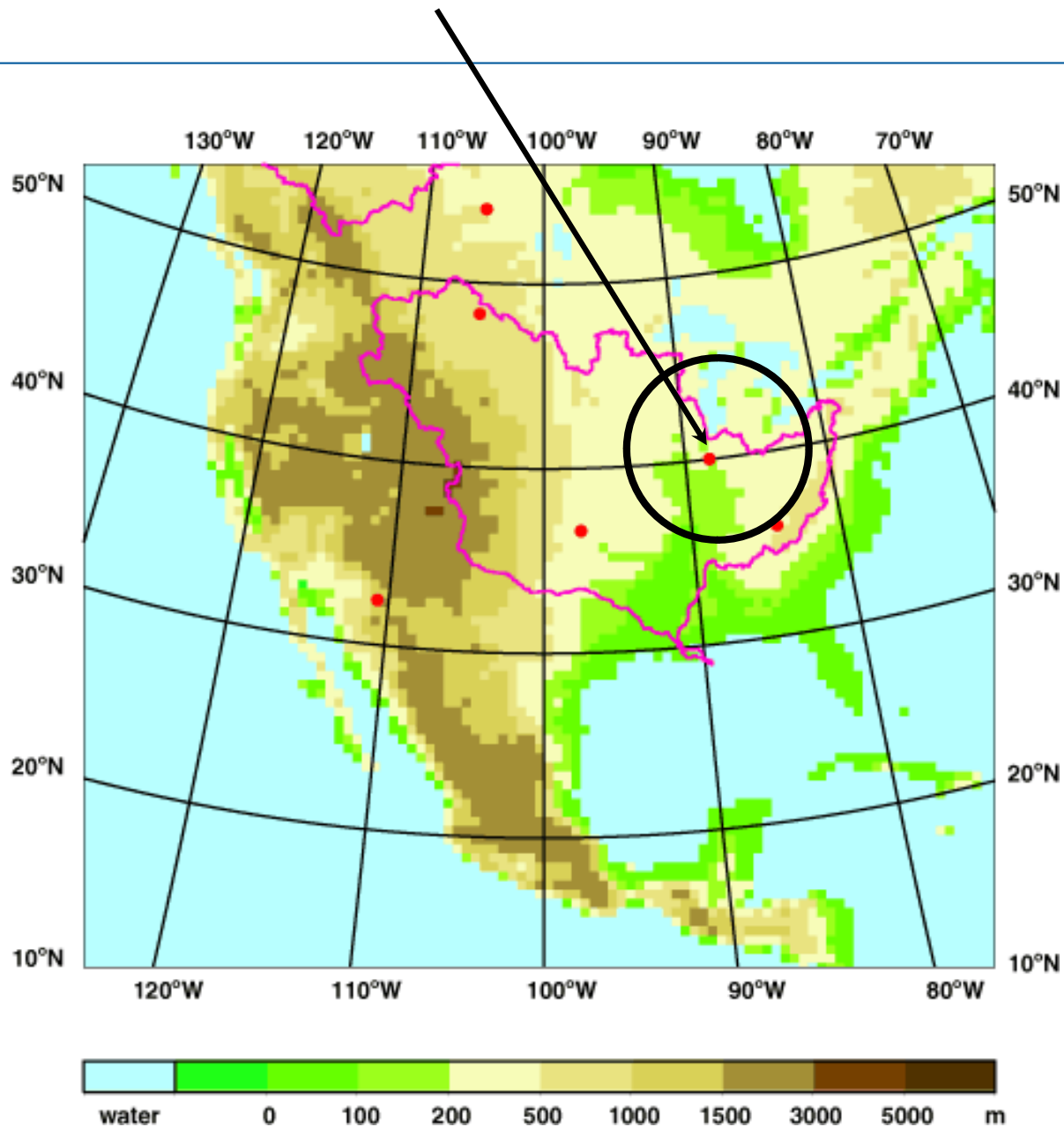
- Common grid (0.5 degrees) for seven domains
- up to 36 quantities
- daily means, sums, min/max

Details see CEOP model data archive <http://cera-www.dkrz.de/>

## Examples from Participants

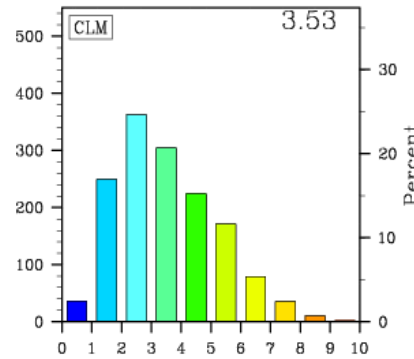
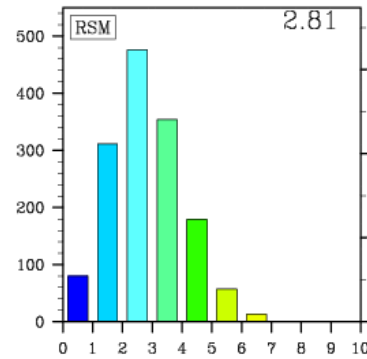
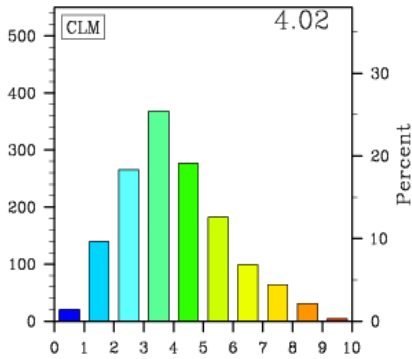
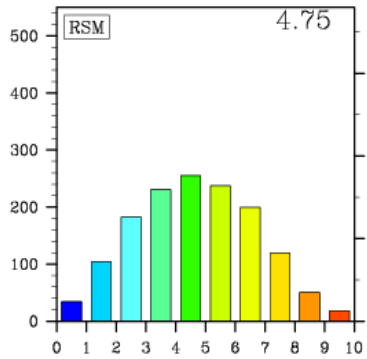
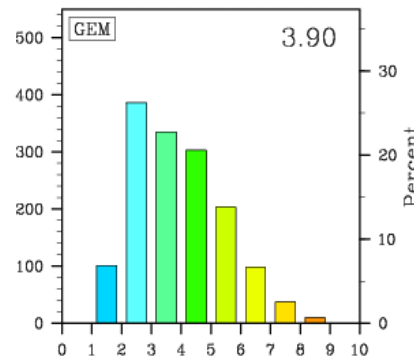
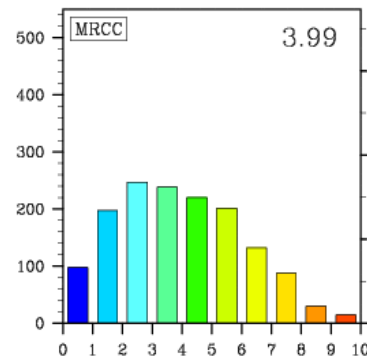
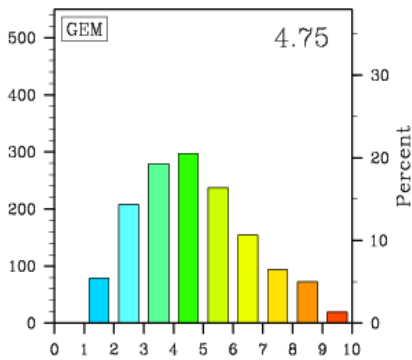
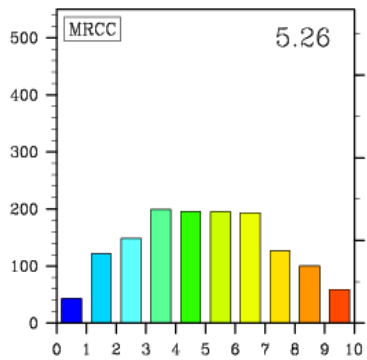
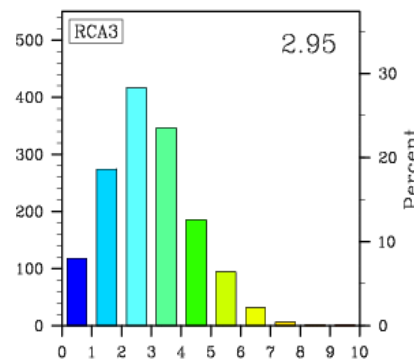
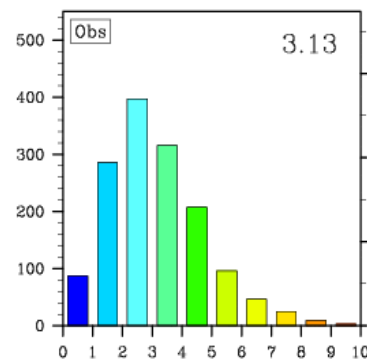
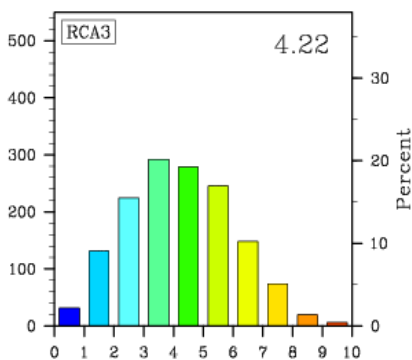
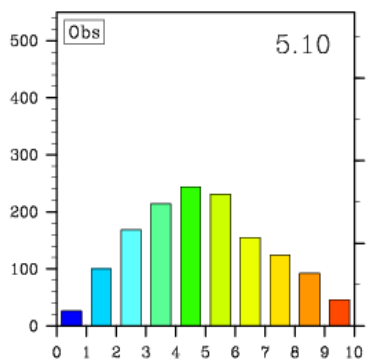
## Z. Kodhavala (University Quebec)

- MOLTS data of ICTS regional model results compared with CEOP reference sites observations (publication in preparation)

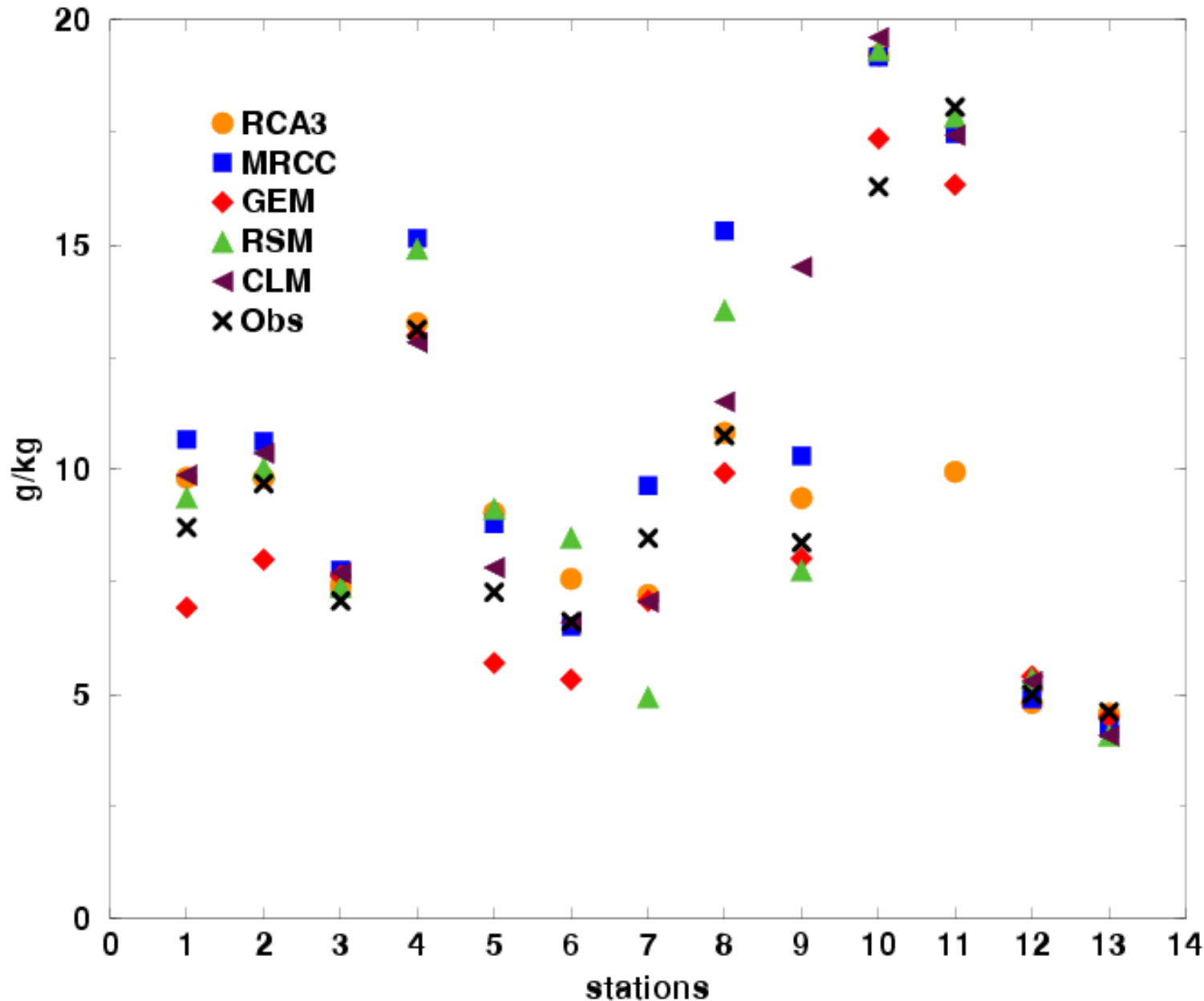


Bondville DJF 2003–2004 3-hourly wind-speed

Bondville JJA 2003–2004 3-hourly wind-speed







1. Lindenberg
2. Cabauw
3. Sodankyla
4. Bondville
5. Black Spruce
6. Mongolia
7. Tibet
8. Inner\_Mong
9. Himalayas
10. NE Thailand
11. Manaus
12. Tumbarumba
13. Barrow

## Z. Kodhavala (University Quebec)

- MOLTS data of ICTS regional model results with CEOP reference sites observations
- ICTS diagnostics web page



The screenshot shows a web browser window titled "ICTS Diagnostics" with the address bar containing "file:///Volumes/zav/icts\_plots.html". The browser's menu bar includes "NCAR library", "Traduction", "Apple Canada", "Mac", "Amazon France", "eBay France", "Yahoo!", "Informations", and "Apple". The page header features logos for UQAM (Université de Québec à Montréal), GEWEX (Worldwide Urban and Regional Experiment), CEOP, and CENTRE ESCER (Météo Québec). The main content is organized into several sections:

- GEWEX-ICTS Diagnostics**
- Hydrometeorology Time Series**
  - [Surface & wind fields](#)
  - [Fluxes & radiation fields](#)
- Frequency Histograms**
  - Surface & wind fields [DJF JJA](#)
  - Fluxes & Radiation fields [DJF JJA](#)
- Diurnal Cycle**
  - Selected fields [DJF JJA](#)
- CEOP EOP-1 vs ICTS**
  - [JAS 2001 high-frequency analyses](#)
- Participating Regional Climate Modeling Centers**

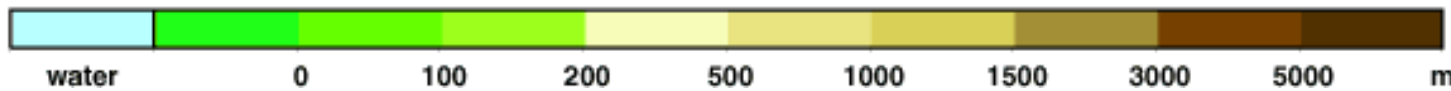
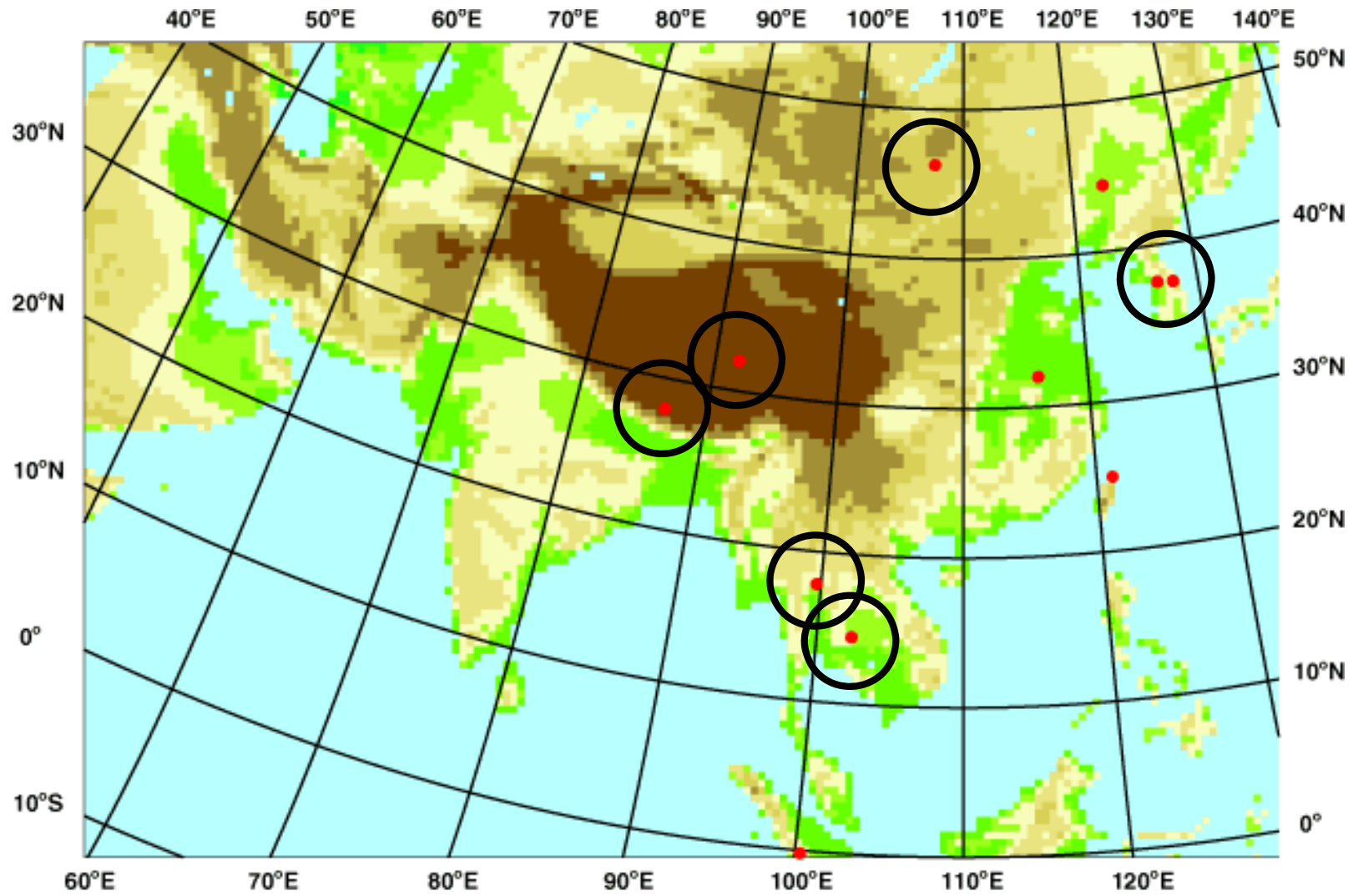
Clicking on these logos opens a new browser window!

  - SMHI
  - OSPAROM
  - Environment Canada / Environnement Canada
  - ECPC
  - GKSS FORSCHUNGSZENTRUM

D. Paquin (Ouranos) and Z. Kodhavalala (University Quebec)

- Internal variability and large-scale nudging impact study in the context of the ICTS project (internal report no 11)

Run name	CRCM version	Initial conditions	Large scale nudging
FN1	4.0.2	1 Jan 1999	yes
FN2	4.2.1	1 Jan 1999	yes
FN2T	4.2.1	1 Dec 1998	yes
FN3	4.2.1	1 Jan 1998	no
FN3T	4.2.1	1 Dec 1998	no



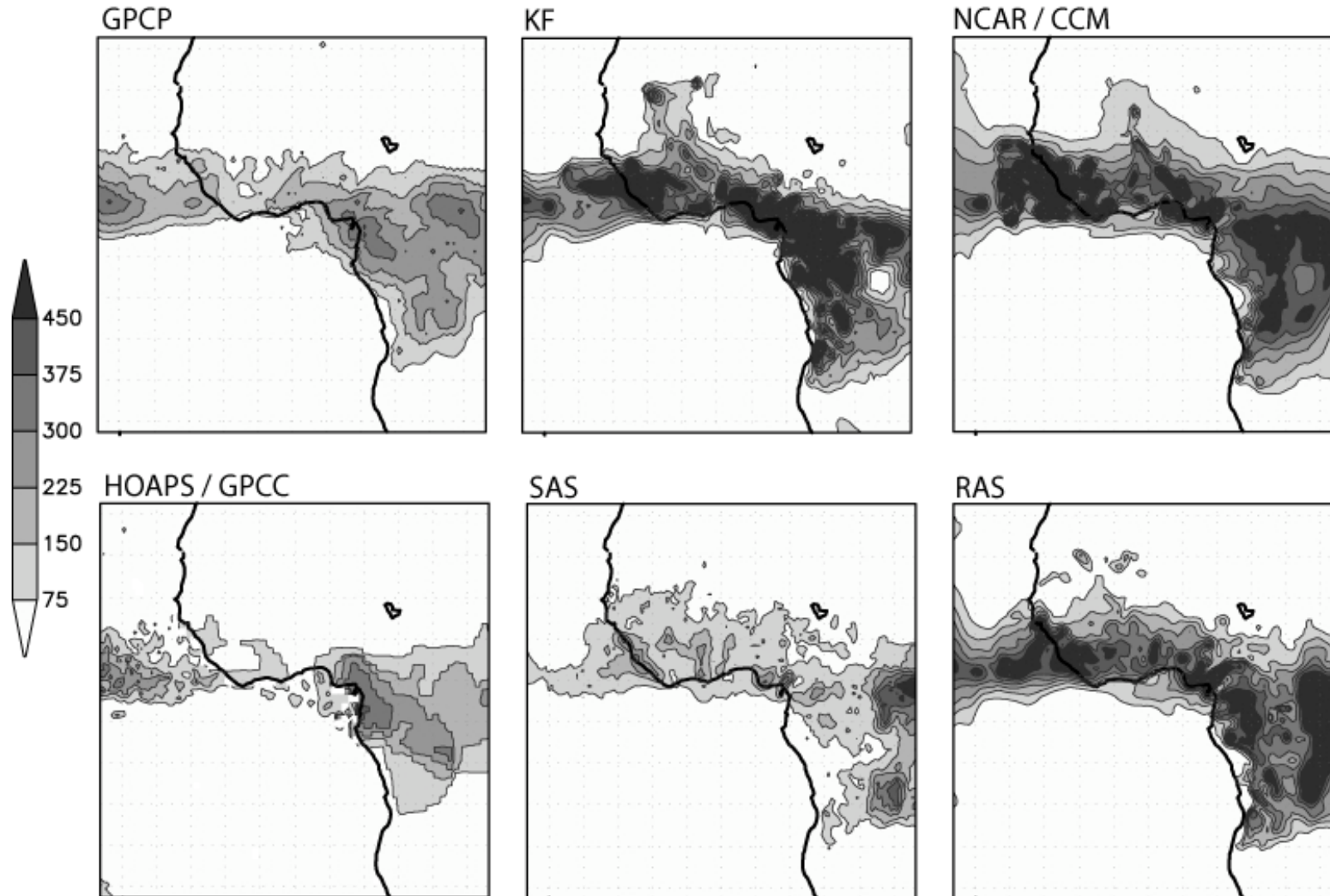
# Monthly temporal correlation of precipitation with TRMM obs 2001-2004

	Mongolia	Tibet	Inner Mongolia	Himalayas	Korean Haenam	Lampang	NE Thailand	Equatorial Island
FN1	0.69	0.86	0.81	0.91	0.60	0.75	0.42	0.37
FN2	0.69	0.85	0.83	0.91	0.77	0.72	0.50	0.44
FN2T	0.64	0.87	0.87	0.91	0.74	0.77	0.51	0.35
FN3	0.48	0.81	0.85	0.87	0.55	0.75	0.52	0.41
FN3T	0.58	0.80	0.76	0.89	0.65	0.75	0.49	0.46

- I. Meinke (GKSS, former ECPC) and J. Roads (ECPC)
- Evaluation of the RSM Simulated Precipitation During CEOP (published 2007 in CEOP special issue in J. Meteorol. Soc. Japan, Vol. 85A pp.145-166)



Monthly mean sum of precipitation (Oct 2002 - March 2003)



The sensitivity tests show that biases for most precipitation simulations can be improved for all domains using either the KF Scheme or the SAS scheme.

The ITCZ convective precipitation can be improved most by using the SAS convections scheme whereas the Monsoon convective precipitation is improved most by using the KF scheme.

For LBA, AMMA, BALTEX and MDB the SAS convection scheme is recommended

For GAME, MDB, MAGS and GAPP the KF convection scheme is recommended.

Further improvements in the parameterization of rainfall are still needed for the ITCZ as well as precipitation connected with forced lifting of air masses.

B. Rockel (GKSS) and B. Geyer (GKSS)

- The performance of the regional climate model CLM in different climate regions, based on the example of precipitation (published 2008 in Meteorol. Z., Volume 17, Number 4, pp. 487-485)

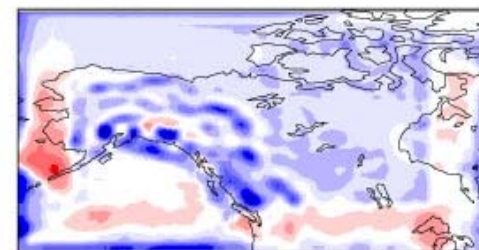
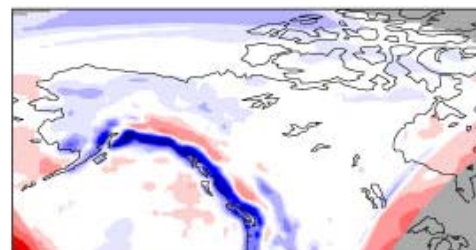
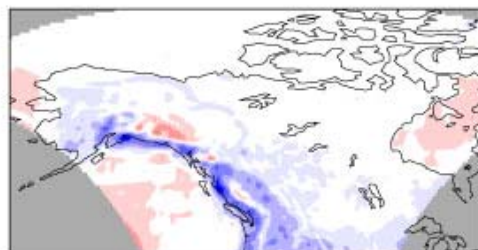
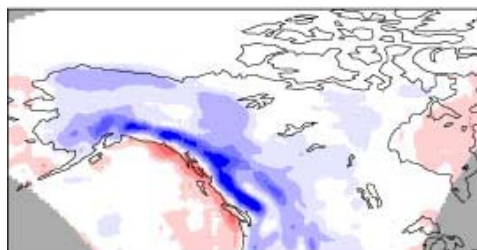
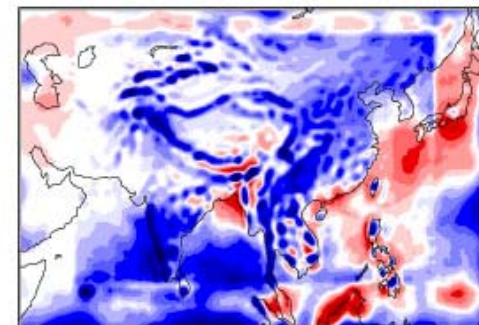
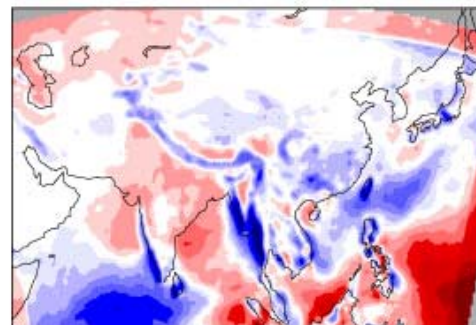
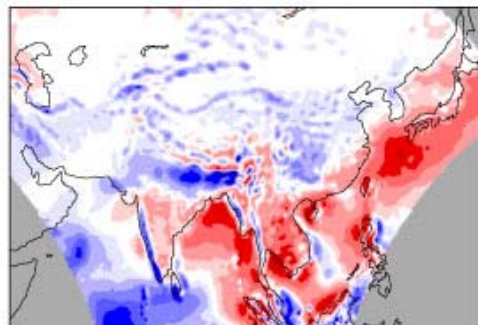
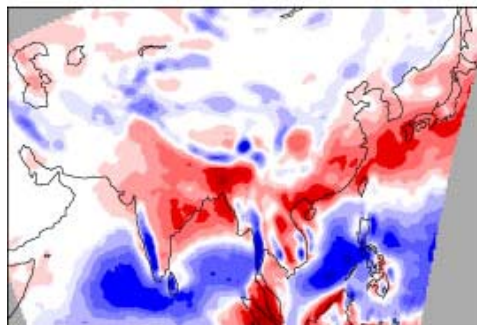
Monthly mean bias in precipitation. Model minus GPCP for 2001-2004

CLM

CRCM

GEMLAM

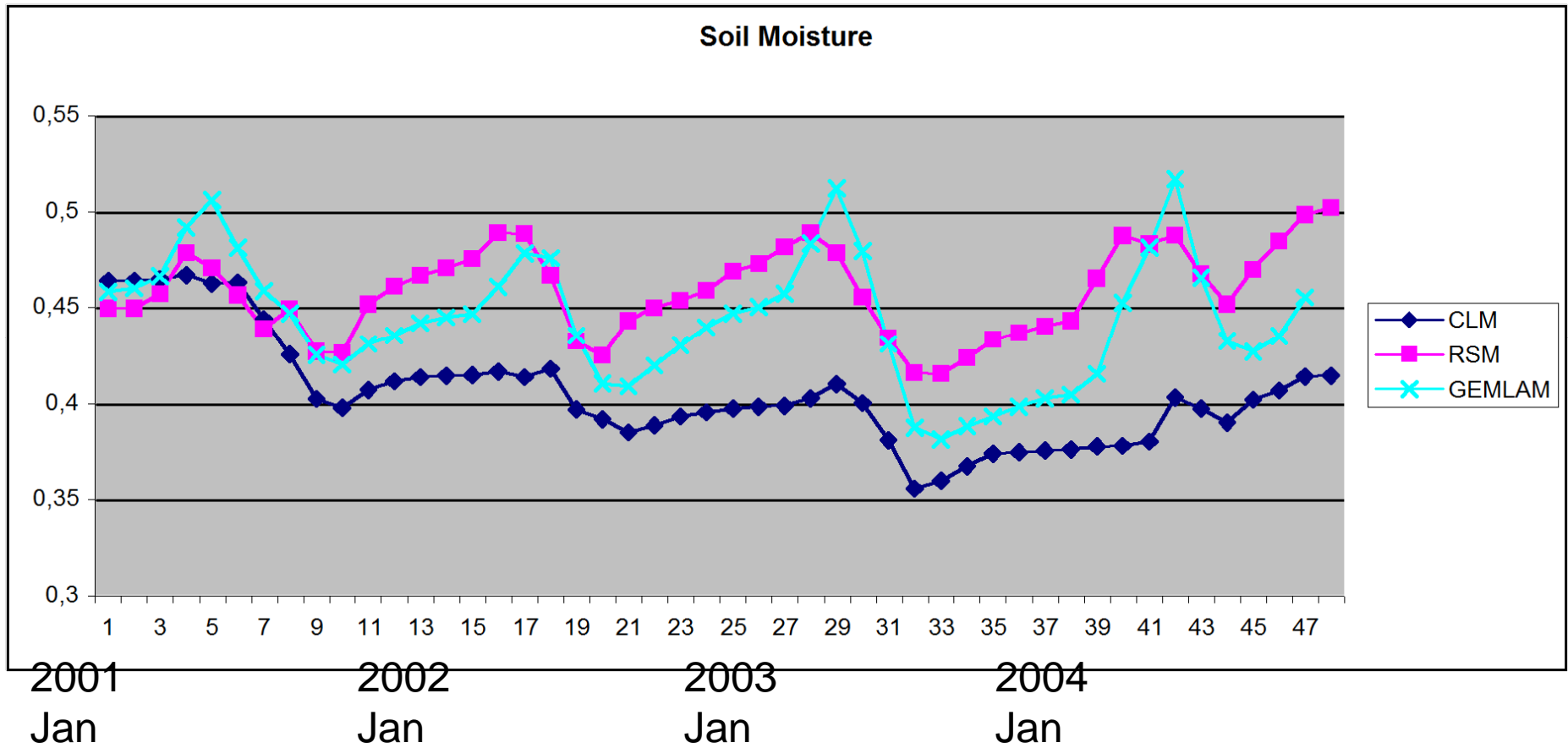
RSM



Results from ICTS RCM simulations may be used by other groups in CEOP (e.g. extremes, monsoons, high elevation).

They are available through the CEOP data archive  
<http://cera-www.dkrz.de/>

# Soil moisture (Drought Canadian Prairies)



- Further analysis and publications
  - Reference Sites <-> MOLTS
  - Global observation data <-> Gridded
  - Global model data <-> MOLTS, Gridded
  - Satellite data <-> Gridded
- Request: High resolution gridded data from RHPs
- Cooperation with other projects where also regional climate models are transferred to different regions on the globe (e.g. ENSEMBLES-AMMA)