Use of Canadian Regional Climate Model (CRCM) data and its verification during the 1999-2004 drought over Canadian Prairies.

AKM (Hassan) Bhuiyan
and
Dr. John Hanesiak
University of Manitoba
Outline

Objective of the study

What do we want to do

Some development:
- Inter-comparison of CRCM experiment
- Monthly precipitation derived from CRCM_ade 1999-2004
- Precipitation anomalies using CANGRID data
Objective of the study

Understand better – How well the two CRCM versions simulate the physical characteristics and process of 1999-2004 drought.
What we want to do:

Compare Canadian Regional Climate Model (CRCM) data; simulation with simple surface scheme and the Canadian Land Surface Scheme (CLASS).

Compare atmospheric circulation pattern and their anomalies using different dataset to serve as ‘truth’ and validation for model simulation.
  - North American Regional Reanalysis (NARR)
  - Canadian Homogenized Historical Data (CANGRID)

Examine how well other RCM models simulated the 1999-2004 prairie drought using NARCCAP

Examine physical atmosphere-surface coupled processes over the drought period using 1-D column model.
Inter-comparison of two CRCM experiment

Experiment : abi
Model version : 3.7.1
Driving data: CGCM2 6hourly data
GHG+A evolution: Observed

Experiment : abf
Model version : 3.7.1
Driving data: NCEP/NCAR reanalysis & AMIP II ocean data
Inter-comparison of two CRCM experiment

Experiment : abf
Model version : 3.7.1
Driving data: NCEP/NCAR reanalysis & AMIP II ocean data

Experiment : ade
Model version : 4.1.1
Driving data: NCEP/NCAR reanalysis & AMIP II ocean data
Monthly precipitation in mm: 1999

Model vs. Observed

CANGRID: Homogenized Station data
Monthly precipitation in mm: 1999

January

Model vs. Observed

CANGRID: Homogenized Station data
Monthly total precipitation (mm)

Experiment: ade
Model version: 4.1.1
Driving data: NCEP/NCAR reanalysis & AMIP II ocean data
Monthly total precipitation (mm)

Experiment: ade
Model version: 4.1.1
Driving data: NCEP/NCAR reanalysis & AMIP II ocean data
Precipitation anomalies using CANGRID data


January

June
Thank You All.....