

## CanRCM4 Large Ensemble: Available Runs and Output

The CanRCM4 large ensemble consists of 50 members driven by the historical+RCP8.5 large ensemble of CanESM2. The simulations cover the North American Domain defined by the CORDEX project (<http://www.cordex.org/domains/region1-north-america/>) from 1950-2100. Data is available at 1-hourly resolution for ensemble identifiers r8i2p1 to r10i2p1, 3-hourly resolution for r1i1p1 to r7i1p1, and daily and monthly resolution for all members. Table 1 lists the variables available for each frequency.

Refer to Scinocca et al. (2016) for a description of the modelling approach.

J. F. Scinocca, V. V. Kharin, Y. Jiao, M. W. Qian, M. Lazare, L. Solheim, G. M. Flato, S. Biner, M. Desgagne, B. Dugas, Coordinated global and regional climate modeling. *J. Clim.* 29, 17–35 (2016).

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Table 1: List of variables for each frequency

Frequency	Variables	Name	Variable Unit
1 hr or 3 hr	hurs	Near-Surface Relative Humidity	%
	pr	Precipitation	kg m <sup>-2</sup> s <sup>-1</sup>
	sfcWind	Near-Surface Wind Speed	m s <sup>-1</sup>
	tas	Near-Surface Air Temperature	K
day (daily average)	huss	Near-Surface Specific Humidity	Unitless
	psl	Sea Level Pressure	Pa
	snd	Snow Depth	m
	tas	Near-Surface Air Temperature	K
	tasmx	Daily Maximum Near-Surface Air Temperature	K
	tasmin	Daily Minimum Near-Surface Air Temperature	K
fx (Fixed Time)	areacella	Atmosphere Grid-Cell Area	m <sup>2</sup>
	mrsofc	Capacity of Soil to Store Water	kg m <sup>-2</sup>
	orog	Surface Altitude	m
	rootd	Maximum Root Depth	m
	sand	Sand Percentage in each Soil Layer	%
	sftgif	Fraction of Grid Cell Covered with Glacier	%
	sftlf	Land Area Fraction	%
mon (Monthly Average)	clt	Total Cloud Cover	%
	evspsbl	Surface Evaporation	kg m <sup>-2</sup> s <sup>-1</sup>
	hfls	Surface Latent Heat Flux	W m <sup>-2</sup>
	hfss	Surface Upward Sensible Heat Flux over Sea Ice	W m <sup>-2</sup>
	hurs	Near-Surface Relative Humidity	%

hus850	Specific Humidity at 850 hPa	Unitless
huss	Near-Surface Specific Humidity	Unitless
mrfs0	Soil Frozen Water Content	kg m <sup>-2</sup>
mrro	Total Runoff	kg m <sup>-2</sup> s <sup>-1</sup>
mrros	Surface Runoff	kg m <sup>-2</sup> s <sup>-1</sup>
mrso	Total Soil Moisture Content	kg m <sup>-2</sup>
pr	Precipitation	kg m <sup>-2</sup> s <sup>-1</sup>
psl	Sea Level Pressure	Pa
rlds	Surface Downwelling Longwave Radiation	W m <sup>-2</sup>
rlus	Surface Upwelling Longwave Radiation	W m <sup>-2</sup>
rlut	TOA Outgoing Longwave Radiation	W m <sup>-2</sup>
rsds	Surface Downwelling Shortwave Radiation	W m <sup>-2</sup>
rsdt	TOA Incident Shortwave Radiation	W m <sup>-2</sup>
rsus	Surface Upwelling Shortwave Radiation	W m <sup>-2</sup>
rsut	TOA Outgoing Shortwave Radiation	W m <sup>-2</sup>
sfcWind	Near-Surface Wind Speed	m s <sup>-1</sup>
sfcWindmax	Daily Maximum Near-Surface Wind Speed	m s <sup>-1</sup>
sic	Sea Ice Area Fraction	%
snc	Snow Area Fraction	%
snd	Snow Depth	m
snm	Snow Melt	kg m <sup>-2</sup> s <sup>-1</sup>
snw	Surface Snow Amount	kg m <sup>-2</sup>
ta200	Air Temperature at 200 hPa	K
ta500	Air Temperature at 500 hPa	K
ta850	Air Temperature at 850 hPa	K
tas	Near-Surface Air Temperature	K
tasmax	Daily Maximum Near-Surface Air Temperature	K
tasmin	Daily Minimum Near-Surface Air Temperature	K
ua200	Eastward Wind at 200 hPa	m s <sup>-1</sup>
ua500	Eastward Wind at 500 hPa	m s <sup>-1</sup>
ua850	Eastward Wind at 850 hPa	m s <sup>-1</sup>
uas	Eastward Near-Surface Wind	m s <sup>-1</sup>
va200	Northward Wind at 200 hPa	m s <sup>-1</sup>
va500	Northward Wind at 500 hPa	m s <sup>-1</sup>
va850	Northward Wind at 850 hPa	m s <sup>-1</sup>
vas	Northward Near-Surface Wind	m s <sup>-1</sup>
zg200	Geopotential Height at 200 hPa	m
zg500	Geopotential Height at 500 hPa	m