



The Danish
Meteorological
Institute

Weather Observations from Greenland 1958-2022

- Observational Data with Description

DMI Report 23-08
16 March 2023

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Colophon

Serial title	DMI Report 23-08
Title	Weather Observations from Greenland 1958-2022
Subtitle	- Observational Data with Description
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Responsible institution	Danish Meteorological Institute (DMI)
Language	English
Keywords	Greenland, weather observations, wind, temperature, cloud cover, air pressure, humidity, precipitation, 1958-2021, Greenland dataset, quality control
URL	https://www.dmi.dk/publikationer/
Digital ISBN	
ISSN	2445-9127 (online)
Version	16 March 2023
Website	www.dmi.dk
Copyright	Application and publication of data is allowed with proper reference and acknowledgment

Content

1	Abstract	1
2	Resume	1
3	Introduction	1
4	Data Description	2
5	Data Format and Description of Meteorological Parameters	6
	5.1 Measuring Techniques and Homogeneity	6
	5.2 General Information about Accumulated Precipitation	8
	5.2.1 Automatic Precipitation Measurement	9
	5.2.2 Manual Precipitation Measurements	9
6	References	10
7	Previous Reports	10
	Appendix 1 – Station Details	11

1 Abstract

The purpose of this report is to present DMI weather observations from Greenland in the period 1958-2022, which are accessible to the public. Data series from 91 stations are attached as separate files.

2 Resume

Formålet med denne rapport er at præsentere DMI vejrobservationer fra Grønland i perioden 1958-2022, som er tilgængelige for offentligheden. Dataserier fra 91 stationer er vedhæftede som separate filer.

3 Introduction

The Danish Meteorological Institute has previously published a series of DMI Technical Reports, the latest Technical Report 11-10 [1], which contains a description of Greenlandic weather observations from 1958 to 2010. Large parts of this data set have primarily been used for research and educational purposes and as background for data analysis regarding climatological standard normals 1961-1990 from Greenland (DMI Technical Report 00-18 [2]). Furthermore, it was used for the DMI historical climate data collection – Greenland (latest report DMI Technical Report 21-04 [3]).

By publishing DMI Technical Report 11-15 [4], the Greenlandic weather observation data sets from 1958-2010 became accessible to the public for the first time.

At the same time, a comprehensive quality control was applied to the entire dataset and erroneous data were removed. This quality control is described in DMI Technical Report 11-16 [5]. It must be stressed that the data series in question have not been tested for homogeneity nor homogenized.

The new procedure introduced in DMI Technical Reports 11-15 and 11-16 was followed by updates every year since the latest DMI Technical Reports 14-08 with data up to 2013 [6].

In 2014, DMI introduced a new data structure, which meant that data from 2014 and onwards were processed in a new format. DMI Technical Report 14-08, with data up to 2013, thus only contains data in the “old” data format. The “new” data format was introduced in DMI Technical Report 15-08 [7].

In 2021, extra quality control of data from 1958-2013 was carried out as part of the preparation of the climatological standard normals 1991-2020 [8]. Therefore, data from 1958-2013 now have the same format as data from 2014-2022. This means that the previous distinction between an “old” and “new” data format presented in DMI Report 21-08 [9] is the last report containing this distinction. Furthermore, depth of snow is not included in this report. Therefore, go to DMI Report 21-08 [9] for snow data.

This DMI report presents data in the same data format from 1958-2022. The data series have variable lengths and characteristics depending on the type of station, parameter, and location, along with other factors. 91 Greenlandic stations with up to 17 meteorological parameters are included in the data set.

A similar report with weather observations from Tórshavn, The Faroe Islands 1953-2022, can be found under the name DMI Report 23-09 [10].

4 Data Description

Synoptic stations in Greenland have been operated with different degrees of automation over time, which has influenced the way parameters are observed and the quality of the data series. Furthermore, some stations in remote areas are unmanned, meaning that maintenance and calibration often are done at long intervals (at least a year).

All stations included in the dataset are synoptic stations except seven manual precipitation stations, see below. All over the world, synoptic stations (or SYNOP-stations) follow in at least a 3-hour interval (00, 03, 06, 09, 12, 15, 18, and 21 hours UTC). Since 1996, Greenland stations (not all from 1996) started with 1-hour observations (every hour UTC). Recently some stations also started with observations every 10 minutes, but this report only includes hourly observations. Synoptic stations always follow the same guidelines. In the attached file *data series overview 14-08.pdf* it is indicated, which DMI Greenlandic observations are 3-hourly or 1-hourly.

A synoptic station should observe standard weather parameters such as cloud cover, visibility, snow cover, air temperature, relative humidity, wind, air pressure, and precipitation. The selected parameters in the DMI Greenlandic data sets are provided in Table 1 and Table 2.

All station identifiers consist of 6 digits, i.e. 425000 for Nuuk.

Out of seven manual precipitation stations in Greenland, six stations are still in operation. 34250 Nuuk was closed on 1 September 2012.

Except for 34231 Mitt. Kangerlussuaq, the manual precipitation stations in operation observe precipitation at 12:00 UTC, covering the previous 24 hours. 34231 Mitt. Kangerlussuaq observe precipitation at 18:00 UTC. 34250 Nuuk observed precipitation at 21:00 UTC.

A manual precipitation station only measures daily accumulated precipitation (observations from manual precipitation stations can cover more than 24 hours; i.e. 48, 72, 120, etc. if precipitation measurements are accumulated over several days). The parameters in the daily precipitation data sets are provided in Table 2.

The national station identifiers of the manual precipitation stations in Greenland consist of 5 digits, always starting with 34. In the new data format, "50" is added to the station identifier making the station identifier 7 digits in all, i.e. 3423450 for Sisimiut.

As seen in Figure 1 and Figure 2, the stations are scattered across Greenland, although most stations are located in the more populated southern part of Greenland. Furthermore, most stations are coastal or near-coastal stations, and only a few stations are located on the ice cap. The stations and their coordinates are listed in Appendix 1 – Station details.

The lengths of the data series vary significantly between stations depending on the location and the type of station.

Previous reports up to 21-08 [9] are characterized by a division of the data series into two parts. One part includes data from 1958-2013, which was called the "old" data series. The other part covers data from 2014 up to 2021 as the latest year, which was called the "new" data. Please notice that compared to earlier published datasets, minor changes may be found. This can be related to the ongoing quality control of data.

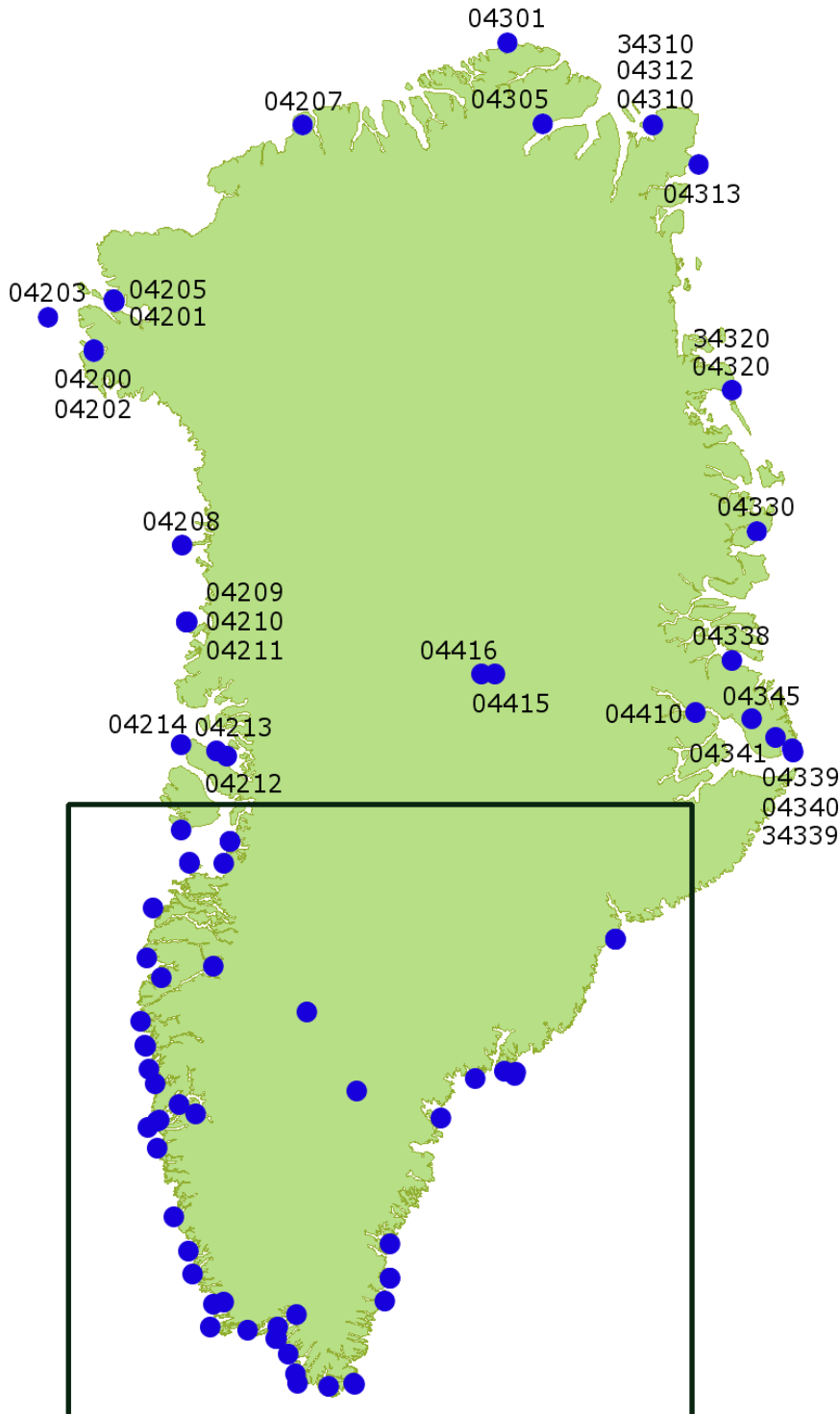


Figure 1: Station positions in Greenland. The black square around southern Greenland can be viewed in more detail in Figure 1 along with additional information about the stations. (Map by M. Scharling).

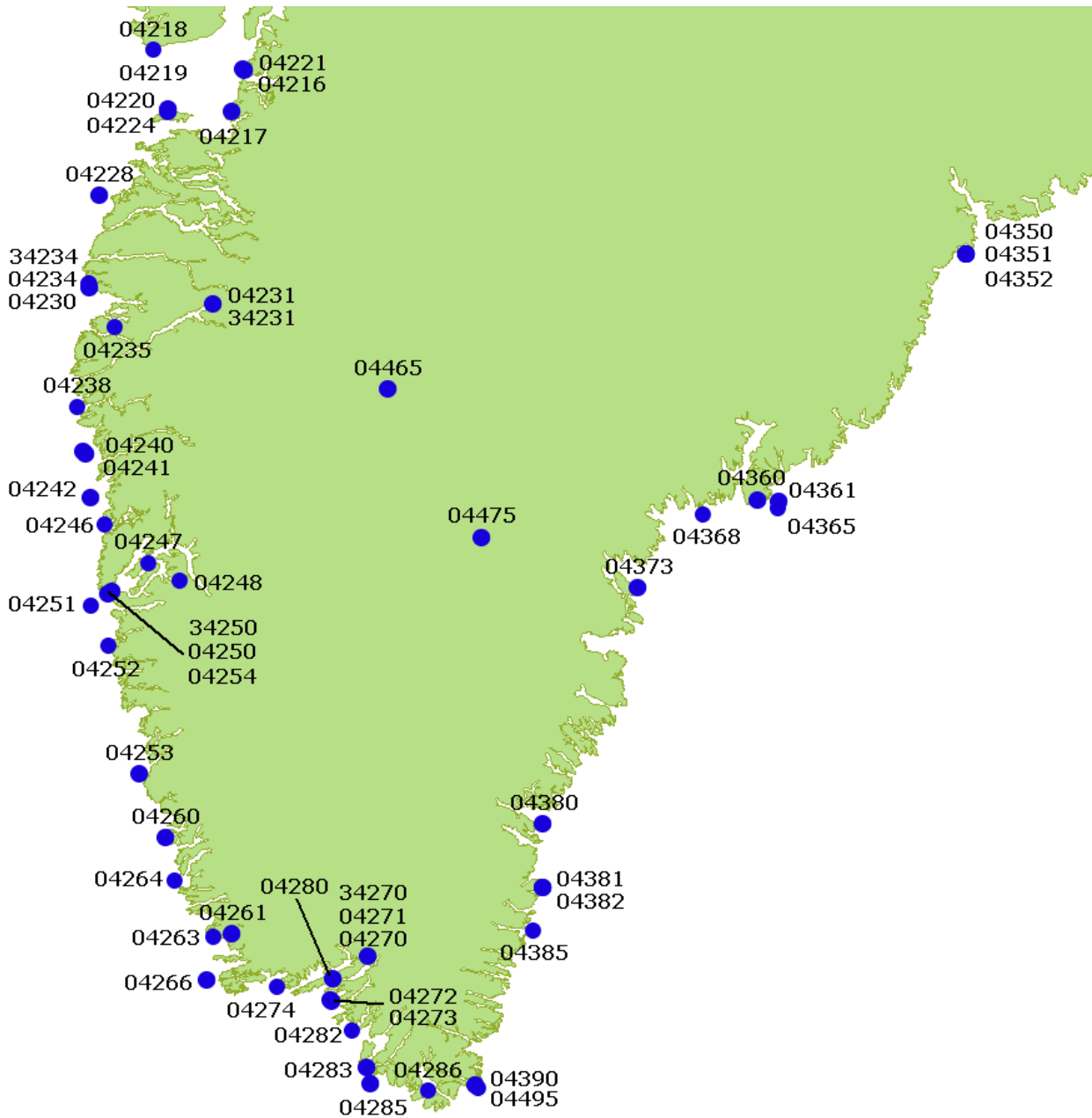


Figure 2: Station positions in southern Greenland. See Figure 1 for a complete map of Greenland. The official WMO station identifiers for Greenland consist of 5 digits “04xxx”. On the map, the station identifiers “04xxx” are used. The national station identifiers for manual precipitation stations in Greenland consist of 5 digits “34xxxx”, which is also used on the map. In the data sets, “00” is added to all station identifiers, so they consist of 6 digits i.e. 425000 for Nuuk. Concerning the national station identifiers, “50” is added, so they consist of 7 digits, i.e. 3423450 for Sisimiut. (Map by M. Scharling).

Types of weather stations:

- V98 (Weather Station 1998); 8 stations) is an automatic station with hourly data (basically 10-minute data) for all temperature parameters (101,112,113,122,123), relative humidity (201), all wind parameters (301,305,365,371; six stations), atmospheric air pressure (401), sunshine duration (504; six stations), radiation (550, six stations), precipitation (601,603,609; five stations) and cloud cover (801; six stations). Sampling continuously.
- SAVS (Semi-Automatic Weather Station; airports; 18 stations) is a semi-automatic station with hourly data for dry-bulb and mean temperature (101), 12 hours maximum or minimum temperatures (113,123), relative humidity (201), atmospheric air pressure (401), all wind parameters (301,305, 365, 371), precipitation (603, one station; Mitt. Kangerlussuaq (Hellman rain gauge) up to 31 March 31 2016, and (609 one station; Mitt. Kangerlussuaq (Hellman rain gauge) from 1 April 2016 – 23 May 2017) and cloud cover (801; 12 stations). Sampling continuously.
- GIWS (Greenland Isolated Weather Station; 15 stations) is an automatic station with hourly data for dry-bulb temperature (101), relative humidity (201), wind speed, and –direction (301,365), and atmospheric air pressure (401). Sampling 10 minutes every hour.
- ARGOS (Worldwide tracking and environmental monitoring by satellite ARGOS; 1 station) is an automatic station with 3-hourly data for dry-bulb temperature (101), relative humidity (201), wind speed, and –direction (301,365), and atmospheric air pressure at station level. Sampling 10 minutes every hour.
- Hellman (Hellman rain gauge; 6 stations are manually operated precipitation stations with 24-hourly data of accumulated precipitation (601).

5 Data Format and Description of Meteorological Parameters

The data series are available as CSV files (semicolon separated) in a ZIP compressed folder named *DMIRep22-08_1958_2022*. The time stamps are given in UTC. Each meteorological parameter in the CSV files has a header, which is described in Table 1 and Table 2.

5.1 Measuring Techniques and Homogeneity

The time series included in this report go back to 1958. During this time, measuring techniques may have changed, which may affect the meteorological parameters. Examples include changes in the number of observations during the day or changes in the computing of the observations themselves (e.g. observation from minute = 0 or mean value during several observations from the last hour). This information is important to keep in mind when assessing the homogeneity of the data series. It must be stressed that the data series provided in this report have not been tested for homogeneity nor homogenized.

Table 1: Description of meteorological parameters. The data resolution ranges from 1 to 24 hours. All parameters are provided with one decimal precision except 201, 365, 371, 550, and 801.

Parameter	Description
Station	6-digit station number in the format '4xxx00'
Year	Year of observation
Month	Month of observation
Day	Day of observation
Hour (UTC)	Hour of observation (UTC)
101	Mean air temperature (°C; 2 meters above ground). 1958-2013: Mean dry-bulb temperature observed minute = 0. Time resolution: 1, 3, or more hours. From 2014: Mean air temperature. If not available, dry-bulb temperature (°C); minute = 0. If not available, dry-bulb temperature (°C) observed minute = 0. Time resolution 1 or 3 hours. 1 hour: V98, SAVS, GIWS. 3 hours: Summit (ARGOS)
112	Absolute maximum temperature (°C; 2 meters above ground). Absolute maximum temperature last hour. V98. Parameter exists from 2014 and onwards.
113	Absolute maximum temperature (°C; 2 meters above ground). 1958-2013: Observation period depends on the interval of the SYNOP time intervals, normally 12 hours at 06:00 and 18:00 UTC. From 2014: Absolute maximum temperature last 12 hours. V98, SAVS.
122	Absolute minimum temperature (°C; 2 meters above ground). Absolute minimum temperature last hour. V98. Data exists from 2014 and onwards.
123	Absolute minimum temperature (°C; 2 meters above ground). 1958-2013: Observation period depends on the interval of SYNOP time intervals, normally every 12 hours at 06:00 and 18:00 UTC. From 2014: Absolute minimum temperature last 12 hours. V98, SAVS.
201*	Mean relative humidity (%). 1958-2013: Observed minute = 0. Time resolution 1, 3, or more hours. From 2014: Mean of relative humidity last hour. If not available, relative humidity observed minute = 0. Time resolution 1, 3, or more hours. 1 hour: V98, SAVS, GIWS. 3 hours: Summit (ARGOS)
301	Mean wind speed (m/s; 10 meters above ground). 1958-2013: Mean wind speed over the 10-minute period preceding the observation From 2014: Observed last 10 minutes; minute = 0. Time resolution 1 or 3 hours. 1 hour: V98, SAVS, GIWS. 3 hours: Summit (ARGOS)

Parameter	Description
305	Highest 3 sec. wind speed (m/s; 10 meters above ground) last hour. If not available, highest 3 sec. wind speed (m/s) observed last 10 minutes V98, SAVS, GIWS). Data exists from 2014 and onwards.
365	Mean wind direction (degrees). 1958-2013: Mean wind direction over the 10-minute period preceding the observation. In 1 or 10-degree intervals. 0 applies to calms. 990 applies to variable wind directions. From 2014: Mean wind direction (degrees; 10 meters above ground) observed last 10 minutes.; minute = 0. 0 applies to calms. Time resolution 1 hour: V98, SAVS, GIWS. 3 hours: Summit (ARGOS).
371	Mean wind direction (degrees; 10 meters above ground). Mean of wind direction last hour. If not available, mean wind direction (degrees) observed last 10 minutes. 0 applies to calms. Time resolution 1 or 3 hours. 1 hour: V98, SAVS, GIWS. 3 hours: Summit (ARGOS).
401	Air pressure (hPa) at mean sea level. 1958-2013: Time resolution 1, 3, or more hours. From 2014: Time resolution 1 hours; minute = 0. V98, SAVS, GIWS.
504	Accumulated sunshine duration (hours) last hour. Six stations, V98: Aasiaat, Nuuk, Narsarsuaq Radiosonde, Tasiilaq, Ittoqqortoormiit, Danmarkshavn** Data exists from 2014 and onwards.
550	Mean incoming (global) radiation (W/m ²) last hour. Six stations, V98: Aasiaat, Nuuk, Narsarsuaq Radiosonde, Tasiilaq, Ittoqqortoormiit, Danmarkshavn. Data exists from 2014 and onwards.
601	Accumulated precipitation (mm; about 3 meters above ground) last hour. V98 ** Data exists from 2014 and onwards.
603	Accumulated precipitation (mm; about 3 meters above ground) last 12 hours. 1958-2013: 6 and 12 hours accumulated precipitation. -1 indicates more than 0 mm, but less than 0.1 mm. Normally, observations at 06:00 and 18:00 UTC cover 12 hours and observations at 00:00 and 12:00 UTC cover 6 hours. On rare occasions, rrr6 could also cover more than 12 hours. From 2014: Accumulated precipitation last 12 hours. V98***. One station; Hellman; Mitt. Kangerlussuaq.
609	Accumulated precipitation (mm; about 3 meters above ground) last 24 hours. 1958-2013: 6 and 12 hours accumulated precipitation (0.1 mm). -1 indicates more than 0 mm, but less than 0.1 mm. Normally 06:00 and 18:00 UTC cover 12 hours; 00:00 and 12:00 UTC cover 6 hours. On rare occasions, rrr6 could also cover more than 12 hours. From 2014: Accumulated precipitation last 24 hours. V98**. One station; Hellman; Mitt. Kangerlussuaq.
801	Cloud cover (% or octas). 1958-2013: Cloud cover in octas (0/8 clear sky, 8/8 overcast). 9 apply to obscured sky, due to fog or heavy snow, and therefore no available observation**** From 2014: Cloud cover in, % minute = 0. Observations of obscured sky are converted to overcast if possible using additional weather information, otherwise cloud cover is missing. Six stations. V98; Aasiaat, Nuuk, Qaqortoq, Tasiilaq, Ittoqqortoormiit, Danmarkshavn. Twelve stations; SAVS; Mitt. Upernavik, Mitt. Qaarsut, Mitt. Ilulissat, Mitt. Aasiaat, Mitt. Kangerlussuaq, Mitt. Sisimiut, Mitt. Maniitsoq, Mitt. Nuuk, Mitt. Paamiut, Mitt. Narsarsuaq, Mitt. Kulusuk, Mitt. Nerlerit Inaat.****

* Relative humidity: In periods, it is evident that different instruments and calibrations characterize the relative humidity at some stations in Greenland. These periods are not excluded in the data series, but care should be taken when using the data in these periods. Some relative humidity values above 100% are changed (not excluded) to 100%, when it was evident, that this was OK.

** Six V98 pyranometers have permanent problems with the calculation of sunshine duration: Aasiaat, Nuuk, Narsarsuaq Radiosonde, Danmarkshavn, Ittoqqortoormiit, and Tasiilaq. For that reason, data is permanently excluded.

*** Occasionally, the V98 automatic rain gauges in Greenland have technical problems. Stations with problems include Aasiaat, Nuuk, Qaqortoq, Ikerasassuaq and Tasiilaq. For that reason, precipitation data are excluded in periods.

**** Nine SAVS ceilometers have permanent problems with the measurement of cloud cover (clear sky not reported): Mitt. Upernavik, Mitt. Ilulissat, Mitt. Aasiaat, Mitt. Sisimiut, Mitt. Maniitsoq, Mitt. Nuuk, Mitt. Paamiut, Mitt. Narsarsuaq and Mitt. Nerlerit Inaat (up to 1 August 2017/after 21 September 2018). For that reason, data is permanently excluded.

Table 2: Description of parameters in the 6 manual precipitation data series. The data resolution is 24 hours or more as indicated by pc. Data (601) is provided with one decimal precision.

Parameter	Description
Station	7-digit station number in the format '34xxx50'
Year	Year of observation
Month	Month of observation
Day	Day of observation
Hour (UTC)	Hour of observation (UTC)
601	24-hours (or more) accumulated precipitation (mm). Six stations; Hellman; Mitt. Kangerlussuaq, Mitt. Sisimiut, Mitt. Narsarsuaq, Station Nord, Danmarkshavn, Ittoqqortoormiit*
pc	Period covered in 601 (hours). Could be more than 24 hours i.e. 48, 76 hours, etc.

* Six manual Hellman precipitation stations observe 24-hours accumulated precipitation, which results in 24-hour daily values (parameter 601). The manual precipitation stations include Mitt. Kangerlussuaq, Mitt. Sisimiut, Mitt. Narsarsuaq, Station Nord, Danmarkshavn, and Ittoqqortoormiit; for more detail see Appendix 1 – Station details. One SAVS station (Mitt. Kangerlussuaq) has observed 12 hours accumulated precipitation which has been reported as 12 hours values 6 and 18 UTC; parameter 603. In 2016, this practice changed to 24-hour accumulated precipitation giving 24-hours daily values; parameter 609. In 2017 the practice was changed again, so precipitation was reported as 24-hours daily values; parameter 601.

5.2 General Information about Accumulated Precipitation

The daily frequency of precipitation measurements from 1958 to 2022 has changed. Recent data consist of hourly precipitation measurements from some automatic synoptic stations, while older data consist of fewer precipitation measurements during the day. Some stations are even manually operated today. When calculating daily accumulated precipitation, it is important to keep these differences in mind.

DMI have calculated all derived values as accurately as possible, but in cases where the observations are odd (which could happen), the aim has been to do it in the best possible way to include as much precipitation as possible in the derived values.

Below is an explanation of important details regarding the calculation of accumulated precipitation from manual and automatic precipitation measurements (Paragraphs 5.2.1 and 5.2.2).

5.2.1 Automatic Precipitation Measurement

In general, the daily accumulated precipitation is calculated from 06:01 UTC the day in question to 06:00 UTC the next day.

To calculate i.e. daily accumulated precipitation from normally operated stations (all stations except manual precipitation stations) you cannot just add up the precipitation measurements at 0, 6, 12, and 18 hours UTC. Precipitation measurements at 00:00 and 12:00 UTC cover 6 hours, while precipitation measurements at 06:00 and 18:00 UTC cover 12 hours. This means that the precipitation measurements at 00:00 and 12:00 UTC are a part of the precipitation measurements at 06:00 and 18:00 UTC.

First, the accumulated precipitation from 06:00-18:00 UTC on the day in question is determined. If accumulated precipitation at 18:00 UTC exists (covering 12 hours), this value is used, otherwise, the accumulated precipitation at 12:00 UTC is used (covering 6 hours) is used. Then the accumulated precipitation from 18:00 UTC on the day in question – 06:00 UTC the next day is determined. If accumulated precipitation at 06:00 UTC the next day exists (covering 12 hours), this value is used, otherwise, the accumulated precipitation at 00:00 UTC (covering 6 hours) is used. The daily accumulated precipitation is thus the sum of the accumulated precipitation from 06:00-18:00 UTC and the accumulated precipitation from 18:00-06:00 UTC. The resulting accumulated precipitation amount belongs to the date of the first precipitation measurement included in the calculation.

The daily accumulated precipitation is, in most cases, calculated using accumulated precipitation at 06:00 and 18:00 UTC covering 12 hours. When this is not possible, the remaining precipitation measurements between 06:00-06:00 UTC are used. However, in rare cases that calculation method can be questioned:

For example, daily accumulated precipitation (14 April at 06:01 UTC – 15 April at 06:00 UTC = 3.2 mm) from station 421600, which is calculated using 14 April at 12:00 UTC = 2.0 mm (covering 12 hours because at that time the station only measured at 0, 12, 15, and 18 UTC) + 15 April at 18:00 UTC = 1.2 mm (covering 6 hours). 15 April at 00:00 UTC: missing accumulated precipitation and 15 April at 06:00 UTC: no observation. Even though the calculation of the derived daily accumulated precipitation could have been omitted, it has been calculated this way at DMI.

Some synoptic stations have automatic precipitation measurements, which means that data from 06 and 18 UTC (covering 12 hours) always is present. These measurements can be used to calculate the daily accumulated precipitation.

Recent data consist of hourly precipitation measurements (601), which can be used to calculate daily accumulated precipitation from 06:00 UTC the day in question to 06:00 UTC the next day. However, it is also possible to use the accumulated precipitation from 06:00-18:00 UTC (covering 12 hours) on the day in question (parameter 603) and the accumulated precipitation from 18:00 UTC on the day in question to 06:00 UTC the next day (covering 12 hours; parameter 603). The daily accumulated precipitation is then the sum of the accumulated precipitation from 06-18 UTC and the accumulated precipitation from 18:00-06:00 UTC. Parameter 609 can also be used, if it exists, to calculate daily accumulated precipitation from 06:00-06:00 UTC (covering 24 hours).

5.2.2 Manual Precipitation Measurements

Please note that there still exist manually operated rain gauges in Greenland. Manual precipitation stations can be recognized by the prefix “34” in the station number. Manual stations normally observe once a day at a specific time (not 06:00 UTC) covering 24 hours. Back in time, both 6 and 12 hours accumulated precipitation occur in parameter rrr6 (18 and 24 hours on rare occasions). Older precipitation measurements (e.g. manual measurements with Hellman rain gauge) can be irregular and they can cover different periods.

6 References

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7 Previous Reports

Previous reports from the Danish Meteorological Institute can be found on:

<https://www.dmi.dk/publikationer/>

Appendix 1 – Station Details

Table 3: Station details - Greenland. DMI: Danish Meteorological Institute. MIT: Mittarfeqarfiit (Greenland Airports) before GLV: Greenland Airport Authority. SLV: Denmark Airport Authority. USAF: US Air Force. GTO: Greenland's Technical Organization. LORAN: US Navigation system. Please notice that coordinates and elevation are provided with a varying number of decimals due to varying levels of certainty.

No. and name	Owner/type	Time of operation		Latitude	Longitude	Height m.a.s.
		start	stop			
04200 Dundas	DUNDAS RADIO	01-01-1961	31-08-1983	76.57	-68.80	21
04201 Qaanaaq	DMI	10-08-1995	13-10-2004	77.47	-69.22	16
04202 Pituffik	USAF	01-01-1974	27-11-2006	76.53	-68.75	77
04203 Kitsissut	DMI/GIWS	02-06-1980		76.7333	-73.1208	11
04205 Qaanaaq	DMI	02-01-1964	30-06-1980	77.48	-69.20	14
04205 Mitt. Qaanaaq	MIT/SAVS	30-08-2001		77.4853	-69.3744	16
04207 Hall Land	DMI	30-08-1982	06-09-2007	81.68	-59.95	105
04208 Kitsissorsuit	DMI/GIWS	10-09-1981		74.0606	-57.7231	40
04209 Upernavik AWS	DMI	30-08-1984	26-09-1995	72.78	-56.17	63
04210 Upernavik	DMI	01-01-1958	28-01-1987	72.78	-56.17	63
04210 Upernavik	MIT	08-09-1995	16-08-2004	72.7833	-56.1667	120
04211 Mitt. Upernavik	MIT/SAVS	25-10-2000		72.7903	-56.1306	126
04212 Ummannaq	DMI	01-01-1961	21-08-1989	70.67	-52.12	39
04212 Ummannaq Heli.	MIT	23-01-2004	30-06-2006	70.68	-52.12	15
04213 Mitt. Qaarsut	DMI	23-11-2000	23-10-2005	70.7342	-52.6961	88
	MIT/SAVS	01-02-2006		70.7342	-52.6961	88
04214 Qullissat	DMI	01-01-1961	31-08-1972	70.05	-52.85	2
04214 Nuussuaq	GIWS	18-09-1982		70.6561	-54.6000	27
04216 Ilulissat	DMI	01-01-1961	31-08-1992	69.22	-51.05	39
04217 Qasigiannuit	DMI	01-01-1962	30-06-1980	68.82	-51.08	77
04218 Qeqertarsuaq	DMI	01-01-1962	30-06-1980	69.23	-53.52	24
04219 Qeqertarsuaq Heli.	MIT/SAVS	01-07-2010		69.2514	-53.5147	3
04220 Aasiaat	DMI/V98	01-01-1958		68.7081	-52.8517	43
04221 Mitt. Ilulissat	MIT/SAVS	15-08-1991		69.2403	-51.0661	29
04224 Mitt. Aasiaat	MIT/SAVS	02-11-2000		68.7219	-52.7847	23
04228 Kitsissut/Attu	DMI	18-08-1983	07-10-2009	67.78	-53.97	12
	GIWS	07-10-2009		67.7842	-53.9650	10
04230 Sisimiut	DMI	01-01-1961	22-06-2001	66.92	-53.67	12
04231 Mitt. Kangerlussuaq	DMI	01-05-1973	01-07-2004	67.0181	-50.7033	50

No. and name	Owner/type	Time of operation		Latitude	Longitude	Height
		start	stop			
04231 Mitt. Kangerlussuaq	SAVS	01-07-2004		67.0133	-50.7172	50
04234 Mitt. Sisimiut	MIT/SAVS	28-11-2000		66.9514	-53.7294	10
04235 Dye 1	USAF	12-03-1974	18-09-1989	66.63	-52.87	1439
04238 Kangaamiut	DMI	14-09-1966	30-12-1969	65.82	-53.32	—
04240 Maniitsoq	DMI	01-01-1961	30-01-1987	65.40	-52.87	25
04241 Mitt. Maniitsoq	MIT/SAVS	06-12-2000		65.4125	-52.9394	28
04242 Sioralik	DMI	16-06-1983	28-09-2009	65.0131	-52.5286	14
04242 Sioralik	GIWS	28-09-2009		65.0131	-52.5286	12
04246 Atammik	DMI	14-02-1966	30-12-1969	64.80	-52.15	—
04247 Qoornoq	DMI	03-01-1966	31-12-1969	64.53	-51.05	—
04248 Kapisillit	DMI	26-01-1966	30-12-1969	64.42	-50.30	—
04250 Nuuk	DMI/V98	01-01-1958	??-03-1979	64.17	-51.75	25
		??-03-1979	01-09-1991	64.17	-51.75	54
		01-09-1991		64.1833	-51.7308	80
04251 Kitsissut	DMI	01-01-1961	31-12-1973	64.03	-52.08	19
04252 Kangerluarsoruseq	DMI	02-01-1961	31-08-1973	63.70	-51.55	10
04253 Ukiivik	DMI	20-06-1982	28-08-2010	62.57	-50.42	22
	GIWS	29-08-2010		62.5789	-50.4058	20
04254 Qeqertarsuatsiaat	DMI	17-01-1967	30-12-1969	63.08	-50.68	—
04254 Mitt. Nuuk	MIT/SAVS	01-11-2000		64.1908	-51.6781	87
04260 Paamiut	DMI	01-01-1958	21-09-1992	62.00	-49.72	15
04260 Paamiut Heliport		22-09-1992	06-12-2007	62.00	-49.67	13
04260 Mitt. Paamiut		07-12-2007		62.0147	-49.6708	37
04261 Kangilinnguit	DMI	01-01-1961	31-08-1974	61.22	-48.12	27
		02-01-1981	19-09-1997	61.23	-48.10	35
04263 Arsuk	DMI	01-08-1964	30-12-1969	61.18	-48.45	—
04264 Narsalik	DMI	23-11-1966	30-12-1969	61.65	-49.37	—
04266 Nunarsuit	DMI	22-07-1981	20-08-2010	60.76	-48.45	33
	GIWS	20-08-2010		60.7636	-48.4544	31
04270 Mitt. Narsarsuaq	MIT/SAVS	01-01-1961		61.1608	-45.4256	34
04271 Narsarsuaq Radisonde	DMI/V98	25-09-2012		61.1575	-45.4400	4
04272 Qaqortoq	DMI	01-01-1961	09-09-2003	60.72	-46.05	32
	V98	09-09-2003		60.7156	-46.0489	57
04273 Qaqortoq Heliport	MIT/SAVS	17-03-2004		60.7158	-46.0294	16
04274 Qassimiut	DMI	08-04-1964	30-12-1969	60.80	-47.10	—
04280 Narsaq	DMI	01-01-1958	31-12-1969	60.90	-45.97	30
04282 Alluitsup PAA Helip.	MIT	07-08-2006	31-01-2011	60.4644	-45.5692	27
04283 Nanortalik	DMI	02-01-1961	31-10-1985	60.13	-45.22	21
04285 Angissoq	DMI	01-01-1964	04-11-2008	59.99	-45.11	20
	GIWS	04-11-2008		59.9911	-45.1461	14

No. and name	Owner/type	Time of operation		Latitude	Longitude	Height
		start	stop			
04286 Narsaq Kujalleq	DMI	01-01-1971	31-12-1973	59.97	-44.05	—
		01-03-1982	31-12-1983	59.97	-44.05	—
04301 Kap Morris Jesup	DMI	16-07-1980	31-07-2009	83.65	-33.37	4
	GIWS	31-07-2009		83.6561	-33.3739	3
04305 Kap Harald Moltke	DMI	24-08-1983	17-07-1991	82.15	-29.92	4
04310 Station Nord	DMI	01-01-1961	09-07-2007	81.60	-16.65	36
04312 Station Nord AWS	DMI	26-07-1985	04-03-2009	81.60	-16.65	34
	GIWS	04-03-2009		81.6033	-16.6633	34
04313 Henrik Krøyer Holme	DMI	01-07-1985	07-08-2009	80.65	-13.72	10
	GIWS	07-08-2009		80.6494	-13.7119	8
04320 Danmarkshavn	DMI/V98	01-01-1958		76.7694	-18.6681	11
04330 Daneborg	DMI	01-01-1958	31-07-1975	74.30	-20.22	12
		04-01-1979	10-08-2009	74.30	-20.22	44
	GIWS	10-08-2009		74.3075	-20.2169	13
04338 Mestersvig	SLV	01-01-1961	25-10-1985	72.25	-23.90	16
04339 Ittoqqortoormiit	DMI	01-11-1980	16-08-2005	70.48	-21.95	65
	V98	17-08-2005		70.4844	-21.9511	70
04340 Uunarteq	DMI	01-01-1958	31-10-1980	70.42	-21.97	42
		05-09-1985	10-06-1990	70.42	-21.97	41
04341 Mitt. Nerlerit Inaat	MIT/SAVS	26-05-2002		70.7431	-22.6506	14
04345 Jameson Land	DMI	11-02-1985	18-09-1989	71.18	-23.62	261
04350 Aputiteeq	DMI	01-01-1958	09-02-1987	67.78	32.30	20
04351 Aputiteeq	DMI	31-01-1987	03-09-2009	67.78	-32.28	13
	GIWS	03-04-2009		67.78	-32.28	13
04352 Aputiteeq	DMI	18-06-1980	08-04-1982	67.78	-32.30	13
04360 Tasiilaq	DMI	01-01-1958	31-03-1982	65.61	-37.63	36
		01-04-1982	14-08-2005	65.60	-37.62	50
	V98	15-08-2005		65.6111	-37.6367	54
04361 Mitt. Kulusuk	MIT/SAVS	28-11-2000		65.5736	-37.1236	36
04365 DYE 4	USAF	24-01-1974	20-05-1991	65.53	-37.16	329
04368 Orsuiagssuaq	LORAN STATION	13-09-1971	31-12-1973	65.49	-38.88	71
04373 Ikermit	DMI	01-11-1987	08-09-2009	64.78	-40.30	85
	GIWS	09-09-2009		64.7819	-40.3167	78
04380 Timmiarmiut	DMI/GTO (TELE)	01-01-1958	30-06-1979	62.53	-42.13	10
04381 Ikermiuarsuk	DMI	06-12-1979	29-11-1989	61.93	-42.07	39
04382 Ikermiuarsuk	DMI	18-06-1980	17-08-2010	61.94	-42.07	39
	GIWS	17-08-2010		61.9364	-42.0678	40
04385 Qulleq	LORAN STATION	01-05-1962	31-12-1973	61.54	-42.23	157

No. and name	Owner/type	Time of operation		Latitude	Longitude	Height
		start	stop			
04390 Ikerasassuaq	DMI V98	01-01-1958	09-10-1980	60.03	-43.12	75
		14-05-1981	30-06-1992	60.05	-43.17	26
		01-07-1992	14-06-2021	60.06	-43.17	88
		14-06-2021		60.0552	-43.1653	140
04410 Renland	DMI	23-09-1987	15-07-1988	71.32	-26.32	2320
04415 Summit	DMI	02-01-1991	15-06-1994	72.58	-37.63	3250
04416 Summit	DMI/ARGOS	04-11-1997	08-12-2020	72.58	-38.45	3202
04419 Summit Tower	NOAA	01-01-2018		72.5730	-38.4703	3209
04465 DYE 2	USAF	25-01-1974	18-08-1988	66.48	-46.30	2332
04475 DYE 3	USAF	24-01-1974	18-09-1989	65.18	-43.83	2652
04495 Ikerasassuaq	DMI	01-10-1980	22-05-1981	60.03	-43.12	26
34231 Mitt. Kangerlussuaq	DMI/Hellman	01-01-2017		67.0200	-50.6972	50
34234 Mitt. Sisimiut	DMI/Hellman	01-12-2004		66.9517	-53.7217	10
34250 Nuuk	DMI/Hellman	02-02-1999	01-09-2012	64.18	-51.73	54
34270 Narsarsuaq	DMI/Hellman	22-01-2009		61.1575	-45.4400	26
34310 Station Nord	DMI/Hellman	01-02-2008		81.6022	-16.6633	36
34320 Danmarkshavn	DMI/Hellman	01-01-2009		76.7694	-18.6681	11
34339 Ittoqqortoormiit	DMI/Hellman	01-09-2014		70.4844	-21.9511	65