

Meta data description for RCM model simulations in ENSEMBLES RT2B

ERA40@25 Simulations

1. General:

1.1 Name of model: Canadian RCM (CRCM)

1.2 Version: 4.2.1

1.3 Reference: Plummer, D., D. Caya, H. Côté, A. Frigon, S. Biner, M. Giguère, D. Paquin, R. Harvey and R. de Elia, 2006: Climate and Climate Change over North America as Simulated by the Canadian Regional Climate Model. *J. of Climate* **19**, 3112-3132

1.4 URL: www.ouranos.ca

2. Model setup:

2.1 Grid specifications:

2.1.1 Projection: Polar Stereographic 26.5 km true at 60N

2.1.2 Number of horizontal grid points: 209x209

2.1.3 Number vertical levels: 29 levels with model top 30km

2.1.4 Type of vertical coordinate: Gal-Chen

2.2 Soil and surface specifications

2.2.1 Name of soil and SVAT model: Canadian LAnd Surface Scheme (CLASS) version 2.7, 3 layers

2.2.2 Physiographical data

Orography, GTOPO30, figure 1.

Vegetation based on GLC2000 (Global Land Cover 2000) and Wilson and Henderson-Sellers 1 x 1 for texture data (clay and sand).

Ozone, monthly, based on K. Kita and A. Sumi, 1986. 37 levels, from surface to 0.03 hPa at each 10 degrees of latitude.

2.3 External Forcings

Solar constant : 1365 kW/m²

Green house gas concentration : transient see table 1 for typical values.

	CO2	CH4	N2O	C11	C12
1958_m01	315 x 10E-6	1.227 x 10E-6	0.29 x 10E-6	0.14 x 10E-10	0.242 x 10E-10
1960_m01	316	1.247	0.291	0.175	0.303
1970_m01	325	1.42	0.295	0.50	1.09

1980_m01	337	1.57	0.301	1.64	2.9
1990_m01	352	1.7	0.308	2.58	4.67
2000_m01					

Table 1. GHG concentration ppmv

Aerosols : SO₄, values in 1850, 1900, 1920 and then every 10 years, spatial variation. Ref. O. Boucher, M. Pham (2002), History of sulfate aerosols radiative forcings. JGR 29(9).

4. Additional information on model set up

Driving data CGCM3.1 v2, simulations mc_abv (1950-2000) and mc_aby (2001-2050). You can access the data through CCCMA web page.

http://www.cccma.bc.ec.gc.ca/eng_index.shtml

data

CGCM3

CGCM3.1/T47

20C3M for 1950-2000

SRES A1B for 2001-2050

member 4 for both cases.

5. Information on the performance

6. Email address for contact person: paquin.dominique@ouranos.ca
or cava.daniel@ouranos.ca,

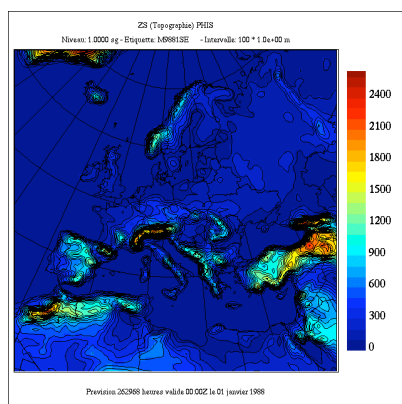


Figure 1. Orography

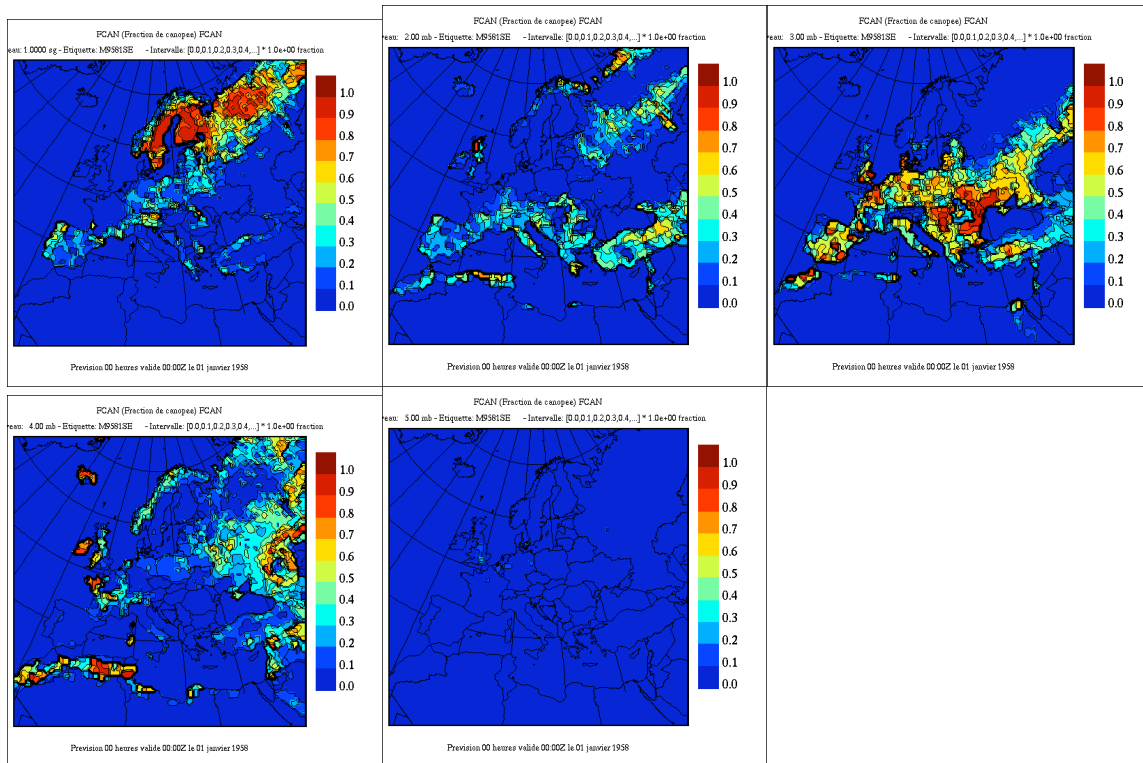


Figure 2. Soil type (%) a-coniferous b-broadleaf c-arable crops d-others e-urban

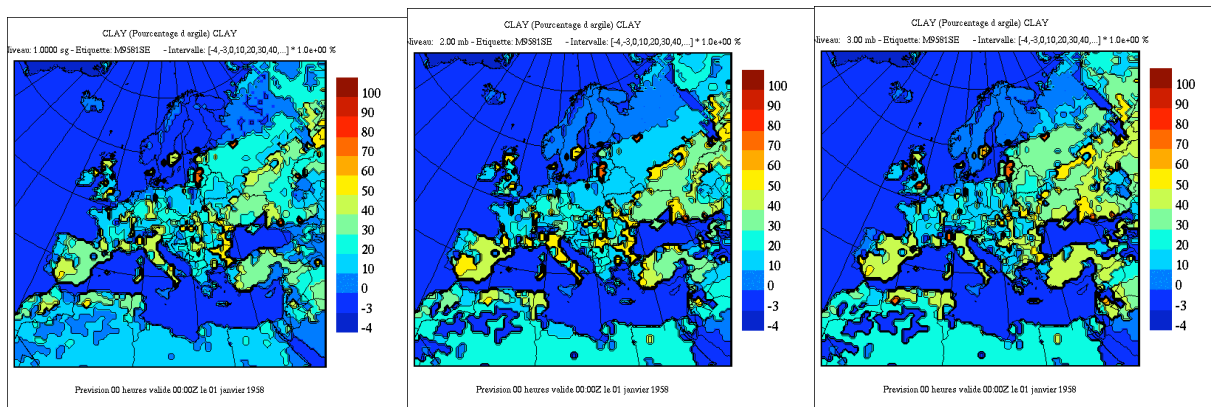


Figure 3. Clay % in each layer.

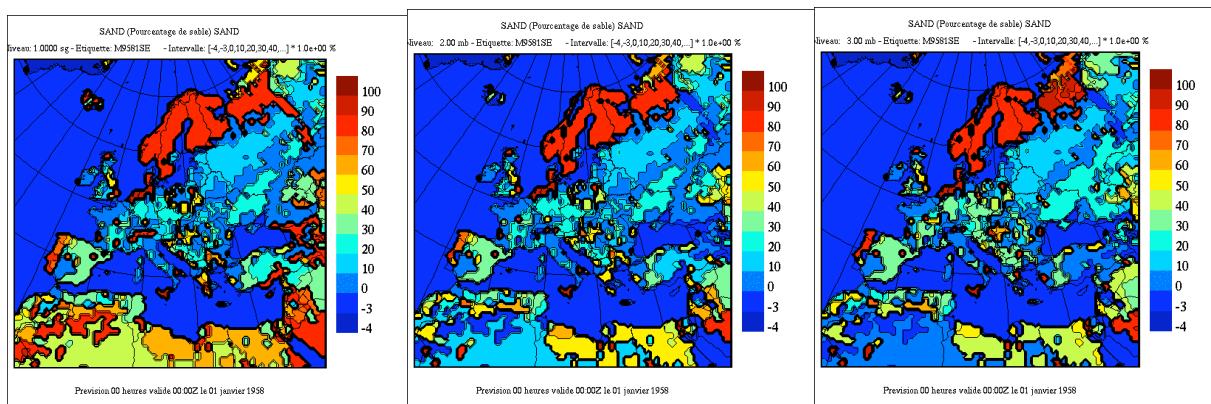


Figure 4. Sand % in each layer.