

Short Update:
Hazardous Winter Precipitation
and
Drought

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Organization

1. Overall issue - winter hazardous precipitation and drought
2. Current and recent related research
3. Future plans

Winter Hazardous Precipitation

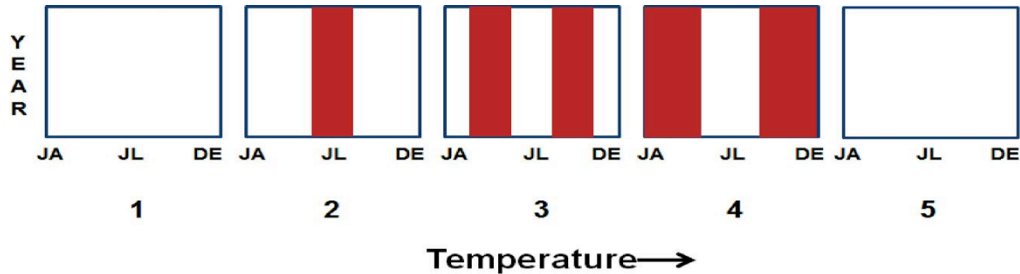
Current and recent studies include:

patterns of occurrence over central western Canada

atmospheric temperature and moisture profiles

occurrence across Canada

detailed study of past and future (WRF) occurrence over Winnipeg



Drought

No current 'direct' research but:

Closely related

Forest fires (Kochtubajda et al. 2017)

Recent relevant research

Global drought drivers (Schubert, Stewart et al. 2016)

Drought and health (Yusa et al. 2015)

2009-11 Prairie extremes (Brimelow et al. 2014)

Drought Research Initiative (finished in 2011)

Drought structure and catastrophic precipitation events

*A Review and Synthesis of Future Earth System Change in Central Western Canada:
Part I - Climate and Meteorology
Part II - Landscapes, Cryosphere and Hydrology*

Hydrology and Earth System Sciences

Overall objective: Summarize and synthesize our collective assessments of future conditions across the CCRN domain and to identify key scientific gaps that need to be addressed.

The breadth of CCRN is so large that this overall issue cannot be addressed within one article. It is broken into parts as follows:

Part 1: atmosphere and climate

Part 2: surface and sub-surface including hydrology and ecosystems

NEXT - a few thoughts

Hazardous winter precipitation

WRF dataset(s) including PGW and later simulations

Manitoba and ___ hazardous winter precipitation

Marginal situations (not widespread yet significant impact)

Drought

Instances of particular interest - Manitoba Hydro related + _____

Evolution and internal structure (using WRF...)

Role of wind/ends and edges

Overall - Extremes in general, common/unique conditions

Linkages between (or not) and sequencing