

# UQAM-PK GEONOR Precipitation Gauge data [UQAM]

## Authors:

Mathieu Lachapelle (Lead author, Corresponding author)

*Ph.D Candidate/Student*

*Department of Earth and Atmospheric Sciences*

*Université du Québec à Montréal*

[lachapelle.mathieu@courrier.uqam.ca](mailto:lachapelle.mathieu@courrier.uqam.ca)

Margaux Girouard (Co-author)

*Master Candidate/Student*

*Department of Earth and Atmospheric Sciences*

*Université du Québec à Montréal*

[girouard.margaux@courrier.uqam.ca](mailto:girouard.margaux@courrier.uqam.ca)

Hadleigh Thompson (Co-author)

*Research Assistant*

*Department of Earth and Atmospheric Sciences*

*Université du Québec à Montréal*

[thompson.hadleigh@uqam.ca](mailto:thompson.hadleigh@uqam.ca)

ORCID: 0000-0001-5145-5951

Julie M. Thériault (Co-author)

*Professor*

*Department of Earth and Atmospheric Sciences*

*Université du Québec à Montréal*

[theriault.julie@uqam.ca](mailto:theriault.julie@uqam.ca)

ORCID: 0000-0001-6534-5083

## 1. Data Set Description

**1.1. Introduction:** This dataset contains raw data from GEONOR rain gauge permanently installed on the rooftop of UQAM President-Kennedy building in Montréal downtown, Québec. The instrument provides measurements of precipitation accumulation. The site sits in the St. Lawrence River Valley. ([https://data.eol.ucar.edu/master\\_lists/generated/wintre-mix/](https://data.eol.ucar.edu/master_lists/generated/wintre-mix/)).

**1.2. Data version:** v1.0, 27 July 2023

**1.3. Time period covered:** 1 November 2021 – 30 April 2022

**1.4. Location:**

- The Geonor rain gauge is mounted on a wooden platform on the rooftop of UQAM President-Kennedy (UQAM-PK) building (Fig. 1), co-located

with other meteorological instruments. The approximate location is shown in Fig. 2. The building is 39 m high and the station is 69 m above sea level.

- Latitude: 45.508594°
- Longitude: -73.568741°
- Elevation: 71 m MSL

1.5. **Data frequency:** 60 seconds

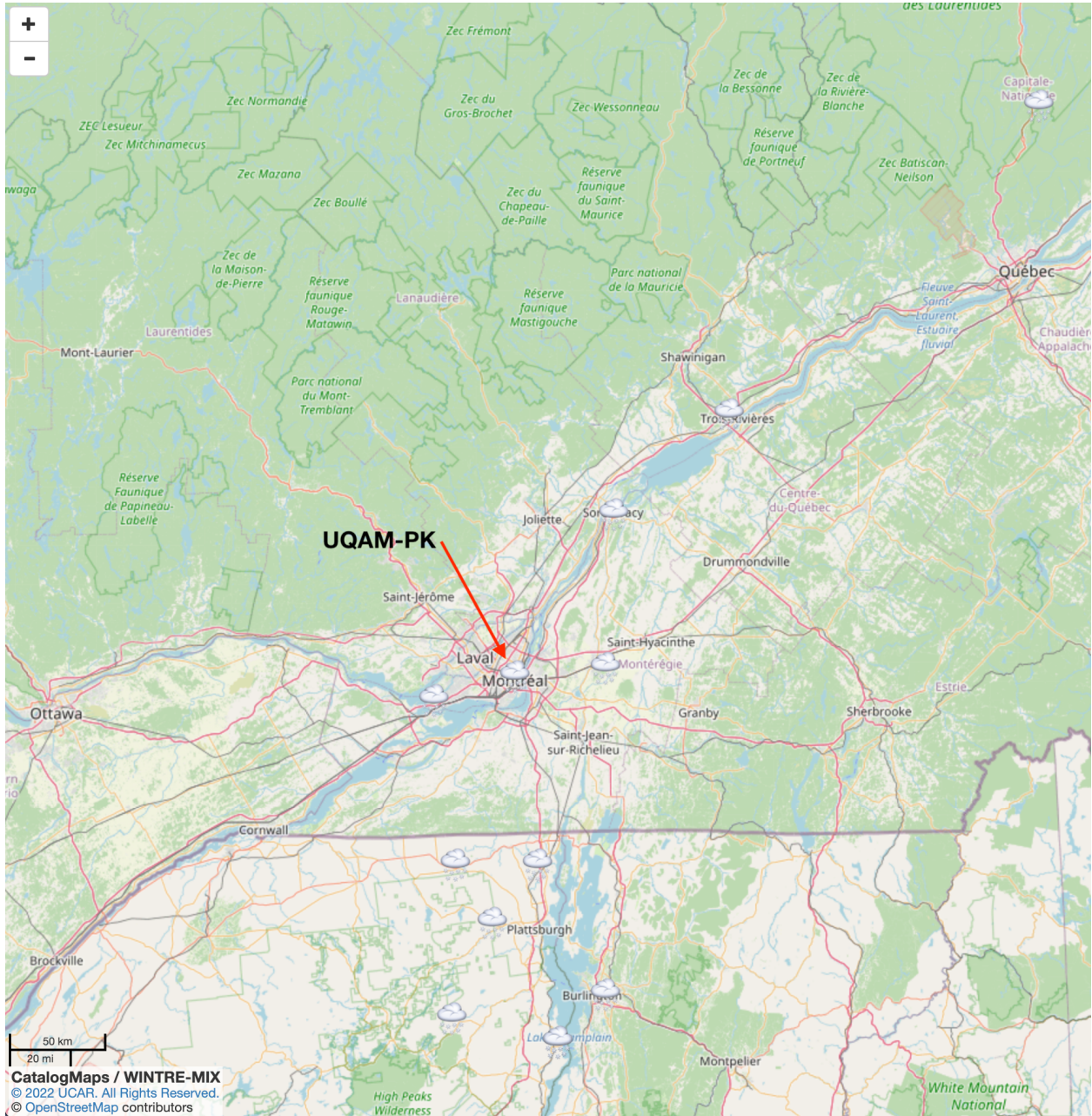
1.6. **Web address:** <https://doi.org/10.26023/HY1T-THVN-ZD0Y>

Preliminary Geonor data are visualized as “quick look” plots on the WINTRE-MIX field catalog ( <https://catalog.eol.ucar.edu/wintre-mix/114/date/> ).

1.7. **Dataset restrictions:** Please refer to the WINTRE-MIX data policy (<https://www.eol.ucar.edu/content/wintre-mixdata-policy>) as well as the WINTRE-MIX data management plan ([https://www.eol.ucar.edu/system/files/Data\\_Management\\_Plan-1Dec2021.pdf](https://www.eol.ucar.edu/system/files/Data_Management_Plan-1Dec2021.pdf)) for more information regarding dataset restrictions and dissemination.



*Fig. 1. Photos of the UQAM-PK weather station and the GEONOR precipitation gauge on the right.*



*Fig. 2. Approximate location of UQAM-PK station in Montreal, QC.*

## 2. Instrument Description

The GEONOR T-200B precipitation gauge is a weighting gauge that measures precipitation accumulation. The bucket has a capacity of 600 mm and the instrument is installed with a single alter-shield that limits the effect of the wind on the measurements. Three vibrating wire transducers (sensors) are used to measure total precipitation and rate of precipitation.

Table 1: Technical specifications and configuration settings for the GEONOR

Capacity	600 mm
Collection Area	200 cm <sup>2</sup>
Accuracy	0.1% full scale
Repeatability	0.1 mm (600 mm)
Power Draw	3.4 mA per vibrating wire 6-7 mA on warm-up
Operating Range	-40°C to +60°C

### 3. Data Collection and Processing

The Geonor was configured to collect data every 60 seconds. The bucket was emptied on 25 November 2021, prior to the field campaign. Evaporation and freezing are avoided by adding a mix of oil and anti-freeze liquid in the weighting bucket when it is emptied.

### 4. Data format

The whole dataset is saved in one file named 'UQAM\_geonor\_WINTRE-MIX.nc'.

The variables provided in this file are summarized in Table 2.

Table 2: Variables recorded in GEONOR netCDF file.

Description	Variable	Unit
Time	time	
Accumulation measured by sensor #1	prcp1tot	mm
Accumulation measured by sensor #2	prcp2tot	mm
Accumulation measured by sensor #3	prcp3tot	mm

### 5. Data remarks

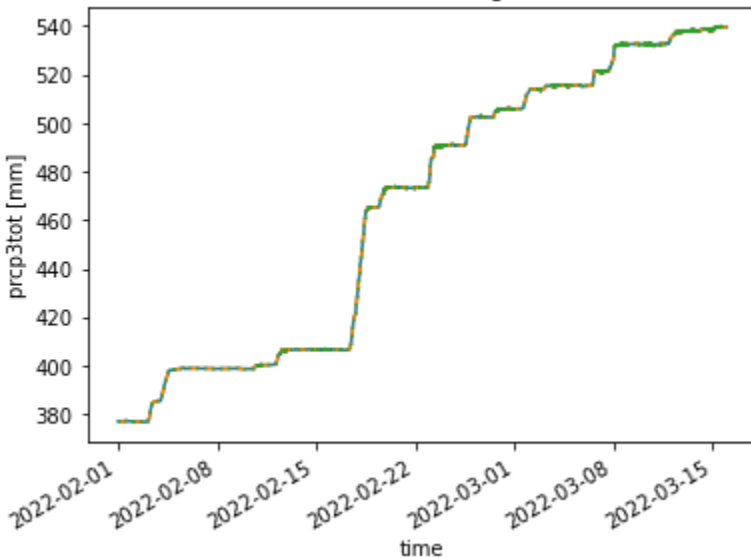
Table 3 summarizes GEONOR at UQAM-PK interruptions > 1 h. Only one interruption occurred during the field campaign. It is highlighted in **yellow**.

*Table 3: Summary of missing data*

Interruption length [hours]	Start	End
267.1	2021-12-03 15:29	2021-12-14 18:37
13.2	2022-02-16 00:32	2022-02-16 13:43

A quick view of the measurement during the field campaign is provided on figure 3.

UQAM-PK GEONOR measurements during WINTREMIX field campaign



*Fig. 3. Simple graph showing the accumulation measured during the field campaign from 1 February 2022 to 15 March 2022.*

## 6. Acknowledgment

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## **7. Appendix**

Suggested GCMD keywords to accompany this dataset are provided below in no particular order:

- Solid precipitation
- Frozen precipitation
- Rain
- Freezing rain
- Drizzle
- Freezing drizzle
- Ice pellets
- Snow
- Droplet size
- Ice storms
- Snow storms
- Extratropical cyclones