

Metadata

Dataset Name	Projections and Physical Drivers of Extreme Precipitation in Greenland & Baffin Bay
Dataset General Type	Climate model
Dataset Type	Dataset
Dataset Level	2
Program Website	
Keyword Vocabulary	
Keyword Vocabulary URL	
Theme	
Dataset Status	In Progress
Maintenance and Update Frequency	Not planned
Dataset Last Revision Date	2024-04-30
Dataset DOI	
Metadata Creation Date	2024
Publisher	CanWIN
Dataset Authors	
Dataset Authors 1	

Name Loeb, Nicole
Type of Name Personal
Email loebn@myumanitoba.ca
Affiliation Clayton H. Riddell Faculty of Environment, Earth, and Resources - University of Manitoba
ORCID ID

Contributors

Contributors 1

Name Crawford, Alex
Role Supervisor
Email alex.crawford@umanitoba.ca
Affiliation Clayton H. Riddell Faculty of Environment, Earth, and Resources - University of Manitoba
ORCID ID

Contributors 2

Name Stroeve, Julianne
Role Supervisor
Email julienne.stroeve@umanitoba.ca
Affiliation Clayton H. Riddell Faculty of Environment, Earth, and Resources - University of Manitoba
ORCID ID

Contributors 3

Name Herrington, Adam
Role ProjectMember
Email
Affiliation
ORCID ID

Contributors 4

Name Hanesiak, John
Role ProjectMember
Email john.hanesiak@umanitoba.ca
Affiliation Clayton H. Riddell Faculty of Environment, Earth, and Resources - University of Manitoba
ORCID ID

Contributors 5

Name McCrystall, Michelle
Role ProjectMember
Email
Affiliation
ORCID ID

Project Data Curator Crawford, Alex

Project Data Curator email alex.crawford@umanitoba.ca

Project Data Curator Affiliation

Dataset Collection Start Date 1979-01-01

Dataset Collection End Date 2100-01-01

Sample Collection

Sample Collection 1

Sampling Instrument Name

**Standardized
Sampling
Instrument
Name**

**Sample
Collection
Method Name**

Comment

Method Link

**Method
Summary**

**Method
Description
Type** Methods

**Activity
Collection
Type**

**Preferred
citation**

**Analytical
Instrument**

**Analytical
Instrument 1**

**Analytical
Instrument
Name**

**Standardized
Analytical
Instrument
Name**

**Analytical
Instrument
Identifier Id**

**Analytical
Instrument
Title Type** Alternative Title

**Analytical
Instrument
Identifier Type**

**Analytical
Method**

**Analytical
Method 1**

**Analytical
Method Name**

Method Link

**Method
Summary**

Laboratory

Comments

**Variables
Measured**

**License
Name** Creative Commons Attribution 4.0 International

**Licence
Type** Open

**Embargo
Date**

Licence URL <https://spdx.org/licenses>

**Terms of
Access** CanWIN datasets are licensed individually, however most are licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) Public License. Details for the licence applied can be found using the Licence URL link provided with each dataset. By using data and information provided on this site you accept the terms and conditions of the License. Unless otherwise specified, the license grants the rights to the public to use and share the data and results derived therefrom as long as the proper acknowledgment is given to the data licensor (citation), that any alteration to the data is clearly indicated, and that a link to the original data and the license is made available.

**Terms of
Use** By accessing this data you agree to [CanWIN's Terms of Use](/data/publication/canwin-data-statement/resource/5b942a87-ef4e-466e-8319-f588844e89c0).

Awards

Awards 1

Award Title

Website

Funder Name

**Funder
Identifier Code**

**Funder
Identifier Type**

**Funder
Identifier
Scheme**

Grant Number

Related Resources

Related Resources 1

Related Resource Name

Resource Code

Identifier Type

Relationship To This Dataset

Resource Type Online Resource

Type

Series Name

Publications

Publications 1

Publication Name

Identifier Code

Identifier Type

Relationship to this dataset

Resource Type Online Resource

Publication Type

Spatial regions

greenland

Spatial extent West Bound Longitude

Spatial extent East Bound Longitude

**Spatial
extent South
Bound
Latitude**

**Spatial
extent North
Bound
Latitude**

Data and Resources

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/d05ffeb0-3f3f-4753-bc79-c7ac0a01b130/download/readme.docx
Name	README
Description	Additional metadata for files in this dataset (e.g., variable and unit explanations).
Format	DOCX
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/043937f6-4fa4-4c47-981a-249e81d7a306/download/regional_monthly_total_ex_precip.csv
Name	Regional Monthly Total Extreme Precipitation
Description	Average monthly accumulations from extreme precipitation days in each subregion. Columns: subregion – name of subregion month – month (1-12) hist – subregion mean monthly accumulation from extreme days in VR-CESM HIST [mm] fut – subregion mean monthly accumulation from extreme days in VR-CESM FUT [mm] era – subregion mean monthly accumulation from extreme days in ERA5 [mm]
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/1e939c7e-5b09-4c1e-a125-fee3b00e4a5e/download/subregion_mean_ex_thres.csv
Name	Subregion Mean Extreme Threshold
Description	Average extreme daily precipitation thresholds for each dataset for each subregion. Columns: subregion – name of subregion hist – extreme daily precipitation threshold for VR-CESM HIST [mm] fut – extreme daily precipitation threshold for VR-CESM FUT [mm] era – extreme daily precipitation threshold for ERA5 [mm]
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/3e584b5b-5b04-4656-8c7b-d9189912e0e5/download/baffin_distribution_5mm.csv
Name	Baffin Distribution - 5 mm
Description	Daily precipitation distribution for Baffin Island in the domain in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/407ac825-5706-4ae3-8fa7-2f5854782dd6/download/devon_distribution_5mm.csv
Name	Devon Distribution - 5 mm
Description	Daily precipitation distribution for Devon Island in the domain in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/04efa958-9723-4885-a29c-7af019b1807b/download/ellesmere_distribution_5mm.csv
Name	Ellesmere Distribution - 5 mm
Description	Daily precipitation distribution for Ellesmere Island in the domain in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/128b5d90-06cd-4ba8-8e64-61a4d8b27352/download/ne_distribution_5mm.csv
Name	Northeast Greenland Distribution - 5 mm

Description	Daily precipitation distribution for Northeast Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/a253793e-976c-4bd7-a20e-6c5996efc9b6/download/no_distribution_5mm.csv
Name	North Greenland Distribution - 5 mm
Description	Daily precipitation distribution for North Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/8bedafa3-c610-4d9f-8785-4e59518b96de/download/nw_distribution_5mm.csv
Name	Northwest Greenland Distribution - 5 mm
Description	Daily precipitation distribution for Northwest Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/392340a8-3b13-405e-8224-92f47b132bf4/download/cw_distribution_5mm.csv
Name	Central West Greenland Distribution - 5 mm
Description	Daily precipitation distribution for Central West Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV

Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/75349ab4-ee15-4579-89d7-3738096adb05/download/se_distribution_5mm.csv
Name	Southeast Greenland Distribution - 5 mm
Description	Daily precipitation distribution for Southeast Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/708a699a-c228-4b41-a7b0-0b0ffb58eef8/download/sw_distribution_5mm.csv
Name	Southwest Greenland Distribution - 5 mm
Description	Daily precipitation distribution for Southwest Greenland in 5 mm accumulation bins. Columns: bin – upper value of accumulation bin [mm] hist – number of occurrences of that accumulation in VR-CESM HIST (1980-1999) fut – number of occurrences of that accumulation in VR-CESM FUT (2080-2099) era – number of occurrences of that accumulation in ERA5 (1980-1999) Note: 1 occurrence = 1 day in 1 grid cell
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/bd634cf1-2d24-4f60-a947-ba3d5a73148c/download/historical_era5_annual_values.nc
Name	Historical Annual Precipitation Values - ERA5
Description	Historical precipitation summary from ERA5. Variables: ann_precip: mean annual precipitation [mm] ex_thres: extreme daily precipitation threshold [mm] ex_precip: mean annual accumulation from extreme precipitation days [mm]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/f91f5e50-8513-4a15-b7ad-4a653080c752/download/historical_cesm2.2_annual_values.nc
Name	Historical Annual Precipitation Values - CESM2.2
Description	Historical precipitation summary from CESM2.2. Variables: ann_precip: mean annual precipitation [mm] ex_thres: extreme daily precipitation threshold [mm]

Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/aa657756-48a6-47df-93c8-f6f42ecf340b/download/historical_vrcesm_annual_values.nc
Name	Historical Annual Precipitation Values - VR-CESM HIST
Description	Historical precipitation summary from VR-CESM HIST. Variables: ann_precip: mean annual precipitation [mm] ex_thres: extreme daily precipitation threshold [mm] ex_precip: mean annual accumulation from extreme precipitation days [mm]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/5898698b-51ea-463f-b4e6-e442dd8c151c/download/annual_cyclone_track_density.nc
Name	Annual Cyclone Track Density
Description	Average annual cyclone track densities for ERA5 and VR-CESM simulations. Variables: hist_trkdens: average annual track density in VR-CESM HIST [Tracks per 40,000 km2] fut_trkdens: average annual track density in VR-CESM FUT [Tracks per 40,000 km2] era_trkdens: average annual track density in ERA5 [Tracks per 40,000 km2]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/ac39363c-22b1-4671-9166-52c0cab80b52/download/annual_ar_days.nc
Name	Annual Atmospheric River Days
Description	Average annual number of days each grid cell is impacted by an AR for ERA5 and VR-CESM simulations. Variables: hist_ar_days: average annual number of AR days in VR-CESM HIST [days/year] fut_ar_days: average annual number of AR days in VR-CESM FUT [days/year] era_ar_days: average annual number of AR days in ERA5 [days/year]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/7598c824-c749-4140-a9b8-e1990887c7b5/download/annual_ex_day_associations.nc
Name	Annual Extreme Precipitation Association with Cyclones and Atmospheric Rivers

Description	Percent of all annual extreme precipitation days in each grid cell occurring with a cyclone and/or an AR present in the same grid cell for ERA5 and VR-CESM simulations. Variables: hist_ex_cap: percent of all extreme precipitation days in VR-CESM HIST occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] hist_ex_ar_cap: percent of all extreme precipitation days in VR-CESM HIST occurring with both a cyclone and an AR present [%] hist_ex_ar: percent of all extreme precipitation days in VR-CESM HIST occurring with an AR present [%] fut_ex_cap: percent of all extreme precipitation days in VR-CESM FUT occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] fut_ex_ar_cap: percent of all extreme precipitation days in VR-CESM FUT occurring with both a cyclone and an AR present [%] fut_ex_ar: percent of all extreme precipitation days in VR-CESM FUT occurring with an AR present [%]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/222e5af4-93c6-46a1-a938-5575a0b3d425/download/seasonal_cyclone_track_density_jfm.nc
Name	Winter (JFM) Cyclone Track Density
Description	Average seasonal cyclone track densities for JFM (winter) for ERA5 and VR-CESM simulations. Variables: hist_trkdens: average seasonal track density in VR-CESM HIST [Tracks per 40,000 km2] fut_trkdens: average seasonal track density in VR-CESM FUT [Tracks per 40,000 km2] era_trkdens: average seasonal track density in ERA5 [Tracks per 40,000 km2]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/e2fcd9a2-04ab-4ebb-9861-d6246e2ea132/download/seasonal_cyclone_track_density_jas.nc
Name	Summer (JAS) Cyclone Track Density
Description	Average seasonal cyclone track densities for JAS (summer) for ERA5 and VR-CESM simulations. Variables: hist_trkdens: average seasonal track density in VR-CESM HIST [Tracks per 40,000 km2] fut_trkdens: average seasonal track density in VR-CESM FUT [Tracks per 40,000 km2] era_trkdens: average seasonal track density in ERA5 [Tracks per 40,000 km2]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/9431a6d8-785c-4c33-a70e-00f76e9c477c/download/seasonal_ar_days_jfm.nc
Name	Winter (JFM) Atmospheric River Days
Description	Average seasonal number of days each grid cell is impacted by an AR for JFM (winter) for ERA5 and VR-CESM simulations. Variables: hist_ar_days: average seasonal number of AR days in VR-CESM HIST [days/year] fut_ar_days: average seasonal number of AR days in VR-CESM FUT [days/year] era_ar_days: average seasonal number of AR days in ERA5 [days/year]

Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/bbd39a4a-5697-4092-82b8-28497670c294/download/seasonal_ar_days_jas.nc
Name	Summer (JAS) Atmospheric River Days
Description	Average seasonal number of days each grid cell is impacted by an AR for JAS (summer) for ERA5 and VR-CESM simulations. Variables: hist_ar_days: average seasonal number of AR days in VR-CESM HIST [days/year] fut_ar_days: average seasonal number of AR days in VR-CESM FUT [days/year] era_ar_days: average seasonal number of AR days in ERA5 [days/year]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/ac927af2-7387-4265-8ef1-6cf10c9860b3/download/seasonal_ex_day_associations_jfm.nc
Name	Winter (JFM) Extreme Precipitation Association with Cyclones and Atmospheric Rivers
Description	Percent of all extreme precipitation days in winter (JFM) in each grid cell occurring with a cyclone and/or an AR present in the same grid cell for ERA5 and VR-CESM simulations. Variables: hist_ex_cap: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] hist_ex_ar_cap: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with both a cyclone and an AR present [%] hist_ex_ar: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with an AR present [%] fut_ex_cap: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] fut_ex_ar_cap: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with both a cyclone and an AR present [%] fut_ex_ar: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with an AR present [%]
Format	NetCDF
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/e31ea507-a9b1-4d22-a685-a55e696fd249/resource/5ca63370-e37a-4f88-b441-098fd327d7ac/download/seasonal_ex_day_associations_jas.nc
Name	Summer (JAS) Extreme Precipitation Association with Cyclones and Atmospheric Rivers

Description

Percent of all extreme precipitation days in summer (JAS) in each grid cell occurring with a cyclone and/or an AR present in the same grid cell for ERA5 and VR-CESM simulations. Variables: hist_ex_cap: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] hist_ex_ar_cap: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with both a cyclone and an AR present [%] hist_ex_ar: percent of all seasonal extreme precipitation days in VR-CESM HIST occurring with an AR present [%] fut_ex_cap: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with a cyclone present (i.e., cyclone-associated precipitation (CAP)) [%] fut_ex_ar_cap: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with both a cyclone and an AR present [%] fut_ex_ar: percent of all seasonal extreme precipitation days in VR-CESM FUT occurring with an AR present [%]

Format

NetCDF

Resource Category

data