



## **European Simulations with the Canadian Regional Climate Model (CRCM).**

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In the development of the Canadian Regional Climate Model (CRCM), a particular effort has been made to insure that the CRCM can be run anywhere over the globe. However, most of the CRCM runs (and thus evaluation) were made over parts (and recently over the whole) of the Canadian territory. The actual standard CRCM domain covers a very large area extending from North Pole and Greenland to Southern Mexico. Such a vast domain covers various types of land and regions, allowing the model to be tested over different climatic regimes. However, a large domain also brings complications. Climate simulations are expensive, spectral nudging must be used to prevent RCM simulated large-scale circulation to diverge from the one in the driving data, and the sparse observational network in the northern part of the domain complicates evaluation. In order to improve CRCM evaluation, the CRCM needs to be run over different climatic regions, validated with as much as possible observations and compared with other models. Therefore, performing climate simulations over Europe is an opportunity. CRCM simulations over Europe are made with the version used operationally over North America. Same configuration (except for the different domain), period and driving data are used and thus comparison between the two simulations allows an improved evaluation of the CRCM. Results from CRCM\_ V3.7.1 simulations driven by ERA40 and NCEP NRA1 over a 40-year period covering 1959 to 1999 will be presented and compared to observations.