

Opérations du MRCC

Base de données, accès aux données et autres sujets négligés

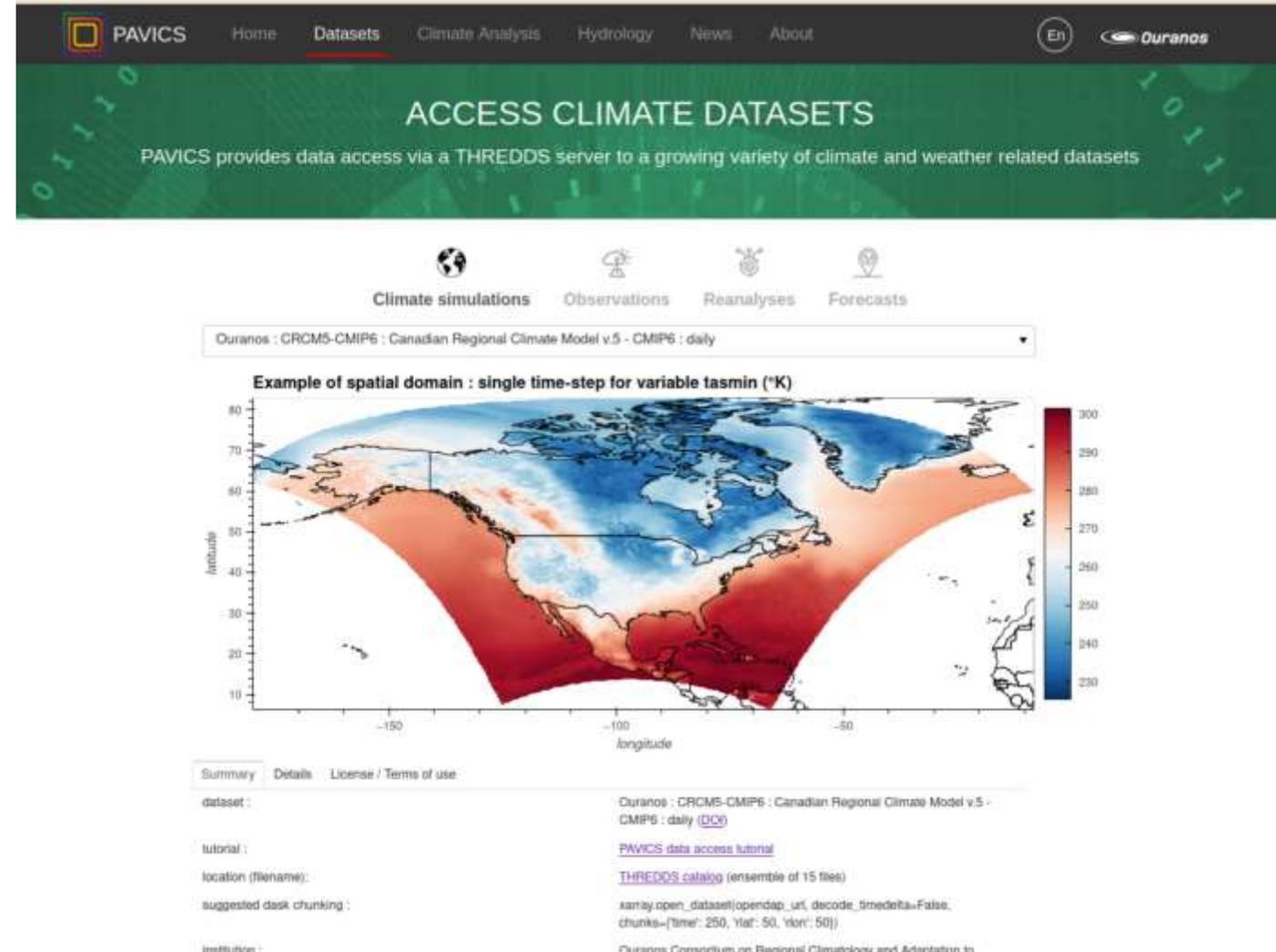
Charles Gauthier, Olivier Asselin, Pascal Bourgault, Michel Giguère, Marie-Pier Labonté, Dominique Matte, Christopher McCray, Dominique Paquin

Spécialiste Simulations et analyses climatiques

Accès aux données - L'ensemble MRCC5-CMIP6

5 Pilotes (4 GCM + ERA5):

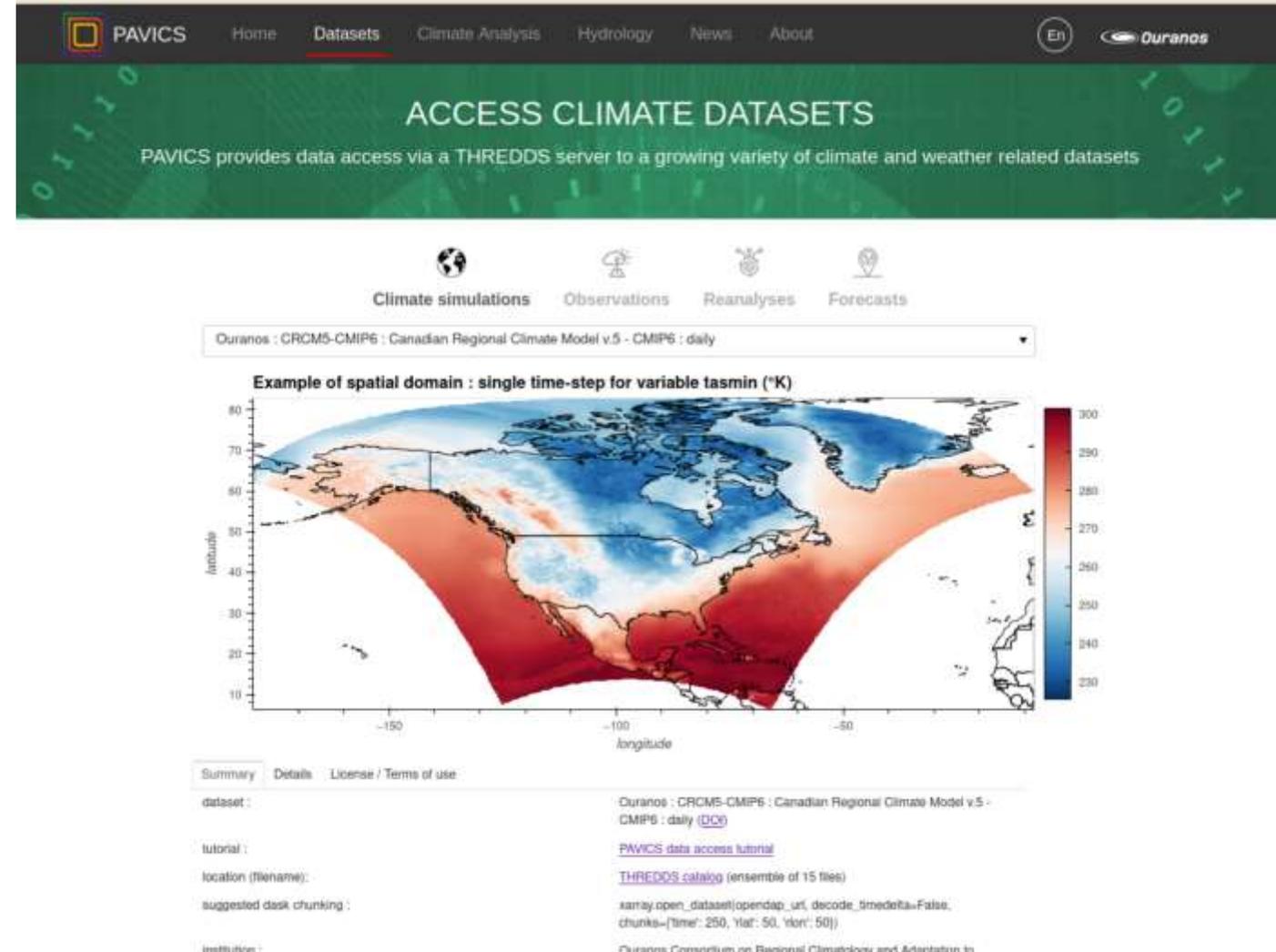
- CNRM-ESM2
- CanESM5
- MPI-ESM1-2-LR
- NorEMS2-MM
- ERA5



Accès aux données - L'ensemble MRCC5-CMIP6

3 scénarios* + historique

- Historique
- SSP1-2.6
- SSP2-4.5
- SSP3-7.0
- SSP5-8.5* (CanESM5)



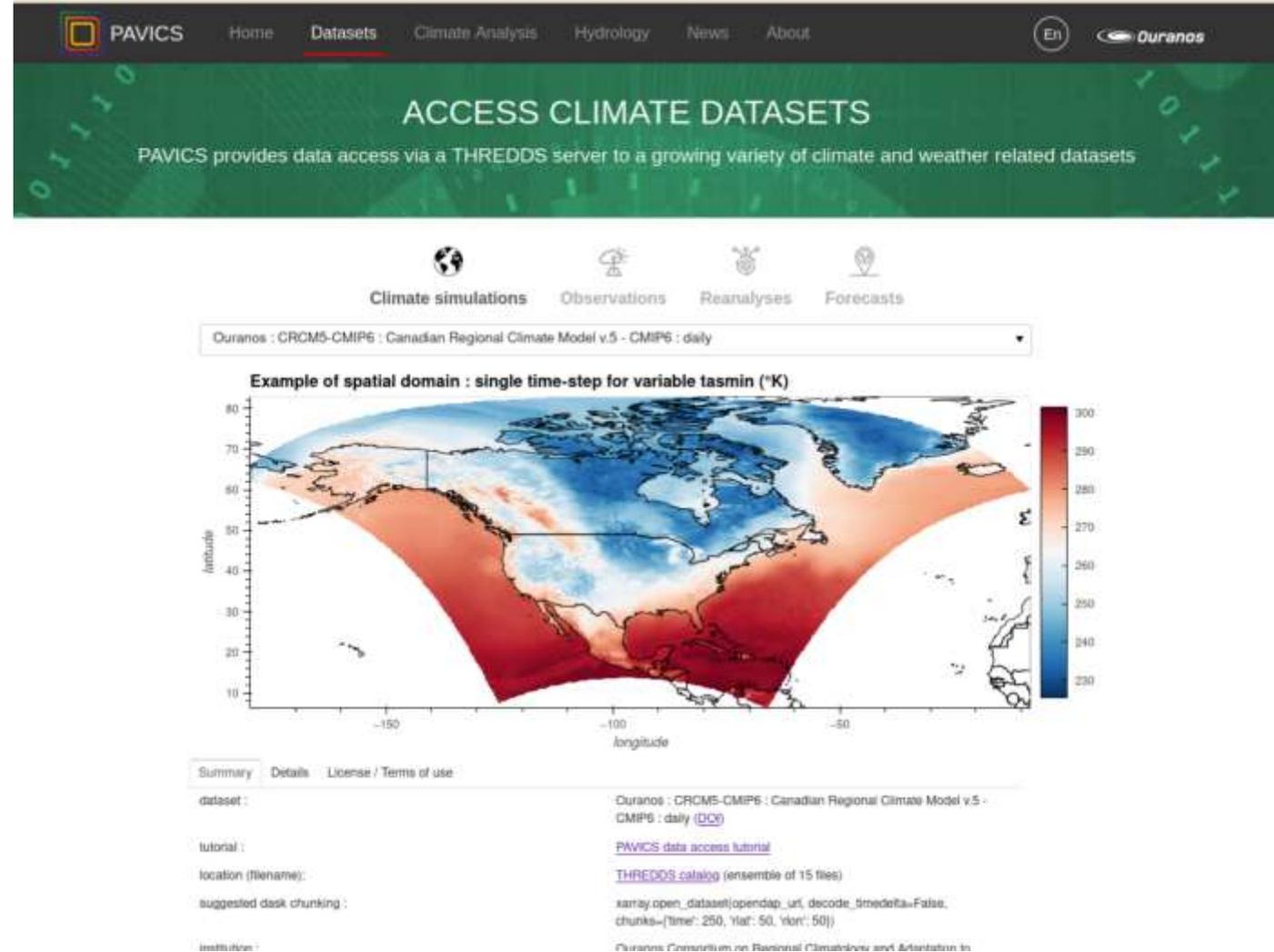
Accès aux données - L'ensemble MRCC5-CMIP6

Période

Historique: 1950-2014

Historique (ERA): 1979-2020

Future: 2015-2100



The screenshot displays the PAVICS website interface. At the top, there is a navigation bar with links for Home, Datasets, Climate Analysis, Hydrology, News, and About. The main header reads "ACCESS CLIMATE DATASETS" and states "PAVICS provides data access via a THREDDS server to a growing variety of climate and weather related datasets". Below this, there are four icons representing different data categories: Climate simulations, Observations, Reanalyses, and Forecasts. A dropdown menu is open, showing "Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : daily". Below the dropdown, there is a map titled "Example of spatial domain : single time-step for variable tasmin (*K)". The map shows a spatial domain over North America and the surrounding oceans, with a color scale on the right ranging from 230 to 300 K. Below the map, there are tabs for Summary, Details, and License / Terms of use. The Summary tab is active, showing the dataset name, a tutorial link, the location (filename), suggested disk chunking, and the institution (Ouranos Consortium on Regional Climatology and Adaptation to

Accès aux données - Où?

pavics.ouranos.ca

The screenshot displays the PAVICS website interface. At the top, the navigation menu includes 'Home', 'Datasets', 'Climate Analysis', 'Hydrology', 'News', and 'About'. The 'Datasets' tab is active. Below the navigation, a green banner reads 'ACCESS CLIMATE DATASETS' and 'PAVICS provides data access via a THREDDS server to a growing variety of climate and weather related datasets'. A horizontal menu below the banner offers four categories: 'Climate simulations', 'Observations', 'Reanalyses', and 'Forecasts'. A dropdown menu is open, showing the selected dataset: 'Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : daily'. Below this, a map titled 'Example of spatial domain : single time-step for variable tasmin (*K)' shows a polar projection map of the Northern Hemisphere. The map uses a color scale from blue (230K) to red (300K) to represent minimum temperature. The map shows the Arctic region in blue and the surrounding landmasses in red. Below the map, there are tabs for 'Summary', 'Details', and 'License / Terms of use'. The 'Summary' tab is selected, showing the following information:

- dataset : Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : daily ([DOC](#))
- tutorial : [PAVICS data access tutorial](#)
- location (filename) : [THREDDS catalog](#) (ensemble of 15 files)
- suggested disk chunking : `array.open_dataset(append='url', decode_timedelta=False, chunks=(time: 250, lat: 50, lon: 50))`
- institution : Ouranos Consortium on Regional Climatology and Adaptation to

Accès aux données - Où?

pavics.ouranos.ca

21 variables

Journalières

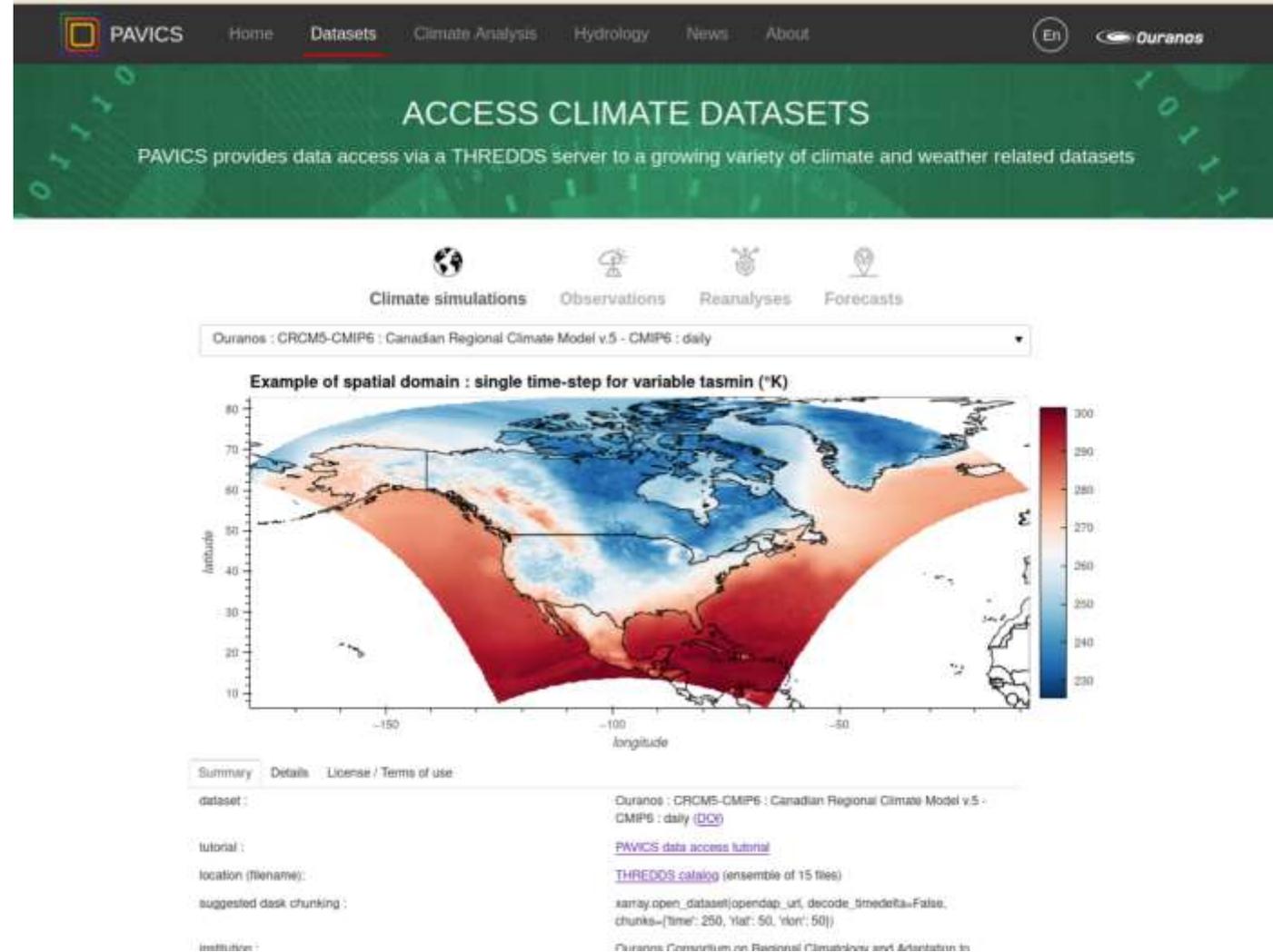
pr, tas, tasmx, tasmin

3-heures

clwvi, hfls, mrro, prra, prsh, prw, snw

1-heures

evspsbl, hurs, huss, pr, ps, rlds, rsds, tas, uas, vas



The screenshot shows the PAVICS website interface. At the top, there is a navigation bar with links for Home, Datasets, Climate Analysis, Hydrology, News, and About. The main heading is "ACCESS CLIMATE DATASETS" with a subtext: "PAVICS provides data access via a THREDDS server to a growing variety of climate and weather related datasets". Below this, there are four icons representing different data categories: Climate simulations, Observations, Reanalyses, and Forecasts. A dropdown menu is open, showing "Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : daily". Below the dropdown is a map titled "Example of spatial domain : single time-step for variable tasmin (*K)". The map shows a spatial domain over North America and the surrounding oceans, with a color scale on the right ranging from 230 to 300 K. Below the map, there is a summary section with tabs for Summary, Details, and License / Terms of use. The summary text includes: "dataset : Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : daily (DOC)", "tutorial : PAVICS data access tutorial", "location (filename) : THREDDS catalog (ensemble of 15 files)", "suggested disk chunking : xarray.open_dataset(backend='netcdf', decode_timedelta=False, chunks={'time': 250, 'lat': 50, 'lon': 50})", and "institution : Ouranos Consortium on Regional Climatology and Adaptation to".

Accès aux données - Comment?

PAVICS Home Datasets Climate Analysis Hydrology News About En

Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : hourly

Example of spatial domain : single time-step for variable tas (°K)

latitude longitude

Summary Details License / Terms of use

dataset :	Ouranos : CRCM5-CMIP6 : Canadian Regional Climate Model v.5 - CMIP6 : hourly (DOI)
tutorial :	PAVICS data access tutorial
location (filename):	THREDDS catalog (ensemble of 15 files)
suggested dask chunking :	<code>xarray.open_dataset(.opendap_url, decode_timedelta=False, chunks={'time': 250, 'lat': 50, 'lon': 50})</code>
institution :	Ouranos Consortium on Regional Climatology and Adaptation to Climate Change
project (processing level) :	CORDEX (raw)
frequency :	1hr
temporal coverage :	1950-2100
variables :	evspsbl, hurs, huss, pr, ps, rlds, rsds, tas, time_bnds, uas, vas
driving experiment(s) :	evaluation, historical, ssp126, ssp245, ssp370, ssp585

Accès aux données - Comment?

location (filename):

 THREDDS catalog (ensemble of 15 files)

Accès aux données - Comment?

NAM-12_CNRM-ESM2-1_historical_r1i1p1f2_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

NAM-12_CNRM-ESM2-1_ssp126_r1i1p1f2_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CNRM-ESM2-1_ssp245_r1i1p1f2_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CNRM-ESM2-1_ssp370_r1i1p1f2_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CanESM5_historical_r1i1p2f1_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

NAM-12_CanESM5_ssp126_r1i1p2f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CanESM5_ssp245_r1i1p2f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CanESM5_ssp370_r1i1p2f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_CanESM5_ssp585_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

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NAM-12_ERA5_evaluation_r1i1p1_OURANOS_CRCM5_v1-r2_1hr_197901010030-202012312330.ncml

NAM-12_MPI-ESM1-2-LR_historical_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

NAM-12_MPI-ESM1-2-LR_historical_r2i1p1f1_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

NAM-12_MPI-ESM1-2-LR_historical_r3i1p1f1_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

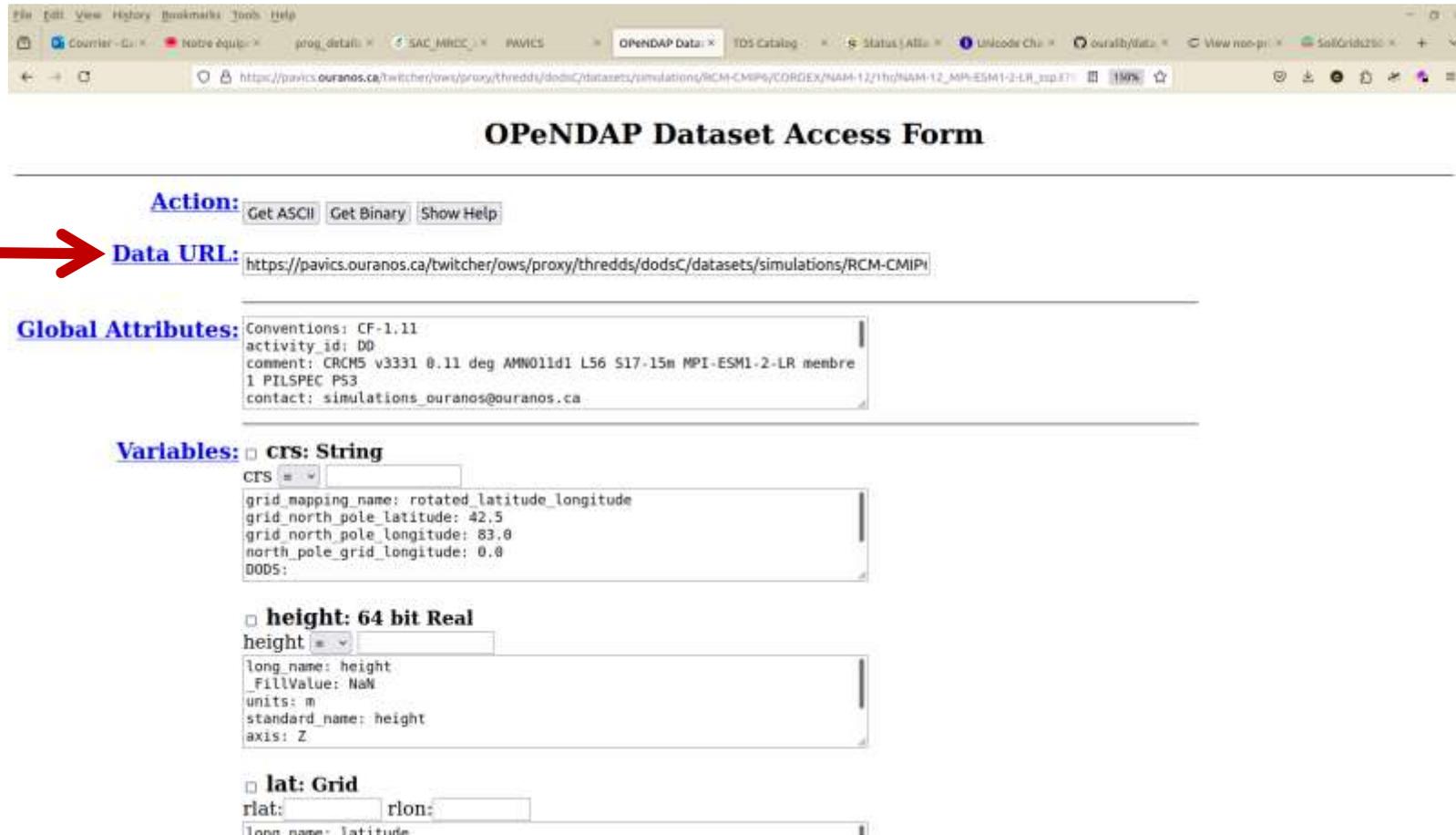
NAM-12_MPI-ESM1-2-LR_ssp126_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_MPI-ESM1-2-LR_ssp245_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_MPI-ESM1-2-LR_ssp370_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_201501010000-210012312300.ncml

NAM-12_NorESM2-MM_historical_r1i1p1f1_OURANOS_CRCM5_v1-r1_1hr_195001010000-201412312300.ncml

Accès aux données - Comment?



The screenshot shows a web browser window with the URL `https://pavics.ouranos.ca/twitcher/ows/proxy/thredds/dodsC/datasets/simulations/RCM-CMIP6/CORDEX/NAM-12/1hr/NAM-12_MP-ESM1-2-LR_rspE7`. The page title is "OPeNDAP Dataset Access Form".

Action:

Data URL: (A red arrow points to this field.)

Global Attributes:

Variables:

- crs: String**

 height: 64 bit Real
- lat: Grid**

Accès aux données - Comment?

```
xarray.open_dataset(url, decode_timedelta=False, chunks={'time': 250, 'rlat': 50, 'rlon': 50})
```

Accès aux données - Comment?

The Ouranos CRCM5-CMIP6 ensemble : A dynamically-downscaled ensemble of CMIP6 simulations over North America.

Dominique Paquin^{1,*}, Christopher McCray¹, Charles B. Gauthier¹, Michel Giguère¹, Olivier Asselin¹, Pascal Bourgault¹, Marie-Pier Labonté¹, and Dominic Matte¹

¹Ouranos, Montréal, Québec, H3A 1B9, Canada

*corresponding author(s): Dominique Paquin (paquin.dominique@ouranos.ca)

En cours

Published October 29, 2024 | Version v1.0.3

Dataset

Open

CRCM5-CMIP6 : A dynamically-downscaled ensemble of CMIP6 simulations.

Paquin, Dominique¹ ; Giguère, Michel¹ ; McCray, Christopher¹ 

Asselin, Olivier¹ ; Gauthier, Charles¹ ; Matte, Dominic¹ 

Labonté, Marie-Pier¹ ; Bourgault, Pascal¹ 

Show affiliations

<https://zenodo.org/records/14008072>

DOI [10.5281/zenodo.14008072](https://doi.org/10.5281/zenodo.14008072)

Diagnostiques

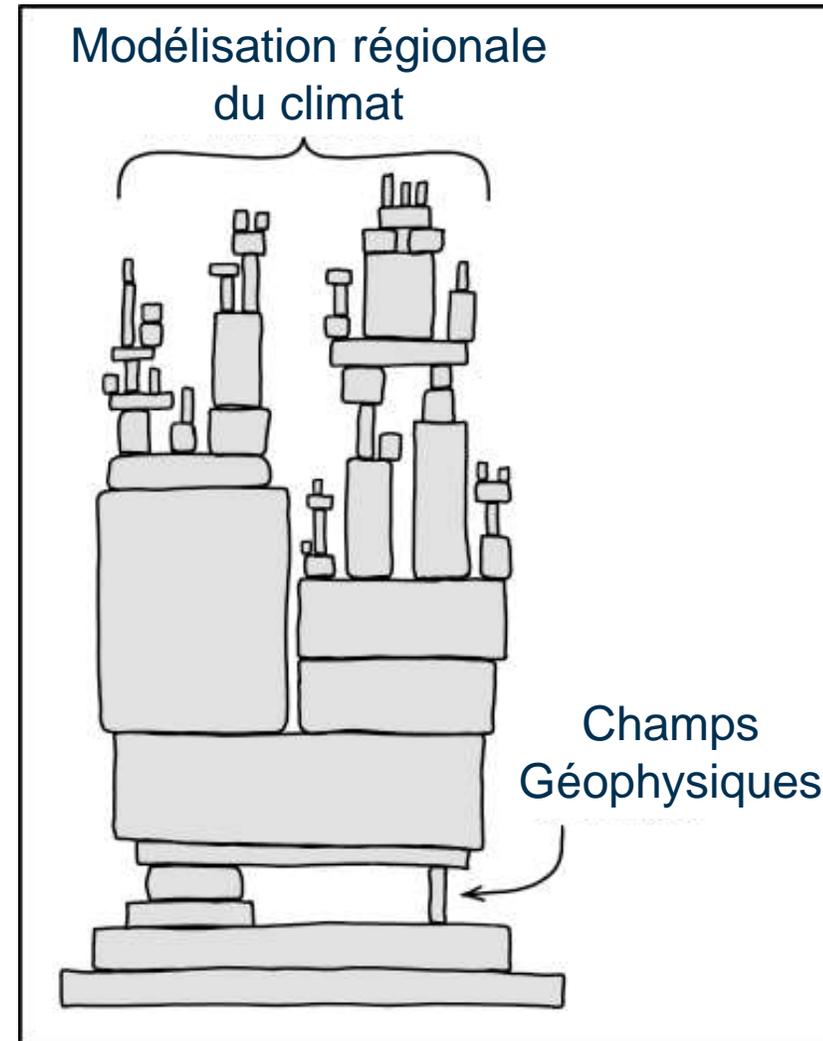
Verlgas – Méthodes Diagnostiques
Verglas – Indicateurs

Détection des cyclones
Trajectoires de cyclones

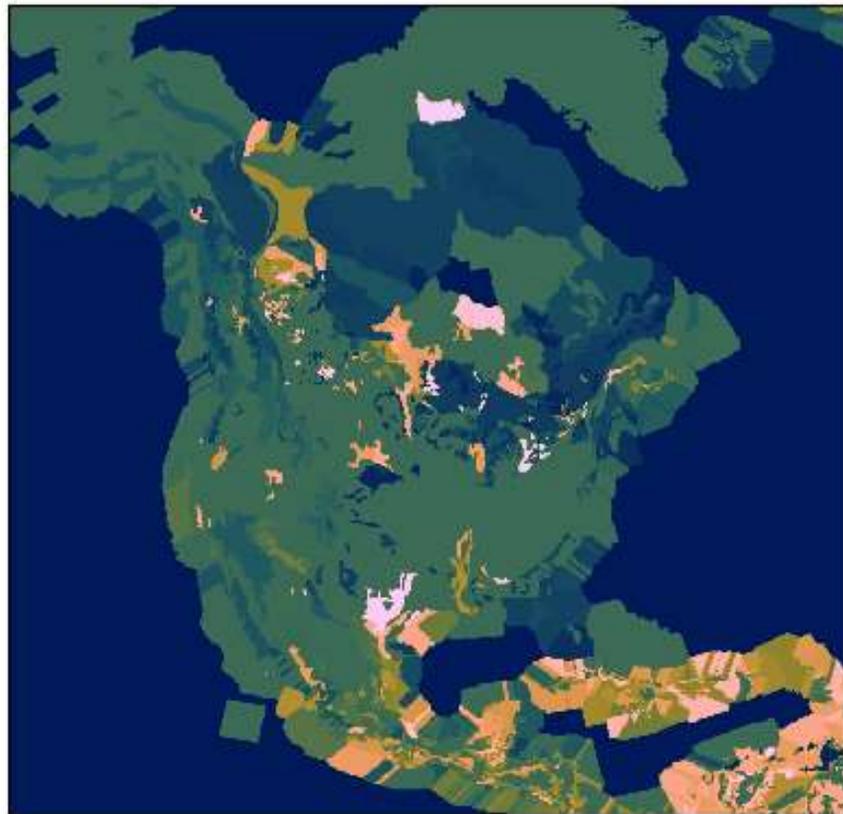
Tempêtes de Neige

Ajout - MRCC5-CMIP6
Opérationnalisation - MRCC6

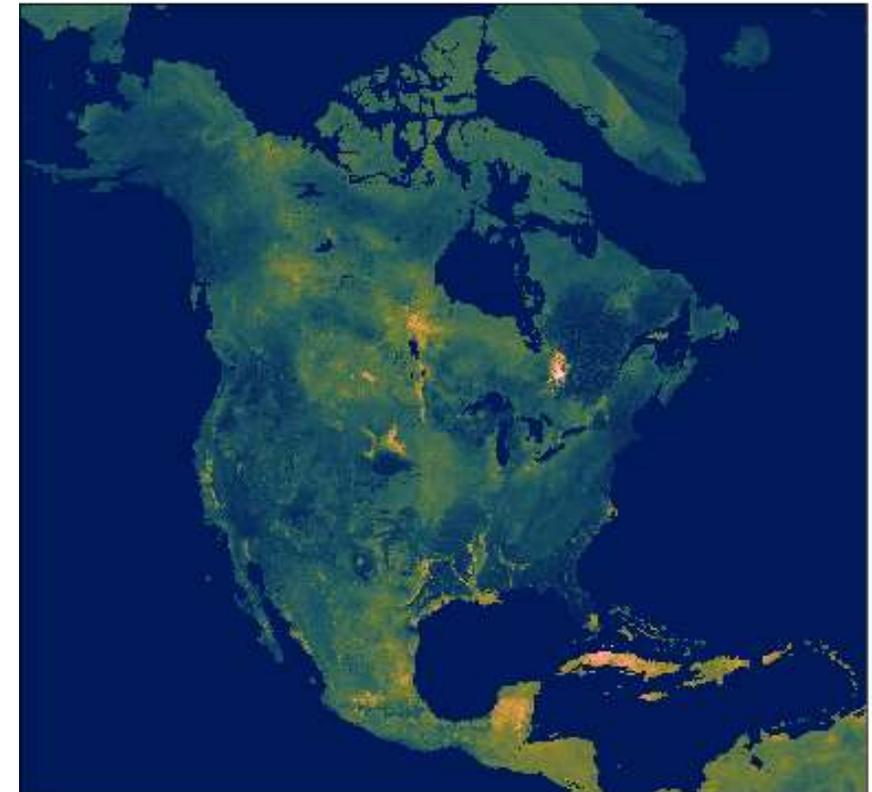
Base de données - Champs Géophysiques



Base de données - Texture de sol



ECOCLIMAP (Meteo France 2003)



COPOSIS

Base de données - Texture de sol

COPOSI

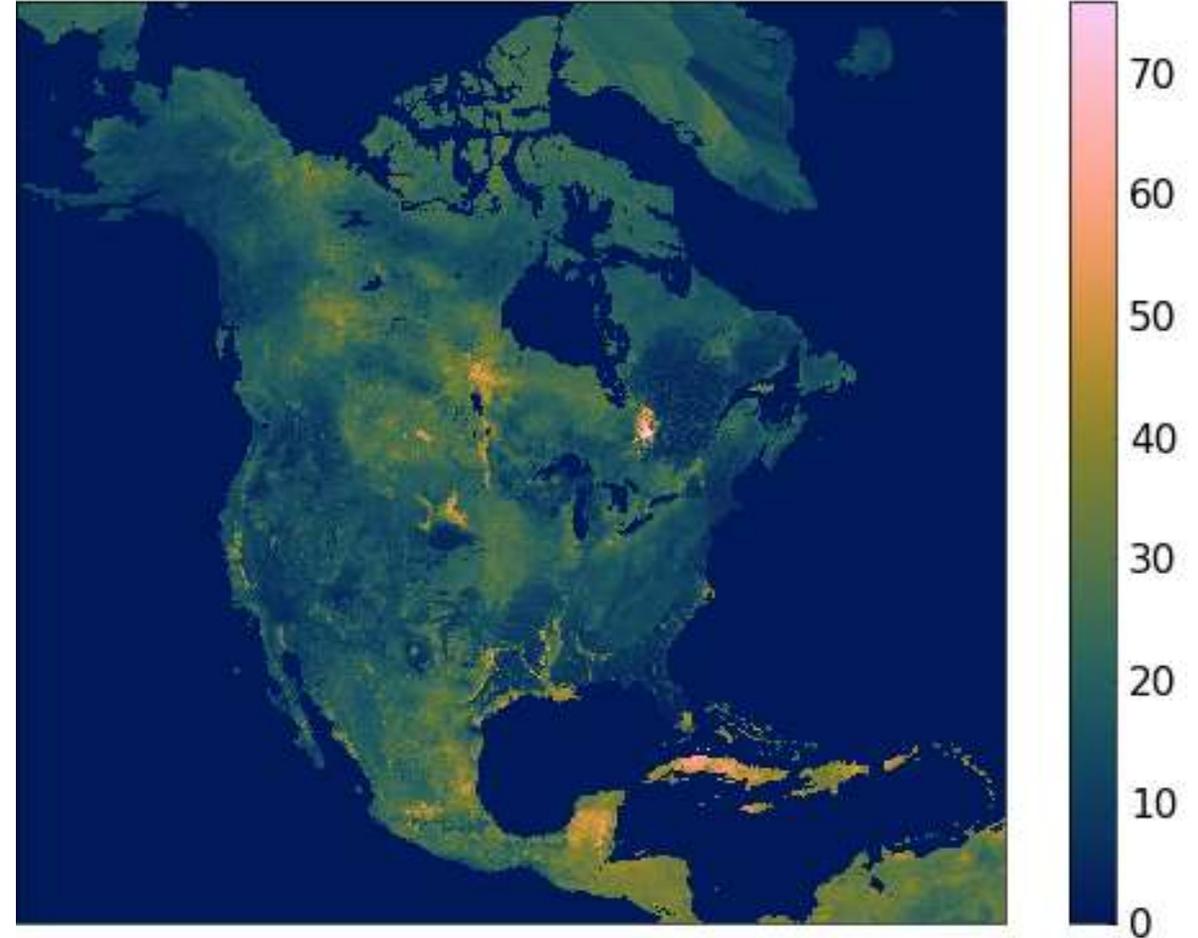
Conabio^a – Mexique

POLARIS^b - É-U contigus

SIIGSOL^c - Québec

SoilGrids^d – Le reste

Priorité aux produits régionaux



a CONABIO, (01/02/2020). 'Contenido de Arcilla 0-05 cm (Predicción)', escala: 1:4000000. edición: 1.0. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. México, CDMX.

b Chaney, Nathaniel W., Budiman Minasny, Jonathan D. Herman, Travis W. Nauman, Colby W. Brungard, Cristine LS Morgan Alexander B. McBratney, Eric F. Wood, and Yohannes Yimam. "POLARIS soil properties: 30-m probabilistic maps of soil properties over the contiguous United States." Water Resources Research 55, no. 4 (2019): 2916-2938.

c MINISTÈRE DES RESSOURCES NATURELLES ET DES FORÊTS. SIIGSOL-100m - Carte des propriétés du sol, [Jeu de données], dans Données Québec, 2022, mis à jour le 26 juin 2023. [<https://www.donneesquebec.ca/recherche/dataset/siigsol-100m-carte-des-proprietes-du-sol>], (consulté le 24 mai 2024).

d Poggio, L., de Sousa, L. M., Batjes, N. H., Heuvelink, G. B. M., Kempen, B., Ribeiro, E., and Rossiter, D.: SoilGrids 2.0: producing soil information for the globe with quantified spatial uncertainty, SOIL, 7, 217–240, 2021.

Base de données - Couvert de végétation

Historique

LUCAS LUC historical land use and land cover change dataset for North America (Version 1.1) area fraction time series

[hdl:21.14106/6ecc87553379b22d71f10159a68c28a2d7a66ca8](https://hdl.handle.net/21.14106/6ecc87553379b22d71f10159a68c28a2d7a66ca8) ⓘ

Hoffmann, Peter et al.

Future

LUCAS LUC future land use and land cover change dataset for North America ssp245 (Version 1.1) area fraction time series

[hdl:21.14106/84f47f05724cce338bff2dc00fcd596f88c1024](https://hdl.handle.net/21.14106/84f47f05724cce338bff2dc00fcd596f88c1024) ⓘ

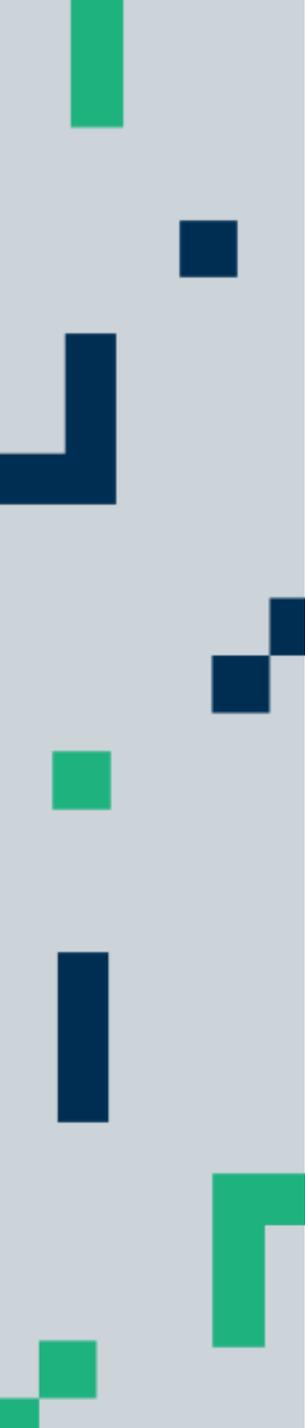
Hoffmann, Peter et al.

Base de données - Champs Géophysiques

Topographie

USGS 1km (~2002) → GMTED75 ~250m (2010)

Mais aussi: Fractions d'eau, Lacs, Profondeur de la roche mère



Merci!
gauthier.charles@ouranos.ca

 **SYMPOSIUM**
OURANOS 2025

