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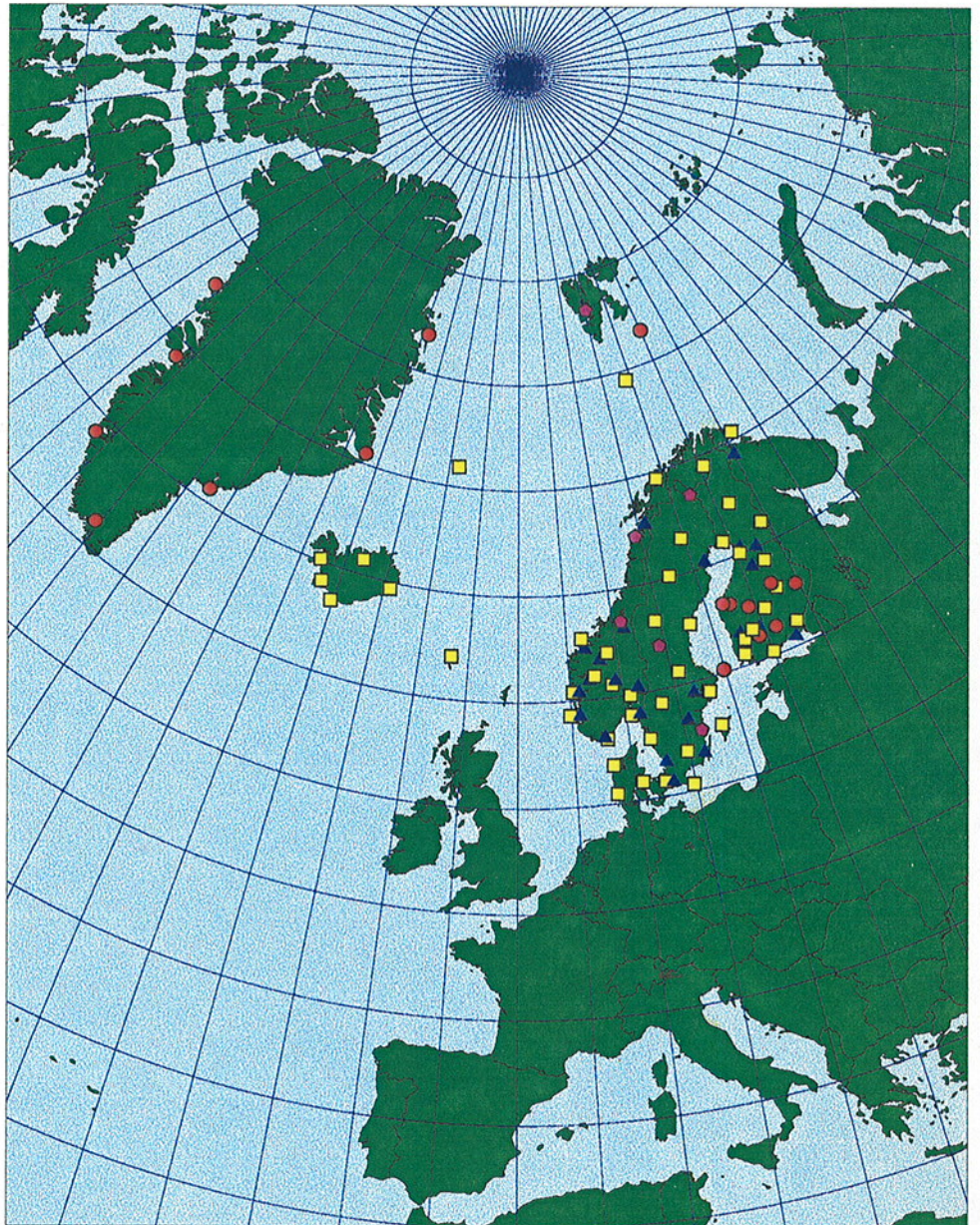
REWARD: - Relating Extreme Weather to Atmospheric
circulation using a Regionalised Dataset

Nordic Atlas of Climatic Extremes

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Nordic Atlas of Climatic Extremes

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National Meteorological Institutes in Denmark, Finland², Iceland, Norway¹ & Sweden³

SUMMARY:

In this *Nordic Atlas of Climatic Extremes*, a selected number of statistics for the five key elements in the REWARD data set are presented. In addition, means of monthly diurnal temperature range are estimated. The statistics are presented both as annual values on maps, and for some features also as tables with monthly statistics. In the maps, the statistics are presented as point values for all features. For some selected variables, a spatial interpolation routine was applied to estimate continuous fields. Altogether 20 maps and 9 tables are included in the Atlas.

The maps in the Atlas show an overview of the variability in the climatological extremes within the Nordic countries based on the values calculated from the REWARD data set only. They do not represent the entire spectrum of climatic extremes of the Nordic climate. In one chapter, national extremes ever recorded for the three key elements (absolute maximum and absolute minimum temperature, maximum 1-day precipitation) are presented on a monthly basis.

SIGNATURES:



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FOREWORD

The lack of data and need for analyses of climatic extremes were recognised by Nordic climatologists, and as a continuation of the EC/NMR-project «North Atlantic Climatological dataset, NACD» (Dahlström et al., 1995; Frich et al., 1996) the Nordic meteorological institutes suggested a major effort to establish and analyse a comprehensive dataset of climatic extremes (Førland et al., 1996b). The original plans for the suggested Nordic project were not fully approved, but a revised project was during 1996-1997 partly financed by the Nordic Council of Ministers (NMR, Contract FS/HFj/X-93001) and partly by own funding by the national meteorological institutes. The project was named *REWARD - Relating Extreme Weather to Atmospheric circulation using a Regionalised Dataset*.

The main objectives of the REWARD-project were:

- *Establish a Nordic dataset of climatic extremes*
- *Analyse trends in extreme temperatures (maximum and minimum temperature, diurnal temperature range (DTR))*
- *Analyse trends in maximum 1-day precipitation*
- *Study relations between atmospheric circulation and extreme climatic events*
- *Evaluate appropriate extreme value distributions for Nordic series of climatic extremes*
- *Work out a first edition of a Nordic Atlas of climatic extremes*

The following scientists have contributed to the REWARD-project (national project leaders are underlined):

The Danish Meteorological Institute (DMI): Povl Frich, Torben Schmith

The Finnish Meteorological Institute (FMI): Achim Drebs, Raino Heino, Jaakko Helminen
Heikki Tuomenvirta

The Icelandic Meteorological Office (VI): Trausti Jónsson, Þórunn Pálsdóttir, Þórður Arason

The Norwegian Meteorological Institute (DNMI): Eirik Førland, Inger Hanssen-Bauer, Per
Øyvind Nordli, Ole Einar Tveito

The Swedish Meteorological and Hydrological Institute (SMHI): Hans Alexandersson, Bengt
Dahlström, Carla Karlström, Haldo Vedin

The REWARD-project was co-ordinated by Eirik J. Førland, DNMI

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1. INTRODUCTION

The «REWARD»-project (REWARD = Relating Extreme Weather to Atmospheric Circulation using a Regionalised Dataset) is a Nordic project supported by the Nordic Council of Ministers (NMR). The objective of the project has been to set special focus upon whether the higher concentration of greenhouse gases has brought an increase of climatic extremes. The REWARD-projects consist of a number of sub-projects studying the extremes of different climatological elements (Førland et al., 1998) Subjects being studied are trends of the extremes and their connection to atmospheric circulation and trends in mean values.

As the project is studying the conditions over a large area, studies of regional variability is a major component of these analyses. In such analyses, presentation of different climatological statistics on maps, showing the regional variation of climatological elements could give useful information.

It was therefore decided that one task within REWARD should be to present an Atlas of Climatological Extremes. The maps in the Atlas present an overview of the variability in the climatological extremes within the Nordic countries based on values calculated from the REWARD data set only, and do therefore not represent the entire spectrum of extremes of the Nordic climate. In the last chapter, the all time extremes for the three key elements are presented.

The production of the maps was carried out by using the geographical information system (GIS) at DNMI. ArcView desktop GIS is used for the map presentation, while ArcInfo is used in processing the analysed fields.

2. THE REWARD DATA SET

The REWARD data set consists of a large number of long homogenous series from the Nordic countries, including Greenland and Faroe Islands. The data set covers the basic period 1890-1996 on a monthly basis, and includes the elements

- mean maximum temperature (element 111)
- absolute maximum temperature (element 112)
- day of absolute maximum temperature (element 113)
- mean minimum temperature (element 121)
- absolute minimum temperature (element 122)
- day of absolute minimum temperature (element 123)

In addition the mean monthly daily temperature range (DTR) is estimated by:

$$DTR = \overline{T_x} - \overline{T_n}$$

where $\overline{T_x}$ is the mean daily maximum temperature and $\overline{T_n}$ the mean daily minimum temperature during the month. The elements are numbered using the NACD element numbering system (Frich et al., 1996). Table 2.1 lists the stations included in the dataset, and the elements they are represented by in this atlas. Figure 2.1 shows a map of the REWARD stations.

Table 2.1 REWARD station list.

Name	Country	St.nr. WMO	St.nr. nat.	Lat.	Long.	Mean max. temp. (111)	Abs.max. temp. (112)	Mean min. temp. (121)	Abs. min. temp. (122)	Max 24h precip. (602)	Init
Hammerodde Fyr	DK	6193	6193	55.30	14.78	1890-1995	1890-1995	1890-1995	1890-1995	1890-1995	HAMM
Vestervig	DK		21100	56.77	8.32	1890-1995	1890-1995	1890-1995	1890-1995	1890-1995	VEST
Nordby	DK		25140	55.43	8.40	1874-1995	1874-1995	1874-1995	1874-1995	1890-1995	NORD
Tranebjerg	DK		27080	55.85	10.60	1890-1995	1890-1995	1890-1995	1890-1995	1890-1995	TRAN
København	DK		30380	55.68	12.53	1890-1995	1890-1995	1890-1995	1890-1995	1890-1995	KØBE
Maarianhamina	FIN		1	60.12	19.90	1908-1995	1908-1995	1908-1995	1908-1995		MAAR
Helsinki	FIN	2978	304	60.17	24.95	1882-1995	1882-1995	1882-1995	1882-1995	1882-1996	HELS
Turku	FIN	2972	1101	60.52	22.27	1903-1995	1903-1995	1902-1995	1903-1995	1891-1996	TURK
Huittinen Lauttakylä	FIN		1103	61.17	22.78	1901-1995	1901-1995	1901-1995	1901-1995	1894-1996	HUIT
Tampere	FIN		1202	61.47	23.75	1902-1995	1902-1995	1902-1995	1902-1995	1891-1996	TAMP
Hattula Leteensuo	FIN		1303	61.07	24.23	1925-1995	1925-1995	1925-1995	1925-1995		HATT
Heinola Plaani	FIN		1506	61.22	26.05	1909-1995	1909-1995	1909-1995	1909-1995		HEIN
Virolahti	FIN	1601	1601	60.53	27.55					1894-1996	VIRO
Lappeenranta	FIN	2958	1701	61.08	28.15	1906-1995	1906-1995	1906-1995	1906-1995	1886-1996	LAPP
Lavia	FIN	2104	2104	61.62	22.55					1903-1996	LAVI
Virrat	FIN	2211	2211	61.22	23.83					1909-1996	VIIR
Orivesi	FIN	2306	2306	61.55	24.53					1909-1996	ORIV
Jyväskylä	FIN		2425	62.20	25.72	1902-1995	1902-1995	1902-1995	1902-1995	1891-1996	JYVÄ
Vaasa	FIN		3001	63.05	21.77	1908-1995	1908-1995	1908-1995	1908-1995		VAAS
Ylistaro Pelma	FIN		3101	62.93	22.50	1928-1995	1928-1995	1928-1995	1928-1995		YLIS
Ähtäri Myllymäki	FIN		3301	62.53	24.22	1910-1995	1910-1995	1910-1995	1910-1995		ÄHTÄ
Kuopio	FIN		3602	62.90	27.68	1902-1995	1902-1995	1902-1995	1902-1995	1891-1996	KUOP
Maaninka	FIN		3603	63.15	27.32	1930-1995	1930-1995	1930-1995	1930-1995		MAAN
Joensuu	FIN		3801	62.67	29.63	1933-1995	1933-1995	1933-1995	1933-1995		JOEN
Kestilä	FIN	4509	4509	64.35	26.28					1909-1996	KEST
Kajaani	FIN	2897	4601	64.28	27.67	1903-1995	1903-1995	1903-1995	1903-1995	1886-1996	KAJA
Oulu	FIN		5404	65.03	25.48	1905-1995	1905-1995	1903-1995	1905-1995	1891-1996	OULU
Yli-li	FIN	5407	5407	65.37	25.85					1912-1996	YLII
Pudasjärvi Korpis.	FIN	5605	5605	65.10	27.53					1909-1996	PUDA
Kuusamo	FIN	2896	6801	65.98	29.22	1909-1995	1909-1995	1908-1995	1909-1995	1908-1996	KUUS
Sodankylä	FIN	2836	7501	67.37	26.65	1908-1995	1908-1995	1908-1995	1908-1995	1907-1996	SODA
Torshavn	FR	6011	6011	62.02	-6.77	1873-1995	1873-1995	1873-1995	1873-1995	1890-1995	TORS
Upernavik	G	4210	4210	72.78	-56.17	1890-1995	1890-1995	1890-1995	1890-1995	1949-1986	UPER
Ilulissat Airport	G	4221	4221	69.25	-51.67	1894-1995	1890-1995	1890-1995	1890-1995		ILUL
Nuuk	G	4250	4250	64.17	-51.75	1890-1995	1890-1995	1890-1995	1890-1995	1921-1995	NUUK
Narsarsuaq	G	4270	4270	61.18	-45.42	1890-1995	1890-1995	1890-1995	1890-1995	1890-1995	NARS
Danmarkshavn	G	4320	4320	76.77	-18.77	1949-1995	1949-1995	1949-1995	1949-1995	1949-1995	DANM
Ittoqqortoormiit	G	4339	4339	70.48	-22.00	1924-1995	1924-1995	1949-1995	1949-1995	1949-1995	ITTO
Tasilaq	G	4360	4360	65.60	-37.63	1897-1995	1894-1995	1894-1995	1894-1995	1897-1995	TASI
Stykkisholmur	IC	4013	4013	65.08	-22.73	1952-1995	1952-1995	1952-1995	1952-1995	1890-1996	STYK
Reykjavik	IC	4030	4030	64.13	-21.90	1949-1995	1949-1995	1949-1995	1949-1995	1924-1996	REYK
Vestmannaeyjar	IC	4048	4048	63.40	-20.28	1949-1995	1954-1995	1949-1995	1949-1995	1890-1996	VEST
Akureyri	IC	4063	4063	65.68	-18.08	1949-1995	1949-1995	1949-1995	1949-1995	1925-1996	AKUR
Teigarhorn	IC	4092	4092	64.68	-14.35	1965-1995	1965-1995	1965-1995	1965-1995	1890-1996	TEIG
Halden	N		1230	59.12	11.38					1895-1996	HALD
Nord-Odal	N		5350	60.38	11.55					1895-1996	ODAL
Skjåk	N		15660	61.90	8.17					1896-1996	SKJÅ

Name	Country	St.nr. WMO	St.nr. nat.	Lat.	Long.	Mean max. temp. (111)	Abs.max. temp. (112)	Mean min. temp. (121)	Abs. min. temp. (122)	Max 24h precip. (602)	Init
Kjøremsgrendi	N	1235	16740	62.10	9.05	1931-1995	1890-1995	1876-1995	1890-1995	1890-1996	KJØR
Oslo-Blindern	N	1492	18700	59.95	10.72	1937-1995	1890-1995	1876-1995	1890-1995	1890-1996	OSLO
Reinli	N		22840	60.83	9.50					1895-1996	REIN
Nesbyen	N	1372	24880	60.57	9.12	1954-1995	1897-1995	1897-1995	1897-1995	1897-1996	NESB
Ferder Fyr	N	1482	27500	59.03	10.53	1931-1995	1890-1995	1885-1995	1890-1995	1890-1996	FERD
Oksøy Fyr	N	1448	39100	58.07	8.05	1931-1995	1890-1995	1876-1995	1890-1995	1890-1996	OKSØ
Mestad	N		39220	58.22	7.90					1900-1996	MEST
Nedstrand	N		47020	59.35	5.80					1895-1996	NEDS
Utsira Fyr	N	1403	47300	59.30	4.88	1931-1995	1890-1995	1876-1995	1890-1995	1920-1996	UTSI
Samnanger	N		50350	60.47	5.90					1901-1996	SAMN
Bergen-Florida	N	1317	50540	60.38	5.33					1890-1996	BERG
Bergen-Fredriksberg	N	1316	50560	60.40	5.32	1904-1995	1890-1995	1876-1995	1890-1995		BERG
Lærdal	N	1355	54130	61.07	7.52	1953-1995	1890-1995	1876-1995	1890-1995	1890-1996	LÆRD
Vetti	N		54900	61.00	7.02					1895-1996	VETT
Ørskog	N		60800	62.48	6.82					1895-1996	ØRSK
Ona	N	1212	62480	62.87	6.53	1931-1995	1890-1995	1876-1995	1890-1995	1919-1996	ONA
Lien i Selbu	N		68330	63.22	11.12					1895-1996	LIEN
Værnes/Trondheim	N	1271	69100	63.47	10.93		1890-1995		1890-1995	1890-1996	VÆRN
Bodø	N	1152	82290	67.27	14.43		1890-1995		1890-1995	1890-1996	BODØ
Kråkmo	N		83500	67.80	15.98					1895-1996	KRÅK
Tromsø	N	1026	90450	69.65	18.93	1931-1995	1890-1995	1876-1995	1890-1995	1890-1996	TROM
Karasjok	N	1065	97250	69.47	25.52	1950-1995	1890-1995	1877-1995	1890-1995	1890-1996	KARA
Vardø	N	1098	98550	70.37	31.08	1931-1995	1890-1995	1876-1995	1890-1995	1893-1996	VARD
Bjørnsund	N		99450	69.45	30.07					1895-1996	BJØS
Bjørnøya	N	1028	99710	74.52	19.02	1937-1995	1921-1995	1921-1995	1921-1995	1926-1996	BJØY
Svalbard Airport	N	1008	99840	78.25	15.47		1957-1995		1957-1995	1957-1996	SVAL
Jan Mayen	N	1001	99950	70.93	-8.67	1937-1995	1921-1995	1921-1995	1921-1995	1922-1996	JAN
Lund	S		5343	55.70	13.20					1885-1996	LUND
Halmstad	S		6240	56.67	12.92					1885-1996	HALM
Växjö	S	2640	6452	56.87	14.80	1873-1995	1885-1994	1873-1995	1885-1995	1885-1996	VÄXJ
Kalmar	S	2672	6641	56.72	16.28					1885-1996	KALM
Göteborg	S	2516	7147	57.77	11.88	1881-1995	1885-1995	1881-1995		1885-1996	GÖTE
Västervik	S	2559	7647	57.72	16.47		1885-1995		1885-1995	1885-1996	VÄST
Visby	S	2592	7840	57.67	18.33	1879-1995	1885-1995	1879-1995	1885-1995	1885-1996	VISB
Linköping	S	2582	8524	58.40	15.53					1885-1996	LINK
Karlstad	S	2584	9322	59.35	13.47	1881-1995	1885-1995	1881-1995	1885-1995	1885-1996	KARL
Västerås	S	2418	9635	59.58	16.62					1885-1996	VÄST
Stockholm	S	2485	9821	59.33	18.05	1873-1995		1873-1995	1885-1995	1885-1996	STOC
Falun	S	2433	10537	60.62	15.62	1875-1995	1885-1995	1875-1995	1885-1995	1885-1996	FALU
Sveg	S	2324	12402	62.02	14.35		1885-1995		1885-1995	1885-1996	SVEG
Härnösand	S		12738	62.62	17.93	1879-1995	1885-1995	1879-1995	1885-1995	1885-1996	HÄRN
Östersund	S	2226	13411	63.18	14.48	1875-1995	1885-1995	1873-1995	1885-1995	1885-1996	ÖSTE
Stensele	S		15772	65.07	17.15	1885-1995	1885-1995	1885-1995	1885-1995	1885-1996	STEN
Piteå	S		16179	65.32	21.48					1885-1996	PITE
Haparanda	S	2196	16395	65.82	24.13	1873-1995	1885-1995	1873-1995	1885-1995	1885-1996	HAPA
Jokkmokk	S	2142	16988	66.62	19.63	1882-1995	1885-1995	1882-1995	1885-1995	1885-1996	JOKK
Karesuando	S	2080	19283	68.43	22.48				1885-1995	1885-1996	KARE

Longitude and latitude are given as *decimal degrees*. A comprehensive and complete list describing stations and elements in the REWARD-dataset is given by Drebs et al. (1998).

3. TEMPERATURE

Mean daily maximum and minimum temperatures for all available REWARD-stations are listed in Tables 3.1 and 3.4 for each month and the year as a whole. The values are based on varying number of years (N).

The most extreme months, January and July, were selected to demonstrate the areal distribution of these elements by using the stations with complete records for the periods 1931-1995 (Map 3.6) and 1911-95 (Map 3.1). The maps show distinctly that the values are in connection with the degree of continentality.

Mean monthly and annual maximum and minimum temperatures are listed in Tables 3.2 and 3.5 for all the stations and years (N).

In addition, annual values are shown in Maps 3.2 and 3.7. These maps demonstrate, in comparable way, the highest and lowest temperatures, which can be expected for each station. The maximum values range from around 30°C in the most continental areas to around 15°C on the N-W coasts of Greenland. The minimum values range correspondingly from -40°C in the inner parts of Fennoscandia to about -5°C in western Norway.

The standard deviation of maximum values (Map 3.3) shows low values in the eastern districts, while the variability of minimum values (Map 3.8) is roughly opposite.

The differences between the normal periods 1931-1960 and 1961-1990 are shown in Maps 3.4 and 3.9. They show that the old normal period was warmer than the last one in most of the region studied. The difference was greater in minimum temperatures, which is also reflected in the daily temperature range (cf. Map 3.12).

Absolute highest and lowest measured monthly and annual values in the REWARD-dataset are listed in Tables 3.3 and 3.6. The highest and lowest annual values are in addition presented in Maps 3.5 and 3.10. However, it should be remembered that there are plenty of other stations in respective countries. Their all-time highest and lowest temperatures are presented in chapter 5.

The difference between daily maximum and minimum values is called diurnal temperature range (DTR). This element is based on mean daily maximum and minimum temperatures (cf. Tables 3.1 and 3.4). The mean annual values are between 3 and 9°C in the region studied (Map 3.11) depending mainly on the degree of continentality. The change between the two normal periods (Map 3.12) is mostly negative corresponding very well with the other studies in this subject.

Table 3.1 Monthly and annual mean maximum temperatures.

Country	Inlet	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	2.3	2.0	3.6	7.4	12.3	17.2	19.8	19.4	15.9	11.4	7.0	4.2	10.2	106
DK	VEST	2.6	2.5	5.1	9.4	14.6	17.8	19.7	19.3	16.1	11.7	7.2	4.3	10.9	106
DK	NORD	2.8	2.8	5.4	9.9	15.2	18.4	20.2	19.9	17.0	12.3	7.5	4.4	11.3	106
DK	TRAN	2.3	2.2	4.5	9.2	14.7	18.9	20.8	20.1	16.5	11.8	7.1	4.0	11.0	106
DK	KØBE	2.5	2.6	5.7	10.8	16.5	20.1	21.9	21.2	17.4	12.3	7.2	4.1	11.9	106
FIN	MAAR	-0.7	-1.3	1.4	6.2	12.4	16.9	20.1	18.9	14.2	8.9	4.3	1.4	8.6	85
FIN	HELS	-2.8	-3.3	0.2	6.0	13.1	18.3	21.0	19.2	13.9	8.1	3.1	-0.5	8.0	106
FIN	TURK	-2.9	-3.0	1.1	7.4	14.7	19.3	22.1	20.1	14.5	8.3	2.8	-0.7	8.7	90
FIN	HUIT	-3.8	-3.8	0.7	6.9	14.4	19.0	21.9	19.4	13.8	7.3	1.7	-1.8	8.0	91
FIN	TAMP	-4.4	-4.2	0.5	6.8	14.3	19.3	21.9	19.5	13.7	7.1	1.6	-2.1	7.8	91
FIN	HATT	-4.4	-4.2	0.8	7.2	15.3	20.0	22.3	20.2	14.2	7.3	1.6	-2.0	8.2	71
FIN	HEIN	-5.1	-4.8	0.2	6.9	14.7	19.4	21.9	19.4	13.5	6.8	1.2	-2.6	7.7	84
FIN	LAPP	-5.6	-5.4	-0.4	6.4	14.1	19.2	21.8	19.4	13.3	6.5	0.7	-3.2	7.2	83
FIN	JYVA	-5.8	-5.6	-0.3	6.1	13.6	18.8	21.5	18.9	12.6	5.8	0.3	-3.5	6.9	87
FIN	VAAS	-4.0	-4.0	0.1	5.9	12.8	17.9	21.0	18.9	13.2	7.0	1.5	-1.9	7.4	86
FIN	YLIS	-4.6	-4.4	0.4	6.5	14.1	19.1	21.6	19.5	13.6	7.0	1.2	-2.2	7.7	68
FIN	AHTA	-5.7	-5.2	-0.1	5.8	13.4	18.4	21.2	18.6	12.6	5.8	0.3	-3.4	6.8	83
FIN	KUOP	-6.5	-6.2	-0.9	5.4	13.0	18.3	21.2	18.5	12.4	5.5	0.0	-4.2	6.4	86
FIN	MAAN	-6.9	-6.4	-0.9	5.2	13.0	18.6	21.1	18.6	12.4	5.8	0.0	-4.2	6.3	64
FIN	JOEN	-7.4	-6.8	-1.3	5.0	13.1	18.8	21.3	18.8	12.4	5.5	-0.3	-4.6	6.2	62
FIN	KAJA	-7.6	-7.3	-1.9	4.6	12.0	18.0	20.8	18.1	11.7	4.4	-1.2	-5.1	5.5	89
FIN	OULU	-6.5	-6.4	-1.8	4.1	11.3	17.3	20.7	18.2	12.2	5.1	-0.5	-4.1	5.8	86
FIN	KUUS	-9.3	-8.9	-3.7	2.3	9.2	15.9	19.1	16.3	9.7	2.3	-3.1	-6.9	3.6	78
FIN	SODA	-9.4	-8.9	-3.5	2.4	9.0	16.0	19.4	16.4	9.8	2.0	-3.8	-7.2	3.5	86
FR	TORS	5.6	5.6	6.0	7.3	9.2	11.4	12.9	12.9	11.5	9.2	7.2	6.2	8.7	106
G	UPER	-15.8	-17.3	-16.0	-9.2	0.0	5.2	8.7	8.3	3.4	-1.8	-6.5	-11.8	-4.4	99
G	ILUL	-11.4	-12.2	-10.5	-4.3	3.4	8.2	11.1	9.8	5.2	-0.7	-5.0	-8.3	-1.2	98
G	NUUK	-5.4	-5.3	-3.9	-0.5	4.6	8.6	11.0	10.2	6.6	1.9	-1.4	-3.8	1.9	102
G	NARS	-3.1	-2.4	-0.4	3.5	8.7	12.5	14.1	12.9	9.0	4.4	0.4	-2.2	4.8	100
G	DANM	-18.8	-19.8	-19.4	-13.2	-3.7	3.5	6.6	5.1	-1.9	-10.6	-15.8	-17.9	-8.8	47
G	ITTO	-11.7	-12.4	-11.8	-6.9	-0.2	4.5	7.1	6.6	2.4	-3.8	-8.2	-10.7	-3.8	65
G	TASI	-4.3	-4.5	-2.7	1.2	5.5	9.1	11.4	10.5	6.8	2.0	-1.5	-3.4	2.5	96
IC	STYK	1.0	1.6	2.0	4.5	8.0	11.0	12.7	12.3	9.5	6.2	3.5	1.7	6.2	44
IC	REYK	1.9	2.7	3.4	5.7	9.4	11.9	13.6	13.2	10.5	7.0	3.9	2.3	7.1	47
IC	VEST	3.3	3.8	3.9	5.4	8.0	10.2	11.9	11.8	9.5	6.9	4.7	3.5	6.9	47
IC	AKUR	1.2	1.8	2.5	5.2	9.7	13.1	14.4	13.8	10.4	6.2	3.2	1.5	6.9	47
IC	TEIG	2.2	2.6	2.8	4.8	7.3	10.2	11.7	11.6	9.3	6.5	3.9	2.7	6.3	31
N	KJØR	-5.3	-3.9	0.5	5.0	11.5	15.7	17.8	16.4	11.4	5.3	-0.9	-3.6	5.8	63
N	OSLO	-1.9	-0.8	3.7	9.4	16.1	20.1	21.9	20.5	15.3	9.3	3.2	-0.2	9.7	58
N	NESB	-5.9	-3.4	3.8	9.5	16.4	21.1	22.5	20.8	15.2	8.0	-0.3	-4.5	8.6	40
N	FERD	1.2	0.7	2.8	7.0	12.9	17.2	19.4	18.8	15.2	10.8	6.3	3.5	9.7	65
N	OKSØ	2.4	2.0	3.8	7.4	12.3	16.1	18.4	18.2	15.1	11.1	7.1	4.4	9.9	64
N	UTSI	3.9	3.3	4.5	6.9	11.0	13.6	15.7	16.1	13.9	10.8	7.6	5.5	9.4	65
N	BERG	3.7	3.8	5.9	9.1	13.8	16.4	18.3	17.7	14.6	10.7	6.9	4.8	10.5	92
N	LÆRD	1.0	0.9	4.9	9.6	15.5	19.0	20.4	18.9	14.2	9.2	4.6	2.2	10.0	42
N	ONA	4.3	3.9	5.0	6.6	9.6	12.2	14.2	15.0	13.1	10.2	7.4	5.5	8.9	62
N	TROM	-1.8	-1.9	-0.3	2.9	7.2	12.4	15.6	14.1	9.6	4.7	1.2	-0.6	5.3	65
N	KARA	-10.7	-9.6	-3.8	1.5	7.4	14.5	17.7	15.2	9.2	1.7	-4.9	-9.1	2.4	45
N	VARD	-2.3	-2.8	-1.6	1.0	4.7	8.6	11.5	11.6	8.5	4.0	1.0	-0.9	3.6	63
N	BJØY	-4.4	-4.3	-4.2	-2.6	0.5	3.8	6.6	6.6	4.5	1.4	-1.2	-3.2	0.3	51
N	JAN	-2.4	-2.8	-2.8	-1.1	1.4	4.3	6.7	7.1	4.9	2.4	-0.1	-1.8	1.3	47
S	VÄXJ	0.0	0.5	4.0	9.6	16.0	19.8	21.4	20.0	15.6	10.1	4.7	1.5	10.3	106
S	GÖTE	1.2	1.3	4.3	9.3	15.5	19.0	20.9	19.7	15.8	10.9	6.0	3.0	10.6	106
S	VISB	1.2	0.8	3.0	7.6	13.3	17.7	20.2	19.2	15.2	10.4	5.8	3.0	9.8	103
S	KARL	-0.9	-0.5	3.2	8.7	15.4	19.7	21.8	20.0	15.3	9.6	4.1	0.8	9.8	106
S	STOC	-0.5	-0.5	2.8	8.2	14.8	19.4	21.8	19.9	15.1	9.4	4.2	1.2	9.6	106
S	FALU	-3.0	-1.6	2.9	8.2	15.2	19.7	21.7	19.6	14.4	8.3	2.4	-1.2	8.9	101
S	HÄRN	-2.7	-1.9	1.7	6.2	12.3	17.5	20.6	18.8	14.0	8.1	2.5	-0.9	8.0	104
S	ÖSTE	-4.9	-3.6	0.6	5.7	12.1	16.9	19.4	17.2	12.0	5.8	0.4	-2.9	6.6	106
S	STEN	-8.2	-6.4	-1.4	3.8	10.2	15.8	18.5	16.0	10.6	3.9	-2.3	-6.0	4.5	106
S	HAPA	-7.0	-7.3	-2.8	3.2	10.0	16.7	20.1	17.6	11.5	4.6	-1.0	-4.7	5.1	106
S	JOKK	-9.9	-8.3	-2.3	3.5	10.0	16.3	19.4	16.5	10.5	2.9	-4.1	-7.8	3.9	105

Table 3.2 Mean of monthly and annual absolute maximum temperatures.

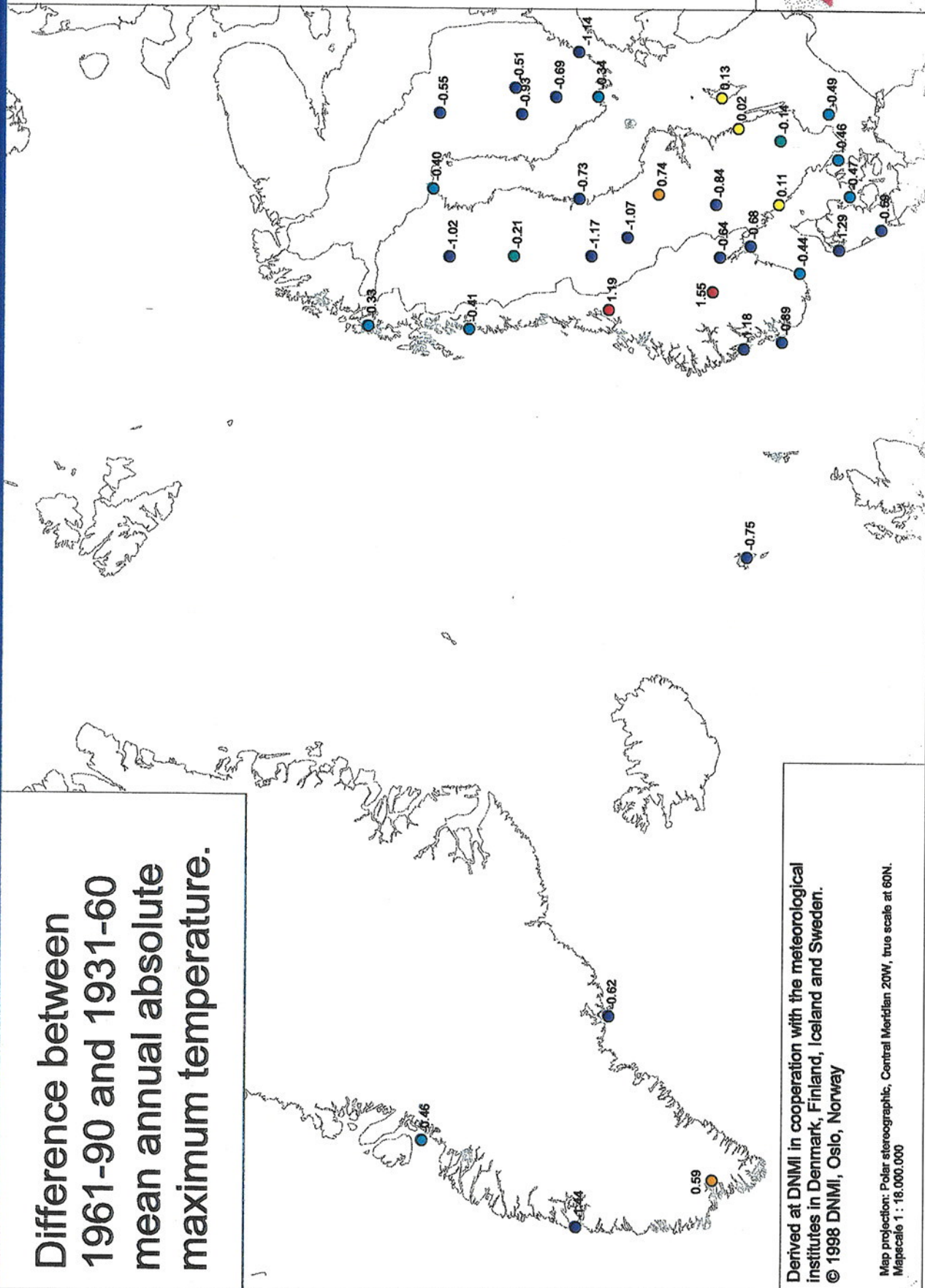
Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	6.5	6.3	10.2	15.0	20.8	23.7	25.3	24.8	21.2	16.5	11.3	8.2	15.8	106
DK	VEST	6.8	6.3	10.7	16.7	23.3	25.6	26.9	25.7	21.2	16.2	11.3	8.4	16.6	106
DK	NORD	6.7	6.7	10.8	16.8	23.2	26.1	27.5	25.9	21.8	16.8	11.5	8.4	16.9	106
DK	TRAN	6.6	6.5	9.8	15.5	21.3	24.8	26.2	25.0	21.1	16.4	11.1	8.3	16.1	106
DK	KØBE	7.3	7.7	12.0	17.9	23.9	26.6	27.6	26.6	22.4	17.3	11.7	9.0	17.5	106
FIN	MAAR	4.5	4.4	7.3	13.2	20.2	23.5	25.7	23.9	19.0	13.8	8.7	6.1	14.2	86
FIN	HELS	3.2	3.0	6.2	13.5	21.2	24.9	26.5	24.5	18.7	13.2	8.2	4.9	14.0	106
FIN	TURK	3.7	3.4	7.2	15.6	23.2	26.5	27.9	25.7	20.2	14.1	8.6	5.2	15.1	93
FIN	HUIT	3.2	2.9	7.0	15.5	23.6	26.8	28.2	25.9	20.2	13.6	7.8	4.4	14.9	91
FIN	TAMP	3.0	2.7	7.4	15.3	23.2	26.5	28.0	25.7	19.8	13.4	7.5	4.1	14.7	93
FIN	HATT	2.8	2.7	7.6	15.8	24.1	27.2	28.3	26.4	20.5	13.8	7.9	4.2	15.1	70
FIN	HEIN	2.5	2.5	7.4	15.6	23.6	26.7	28.1	25.7	19.7	13.2	7.4	3.8	14.7	83
FIN	LAPP	1.8	2.0	6.6	15.5	23.4	26.9	28.3	26.0	19.9	12.9	6.9	3.2	14.4	83
FIN	JYVA	2.3	2.6	7.3	14.9	23.3	26.7	27.8	25.7	19.3	12.8	6.9	3.5	14.4	94
FIN	VAAS	3.4	3.2	6.2	13.6	21.1	25.3	27.1	25.0	19.1	12.5	7.3	4.5	14.0	85
FIN	YLIS	3.3	3.1	7.1	15.0	23.0	26.8	27.9	26.1	20.1	13.5	7.6	4.6	14.8	67
FIN	AHTA	2.1	2.3	6.9	13.9	22.2	26.0	27.3	25.0	18.8	12.2	6.4	3.1	13.9	84
FIN	KUOP	1.7	1.5	6.0	13.2	22.2	26.0	27.6	25.0	18.4	11.7	6.0	2.5	13.5	90
FIN	MAAN	2.2	2.0	6.2	13.2	22.1	26.1	27.3	25.4	18.8	12.3	6.7	3.2	13.8	64
FIN	JOEN	1.4	1.4	5.5	13.4	22.7	26.7	27.9	25.6	19.1	11.8	6.2	2.7	13.7	62
FIN	KAJA	1.8	1.5	5.4	12.7	21.5	25.8	27.2	24.9	18.4	11.1	5.4	2.5	13.2	91
FIN	OULU	2.5	2.0	5.0	12.1	20.8	25.9	27.7	25.2	18.7	11.4	6.1	3.3	13.4	90
FIN	KUUS	0.5	-0.1	3.6	9.7	19.3	24.5	26.2	23.5	16.7	9.1	3.6	1.0	11.5	80
FIN	SODA	1.3	0.9	4.5	9.8	19.1	25.2	27.2	23.9	16.7	9.4	3.6	1.7	12.0	87
FR	TORS	9.8	9.3	9.8	10.9	13.9	15.8	16.6	16.5	14.9	13.1	10.9	10.3	12.6	106
G	UPER	-1.2	-2.5	-1.3	2.1	7.9	12.2	15.1	14.0	9.5	5.2	2.6	-0.3	5.3	99
G	ILUL	2.8	2.1	2.5	5.7	11.3	15.6	16.9	15.7	12.7	8.0	5.4	3.6	8.5	101
G	NUUK	4.9	5.0	5.3	7.3	11.3	15.9	17.0	15.9	12.2	8.2	6.4	5.6	9.6	102
G	NARS	7.7	7.9	8.8	11.3	15.7	18.8	19.6	18.2	15.5	12.5	10.1	8.2	12.8	100
G	DANM	-6.0	-7.0	-8.8	-4.4	3.9	10.1	13.1	11.2	4.4	-1.7	-5.3	-6.5	0.3	47
G	ITTO	-1.2	-1.3	-1.5	1.7	6.0	10.4	13.2	11.8	8.2	3.6	0.6	-0.6	4.2	65
G	TASI	3.6	3.5	4.8	7.4	11.0	15.0	17.4	15.9	12.6	8.2	5.5	4.4	9.1	99
IC	STYK	7.7	7.2	7.9	9.5	13.3	14.9	16.2	15.7	13.7	11.2	9.3	8.1	11.2	44
IC	REYK	7.9	7.6	8.2	10.3	14.4	16.2	17.9	16.7	14.1	11.6	9.2	8.4	11.9	47
IC	VEST	7.7	7.4	7.6	8.7	11.3	13.3	15.1	14.8	12.1	9.8	8.4	7.9	10.4	42
IC	AKUR	10.0	9.1	10.3	12.6	18.1	20.5	21.7	20.5	17.4	13.8	11.3	10.2	14.6	46
IC	TEIG	8.9	8.4	9.1	10.9	13.9	16.5	18.1	16.6	14.7	11.6	10.3	9.7	12.4	31
N	KJØR	4.0	4.1	6.5	10.9	18.3	22.7	24.3	21.9	17.1	11.9	6.1	4.6	12.7	103
N	OSLO	5.8	6.7	11.1	17.4	24.0	27.7	28.6	26.0	21.0	15.8	9.5	6.6	16.7	106
N	NESB	5.9	6.7	10.2	15.8	23.3	27.3	28.3	25.7	20.8	15.3	8.5	6.2	16.1	97
N	FERD	6.0	5.1	6.8	11.6	18.4	21.9	23.5	21.8	18.0	14.2	10.2	7.8	13.8	106
N	OKSØ	7.2	6.7	8.1	12.2	17.4	21.2	22.5	21.3	18.2	14.5	10.7	8.6	14.0	106
N	UTSI	7.3	6.3	7.4	11.4	16.8	18.7	20.6	19.9	17.1	13.8	10.3	8.5	13.2	106
N	BERG	8.5	8.3	10.9	15.6	21.3	23.7	25.2	23.9	20.3	16.1	11.7	9.7	16.3	106
N	LÆRD	9.0	8.0	9.9	14.5	20.7	24.0	26.1	23.6	19.0	15.4	11.3	9.7	15.9	105
N	ONA	8.4	7.6	8.6	11.4	15.2	17.4	19.1	19.2	16.9	14.4	11.2	9.6	13.3	103
N	VÆRN	7.1	6.9	9.2	14.3	21.0	25.0	26.8	24.4	19.8	14.8	9.8	8.2	15.6	106
N	BODØ	6.3	5.6	6.3	10.5	16.5	21.3	24.0	21.9	17.0	11.9	8.5	7.2	13.1	106
N	TROM	4.8	4.0	4.8	7.9	14.1	20.5	23.0	20.7	15.2	10.2	6.8	5.3	11.4	106
N	KARA	1.9	1.3	3.8	7.9	16.0	24.1	26.0	23.0	16.4	8.8	3.8	2.1	11.3	104
N	VARD	2.9	2.2	2.9	5.6	10.6	15.8	18.5	17.2	13.1	8.3	4.8	3.3	8.8	104
N	BJØY	2.8	2.4	2.5	2.8	5.0	9.1	12.8	12.0	8.8	6.0	3.9	3.1	5.9	68
N	SVAL	1.0	1.0	1.3	1.9	4.9	10.4	14.2	12.3	7.8	4.6	2.7	2.4	5.4	39
N	JAN	3.5	3.1	2.8	4.0	6.0	9.4	10.9	11.1	9.1	7.2	5.1	4.1	6.4	71
S	VAXJ	5.4	6.0	11.1	17.7	24.3	26.9	27.8	26.0	21.3	16.0	9.9	6.9	16.6	105
S	GÖTE	5.9	5.7	10.3	17.1	24.0	26.1	27.4	25.7	21.0	16.0	10.6	7.6	16.4	106
S	VÄST	6.8	7.4	12.1	17.0	23.2	26.5	27.8	26.1	21.9	17.0	10.9	8.2	17.1	104
S	VISB	5.5	5.0	8.8	15.8	22.0	25.2	26.5	25.3	21.0	15.6	9.9	7.2	15.7	104
S	KARL	5.6	6.0	10.0	16.4	23.4	26.4	27.7	25.2	20.2	15.4	10.1	6.9	16.1	106
S	FALU	4.8	5.5	10.0	16.4	23.8	26.9	28.3	25.8	20.4	15.0	8.8	5.9	16.0	102
S	SVEG	4.0	4.8	8.6	14.0	22.4	26.5	27.8	25.0	19.5	13.9	7.0	4.3	14.8	106
S	HARN	5.3	6.1	9.5	13.9	20.6	24.6	26.5	24.3	19.5	14.7	8.5	5.6	14.9	104
S	ÖSTE	4.3	4.5	7.7	13.0	21.1	25.4	26.7	24.0	18.2	12.8	7.0	4.7	14.1	106
S	STEN	2.8	3.4	6.0	10.4	18.9	23.9	25.3	22.3	16.7	11.0	5.0	3.3	12.4	106
S	HAPA	2.4	2.3	5.1	9.9	18.6	24.6	26.8	23.9	17.2	11.0	5.5	3.1	12.5	105
S	JOKK	2.9	3.3	6.1	10.3	19.1	24.8	26.8	23.2	17.0	10.9	4.9	3.5	12.7	105

3.4

Nordic Atlas of Climatic Extremes

Difference between 1961-90 and 1931-60 mean annual absolute maximum temperature.

- Difference(°C):
- -1.5 -- -1
 - -1 -- -0.5
 - -0.5 -- -0.25
 - -0.25 -- 0
 - 0 -- 0.25
 - 0.25 -- 0.5
 - 0.5 -- 1
 - 1 -- 1.5
 - 1.5 -- 2



This map shows only a few selected stations, which may not be representative for a larger area. For more precise information about climatic extremes, contact the national meteorological services.



Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18,000,000

3.5

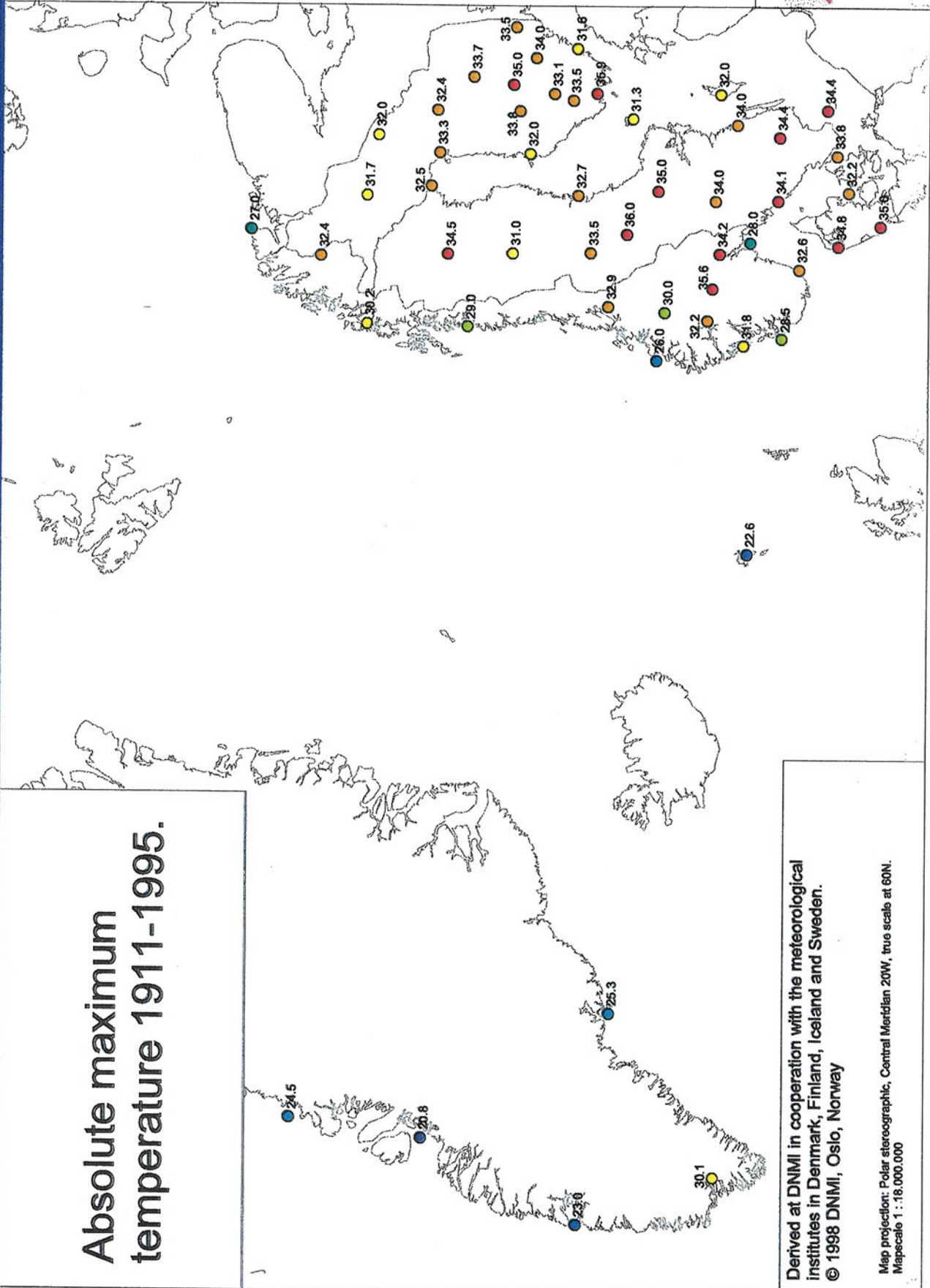
Nordic Atlas of Climatic Extremes

Absolute maximum temperature 1911-1995.

- Temperature (°C):
- 20 - 22
 - 22 - 24
 - 24 - 26
 - 26 - 28
 - 28 - 30
 - 30 - 32
 - 32 - 34
 - 34 - 36

Monthly absolute maximum temperatures are listed in table 3.3.

This map shows only a few selected stations, which may not be representative for a larger area.
For more precise information about climatic extremes, contact the national meteorological services.

Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20°W, true scale at 60N.
Map scale 1 : 18,000,000

Table 3.3 Absolute monthly and annual maximum temperatures for the whole period available at each station.

Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	10.8	14.9	18.3	23.5	28.4	32.9	30.4	34.4	27.9	23.1	17.2	12.1	34.4	106
DK	VEST	10.1	13.2	18.6	25.1	28.8	34.1	34.5	34.8	30.0	21.8	15.3	12.5	34.8	106
DK	NORD	9.6	10.9	18.0	26.8	30.0	33.0	35.0	33.6	29.0	20.4	14.1	14.5	35.0	106
DK	TRAN	10.4	12.0	16.3	21.7	26.7	30.1	31.7	32.2	26.4	21.4	15.4	11.5	32.2	106
DK	KØBE	10.7	15.8	21.0	26.2	28.3	33.3	32.3	33.8	28.8	23.2	16.7	12.7	33.8	106
FIN	MAAR	10.9	11.2	14.1	21.1	26.7	29.4	31.3	31.0	25.0	19.0	13.0	10.4	31.3	86
FIN	HELS	8.5	9.6	12.4	21.9	27.6	30.9	31.6	31.2	26.2	17.4	11.6	9.6	31.6	106
FIN	TURK	7.9	10.2	13.0	24.5	30.0	32.0	35.9	31.8	27.8	18.9	11.2	9.1	35.9	93
FIN	HUIT	8.5	9.5	14.2	24.4	29.0	32.3	33.5	31.4	28.4	18.0	11.0	9.9	33.5	91
FIN	TAMP	8.3	9.2	14.7	22.7	28.4	32.2	33.1	32.1	26.7	17.8	11.5	9.1	33.1	93
FIN	HATT	7.7	10.0	15.0	23.2	29.4	33.1	33.4	32.0	27.0	18.0	12.6	8.6	33.4	70
FIN	HEIN	7.0	9.3	14.8	23.7	29.9	32.0	34.0	32.1	27.0	18.0	11.0	8.6	34.0	83
FIN	LAPP	6.3	7.5	13.1	24.0	29.2	33.2	33.5	30.9	27.1	17.4	11.4	8.3	33.5	83
FIN	JYVA	8.2	11.0	15.0	25.5	29.2	32.2	35.0	31.8	26.1	16.6	10.7	8.2	35.0	94
FIN	VAAS	7.5	8.6	13.0	23.6	28.3	31.8	32.0	30.8	27.7	17.2	11.0	8.3	32.0	85
FIN	YLIS	8.4	9.8	12.8	21.7	28.7	31.8	32.8	31.5	27.7	17.9	11.7	8.8	32.8	67
FIN	AHTA	7.9	9.7	13.7	22.8	27.7	33.8	32.4	31.9	26.0	16.8	10.1	7.9	33.8	84
FIN	KUOP	6.1	9.4	13.6	23.2	28.4	30.9	33.7	30.4	25.4	15.7	10.6	7.1	33.7	90
FIN	MAAN	8.0	9.2	12.8	19.3	27.5	30.1	31.9	30.4	25.2	17.0	10.5	7.3	31.9	64
FIN	JOEN	6.7	7.8	12.8	19.4	28.7	30.7	32.0	30.4	25.8	16.6	10.2	5.8	32.0	62
FIN	KAJA	8.7	7.0	11.8	23.5	28.0	30.6	32.4	30.7	25.2	15.0	10.0	7.3	32.4	91
FIN	OULU	9.0	6.2	10.0	23.9	29.2	32.0	33.3	32.1	26.0	17.0	10.4	8.1	33.3	90
FIN	KUUS	6.1	5.8	9.5	21.6	25.9	30.5	32.0	29.0	24.2	12.8	9.5	5.0	32.0	80
FIN	SODA	6.5	6.5	9.0	17.4	26.9	31.3	31.7	28.6	24.0	14.5	9.2	5.5	31.7	87
FR	TORS	14.8	11.9	13.0	15.0	19.7	20.6	22.6	22.1	19.5	18.4	14.6	13.2	22.6	106
G	UPER	12.8	17.5	11.5	10.0	18.0	24.5	19.8	20.8	16.1	13.0	11.7	8.7	24.5	99
G	ILUL	15.1	9.5	12.0	12.7	17.1	20.8	21.9	20.6	20.2	17.0	13.4	11.6	21.9	101
G	NUUK	16.3	13.0	14.2	16.4	18.5	23.0	24.2	22.0	20.4	18.2	13.9	17.5	24.2	102
G	NARS	15.0	14.5	16.0	16.8	20.0	30.1	24.0	24.0	21.2	19.5	17.0	15.6	30.1	100
G	DANM	4.5	9.1	0.3	3.8	11.8	16.9	16.4	15.1	8.5	9.1	2.4	3.8	16.9	47
G	ITTO	10.5	10.8	10.6	16.0	13.6	18.5	23.0	18.1	16.6	12.6	11.0	17.2	23.0	65
G	TASI	8.9	15.2	15.1	14.1	17.9	25.3	24.8	25.2	21.2	14.9	13.4	9.8	25.3	99
IC	STYK	10.6	9.9	10.0	12.0	16.6	17.9	21.0	20.8	16.2	14.6	11.4	10.7	21.0	44
IC	REYK	9.9	9.5	13.0	14.7	20.6	20.7	24.3	19.9	18.5	15.7	11.7	10.7	24.3	47
IC	VEST	8.8	10.0	9.0	11.3	14.9	17.6	18.7	19.1	15.4	13.3	9.9	8.9	19.1	42
IC	AKUR	17.5	13.8	15.0	19.8	24.6	29.4	27.6	27.7	21.8	19.5	17.6	15.1	29.4	46
IC	TEIG	13.7	11.8	16.0	16.0	21.0	22.4	26.4	23.6	23.1	17.7	17.3	15.0	26.4	31
N	KJØR	10.0	11.0	13.8	19.4	25.0	28.9	30.0	28.9	25.6	20.4	11.5	9.4	30.0	103
N	OSLO	12.5	13.8	17.5	25.9	28.6	33.7	35.0	34.2	26.4	23.1	14.4	12.6	35.0	106
N	NESB	13.0	12.8	16.8	24.6	29.6	35.6	34.6	34.6	27.8	22.0	15.8	12.8	35.6	97
N	FERD	10.5	10.6	12.6	17.5	24.5	27.5	28.0	27.8	24.3	18.9	14.2	12.2	28.0	106
N	OKSØ	10.8	11.8	14.8	18.0	22.9	28.3	27.0	32.6	22.2	19.4	13.0	12.8	32.6	106
N	UTSI	13.0	9.0	14.9	20.2	23.4	28.5	26.9	27.5	23.3	17.9	14.2	10.9	28.5	106
N	BERG	15.7	12.9	19.8	22.8	27.1	31.8	31.4	30.4	26.0	22.1	16.7	16.4	31.8	106
N	LÆRD	15.9	15.3	16.8	19.6	26.8	29.9	32.2	31.0	24.5	20.6	17.5	14.8	32.2	105
N	ONA	11.4	12.4	14.2	19.4	24.1	25.1	26.0	25.9	23.3	19.8	15.5	14.4	26.0	103
N	VÆRN	13.7	13.8	15.7	21.1	27.9	31.7	35.0	31.3	27.0	20.9	15.3	13.2	35.0	106
N	BODØ	11.8	9.6	11.5	17.6	24.3	28.8	29.4	28.1	24.3	18.2	13.8	10.8	29.4	106
N	TROM	8.4	8.2	8.6	13.9	24.1	29.5	30.2	27.4	22.4	17.2	11.3	9.7	30.2	106
N	KARA	6.6	7.0	8.0	14.0	26.0	31.1	32.4	29.5	24.9	14.8	8.4	6.7	32.4	104
N	VARD	5.9	6.7	8.4	13.3	20.8	25.0	27.0	24.8	19.8	12.8	10.4	7.0	27.0	104
N	BJØY	5.3	5.0	6.2	5.7	16.5	23.6	22.4	21.5	15.5	10.5	8.4	6.4	23.6	68
N	SVAL	5.2	5.9	6.3	5.6	14.3	15.5	21.3	16.5	15.2	9.9	7.5	7.2	21.3	39
N	JAN	7.7	10.0	8.0	9.8	11.3	18.1	15.0	15.7	13.4	15.0	10.0	7.5	18.1	71
S	VAXJ	9.4	13.8	20.0	26.8	29.5	32.5	32.9	34.4	27.6	21.9	14.0	11.5	34.4	105
S	GÖTE	9.5	9.9	18.0	28.0	30.3	32.0	32.5	34.1	28.5	21.0	20.0	10.6	34.1	106
S	VAST	11.5	16.5	23.6	26.8	29.0	33.2	34.0	33.6	27.4	24.0	15.0	13.6	34.0	104
S	VISB	10.0	12.2	18.6	24.7	27.7	31.4	32.0	31.8	28.3	21.0	15.0	11.0	32.0	104
S	KARL	16.4	11.5	17.3	23.8	29.0	32.5	34.0	32.0	25.2	20.0	28.0	11.2	34.0	106
S	FALU	10.0	12.0	16.6	26.4	28.2	33.2	33.2	35.0	27.0	21.8	13.0	12.2	35.0	102
S	SVEG	10.0	10.0	16.0	22.5	27.6	35.0	36.0	33.0	27.4	20.0	14.0	8.5	36.0	106
S	HÄRN	10.5	12.5	19.0	21.5	27.4	34.5	33.0	31.5	25.5	20.6	13.8	10.3	34.5	104
S	ÖSTE	10.0	10.4	16.5	20.5	28.5	33.5	33.0	31.7	25.2	17.8	12.2	9.3	33.5	106
S	STEN	9.0	11.0	11.1	19.0	27.2	30.0	31.0	28.8	25.2	16.0	11.2	8.2	31.0	106
S	HAPA	8.4	7.8	10.3	18.5	26.0	31.0	33.0	29.7	24.0	17.0	11.5	7.5	33.0	105
S	JOKK	9.2	8.0	10.2	18.5	28.0	31.0	34.5	30.5	23.2	18.5	10.8	9.8	34.5	105

Table 3.4 Monthly and annual mean minimum temperatures

Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	-1.1	-1.6	-0.3	2.3	6.3	10.9	13.9	14.1	11.4	7.6	3.6	0.9	5.7	106
DK	VEST	-2.0	-2.6	-0.6	2.3	6.2	9.7	12.2	12.2	9.7	6.2	2.6	-0.2	4.6	106
DK	NORD	-1.4	-1.9	0.0	3.0	7.1	10.7	13.0	12.9	10.4	6.7	2.8	0.1	5.3	106
DK	TRAN	-1.4	-2.0	-0.3	2.7	6.9	10.4	12.7	12.6	10.2	6.6	3.0	0.4	5.2	106
DK	KØBE	-1.6	-2.0	0.0	3.2	7.7	11.5	13.6	13.3	10.2	6.6	3.0	0.1	5.5	106
FIN	MAAR	-6.6	-8.1	-5.8	-1.4	3.0	7.5	11.1	10.6	7.0	3.0	-0.5	-4.1	1.3	84
FIN	HELS	-8.3	-9.1	-5.9	-0.5	5.2	10.3	13.5	12.3	8.0	3.3	-1.2	-5.5	1.8	106
FIN	TURK	-8.7	-9.4	-6.5	-1.1	3.9	8.9	11.8	10.7	6.6	2.3	-1.9	-5.8	0.9	91
FIN	HUIT	-10.7	-11.6	-8.3	-2.1	2.8	7.4	10.2	9.1	5.3	1.1	-3.3	-7.5	-0.7	91
FIN	TAMP	-11.2	-11.7	-8.3	-2.4	3.0	8.1	11.1	9.6	5.8	1.3	-3.1	-7.8	-0.4	91
FIN	HATT	-11.5	-12.2	-8.8	-2.3	2.8	7.7	10.4	9.4	5.5	1.3	-3.0	-7.8	-0.7	71
FIN	HEIN	-11.6	-12.2	-8.1	-2.0	3.7	8.7	11.7	10.5	6.2	1.4	-3.1	-8.1	-0.2	83
FIN	LAPP	-11.8	-12.1	-8.0	-1.9	4.0	9.3	12.3	10.9	6.3	1.3	-3.6	-8.7	-0.1	82
FIN	JYVA	-12.2	-12.3	-8.7	-2.5	3.3	8.6	11.4	9.9	5.4	0.9	-3.8	-8.9	-0.7	92
FIN	VAAS	-11.4	-11.8	-8.5	-2.8	2.5	7.5	10.8	9.5	5.5	1.1	-3.8	-8.3	-0.8	84
FIN	YLIS	-12.0	-12.5	-9.0	-2.6	2.1	7.0	9.6	8.5	4.6	0.7	-3.9	-8.5	-1.3	68
FIN	AHTA	-13.4	-14.0	-10.6	-4.3	1.2	6.1	9.0	7.8	4.0	-0.3	-4.9	-9.8	-2.5	80
FIN	KUOP	-12.8	-12.7	-8.6	-2.3	3.8	9.2	12.3	10.8	6.0	0.8	-4.3	-9.6	-0.6	85
FIN	MAAN	-14.6	-14.6	-10.6	-3.6	2.5	8.4	10.9	9.5	5.1	0.6	-4.7	-10.6	-1.8	65
FIN	JOEN	-15.0	-14.7	-10.5	-3.7	2.3	8.6	11.4	9.8	5.1	0.1	-5.3	-11.1	-1.9	61
FIN	KAJA	-16.0	-16.0	-11.8	-4.9	1.1	6.9	10.0	8.4	3.9	-1.1	-6.7	-12.4	-3.2	90
FIN	OULU	-14.5	-14.8	-11.0	-4.3	1.8	8.1	11.3	9.5	4.7	-0.5	-6.1	-11.0	-2.2	90
FIN	KUUS	-18.0	-17.8	-14.3	-7.9	-0.7	6.2	9.2	7.3	2.8	-2.9	-9.3	-14.4	-5.0	78
FIN	SODA	-19.5	-19.3	-15.2	-8.1	-0.3	6.0	8.7	6.5	2.0	-4.1	-11.3	-16.5	-5.9	86
FR	TORS	1.1	1.2	1.5	2.6	4.7	6.8	8.5	8.5	7.1	5.0	3.0	1.6	4.3	106
G	UPER	-21.9	-24.1	-23.9	-17.3	-6.4	-0.6	2.5	2.5	-1.2	-6.0	-11.1	-17.1	-10.4	100
G	ILUL	-18.8	-20.4	-19.2	-13.2	-3.3	2.2	4.7	3.7	-0.5	-6.5	-11.1	-15.0	-8.1	101
G	NUUK	-11.3	-11.5	-10.1	-6.5	-1.6	1.4	3.5	3.5	1.2	-2.8	-6.5	-9.5	-4.2	102
G	NARS	-10.4	-10.2	-8.4	-4.2	0.9	4.1	5.9	5.3	2.4	-1.9	-6.0	-9.1	-2.6	102
G	DANM	-27.2	-28.3	-27.7	-22.1	-10.6	-1.8	0.8	-0.4	-6.8	-16.7	-23.1	-25.9	-15.8	47
G	ITTO	-19.8	-20.8	-20.6	-15.7	-6.9	-1.2	0.8	0.8	-2.3	-8.3	-14.3	-17.9	-10.5	46
G	TASI	-11.1	-11.9	-11.2	-7.9	-2.2	1.1	2.9	2.6	0.4	-3.4	-7.1	-9.7	-4.8	97
IC	STYK	-3.4	-2.8	-2.5	-0.4	2.8	5.9	7.8	7.6	5.2	2.2	-0.6	-2.7	1.6	44
IC	REYK	-3.2	-2.3	-1.8	0.4	3.7	6.7	8.5	8.0	5.4	2.4	-0.8	-2.7	2.0	47
IC	VEST	-0.8	-0.1	0.0	1.5	4.3	6.6	8.3	8.4	6.2	3.7	1.0	-0.6	3.2	47
IC	AKUR	-5.4	-4.6	-3.9	-1.6	2.4	5.9	7.7	7.1	4.0	0.5	-2.7	-5.0	0.4	47
IC	TEIG	-3.1	-2.5	-2.7	-0.8	1.8	4.6	6.3	6.5	4.5	1.9	-1.2	-2.8	1.1	31
N	KJØR	-11.9	-11.0	-7.9	-3.3	1.3	5.2	7.8	6.9	3.3	-1.2	-6.6	-10.2	-2.3	104
N	OSLO	-7.0	-7.0	-3.8	0.7	5.9	10.1	12.5	11.4	7.4	3.2	-1.5	-5.1	2.2	106
N	NESB	-14.1	-12.8	-7.4	-2.0	2.5	7.2	9.7	8.3	4.2	-0.3	-6.7	-12.0	-1.9	97
N	FERD	-2.1	-2.8	-0.9	2.8	7.9	12.5	15.0	14.5	11.3	7.2	2.8	-0.2	5.7	106
N	OKSØ	-1.5	-2.0	-0.5	2.6	7.0	10.7	13.3	13.1	10.5	6.9	3.1	0.3	5.3	106
N	UTSI	0.6	0.2	0.9	3.0	6.3	9.4	11.7	12.2	10.3	7.4	4.2	2.1	5.7	106
N	BERG	-0.4	-0.6	0.6	3.0	6.7	9.6	11.7	11.6	9.1	6.0	2.8	0.8	5.1	106
N	LÆRD	-4.4	-4.4	-1.5	2.4	6.5	9.6	12.0	11.1	7.4	3.3	-0.5	-3.0	3.2	105
N	ONA	0.9	0.7	1.4	3.0	5.8	8.5	10.9	11.4	9.5	6.8	3.9	2.1	5.4	103
N	TROM	-5.8	-6.2	-5.2	-2.4	1.2	5.5	8.3	7.7	4.6	0.5	-2.7	-4.8	0.1	106
N	KARA	-21.8	-21.4	-16.6	-9.0	-0.9	5.0	7.7	5.8	1.5	-5.5	-13.8	-19.2	-7.3	103
N	VARD	-7.4	-7.8	-6.2	-3.1	0.4	3.9	7.0	7.1	4.7	0.2	-3.4	-5.8	-0.9	104
N	BJØY	-9.8	-10.1	-10.4	-7.9	-2.9	0.4	2.8	3.1	1.4	-2.1	-5.3	-8.2	-4.1	68
N	JAN	-7.1	-7.9	-7.7	-5.6	-2.2	0.6	3.2	3.8	1.7	-1.6	-4.3	-6.3	-2.8	71
S	VAXJ	-5.1	-5.5	-3.3	0.3	4.9	8.9	11.3	10.6	7.3	3.7	0.0	-3.0	2.5	106
S	GÖTE	-3.2	-3.7	-1.4	2.1	6.8	11.0	13.3	12.6	9.4	5.6	1.7	-1.2	4.4	106
S	VISB	-2.5	-3.4	-2.0	1.0	5.2	9.8	13.1	12.9	9.6	5.7	2.1	-0.7	4.2	106
S	KARL	-7.0	-7.4	-4.5	-0.1	5.0	9.9	12.3	11.3	7.4	3.3	-1.0	-4.6	2.1	106
S	STOC	-5.0	-5.4	-3.2	0.7	5.6	10.4	13.4	12.5	8.6	4.5	0.3	-2.9	3.3	106
S	FALU	-10.7	-10.5	-6.9	-1.8	3.4	8.4	10.9	9.6	5.5	1.2	-3.5	-8.0	-0.2	106
S	HÄRN	-10.1	-10.1	-6.9	-2.1	2.6	7.8	11.2	10.0	6.0	1.4	-3.2	-7.3	-0.1	106
S	ÖSTE	-12.0	-11.3	-8.0	-2.9	2.1	6.9	9.7	8.6	4.9	0.5	-4.4	-9.0	-1.2	106
S	STEN	-17.1	-16.5	-12.4	-5.7	0.1	5.6	8.4	6.7	2.6	-2.4	-8.7	-14.1	-4.5	106
S	HAPA	-15.4	-15.9	-12.0	-5.3	1.1	7.8	11.1	9.1	4.4	-1.1	-7.0	-12.3	-3.0	106
S	JOKK	-19.8	-18.7	-13.9	-6.7	-0.3	6.2	9.1	7.0	2.1	-4.0	-12.1	-17.1	-5.7	102

Table 3.5 Mean of monthly and annual absolute minimum temperatures.

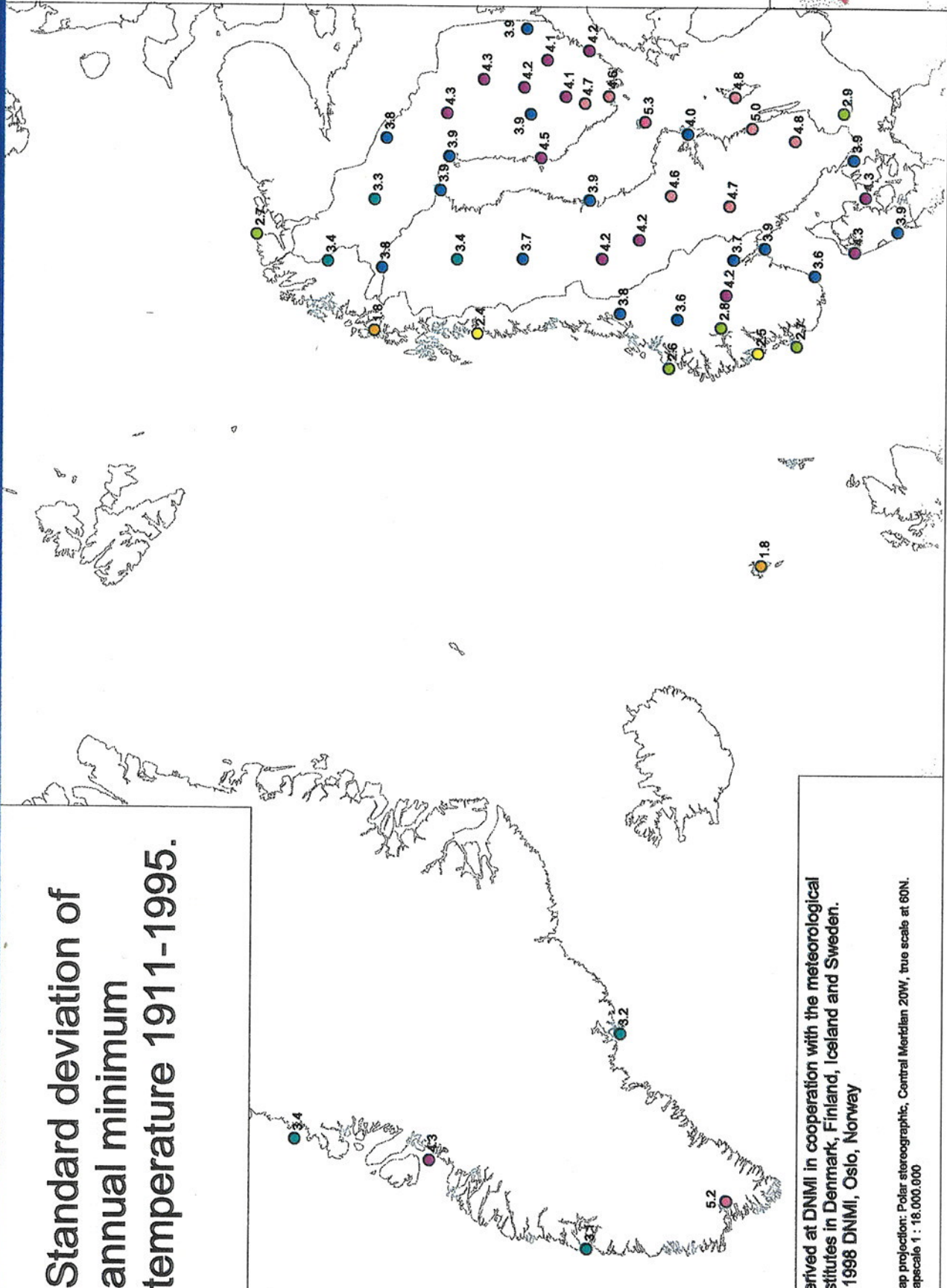
Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N years
DK	HAMM	-5.7	-5.7	-4.6	-1.2	2.3	6.9	10.9	11.1	8.0	3.5	-0.5	-3.9	1.8	106
DK	VEST	-9.5	-9.5	-6.3	-2.4	1.0	4.9	7.9	7.5	4.2	0.3	-3.5	-7.5	-1.1	106
DK	NORD	-9.0	-8.8	-6.1	-2.3	1.2	5.3	8.4	8.0	4.3	0.0	-3.8	-7.2	-0.8	106
DK	TRAN	-7.6	-7.7	-5.4	-1.9	2.0	5.8	8.6	8.1	4.6	0.5	-2.3	-5.6	-0.1	106
DK	KØBE	-7.5	-7.6	-4.9	-1.0	3.1	7.1	9.9	9.4	5.1	0.9	-2.4	-5.7	0.5	106
FIN	MAAR	-17.3	-17.9	-15.7	-7.9	-2.8	1.7	5.9	4.7	-0.1	-4.2	-9.0	-13.3	-6.3	87
FIN	HELS	-20.4	-19.1	-15.6	-6.8	-0.2	5.0	9.4	7.3	1.7	-3.9	-10.0	-16.1	-5.7	106
FIN	TURK	-22.6	-21.5	-18.1	-8.8	-2.6	2.3	6.3	4.3	-0.9	-6.0	-12.2	-18.4	-8.2	93
FIN	HUIT	-26.3	-25.3	-22.4	-10.9	-3.3	1.0	4.6	2.4	-2.3	-7.1	-14.5	-20.8	-10.4	91
FIN	TAMP	-25.5	-24.8	-20.9	-11.3	-3.2	2.0	6.0	3.9	-1.2	-6.2	-12.5	-20.1	-9.5	93
FIN	HATT	-27.9	-26.9	-23.3	-11.7	-3.9	0.7	4.3	2.5	-2.7	-7.5	-14.2	-21.9	-11.0	71
FIN	HEIN	-25.8	-25.6	-21.1	-11.0	-3.0	2.4	6.7	4.8	-0.6	-6.1	-12.1	-20.4	-9.3	85
FIN	LAPP	-25.2	-24.0	-19.1	-9.4	-2.4	3.4	7.7	6.1	-0.1	-5.6	-11.9	-20.4	-8.4	84
FIN	JYVA	-26.6	-25.9	-21.7	-11.7	-3.0	2.4	6.7	4.3	-1.1	-6.8	-13.9	-21.9	-9.9	94
FIN	VAAS	-23.8	-23.7	-20.2	-10.9	-2.9	1.9	6.0	3.8	-0.9	-6.2	-13.8	-19.5	-9.2	87
FIN	YLIS	-26.9	-26.3	-22.6	-12.1	-4.2	-0.4	3.1	1.0	-3.4	-8.1	-16.1	-22.1	-11.5	68
FIN	AHTA	-28.8	-28.6	-25.4	-15.0	-4.9	0.0	3.9	1.7	-3.0	-9.1	-16.3	-24.0	-12.5	85
FIN	KUOP	-26.1	-24.8	-20.1	-11.1	-2.9	2.9	7.4	5.6	-0.1	-6.2	-13.4	-22.5	-9.3	89
FIN	MAAN	-29.8	-29.7	-25.9	-14.6	-4.0	1.0	4.4	2.2	-2.3	-8.0	-16.2	-25.2	-12.3	65
FIN	JOEN	-29.3	-28.1	-23.7	-13.3	-4.7	1.3	5.5	3.2	-2.1	-7.7	-16.6	-24.9	-11.7	61
FIN	KAJA	-30.1	-29.1	-25.9	-16.1	-5.8	0.0	4.2	1.3	-3.3	-9.7	-18.4	-26.7	-13.3	91
FIN	OULU	-27.7	-27.1	-23.6	-13.9	-3.9	1.8	5.9	3.0	-2.4	-9.6	-17.3	-23.7	-11.5	90
FIN	KUUS	-34.1	-32.9	-31.1	-22.8	-8.4	-0.5	3.2	0.2	-4.4	-14.3	-24.2	-30.4	-16.6	82
FIN	SODA	-37.2	-36.3	-33.0	-24.3	-9.0	-1.4	1.8	-1.6	-6.2	-17.6	-28.1	-33.8	-18.9	86
FR	TORS	-4.9	-5.2	-5.0	-3.6	-0.5	2.6	5.1	4.2	1.5	-1.1	-2.8	-4.3	-1.2	106
G	UPER	-30.2	-32.2	-31.8	-26.1	-14.1	-4.3	-1.2	-0.8	-5.8	-11.4	-18.4	-24.9	-16.8	100
G	ILUL	-28.6	-30.0	-28.8	-23.1	-11.4	-1.6	1.5	-0.2	-6.4	-14.1	-19.3	-23.6	-15.5	101
G	NUUK	-18.4	-18.7	-17.7	-13.4	-6.7	-1.6	0.4	0.6	-2.5	-8.4	-12.7	-16.4	-9.6	102
G	NARS	-19.5	-19.7	-17.7	-12.6	-4.5	0.5	2.7	1.9	-2.4	-8.2	-13.9	-17.8	-9.3	102
G	DANM	-36.7	-37.0	-36.4	-31.0	-19.9	-6.7	-2.7	-4.1	-13.7	-24.3	-30.7	-34.5	-23.1	47
G	ITTO	-31.9	-32.5	-32.4	-26.0	-16.6	-4.7	-2.2	-2.5	-6.6	-15.4	-22.8	-28.6	-18.5	46
G	TASI	-20.3	-21.2	-20.4	-16.3	-8.4	-2.9	-0.8	-1.1	-3.5	-9.2	-14.6	-18.3	-11.4	97
IC	STYK	-10.3	-9.1	-9.5	-7.2	-2.5	2.2	4.8	4.1	0.4	-3.3	-6.9	-9.7	-3.9	44
IC	REYK	-11.3	-10.0	-9.8	-6.9	-2.4	2.8	5.2	3.6	-0.2	-4.4	-8.2	-11.2	-4.4	47
IC	VEST	-8.2	-7.0	-7.5	-5.4	-1.1	3.8	6.1	5.4	2.0	-2.1	-5.6	-8.1	-2.3	47
IC	AKUR	-15.3	-14.5	-13.4	-10.3	-4.3	0.9	3.4	1.7	-2.5	-7.2	-11.7	-15.0	-7.4	47
IC	TEIG	-11.2	-9.6	-10.6	-7.7	-3.5	0.9	3.0	3.3	-0.3	-3.9	-7.4	-10.3	-4.8	30
N	KJØR	-23.3	-21.4	-18.1	-12.5	-5.3	-0.8	2.1	0.7	-3.5	-9.9	-16.9	-21.1	-10.8	103
N	OSLO	-15.9	-15.1	-11.2	-4.8	0.4	5.0	8.1	6.6	1.3	-3.2	-9.1	-13.8	-4.3	106
N	NESB	-26.3	-24.8	-18.8	-10.0	-3.8	0.8	3.6	1.4	-3.3	-8.6	-17.4	-23.8	-10.9	97
N	FERD	-8.6	-8.6	-5.9	-1.5	3.1	8.3	11.5	11.2	7.1	2.1	-2.8	-6.7	0.8	106
N	OKSØ	-8.3	-8.5	-6.1	-1.9	2.4	6.6	9.8	9.5	5.8	1.5	-2.8	-6.5	0.1	106
N	UTSI	-4.4	-4.7	-3.2	-0.8	2.5	6.0	8.8	9.3	6.6	2.9	-0.5	-3.1	1.6	106
N	BERG	-6.6	-6.5	-4.5	-1.8	1.8	5.3	8.0	7.5	4.3	0.4	-2.9	-5.6	-0.1	106
N	LÆRD	-12.9	-12.2	-8.6	-3.5	1.0	4.4	7.2	6.0	1.6	-3.4	-7.7	-11.1	-3.3	105
N	ONA	-4.0	-4.1	-3.0	-1.1	1.8	5.2	8.3	8.8	5.7	2.4	-0.5	-2.9	1.4	103
N	VÆRN	-16.3	-15.3	-12.4	-6.5	-1.1	2.6	5.9	4.5	0.8	-4.3	-10.2	-14.1	-5.5	106
N	BODØ	-11.4	-11.7	-10.2	-6.6	-1.5	2.3	5.6	4.8	1.3	-3.5	-7.7	-10.2	-4.1	106
N	TROM	-12.3	-12.8	-11.6	-8.7	-3.3	0.9	4.6	3.5	-0.3	-6.2	-8.8	-11.0	-5.4	106
N	KARA	-38.3	-38.2	-33.8	-25.1	-9.2	-1.0	1.6	-2.0	-6.6	-19.3	-30.9	-36.0	-19.9	103
N	VARD	-14.4	-14.4	-12.0	-8.8	-4.0	0.0	4.0	3.7	0.5	-5.2	-9.5	-12.2	-6.0	104
N	BJØY	-19.7	-20.7	-21.0	-17.2	-9.4	-3.5	-0.5	0.0	-2.2	-8.1	-12.9	-17.5	-11.1	68
N	SVÅL	-29.0	-31.3	-30.3	-25.6	-14.3	-3.5	1.7	-0.4	-7.3	-16.5	-22.1	-27.0	-17.1	39
N	JAN	-15.4	-16.3	-16.3	-12.8	-7.4	-2.4	0.1	0.6	-2.5	-7.5	-10.7	-14.3	-8.7	71
S	VAXJ	-15.8	-16.0	-12.5	-6.0	-1.0	3.4	6.8	5.2	0.5	-3.8	-8.0	-13.3	-5.0	106
S	VÅST	-14.5	-15.0	-12.0	-5.4	-0.4	4.3	8.4	7.2	2.2	-2.3	-7.0	-11.5	-3.8	106
S	VISB	-10.2	-10.7	-9.1	-4.4	-0.4	4.1	8.3	7.8	3.5	-0.6	-4.0	-7.8	-2.0	106
S	KARL	-18.8	-18.3	-13.8	-6.3	-0.9	4.3	7.7	5.7	0.4	-4.1	-10.1	-15.6	-5.8	106
S	STOC	-13.4	-13.4	-10.8	-4.7	0.1	5.2	9.5	8.2	3.2	-1.5	-6.7	-10.9	-2.9	106
S	FALU	-23.9	-23.0	-18.8	-9.4	-2.8	2.3	6.1	4.2	-0.9	-6.0	-13.8	-20.7	-8.9	106
S	SVEG	-30.9	-29.3	-25.2	-15.0	-6.4	-1.5	1.4	-0.6	-5.0	-11.8	-22.2	-28.6	-14.6	106
S	HARN	-21.9	-21.5	-18.5	-9.9	-2.6	2.5	6.4	4.6	-0.5	-5.8	-13.0	-18.4	-8.2	106
S	ÖSTE	-25.7	-23.8	-19.7	-11.4	-3.5	1.4	4.9	3.6	-0.6	-6.6	-13.9	-21.2	-9.7	106
S	STEN	-32.2	-31.5	-27.5	-18.3	-6.5	-0.8	2.6	0.2	-4.3	-11.9	-21.6	-29.1	-15.1	106
S	HAPA	-29.6	-29.0	-25.5	-15.9	-4.4	1.8	5.8	2.5	-2.9	-10.7	-19.3	-25.9	-12.8	106
S	JOKK	-34.0	-32.6	-27.7	-19.4	-7.1	-0.2	3.5	0.3	-5.1	-15.6	-25.9	-31.3	-16.3	102
S	KARE	-35.5	-34.9	-31.5	-23.2	-9.4	-0.6	2.9	-0.2	-5.3	-17.9	-28.2	-32.2	-18.0	106

3.8

Nordic Atlas of Climatic Extremes

Standard deviation of annual minimum temperature 1911-1995.

- Temperature(°C):
- 1.5 - 2
 - 2 - 2.5
 - 2.5 - 3
 - 3 - 3.5
 - 3.5 - 4
 - 4 - 4.5
 - 4.5 - 5
 - 5 - 5.5



This map shows only a few selected stations, which may not be representative for a larger area. For more precise information about climatic extremes, contact the national meteorological services.

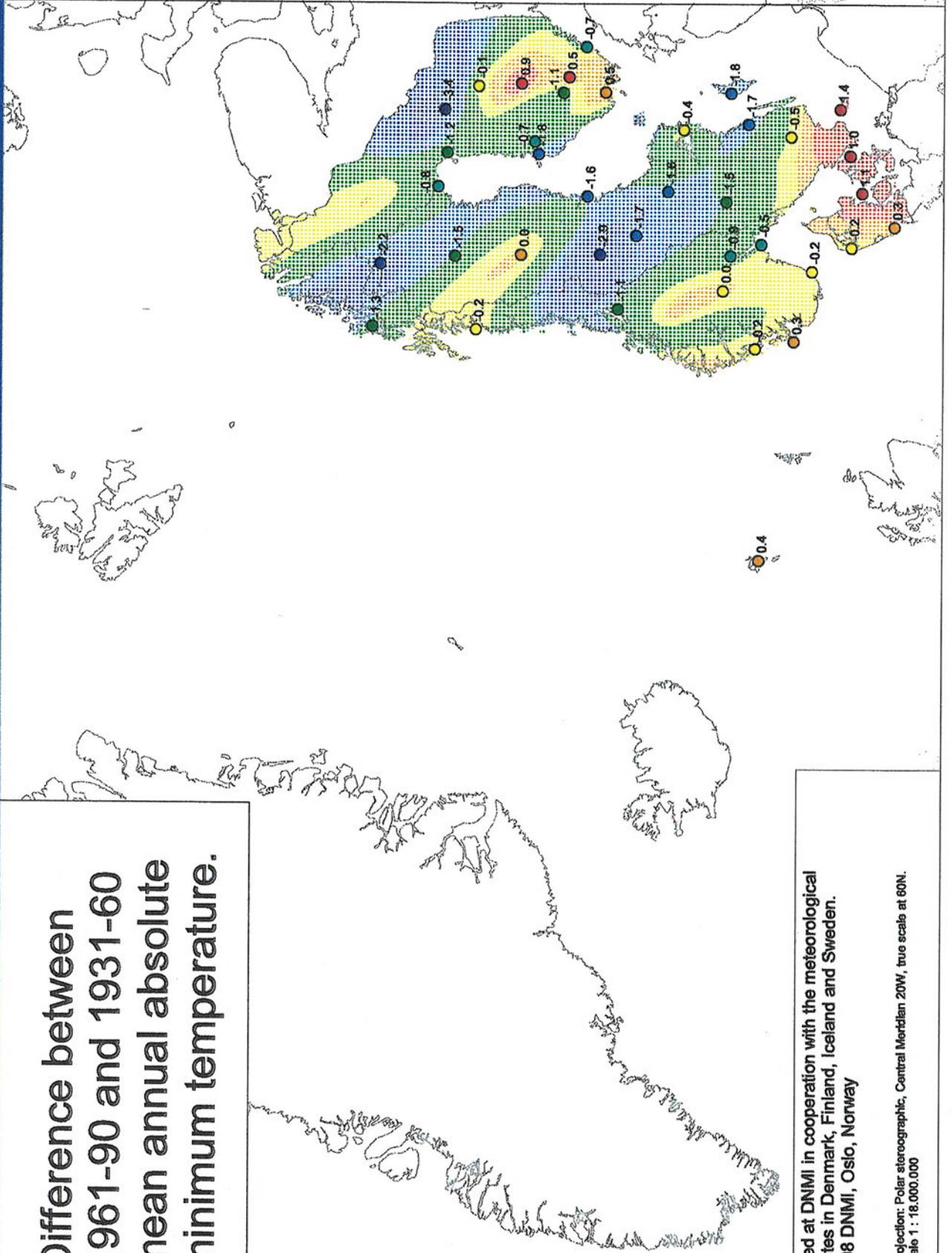
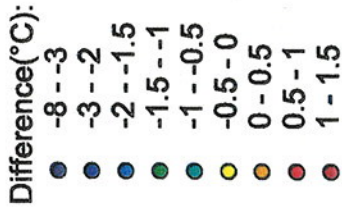
Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
 Mapscale 1 : 18,000,000

3.9

Nordic Atlas of Climatic Extremes

Difference between 1961-90 and 1931-60 mean annual absolute minimum temperature.



This map shows only a few selected stations, which may not be representative for a larger area. For more precise information about climatic extremes, contact the national meteorological services.



Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Map scale 1 : 18,000,000

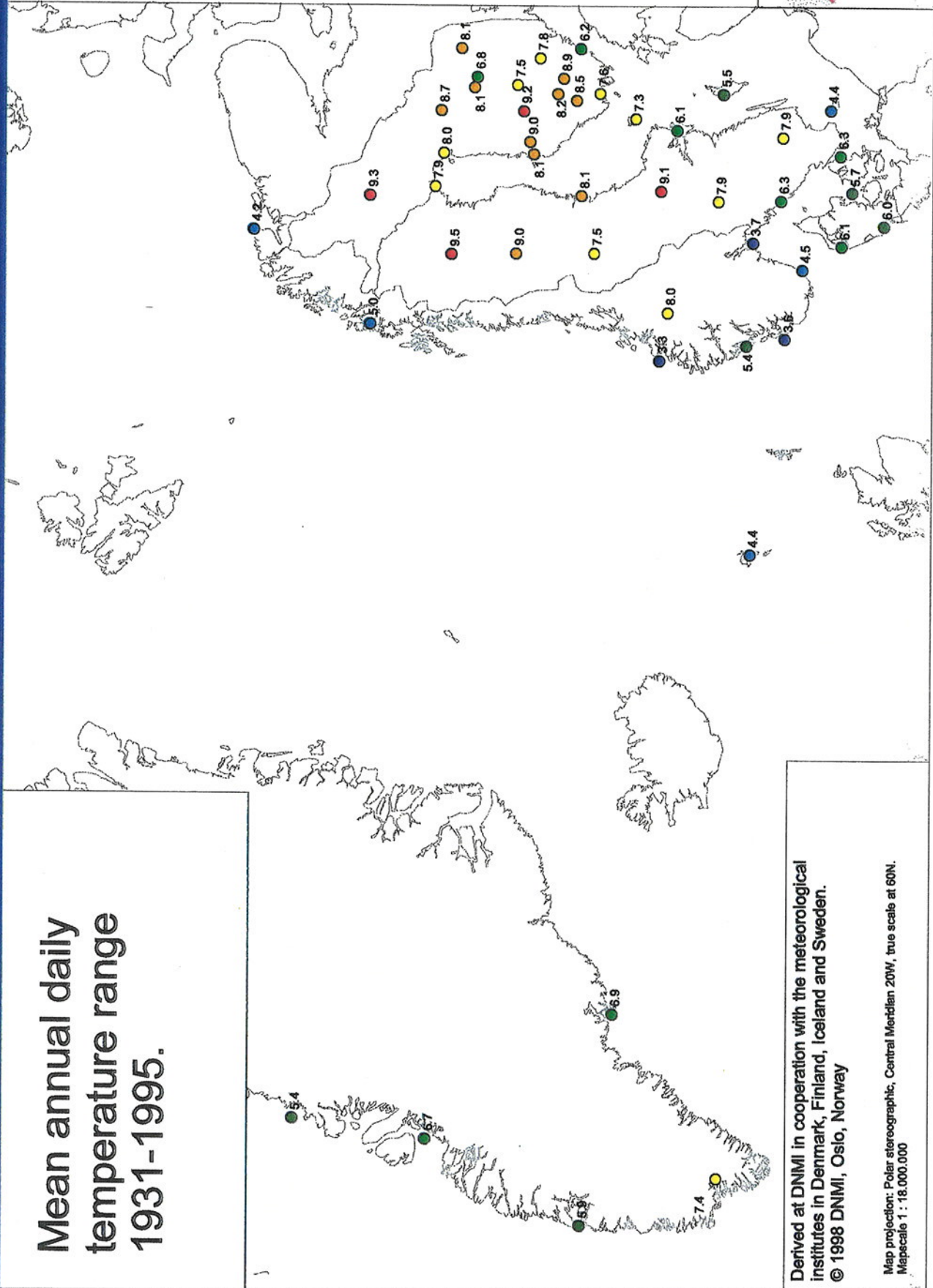
Table 3.6 Monthly and annual absolute minimum temperatures for the whole period available at each station.

Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	-19.7	-13.8	-14.5	-6.6	-2.0	3.4	7.2	8.7	4.4	-2.8	-5.8	-10.3	-19.7	106
DK	VEST	-25.0	-21.1	-17.7	-7.1	-3.7	1.2	4.1	4.4	-1.2	-5.3	-12.2	-17.6	-25.0	106
DK	NORD	-22.9	-22.1	-18.7	-7.4	-2.9	1.3	4.3	3.5	-1.2	-6.0	-13.0	-15.9	-22.9	106
DK	TRAN	-21.8	-20.3	-17.1	-6.8	-2.8	1.3	4.1	2.7	0.2	-4.7	-10.0	-14.9	-21.8	106
DK	KØBE	-24.2	-19.6	-17.4	-8.4	-1.1	3.4	7.0	6.3	0.4	-4.1	-8.6	-16.0	-24.2	106
FIN	MAAR	-32.4	-32.9	-26.2	-18.9	-6.9	-3.2	0.1	-0.5	-6.7	-11.9	-18.5	-28.9	-32.9	87
FIN	HELS	-34.3	-31.5	-24.5	-16.3	-4.8	-0.5	5.4	2.8	-4.5	-11.6	-20.7	-29.5	-34.3	106
FIN	TURK	-35.5	-35.2	-32.8	-21.0	-6.6	-2.2	2.0	0.2	-6.9	-15.0	-22.3	-33.8	-35.5	93
FIN	HUIT	-39.2	-41.0	-37.9	-22.8	-7.6	-3.6	0.2	-2.0	-7.6	-16.6	-25.6	-35.3	-41.0	91
FIN	TAMP	-37.0	-36.8	-30.7	-21.9	-7.3	-2.8	1.1	-0.6	-7.2	-14.8	-22.5	-34.2	-37.0	93
FIN	HATT	-40.8	-41.9	-37.8	-25.3	-9.1	-3.7	0.5	-2.0	-8.9	-14.2	-26.5	-34.8	-41.9	71
FIN	HEIN	-42.0	-38.1	-33.6	-22.0	-9.5	-1.7	2.5	-0.8	-6.1	-13.8	-23.0	-33.5	-42.0	85
FIN	LAPP	-38.3	-35.3	-28.8	-18.0	-7.5	-4.0	4.4	1.7	-5.0	-12.5	-21.1	-35.0	-38.3	84
FIN	JYVA	-38.4	-37.3	-31.6	-20.5	-8.0	-1.5	2.5	0.0	-6.7	-15.4	-25.5	-37.2	-38.4	94
FIN	VAAS	-36.2	-38.6	-34.1	-22.6	-7.6	-2.8	0.5	-2.1	-6.0	-20.4	-27.9	-34.4	-38.6	87
FIN	YLIS	-41.6	-43.6	-33.0	-24.7	-9.2	-6.0	-0.8	-2.4	-7.4	-22.8	-29.4	-37.3	-43.6	68
FIN	AHTA	-40.8	-42.2	-36.7	-25.6	-10.5	-3.9	-1.6	-4.5	-9.2	-23.6	-32.0	-40.1	-42.2	85
FIN	KUOP	-36.3	-36.1	-32.0	-19.2	-8.0	-2.0	2.5	1.0	-7.4	-14.9	-23.5	-39.0	-39.0	89
FIN	MAAN	-40.2	-41.2	-36.0	-26.4	-8.4	-2.7	-1.1	-2.3	-7.4	-21.0	-28.7	-40.8	-41.2	65
FIN	JOEN	-39.0	-39.5	-32.1	-22.4	-10.5	-4.2	2.2	-1.7	-7.2	-16.8	-27.3	-37.4	-39.5	61
FIN	KAJA	-42.0	-42.8	-35.6	-25.8	-12.5	-4.3	-0.1	-3.5	-10.5	-22.9	-34.3	-42.0	-42.8	91
FIN	OULU	-39.5	-41.5	-34.0	-26.6	-8.5	-6.1	1.8	-2.5	-8.3	-22.5	-30.6	-35.5	-41.5	90
FIN	KUUS	-45.2	-45.0	-39.5	-36.0	-18.5	-4.2	-0.9	-4.4	-11.4	-26.5	-35.8	-44.2	-45.2	82
FIN	SODA	-45.6	-49.0	-42.7	-36.0	-21.3	-5.0	-3.4	-5.5	-17.0	-31.8	-42.0	-43.2	-49.0	86
FR	TORS	-12.5	-11.3	-12.1	-9.9	-5.1	-0.4	0.4	0.2	-2.5	-5.7	-8.2	-10.7	-12.5	106
G	UPER	-39.2	-42.3	-40.0	-35.0	-25.0	-13.0	-7.0	-9.0	-19.5	-18.0	-34.1	-37.5	-42.3	100
G	ILUL	-42.7	-43.2	-41.3	-37.0	-23.3	-9.0	-2.5	-3.3	-13.8	-21.3	-27.7	-34.7	-43.2	101
G	NUUK	-29.5	-28.5	-27.3	-22.0	-17.8	-5.4	-6.0	-5.2	-7.4	-14.4	-18.6	-26.0	-29.5	102
G	NARS	-39.8	-32.8	-32.1	-23.2	-16.8	-3.3	0.2	-1.4	-8.7	-18.8	-26.0	-30.2	-39.8	102
G	DANM	-42.2	-43.4	-43.6	-38.6	-26.0	-12.8	-10.6	-8.2	-19.6	-31.0	-36.3	-41.1	-43.6	47
G	ITTO	-42.9	-41.6	-46.1	-34.6	-29.2	-8.4	-4.4	-8.9	-11.5	-26.0	-36.9	-39.5	-46.1	46
G	TASI	-30.3	-30.7	-32.0	-25.4	-15.7	-8.6	-3.5	-5.7	-7.6	-18.3	-25.2	-29.4	-32.0	97
IC	STYK	-16.0	-17.7	-19.0	-16.0	-6.7	-0.8	2.0	0.7	-2.8	-8.0	-10.8	-14.8	-19.0	44
IC	REYK	-19.7	-17.6	-16.4	-16.4	-7.7	-0.7	1.4	-0.4	-4.4	-10.6	-12.7	-16.8	-19.7	47
IC	VEST	-15.7	-16.3	-14.9	-16.9	-7.1	0.0	3.7	2.6	-2.6	-7.5	-10.7	-15.3	-16.9	47
IC	AKUR	-21.6	-21.2	-23.0	-18.2	-10.4	-2.1	1.3	-2.2	-8.4	-13.6	-18.5	-20.6	-23.0	47
IC	TEIG	-17.1	-18.8	-19.3	-22.9	-8.7	-2.2	0.0	1.6	-3.2	-9.5	-11.0	-17.5	-22.9	30
N	KJØR	-36.3	-29.6	-26.5	-20.5	-14.1	-5.2	-1.9	-3.2	-9.1	-19.5	-26.3	-34.0	-36.3	103
N	OSLO	-26.0	-25.2	-21.3	-14.9	-3.4	0.8	3.7	3.7	-3.3	-9.7	-16.0	-23.7	-26.0	106
N	NESB	-38.0	-37.2	-29.8	-19.8	-8.6	-4.7	0.0	-2.1	-6.8	-22.0	-27.4	-34.5	-38.0	97
N	FERD	-23.0	-20.8	-19.5	-11.0	-0.7	4.6	7.0	7.6	1.4	-3.3	-9.5	-18.0	-23.0	106
N	OKSØ	-22.3	-20.2	-14.6	-9.2	-4.0	0.7	6.9	4.6	1.7	-3.7	-10.2	-15.1	-22.3	106
N	UTSI	-15.2	-15.4	-10.2	-5.5	-0.5	0.8	5.0	5.8	1.1	-2.0	-5.6	-12.6	-15.4	106
N	BERG	-16.3	-15.1	-10.0	-6.2	-1.3	1.6	4.8	4.5	-0.1	-4.2	-9.1	-13.3	-16.3	106
N	LÆRD	-21.8	-21.1	-16.7	-8.8	-2.5	-0.1	3.9	2.8	-2.5	-10.0	-16.7	-19.4	-21.8	105
N	ONA	-12.6	-12.1	-8.5	-6.0	-1.7	1.7	5.5	4.7	0.7	-2.8	-5.8	-10.6	-12.6	103
N	VÆRN	-25.2	-26.1	-23.3	-15.4	-10.0	-0.6	1.7	1.3	-4.9	-12.8	-19.0	-23.8	-26.1	106
N	BODØ	-17.8	-20.0	-16.1	-11.4	-6.7	-1.2	1.2	0.8	-4.0	-12.2	-14.8	-20.0	-20.0	106
N	TROM	-18.3	-18.4	-17.0	-14.7	-7.5	-2.5	0.7	-0.4	-4.3	-10.1	-16.0	-16.8	-18.4	106
N	KARA	-50.0	-50.0	-43.2	-36.5	-23.0	-5.0	-2.6	-9.3	-16.0	-32.9	-41.8	-47.2	-50.0	103
N	VARD	-22.5	-23.7	-20.6	-14.6	-8.6	-2.5	-1.3	-0.9	-4.8	-11.0	-14.0	-19.5	-23.7	104
N	BJØY	-29.8	-29.1	-31.6	-25.6	-17.8	-8.4	-4.7	-2.4	-10.4	-22.2	-21.5	-28.1	-31.6	68
N	SVAL	-38.8	-43.7	-46.3	-39.1	-21.7	-8.8	0.2	-3.9	-13.2	-24.9	-33.2	-38.1	-46.3	39
N	JAN	-26.9	-28.4	-26.8	-21.4	-12.0	-5.1	-3.2	-2.3	-5.2	-18.0	-19.5	-24.2	-28.4	71
S	VAXJ	-34.0	-28.8	-29.8	-19.0	-6.0	-0.8	3.5	0.0	-4.8	-10.3	-17.8	-24.7	-34.0	106
S	VAST	-31.4	-32.8	-26.5	-15.3	-4.5	0.4	4.5	3.2	-4.0	-10.2	-13.6	-25.8	-32.8	106
S	VISB	-25.0	-25.6	-22.1	-13.2	-7.2	-1.1	3.0	2.4	-5.2	-6.0	-12.1	-16.7	-25.6	106
S	KARL	-32.5	-35.9	-27.0	-18.4	-5.0	-1.8	3.5	1.3	-5.0	-12.0	-19.9	-28.0	-35.9	106
S	STOC	-28.2	-25.5	-22.0	-11.5	-4.5	0.0	6.0	4.0	-1.5	-9.0	-17.0	-22.0	-28.2	106
S	FALU	-37.9	-37.2	-28.6	-19.0	-10.0	-2.2	1.0	0.4	-5.1	-14.0	-26.5	-35.6	-37.9	106
S	SVEG	-43.0	-40.0	-39.0	-27.0	-13.0	-8.0	-3.0	-6.0	-13.0	-25.9	-33.0	-41.0	-43.0	106
S	HARN	-35.0	-33.2	-31.0	-18.0	-7.0	-2.7	3.0	0.2	-6.3	-16.0	-24.8	-34.7	-35.0	106
S	OSTE	-38.0	-41.0	-35.0	-22.0	-10.0	-3.0	-1.5	-1.5	-5.2	-17.7	-25.2	-38.1	-41.0	106
S	STEN	-43.0	-45.0	-38.0	-30.0	-18.0	-6.8	-1.0	-4.0	-20.0	-24.5	-33.0	-45.5	-45.5	106
S	HAPA	-40.8	-41.5	-37.5	-26.0	-12.0	-1.5	3.0	-1.8	-9.5	-22.8	-32.2	-37.0	-41.5	106
S	JOKK	-46.0	-42.6	-36.8	-29.0	-16.0	-7.8	-1.0	-4.0	-12.0	-29.5	-36.5	-41.0	-46.0	102
S	KARE	-46.5	-48.1	-42.8	-36.5	-22.0	-5.5	-3.8	-4.6	-12.0	-28.6	-41.0	-42.0	-48.1	106

3.11

Nordic Atlas of Climatic Extremes

Mean annual daily temperature range 1931-1995.



Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18.000.000

This map shows only a few selected stations, which may not be representative for a larger area.
For more precise information about climatic extremes, contact the national meteorological services.



4. PRECIPITATION

4.1 Precipitation maps.

The distribution of the mean annual maximum 1-day precipitation (map 4.1) shows roughly the same features as the general precipitation pattern, i.e. with well developed maxima with values above 50 mm in southern Iceland and western Norway. There are also indications of maxima in western Denmark, southern Finland and, most pronounced, at the comparatively steep part of the coast in central Sweden. The lowest 1-day values are found in the northeastern part of Fennoscandia and in some valleys in the central part of southern Norway. Means of monthly maximum 1-day precipitation are presented in table 4.1.

Map 4.2 shows the coefficient of variance, i.e. the standard deviation divided by the mean value, of the annual maximum 1-day precipitation 1911 - 1995. The highest values are found in the continental southern parts of Finland and Sweden. Generally the distribution is comparatively even with almost the same values in the extremely wet region in southwestern Norway as in the driest parts of the Nordic countries.

The map 4.3 showing the highest recorded 1-day precipitation 1911 - 1995 is a fairly chaotic one due to the random distribution of extreme showers that partly account for these extreme precipitation events, e.g. the values for Kuopio in Finland and Växjö and Härnösand in Sweden. Generally the values decrease towards north, and they are also low, less than 50 mm, in the driest valleys of southern Norway. The highest monthly 1-day values are found in table 4.2.

The ratio between the mean annual maximum 1-day precipitation 1961 - 1990 and 1931 - 1960 (map 4.4) shows that the annual maxima were higher during the last normal period than during the previous one, mainly in southern Iceland, southwestern Norway and the northern and eastern parts of Fennoscandia. Fairly low ratios are found in southern Sweden, the central part of southern Norway and north of the Gulf of Bothnia.

The maps 4.5 and 4.6 show estimated maximum 1-day precipitation with return periods of 5 and 100 years respectively. Also these maps show the typical main features of the precipitation climate with very high values in southern Iceland and in western Norway. Although estimation of return periods always imply some smoothing, it is obvious that the map for the return period of 100 years is affected by the random distribution of single heavy showers.

4.2. Estimation of T-year 24h maximum precipitation.

For some purposes, the T-year event may be of major interest. This event describes the value which will be exceeded in average every Tth year. Such values are of large importance in designing, e.g. for dam safety, flood protection, etc.

For estimating T-year values, frequency analysis is the most applied method. For extreme events, a special family of frequency distributions are adapted, called extreme value distributions (EVD's). For maximum precipitation estimations, the EVD type I (also known as Gumbel 1) distributions is recommended (WMO, 1981). The distribution for annual maximum series is defined as:

$$F(x) = P(X < x) = e^{-e^{-\alpha(x-\beta)}} \quad [1]$$

where $\alpha = 1.281/\rho_x$ and $\beta = \mu_x - 0.45\rho_x$. μ_x and ρ_x is the population mean and standard deviation respectively. $F(x)$ is the frequency distribution, while $P(X < x)$ means the probability for an annual maximum value X less than x . A simplified version of [1] gives the value M_T , which is the value exceeded every T 'th year in average as:

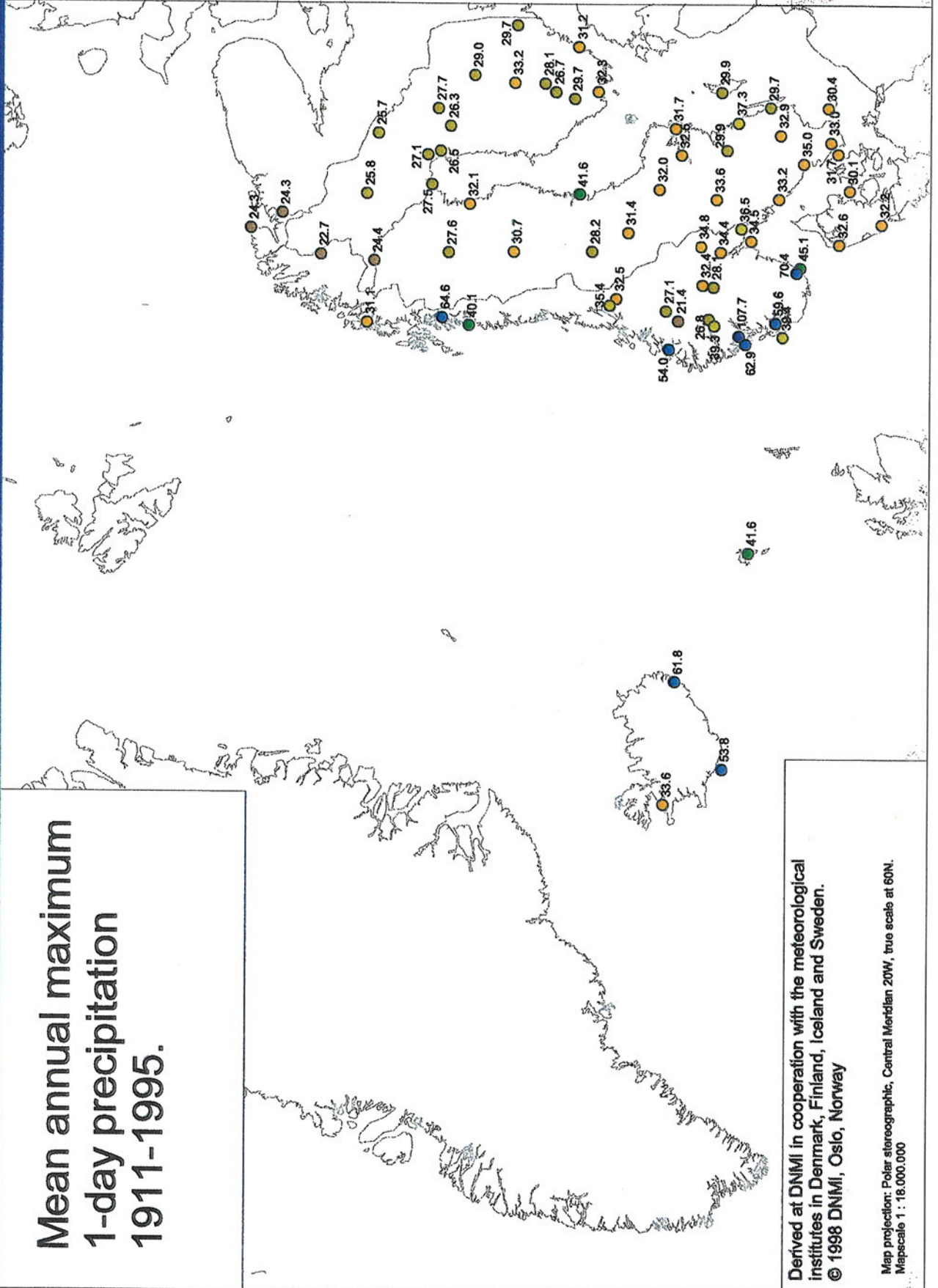
$$M_T = \bar{x} - \frac{\sqrt{6}}{\pi} \left(0.577 + \ln \left\{ -\ln \left[\frac{T-1}{T} \right] \right\} \right) \cdot s_x \quad [2]$$

4.1

Nordic Atlas of Climatic Extremes

Mean annual maximum 1-day precipitation 1911-1995.

- Precipitation (mm):
- 20 - 25
 - 25 - 30
 - 30 - 35
 - 35 - 40
 - 40 - 45
 - 45 - 50
 - 50 - 75
 - 75 - 150



Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18.000.000

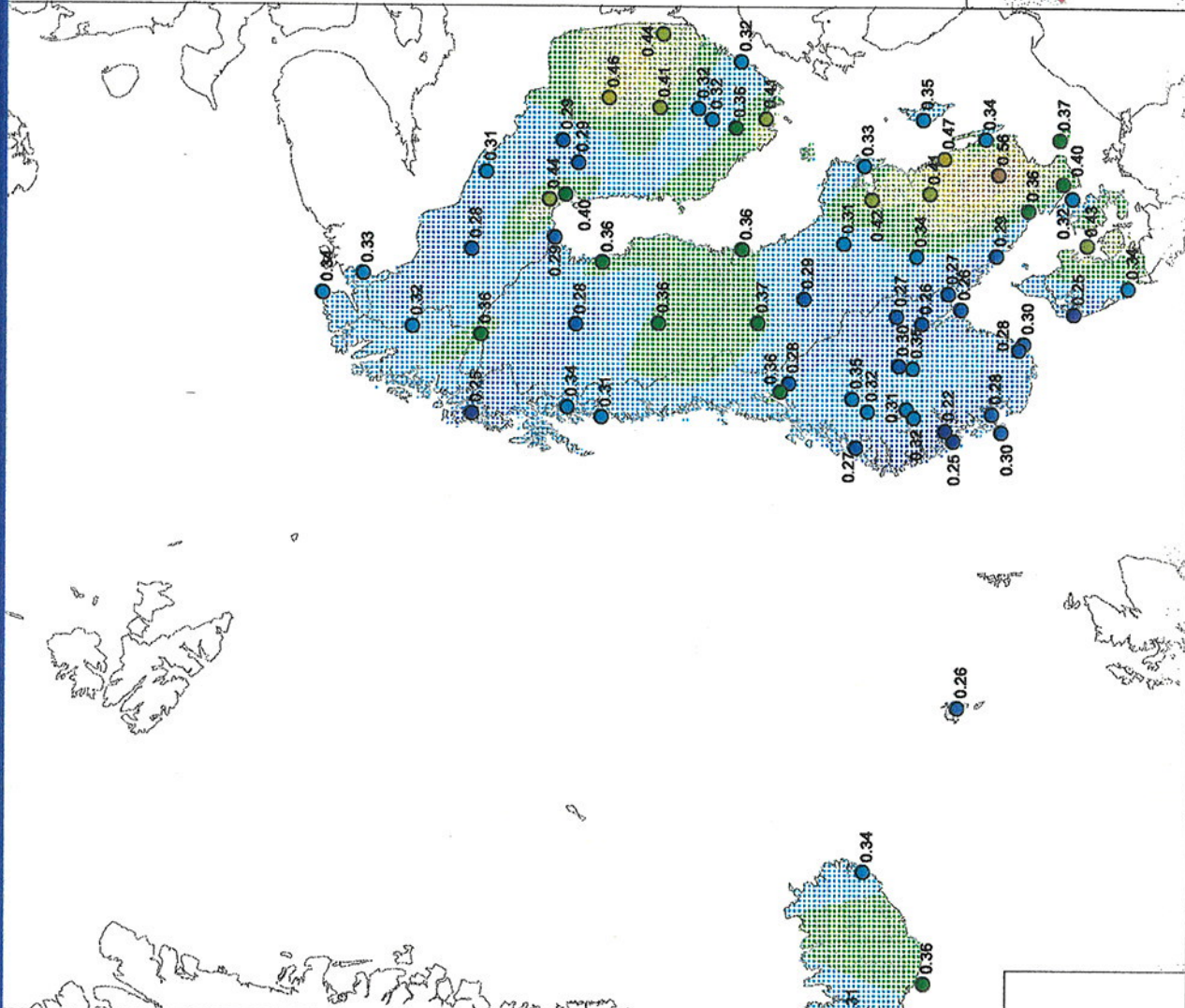
Table 4.1 Mean maximum 1-day precipitation

Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	10.6	8.3	8.7	10.5	11.6	14.6	16.1	18.0	16.2	13.8	13.0	12.1	12.8	106
DK	VEST	13.0	10.2	11.8	11.4	12.3	14.9	18.0	21.3	18.7	19.3	16.3	14.0	15.1	106
DK	NORD	11.4	9.8	11.0	10.4	12.3	15.8	17.6	21.6	19.1	17.5	15.9	13.8	14.7	106
DK	TRAN	10.0	7.7	9.2	10.1	12.1	13.3	17.2	20.2	14.9	13.6	12.4	10.9	12.6	106
DK	KØBE	10.4	8.7	9.0	11.4	13.4	14.8	19.9	18.0	17.4	15.0	12.9	11.8	13.6	106
FIN	HELS	11.4	9.7	10.7	11.5	12.6	14.4	19.0	21.5	19.3	17.3	14.8	13.7	14.7	106
FIN	TURK	9.9	7.9	8.9	9.7	11.4	13.5	21.3	21.8	16.6	15.5	13.9	12.0	13.5	103
FIN	HUIT	8.2	6.9	7.0	8.9	11.0	15.9	20.0	20.8	14.4	14.0	10.9	9.4	12.3	97
FIN	TAMP	7.8	6.7	8.0	9.5	12.2	15.8	18.1	19.7	14.7	13.7	10.4	9.3	12.2	101
FIN	VIRO	10.7	9.9	10.0	10.7	12.8	15.8	18.2	23.7	21.0	17.8	14.0	13.3	14.8	85
FIN	LAPP	9.7	7.9	9.8	9.2	12.6	16.4	18.7	20.8	16.5	14.8	11.4	10.4	13.2	99
FIN	LAVI	8.2	7.0	7.9	10.6	12.1	15.8	19.7	20.0	16.5	14.2	11.3	10.0	12.8	77
FIN	VIRR	8.6	6.6	8.0	9.6	11.4	17.9	19.6	21.0	17.1	12.6	11.1	9.7	12.8	73
FIN	ORIV	8.0	5.9	7.4	9.1	12.1	14.8	19.2	20.5	15.8	12.3	10.0	9.3	12.0	82
FIN	JYVA	8.7	7.1	8.4	9.4	12.1	17.5	20.0	22.1	17.5	13.4	11.0	9.6	13.1	105
FIN	KUOP	9.2	7.6	8.5	9.5	11.6	18.3	17.1	18.8	15.8	12.2	10.5	9.4	12.4	99
FIN	KEST	8.0	6.7	7.7	8.7	12.0	17.3	19.0	18.8	14.5	12.3	9.5	7.9	11.9	80
FIN	KAJA	7.3	6.2	6.5	9.0	10.7	15.8	18.8	20.1	14.9	11.1	8.3	7.1	11.3	104
FIN	OULU	7.9	6.8	7.2	7.8	11.1	15.0	18.0	18.1	14.3	12.1	10.0	8.2	11.4	100
FIN	YLI-	6.6	5.7	6.7	8.4	11.1	15.5	17.5	17.3	14.6	12.7	9.7	8.1	11.2	79
FIN	PUDA	7.3	5.9	6.8	8.8	11.9	17.1	20.7	20.4	16.7	12.9	9.8	7.9	12.2	68
FIN	KUUS	6.3	5.4	6.6	7.5	11.2	15.9	16.7	17.5	14.7	11.1	8.0	6.4	10.6	80
FIN	SODA	6.2	5.5	6.1	7.9	9.9	16.0	17.2	18.2	14.5	11.8	8.4	6.3	10.7	85
FR	TORS	22.9	21.2	19.9	18.7	17.3	16.0	18.4	19.9	25.9	26.1	25.1	25.8	21.4	106
G	UPER	4.7	4.1	3.4	5.9	5.6	6.2	9.3	11.9	14.2	9.0	7.8	4.8	7.2	37
G	NUUK	11.4	11.7	10.3	11.4	15.5	20.3	23.6	25.2	23.1	22.8	17.8	12.0	17.1	74
G	NARS	23.6	24.4	22.3	21.1	21.6	26.8	23.7	28.7	36.9	36.9	34.3	23.7	27.0	104
G	DANM	5.2	5.8	6.1	5.2	2.2	3.3	5.9	6.7	5.6	4.3	5.3	5.7	5.1	47
G	ITTO	11.1	12.6	11.2	9.2	7.3	9.8	13.2	15.7	17.0	13.0	11.8	13.2	12.1	46
G	TASI	21.8	20.8	20.8	17.8	19.1	14.8	15.5	20.5	25.7	28.7	25.9	23.6	21.3	96
IC	STYK	17.2	17.4	13.8	11.9	9.5	11.3	10.8	12.0	16.2	18.3	19.0	15.9	14.4	104
IC	REYK	16.1	16.4	16.1	12.7	10.6	11.2	13.0	15.5	15.8	17.6	17.1	16.9	14.9	69
IC	VEST	27.9	27.3	27.1	23.9	23.2	21.5	21.2	26.5	30.0	30.2	31.5	28.3	26.6	104
IC	AKUR	12.2	11.3	11.5	9.5	7.3	8.8	10.5	11.7	12.3	15.0	13.8	12.9	11.4	64
IC	TEIG	29.1	25.0	24.1	24.3	22.4	27.3	30.8	33.2	34.4	30.2	29.1	33.0	28.6	99
N	HALD	14.7	12.5	12.0	12.9	13.9	17.5	20.4	23.9	19.5	19.9	19.2	16.7	16.9	101
N	ODAL	11.6	10.2	10.6	13.3	15.3	18.7	23.4	22.1	20.9	19.8	16.9	13.5	16.4	100
N	SKJA	7.2	6.0	5.1	3.7	6.4	9.7	12.5	12.4	10.1	10.0	8.0	7.8	8.2	100
N	KJØR	9.9	8.1	6.6	5.9	8.6	12.4	16.5	15.7	11.5	10.7	9.0	9.9	10.4	103
N	OSLO	11.4	9.7	10.3	13.2	13.7	17.9	20.3	24.4	20.3	18.4	16.0	12.2	15.7	106
N	REIN	9.6	8.1	9.3	10.1	14.1	18.4	21.7	22.1	18.9	16.4	15.3	10.5	14.5	100
N	NESB	6.6	5.3	5.4	6.9	11.5	14.4	18.7	18.2	14.9	12.7	9.8	7.8	11.0	98
N	FERD	13.8	10.7	12.0	13.1	16.0	16.3	19.6	22.1	19.6	20.2	19.7	15.9	16.6	106
N	OKSØ	20.8	16.7	16.8	15.3	16.5	17.0	21.2	26.8	27.0	26.6	26.3	22.6	21.1	96
N	MEST	35.0	29.4	30.6	24.0	26.9	25.3	30.0	37.6	41.5	41.3	41.1	39.2	33.5	106
N	NEDS	33.5	28.1	28.3	24.6	20.0	25.8	31.7	35.4	37.4	37.0	36.3	34.8	31.1	100
N	UTSI	18.9	14.3	14.2	13.9	14.9	17.2	20.7	23.2	26.4	22.1	21.1	19.5	18.9	75
N	SAMN	64.7	56.3	51.1	39.7	32.3	37.8	43.1	51.5	65.1	68.4	64.4	63.1	53.1	95
N	BERG	35.1	31.9	30.1	27.4	23.4	27.0	30.3	35.3	41.8	42.9	40.6	38.2	33.7	106
N	LÆRD	13.6	10.1	8.0	6.9	7.4	10.3	12.3	13.9	13.9	14.9	13.5	12.8	11.5	105
N	VETT	20.5	18.0	15.2	11.4	10.0	13.6	16.5	16.9	20.0	22.0	19.9	21.4	17.1	99
N	ØRSK	28.3	24.9	24.9	20.8	20.3	21.9	21.5	27.8	36.3	36.2	31.1	28.8	26.9	100
N	ONA	21.5	18.9	18.9	15.1	13.3	15.4	18.3	21.8	26.8	29.3	24.5	22.8	20.6	74
N	LIEN	12.9	12.4	12.0	11.2	13.9	17.9	20.9	20.6	19.2	17.7	12.6	13.1	15.4	100
N	VÆRN	15.7	15.7	15.0	12.4	13.3	14.6	18.4	21.4	20.0	21.2	16.2	15.9	16.7	106
N	BODØ	19.4	17.1	16.1	14.4	13.0	15.1	17.9	20.6	22.8	24.5	19.9	19.3	18.3	106
N	KRÅK	35.5	30.4	26.1	21.3	17.1	17.3	19.1	20.8	29.3	36.1	31.7	32.9	26.5	100
N	TROM	18.5	17.5	15.8	13.1	12.6	14.2	15.5	15.7	19.9	21.1	18.5	19.5	16.8	106
N	KARA	5.2	4.6	4.1	5.4	7.4	13.8	18.3	15.3	12.5	8.7	6.5	4.8	8.9	103
N	VARD	10.5	9.9	9.4	8.5	8.7	12.8	13.4	14.2	12.8	11.8	10.4	9.8	11.0	100
N	BJØS	6.4	5.6	4.9	5.4	7.7	12.7	17.8	15.6	12.4	9.4	8.2	6.3	9.4	100
N	BJØY	8.1	7.5	7.3	5.4	6.0	7.1	8.6	10.1	11.3	9.9	8.1	8.7	8.2	64
N	SVAL	5.0	7.9	7.3	3.3	2.7	4.3	5.8	8.2	6.0	4.3	5.2	7.4	5.6	39
N	JAN	14.6	11.9	11.7	10.9	10.0	9.5	12.7	13.8	18.3	17.8	15.0	13.9	13.3	71
S	LUND	11.0	9.3	9.5	11.4	12.5	15.8	22.1	19.3	16.4	15.1	12.9	12.0	13.9	106
S	HALM	12.6	10.5	10.7	11.2	12.3	16.4	22.3	25.1	19.2	16.6	14.7	13.6	15.4	106
S	VAXJ	10.6	8.6	9.4	10.6	13.3	16.0	20.5	21.5	15.9	13.9	12.0	11.4	13.6	106
S	KALM	8.6	7.9	8.6	10.3	12.9	12.8	16.9	18.2	15.6	11.1	12.1	9.6	12.1	106
S	GÖTE	14.4	11.2	11.5	12.2	13.3	17.6	21.7	22.4	18.8	18.1	16.2	14.8	16.0	106
S	VAST	10.0	8.2	9.4	11.5	12.9	14.4	20.8	20.7	18.8	14.3	14.7	11.6	13.9	106
S	VISB	11.1	8.7	8.6	10.3	10.4	12.9	17.6	18.6	15.4	13.3	12.2	10.1	12.4	106
S	LINK	9.1	7.9	8.2	10.1	11.8	14.7	20.7	19.4	16.2	12.7	11.1	9.3	12.6	106
S	KARL	10.2	8.6	9.8	11.3	12.7	16.0	19.8	23.6	17.8	15.8	14.2	11.9	14.3	106
S	VAST	8.4	7.3	8.3	9.6	11.9	14.7	22.2	20.6	15.5	12.7	11.3	9.7	12.7	106
S	STOC	9.6	7.8	8.3	10.5	11.3	14.4	20.1	22.3	16.6	13.7	12.7	10.7	13.2	106
S	FALU	9.5	7.2	8.1	10.1	13.6	17.0	21.2	22.1	17.2	13.1	11.7	9.6	13.4	105
S	SVEG	9.7	8.3	9.9	11.2	14.3	19.1	21.4	21.2	17.6	13.9	12.2	11.5	14.2	106
S	HARN	13.4	11.0	12.6	13.6	15.7	18.4	20.4	26.1	21.3	20.0	19.5	16.2	17.4	106
S	ÖSTE	5.7	4.8	5.6	8.0	10.4	16.7	18.7	18.9	14.3	9.0	7.4	6.9	10.5	106
S	STEN	6.9	5.7	7.0	7.6	11.0	17.4	21.9	19.3	14.5	10.9	8.4	7.2	11.5	106
S	PITE	9.0	6.9	8.2	9.4	11.4	14.6	16.6	21.6	18.2	14.6	12.9	9.8	12.8	105
S	HAPA	8.9	7.9	8.9	8.9	10.5	12.5	15.3	19.0	17.9	14.8	12.9	9.3	12.2	106
S	JOKK	6.1	5.0	5.6	6.7	10.5	15.7	19.6	18.1	13.6	10.1	8.3	6.8	10.5	105
S	KARE	5.2	4.7	4.9	6.1	8.3	11.9	18.3	17.0	12.4	9.3	7.8	5.5	9.3	105

4.2

Nordic Atlas of Climatic Extremes

Coefficient of variance
of annual maximum
1-day precipitation
1911-1995.



- Coeff. of variation:
- 0.2 - 0.25
 - 0.25 - 0.3
 - 0.3 - 0.35
 - 0.35 - 0.4
 - 0.4 - 0.45
 - 0.45 - 0.5
 - 0.5 - 0.6

This map shows only a few selected stations, which may not be representative for a larger area.
For more precise information about climatic extremes, contact the national meteorological services.

Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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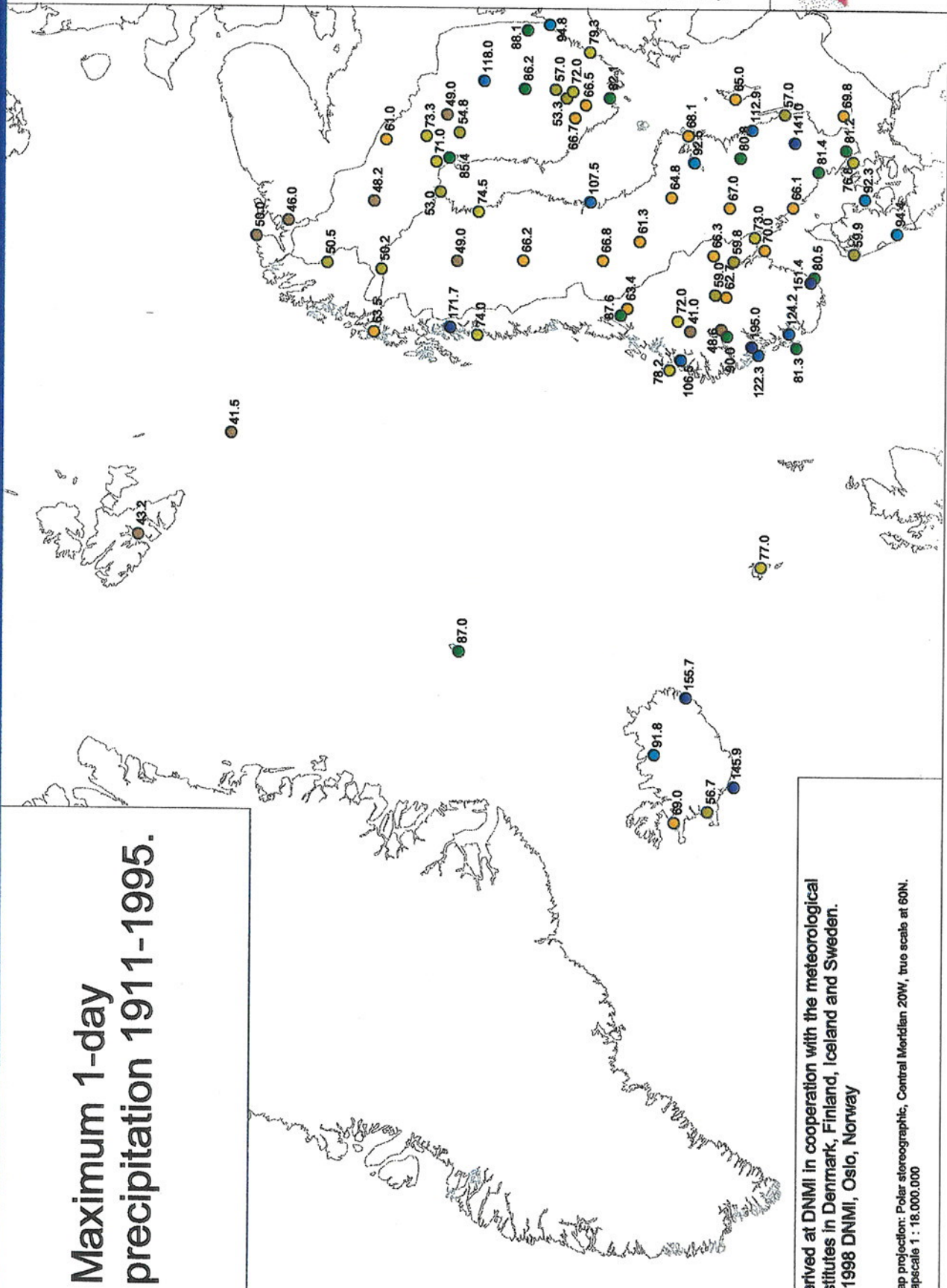
Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18.000.000

4.3

Nordic Atlas of Climatic Extremes

Maximum 1-day precipitation 1911-1995.

- Precipitation (mm):
- 40 - 50
 - 50 - 60
 - 60 - 70
 - 70 - 80
 - 80 - 90
 - 90 - 100
 - 100 - 125
 - 125 - 150
 - 150 - 200



Maximum 1-day precipitation values for all months are listed in table 4.2.

This map shows only a few selected stations, which may not be representative for a larger area. For more precise information about climatic extremes, contact the national meteorological services.



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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18.000.000

Table 4.2 Maximum 1-day precipitation for the whole period available at each station.

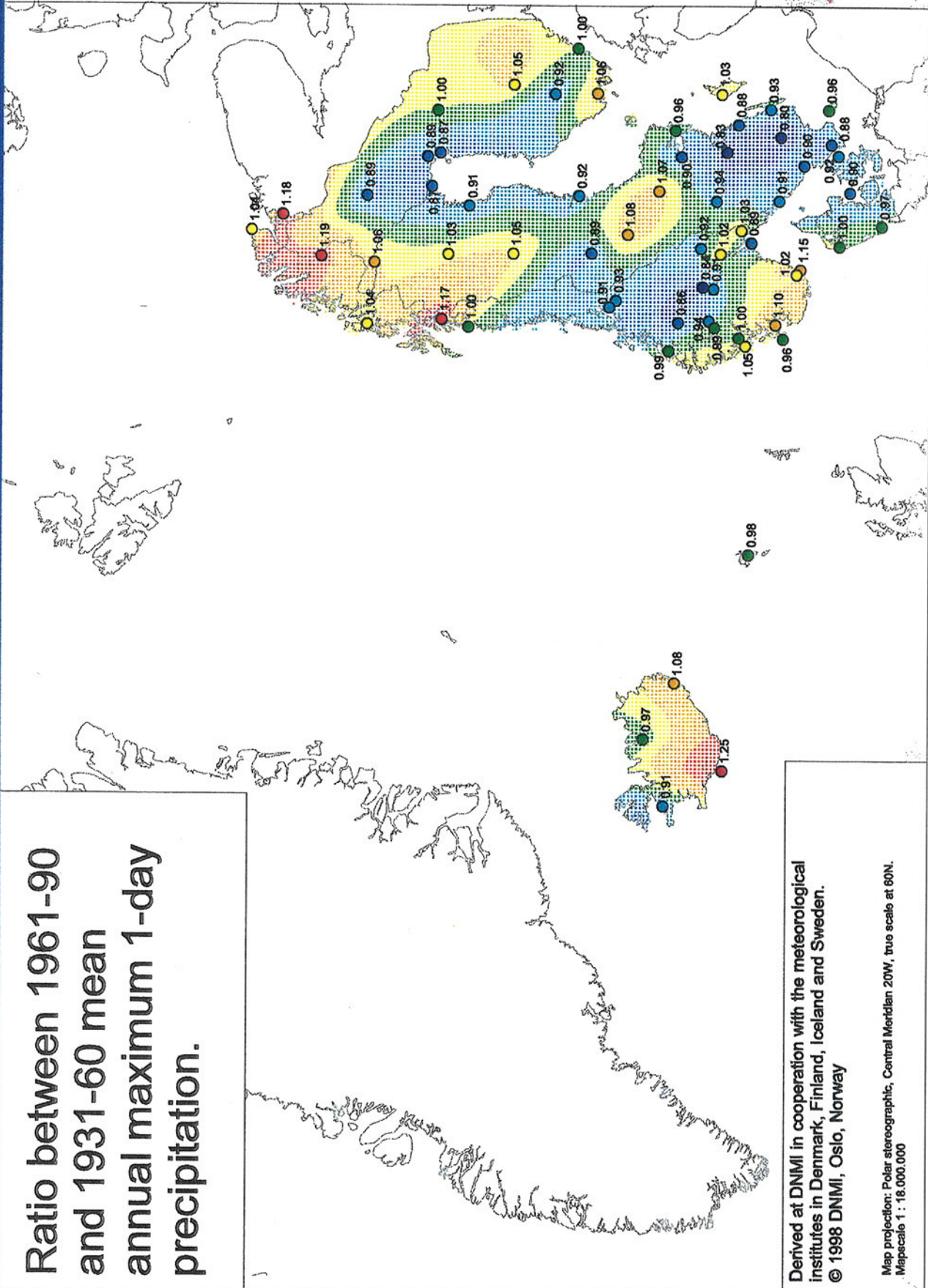
Country	Init	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	N.years
DK	HAMM	23.0	24.3	19.4	44.5	40.7	52.2	68.8	69.8	49.1	43.1	32.6	43.6	69.8	106
DK	VEST	29.6	34.6	29.1	26.5	32.4	43.7	43.2	56.4	55.5	59.9	38.7	33.1	59.9	106
DK	NORD	24.4	37.2	26.3	28.0	43.3	48.2	94.4	62.7	59.0	50.7	39.4	29.2	94.4	106
DK	TRAN	22.2	31.0	27.1	29.6	38.2	69.7	63.8	92.3	58.0	36.0	33.4	32.0	92.3	106
DK	KØBE	24.0	24.0	25.2	38.0	38.2	45.1	76.8	41.0	61.2	47.0	34.2	32.7	76.8	106
FIN	HEL5	24.6	29.5	24.7	37.1	37.5	47.6	79.3	53.3	53.8	53.9	38.4	39.6	79.3	106
FIN	TURK	23.5	21.1	32.6	26.0	32.0	33.7	62.4	82.1	44.3	43.2	33.0	32.5	82.1	103
FIN	HUIT	24.4	16.8	19.6	23.2	32.0	56.5	66.5	59.7	47.5	36.6	25.1	36.4	66.5	97
FIN	TAMP	27.6	24.7	22.3	31.5	32.7	55.6	43.9	53.3	34.5	38.5	27.2	24.2	55.6	101
FIN	VIRO	28.3	41.5	26.2	31.2	47.1	55.2	72.8	86.0	94.8	40.9	32.0	33.1	94.8	85
FIN	LAPP	31.8	23.9	45.0	23.0	37.5	42.2	65.0	88.1	33.0	32.9	24.4	27.0	88.1	99
FIN	LAVI	34.5	20.0	22.5	33.5	41.2	47.5	49.7	66.7	41.6	30.0	25.9	31.5	66.7	77
FIN	VIRR	19.6	17.9	16.8	25.6	43.6	72.0	53.3	51.8	41.9	28.6	24.7	19.1	72.0	73
FIN	ORIV	15.4	13.7	20.7	25.8	25.9	42.2	48.3	57.0	55.6	26.4	32.5	19.9	57.0	82
FIN	JYVA	27.9	18.1	23.2	24.8	45.0	79.9	50.0	86.2	63.6	34.8	32.0	30.0	86.2	105
FIN	KUOP	25.7	19.0	19.6	26.4	37.0	118.0	36.2	42.8	35.4	28.0	38.6	24.4	118.0	99
FIN	KEST	19.1	19.7	24.8	21.1	27.2	40.2	54.8	48.2	35.9	30.4	27.1	18.0	54.8	80
FIN	KAJA	20.5	19.0	17.0	26.3	41.0	48.6	95.0	52.8	38.7	27.5	16.4	22.0	95.0	104
FIN	OULU	21.1	22.2	19.5	21.6	29.8	58.9	85.4	59.8	42.0	41.8	27.3	20.7	85.4	100
FIN	YLI-	16.0	14.3	21.8	40.3	27.0	67.9	71.0	61.2	30.4	43.6	20.4	18.5	71.0	79
FIN	PUDA	16.2	22.2	17.0	25.0	33.5	43.0	57.6	73.3	48.5	29.3	29.5	20.1	73.3	68
FIN	KUUS	21.7	13.4	14.1	16.5	36.0	47.8	61.0	41.0	34.9	40.5	26.2	17.3	61.0	80
FIN	SODA	13.3	12.8	21.4	19.8	31.8	32.6	38.8	48.2	35.6	27.2	17.3	16.7	48.2	85
FR	TORS	72.8	51.1	48.7	53.0	50.8	48.6	55.1	43.1	77.0	60.1	57.2	56.1	77.0	106
G	UPER	27.6	24.3	24.4	50.0	28.0	20.0	27.2	36.5	55.0	48.0	26.1	12.0	55.0	37
G	NUUK	49.5	64.0	114.1	41.4	100.4	78.8	101.0	80.9	66.7	71.1	81.9	53.6	114.1	74
G	NARS	149.4	169.4	122.6	80.2	76.0	168.2	123.8	88.0	108.3	128.2	107.2	126.0	169.4	104
G	DANM	21.0	31.7	30.6	21.8	8.0	17.0	17.6	27.0	25.8	17.0	29.6	37.2	37.2	47
G	ITTO	31.1	40.0	49.0	34.0	32.0	34.1	65.8	57.0	50.7	59.8	42.5	42.5	65.8	46
G	TASI	86.8	88.0	56.7	83.1	125.5	42.6	58.5	81.5	79.0	100.0	84.6	98.0	125.5	96
IC	STYK	68.0	50.1	56.6	34.9	30.3	52.6	29.0	44.7	50.5	55.3	69.0	42.8	69.0	104
IC	REYK	42.4	40.3	56.7	48.2	35.9	30.6	34.1	42.4	49.2	37.1	44.0	55.1	56.7	69
IC	VEST	60.6	59.5	92.0	52.8	80.0	71.1	49.5	75.4	85.8	74.0	145.9	67.8	145.9	104
IC	AKUR	30.9	36.9	41.3	28.0	30.6	42.3	27.2	52.0	91.8	38.7	33.6	33.0	91.8	64
IC	TEIG	110.2	74.8	117.1	79.6	67.4	155.7	109.5	124.0	84.0	89.3	92.9	83.4	155.7	99
N	HALD	62.0	51.0	41.0	40.0	37.0	73.0	61.5	61.3	50.0	55.0	46.1	42.0	73.0	101
N	ODAL	32.2	33.6	33.0	42.0	52.9	58.5	53.0	66.3	60.3	53.4	39.0	31.0	66.3	100
N	SKJÅ	35.3	34.2	16.5	15.1	28.5	40.3	33.9	41.0	37.5	33.1	26.5	30.4	41.0	100
N	KJØR	40.5	29.0	27.5	22.2	28.8	37.8	45.6	62.8	72.0	35.8	26.0	49.8	72.0	103
N	OSLO	35.5	24.5	32.0	31.6	43.0	42.6	56.0	59.8	58.7	49.5	46.1	29.0	59.8	106
N	REIN	30.0	25.0	33.0	26.0	39.0	56.2	57.0	61.0	51.0	59.0	50.2	33.0	61.0	100
N	NESB	16.5	15.5	16.7	20.1	50.0	35.6	38.6	62.7	55.7	46.3	40.2	18.2	62.7	98
N	FERD	30.0	33.8	38.0	33.7	51.5	70.0	70.4	71.4	46.0	52.5	53.9	38.6	71.4	106
N	OKSØ	57.7	51.0	58.3	41.8	62.0	64.0	74.2	70.0	80.5	82.3	110.5	83.6	110.5	106
N	MEST	89.5	128.7	88.1	69.1	83.3	76.3	90.4	92.7	151.4	136.7	98.0	87.9	151.4	96
N	NEDS	75.9	67.6	82.8	62.5	62.0	61.0	129.0	84.7	80.4	124.2	123.0	104.0	129.0	100
N	UTSI	46.0	29.3	37.6	32.7	31.0	52.2	77.2	67.9	81.3	55.5	53.0	46.4	81.3	75
N	SAMN	156.7	155.5	172.8	121.3	94.0	91.0	134.4	143.0	153.7	155.6	195.0	156.0	195.0	95
N	BERG	88.0	73.6	116.4	63.7	57.5	67.0	79.1	88.3	119.0	104.4	122.3	99.2	122.3	106
N	LÆRD	48.6	41.6	38.9	28.0	29.0	38.7	36.3	45.2	55.0	43.5	45.5	42.0	55.0	105
N	VETT	55.0	60.0	63.0	40.0	28.1	37.5	54.0	48.0	57.0	53.0	56.0	90.0	90.0	99
N	ØRSK	85.0	63.0	85.0	80.1	75.1	80.0	68.0	86.0	93.7	98.0	116.0	106.5	116.0	100
N	ONA	71.5	59.4	68.8	46.5	30.9	33.4	70.3	78.2	68.0	65.6	72.5	48.4	78.2	74
N	LIEN	46.5	53.0	63.4	29.5	40.4	45.3	50.5	52.2	45.0	51.1	44.0	52.9	63.4	100
N	VÆRN	49.5	50.8	65.0	45.3	45.7	51.3	46.4	87.6	77.6	81.0	47.0	44.0	87.6	106
N	BODØ	64.0	62.0	72.8	54.5	57.0	46.0	45.0	65.0	72.7	74.0	55.1	56.9	74.0	106
N	KRÅK	171.7	104.0	89.7	115.3	82.3	51.8	52.1	85.3	81.5	105.8	117.9	103.0	171.7	100
N	TROM	38.5	48.9	37.8	35.4	42.6	64.0	37.9	38.0	46.5	63.5	49.5	63.0	64.0	106
N	KARA	16.2	40.0	16.2	17.5	24.6	50.7	50.5	35.9	31.2	36.1	20.8	12.9	50.7	103
N	VARD	50.0	38.0	43.6	25.6	36.2	43.8	55.0	46.2	34.0	33.5	29.0	26.3	55.0	100
N	BJØS	22.0	19.5	14.2	18.0	25.0	36.8	45.0	46.0	41.6	30.3	31.5	17.6	46.0	100
N	BJØY	23.5	18.8	32.3	17.9	40.5	20.9	30.8	23.0	34.0	24.5	20.5	41.5	41.5	64
N	SVAL	11.7	38.2	34.0	9.0	9.3	12.0	31.1	43.2	13.7	13.1	12.7	22.5	43.2	39
N	JAN	60.0	32.0	36.0	40.0	51.0	38.7	87.0	35.0	68.5	46.6	40.9	38.2	87.0	71
S	LUND	29.1	25.0	26.4	53.3	53.8	56.3	81.2	48.0	44.1	46.6	27.5	40.2	81.2	106
S	HALM	29.8	27.1	30.1	31.9	33.0	47.6	81.4	65.0	79.2	45.5	30.0	34.5	81.4	106
S	VAXJ	27.3	28.9	55.9	38.5	56.0	67.0	74.9	141.0	54.9	33.9	29.6	28.2	141.0	106
S	KALM	25.8	40.6	27.3	30.0	44.9	40.2	70.4	57.0	51.0	30.7	32.4	25.7	70.4	106
S	GÖTE	44.4	31.7	31.3	28.3	37.9	53.9	66.1	69.9	47.5	48.6	54.1	46.4	69.9	106
S	VAST	30.1	23.7	27.4	54.1	43.6	41.6	112.9	92.4	83.7	58.4	39.5	36.0	112.9	106
S	VISB	27.2	28.8	22.9	28.6	38.0	50.3	85.7	59.0	52.0	39.7	29.6	26.3	85.7	106
S	LINK	24.5	40.8	22.3	35.6	32.8	40.4	80.8	68.1	52.5	36.3	33.2	28.3	80.8	106
S	KARL	23.6	27.8	29.0	32.5	61.6	48.7	67.0	63.9	40.9	39.6	38.5	36.3	67.0	106
S	VAST	20.3	19.5	25.3	25.8	40.0	37.6	92.5	85.8	47.4	32.7	32.7	32.0	92.5	106
S	STOC	26.1	23.0	20.6	24.2	46.3	45.8	68.1	68.3	44.4	38.4	40.3	32.5	68.3	106
S	FALU	26.1	19.3	17.3	29.8	39.0	54.4	55.6	64.8	62.3	33.4	42.4	20.6	64.8	105
S	SVEG	40.3	25.4	24.0	33.8	30.9	55.3	50.1	61.3	44.3	47.7	33.7	36.2	61.3	106
S	HARN	46.6	40.1	37.0	78.0	42.5	187.3	97.7	107.5	64.8	53.2	50.5	52.9	187.3	106
S	ÖSTE	15.3	16.1	15.6	31.5	34.3	36.0	66.8	62.1	50.1	28.9	24.8	23.6	66.8	106
S	STEN	18.2	14.5	17.1	20.2	35.8	66.2	63.0	61.9	44.3	34.7	17.5	21.3	66.2	106
S	PITE	31.6	22.2	27.7	29.7	36.5	63.2	48.9	74.5	52.5	52.8	40.9	27.3	74.5	105
S	HAPA	23.9	29.9	29.0	23.7	37.3	36.7	49.5	48.4	53.0	33.7	35.6	24.6	53.0	106
S	JOKK	15.3	11.7	16.6	21.7	28.2	49.0	40.2	44.7	47.0	26.1	21.6	21.9	49.0	105
S	KARE	13.8	18.4	19.4	16.7	26.0	30.0	49.5	50.2	50.1	29.5	18.7	14.6	50.2	105

4.4

Nordic Atlas of Climatic Extremes

Ratio between 1961-90 and 1931-60 mean annual maximum 1-day precipitation.

- Ratio:
- 0.8 - 0.85
 - 0.85 - 0.9
 - 0.9 - 0.95
 - 0.95 - 1
 - 1 - 1.05
 - 1.05 - 1.1
 - 1.1 - 1.15
 - 1.15 - 1.2
 - 1.2 - 1.25



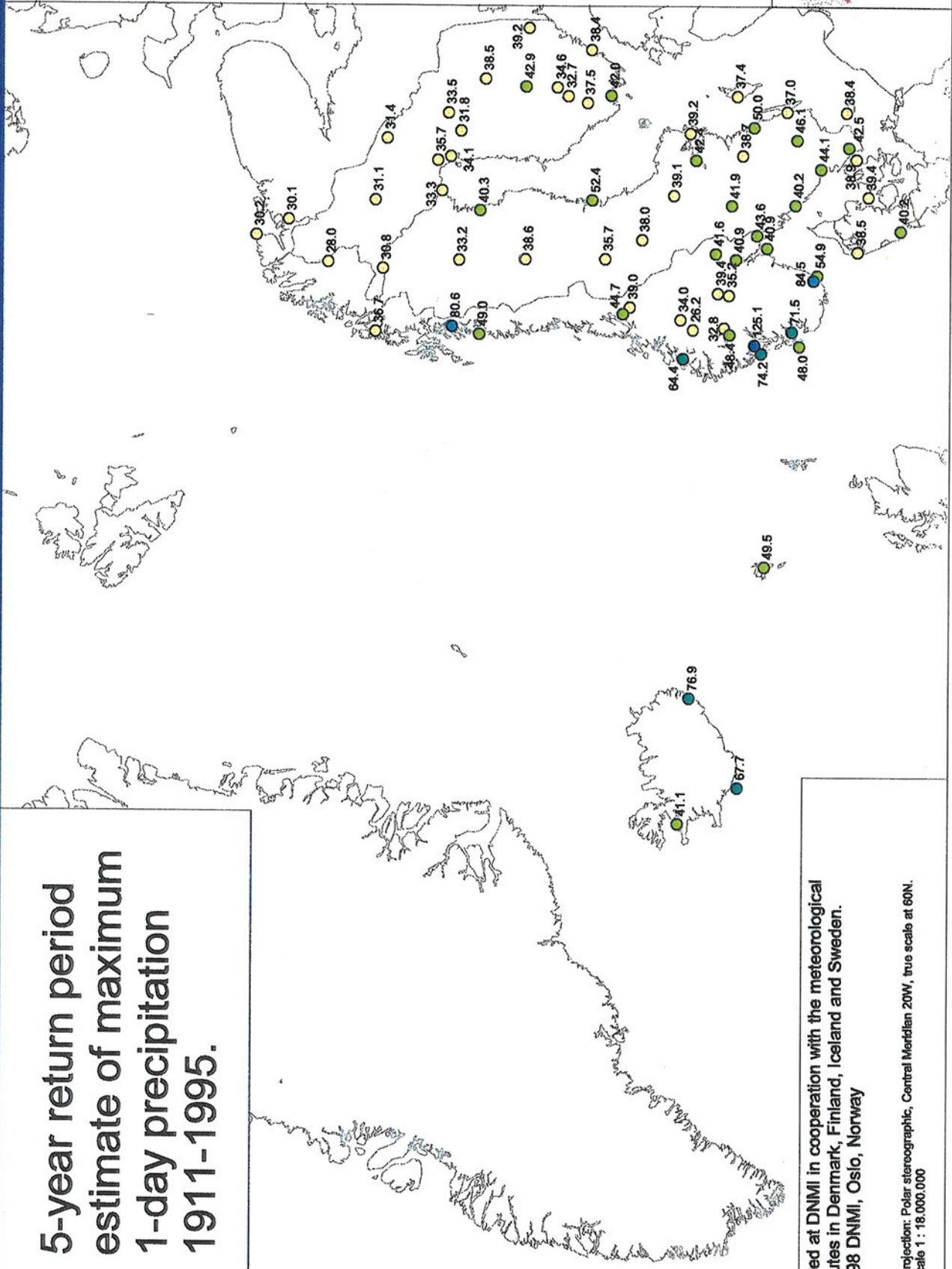
4.5

Nordic Atlas of Climatic Extremes

5-year return period
estimate of maximum
1-day precipitation
1911-1995.

Precipitation (mm):

- 20 - 40
- 40 - 60
- 60 - 80
- 80 - 100
- 100 - 150
- 150 - 200



This map shows only a few selected stations, which may not be representative for a larger area. For more precise information about climatic extremes, contact the national meteorological services.

Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
Mapscale 1 : 18.000.000

5. ALL TIME RECORDS

5.1 Temperature

The number of stations, which have measured temperature in the course of the century in the Nordic countries is approximately 3000, for precipitation even more. The highest and lowest temperatures and highest 1-day precipitation of this whole network are given in the following:

DENMARK

Highest observed temperature in Denmark:

Month:	Temperature (°C):	Location:	Date:
January	12.0	Tirstrup Lufthavn	17.01.1993
February	- 15.8	København, Landbohøjskolen	25.02.1990
March	22.2	Karup Lufthavn	19.03.1990
April	28.6	Holbæk	28.04.1993
May	32.8	Herning	28.05.1892
June	35.5	Hillerød, Lille Dyrehavegård	30.06.1947
July	35.3	Nykøbing Mors, Erslev Herning, Studsgård	10.07.1941 12.07.1941
August	36.4	Holstebro Flyveplads	11.08.1975
September	32.3	Randers, Strømmen	03.09.1906
October	24.1	Tinglev, Store Jyndevad	13.10.1978
November	18.5	Præstø, Evensølund	02.11.1968
December	14.5	Fanø, Nordby	05.12.1953

Lowest observed temperature in Denmark:

Month:	Temperature (°C):	Location:	Date:
January	-31.2	Thisted, Hørsted	07.01.1982
February	-29.0	Brande	08.02.1942
March	-27.0	Holbæk, Søndersted	06.03.1888
April	-19.0	Store Vildmose, Fossevangen	03.04.1922
May	-8.0	Ikast, Kolpensig	14.05.1900
June	-3.5	Klosterhede Plantage, Fruerhøj	02.06.1936
July	-0.9	Ikast, Kolpensig	16.07.1903
August	-2.0	Varde	29.08.1885
September	-5.6	Aalborg	25.09.1886
October	-11.9	Rold Skov, Thorstedlund	30.10.1880
November	-21.3	Tarm, Egvad	30.11.1973
December	-25.6	Brande, Døvling	17.12.1981

Highest observed 24h precipitation in Denmark:

Month:	Precipitation (mm):	Location:	Date:
January	51.6	Thisted, Hovsør	01.01.1986
February	61.8	Vestervig	04.02.1881
March	54.8	Vamdrup	08.03.1970
April	66.5	Ikast, Bodholt	23.04.1969
May	77.3	Tarm	20.05.1906
June	153.1	Nykøbing Falster, Boderupgård	12.06.1880
July	168.9	Marstal	09.07.1931
August	151.2	Nyborg, Måre	16.08.1959
September	132.7	Præstø, Evensølund	15.09.1968
October	100.8	Christiansø Fyr	10.10.1982
November	62.3	Ulfborg, Staby	19.11.1981
December	49.4	Brovst, Attrup	02.12.1985

FINLAND

Highest observed temperature in Finland:

Month:	Temperature (°C):	Location:	Date:
January	10.9	Maarianhamina	6.1.1973
February	11.8	Helsinki Ilmala	28.2.1943
March	16.0	Kumlinge	24.3.1945
April	25.5	Jyväskylä	27.4.1921
May	30.0	Lapinjärvi	20.5.1993
June	33.8	Ähtäri	24.6.1935
July	35.9	Turku	9.7.1914
August	33.2	Sulkava	5.8.1912
September	28.8	Rauma	6.9.1968
October	19.4	Helsinki Malmi	2.10.1985
November	12.0	Salo	3.11.1967
December	10.3	Maarianhamina	2.12.1953

Lowest observed temperature in Finland:

Month:	Temperature (°C):	Location:	Date:
January	-50.4	Salla Naruska	6.1.1985
February	-49.0	Sodankylä kk	5.2.1912
March	-44.3	Salla Tuntsa	1.3.1971
April	-36.0	Kuusamo kk	2.4.1912
May	-24.6	Enontekiö Kalmankaltio	1.5.1971
June	-9.8	Kittilä Kaukonen	1.6.1979
July	-5.0	Enontekiö Kilpisjärvi	12.7.1958
August	-10.8	Salla Naruska	26.8.1980
September	-18.7	Sodankylä Vuotso	26.9.1968
October	-31.8	Sodankylä kk	25.10.1968
November	-42.0	Sodankylä kk	30.11.1915
December	-47.0	Lieksa Pielisjärvi	21.12.1919

Highest observed 24h precipitation in Finland:

Month:	Precipitation (mm):	Location:	Date:
January	43.3	Utsjoki Nuorgam	3.1.1989
February	41.5	Vironlahti	20.2.1943
March	36.7	Tarvasjoki	30.3.1943
April	43.3	Joensuu lento	9.4.1983
May	88.4	Kuusankoski	31.5.1988
June	118.0	Kuopio kaupunki	29.6.1973
July	198.4	Espoo, Lahnus	21.7.1944
August	147.2	Alahärmä	6.8.1967
September	84.6	Parikkala	12.9.1968
October	64.0	Mäntyharju	3.10.1922
November	50.7	Kristiinakaupunki	18.11.1981
December	44.5	Helsinki, Katajaluoto	10.12.1965

ICELAND

Highest observed temperature in Iceland:

Month:	Temperature (°C):	Location:	Date:
January	18.8	Dalatangi	14.1.1992
February	18.1	Dalatangi	17.2.1998
March	18.3	Sandur	27.3.1948
April	21.0	Seyðisfjörður	26.4.1984
May	25.6	Vopnafjörður	26.5.1992
June	30.5	Teigarhorn	22.6.1939
July	30.0	Hallormsstaður	17.7.1946
August	28.5	Vík í Mýrdal	11.8.1939
September	26.0	Dalatangi	12.9.1949
October	23.5	Dalatangi	1.10.1973
November	19.7	Dalatangi	10.11.1971
December	18.0	Seyðisfjörður	14.12.1988

Lowest observed temperature in Iceland:

Month:	Temperature (°C):	Location:	Date:
January	-38.0	Möðrudalur	22.1.1918
February	-30.7	Möðrudalur	4.2.1980
March	-36.2	Siglufjörður	1881
April	-30.2	Siglufjörður	1.4.1881
May	-17.4	Möðrudalur	1.5.1977
June	-10.5	Nýibær	11.6.1973
July	-4.1	Möðrudalur	21.7.1986
August	-7.5	Sandbúðir	27.8.1974
September	-19.6	Möðrudalur	27.9.1954
October	-21.6	Möðrudalur	19.10.1957
November	-27.1	Staðarhóll	24.11.1973
December	-32.2	Möðrudalur	26.12.1995

Highest observed 24h precipitation in Iceland:

Month:	Precipitation (mm):	Location:	Date:
January	141.2	Skógar	13.1.1992
February	233.9	Vagnsstaðir	28.2.1968
March	142.0	Stíflisdalur	22.3.1995
April	157.0	Kvísker	3.4.1984
May	147.0	Kvísker	16.5.1973
June	142.0	Kvísker	26.6.1993
July	193.6	Kvísker	29.7.1982
August	190.5	Siglufjörður	10.8.1982
September	159.8	Dalatangi	17.9.1980
October	242.7	Kvísker	1.10.1979
November	185.5	Skaftafell	8.11.1975
December	173.3	Kvísker	2.12.1989

NORWAY

Highest observed temperature in Norway:

Month:	Temperature (°C):	Location:	Date:
January	17.9	Tafjord (Møre og Romsdal)	28.1.1989
February	18.9	Sunnalsøra (Møre og Romsdal)	23.2.1990
March	19.8	Bergen-Fredriksberg(Hordaland)	25.3.1945
April	26.9	Prestebakke (Østfold)	26.4.1993
May	31.3	Flekkefjord (Vest-Agder)	30.5.1908
June	35.6	Nesbyen (Buskerud)	20.6.1970
July	35.0	Flekkefjord (Vest-Agder)	13.7.1897
		Flekkefjord (Vest-Agder)	14.7.1897
		Oslo (Oslo)	21.7.1901
		Trondheim (Sør-Trøndelag)	22.7.1901
August	35.0	Staur (Hedmark)	6.8.1975
		Drammen-Marienlyst (Buskerud)	3.8.1982
September	28.5	Austad (Aust-Agder)	2.9.1906
		Meråker (Nord-Trøndelag)	1.9.1957
		Drammen-Marienlyst (Buskerud)	3.9.1991
October	25.7	Flekkefjord (Vest-Agder)	5.10.1898
November	18.5	Sunnalsøra (Møre og Romsdal)	1.11.1984
December	18.1	Gjermundnes(Møre og Romsdal)	2.12.1948

Lowest observed temperature in Norway:

Month:	Temperature (°C):	Location:	Date:
January	-51.4	Karasjok (Finnmark)	1.1.1886
February	-50.6	Karasjok (Finnmark)	4.2.1881
March	-45.1	Karasjok (Finnmark)	4.3.1888
April	-36.5	Karasjok (Finnmark)	9.4.1924
May	-25.0	Cuovddatmohkki (Finnmark)	1.5.1971
June	-12.2	Fanaråken (Sogn og Fjordane)	20.6.1938 2.6.1962
July	-8.3	Fanaråken (Sogn og Fjordane)	5.7.1951
August	-9.3	Karasjok (Finnmark)	29.8.1948
September	-16.5	Dividalen (Troms)	30.9.1928
October	-34.7	Sihcájávri (Finnmark)	31.10.1942
November	-41.8	Karasjok (Finnmark)	28.11.1904
December	-51.3	Karasjok (Finnmark)	31.12.1885

Highest observed 24h precipitation in Norway:

Month:	Precipitation (mm):	Location:	Date:
January	206.0	Grøndalen (Sogn og Fjordane)	11.1.1992
February	181.8	Lurøy (Nordland)	14.2.1961
March	175.0	Opstveit (Hordaland)	2.3.1997
April	140.2	Årdal-Livastøl (Rogaland)	1.4.1916
May	134.6	Sausvatnet-Flatmo (Nordland)	31.5.1982
June	165.5	Lurøy (Nordland)	12.6.1973
July	155.6	Lurøy (Nordland)	20.7.1982
August	173.2	Mykland (Aust-Agder)	28.8.1939
September	178.5	Eide (Møre og Romsdal)	18.9.1978
October	184.6	Takle (Sogn og Fjordane)	27.10.1995
November	229.6	Indre Matre (Hordaland)	26.11.1940
December	218.5	Indre Matre (Hordaland)	6.12.1955

SWEDEN

Highest observed temperatures in Sweden:

Month:	Temperature (°C):	Location:	Date:
January	12.4	Allgunnen (Småland)	5.1.1973
February	16.5	Västervik (Småland) Ölvingstorp (Småland)	18.2.1961
March	22.2	Oskarshamn (Småland) Sandbäckshult (Småland)	30.3.1968
April	29.0	Genevad (Halland)	27.4.1993
May	32.5	Kristianstad (Skåne) Kalmar (Småland)	27.5.1892 28.5.1892
June	38.0	Måilla (Småland)	29.6.1947
July	38	Ultuna (Uppland)	9.7.1933
August	36.8	Holma (Östergötland)	9.8.1975
September	29.1	Stehag (Skåne)	1.9.1975
October	24.5	Oskarshamn (Småland)	9.10.1995
November	18.4	Ugerup (Skåne)	2.11.1968
December	13.7	Simrishamn (Skåne)	24.12.1977

Lowest observed temperature in Sweden:

Month:	Temperature (°C):	Location:	Date:
January	-49.0	Vuoggatjälme (Lapland)	1.1.1951
February	-52.6	Vuoggatjälme (Lapland)	2.2.1966
March	-45.8	Vuoggatjälme (Lapland)	4.3.1971
April	-36.5	Karesuando (Lapland)	6.4.1916
May	-24.1	Fjällnäs (Härjedalen)	3.5.1981
June	-9.8	Vassijaure (Lapland)	2.6.1907
July	-5.0	Funäsdalen (Härjedalen)	22.7.1888 14.7.1893 Kvikkjokk (Lapland) 31.7.1900
August	-8.5	Nikkaluokta (Lapland)	31.8.1959
September	-15.2	Brännberg (Norrbotten)	29.9.1939
October	-31.5	Myrheden (Västerbotten)	28.10.1968
November	-43.0	Vittangi (Lapland)	24.11.1890 25.11.1890 26.11.1890
December	-48.9 -53*	Hemavan (Lapland) Malgovik (Lapland)	30.12.1978 13.12.1941

* Recorded on a private thermometer afterwards checked at SMHI

Highest observed 24h precipitation in Sweden:

Month:	Precipitation (mm):	Location:	Date:
January	90	Katterjåkk (Lapland)	28.1.1981
February	85	Joesjö (Lapland)	16.2.1976
March	101	Joesjö (Lapland)	19.3.1966
April	78	Härnösand (Ångermanland)	8.4.1959
May	93	Öxabäck (Västergötland)	21.5.1931
June	187	Härnösand (Ångermanland)	18.6.1908
July	198	Fagerheden (Norrbotten)	28.7.1997
August	146	Holmögadd (Västerbotten)	7.8.1948
		Hallstaberget (Västmanland)	25.8.1996
	237*	Karlaby (Skåne)	6.8.1960
September	141	Hemse (Gotland)	2.9.1913
October	127	Söderhamn (Hälsingland)	15.10.1992
November	83	Ryningsnäs (Småland)	12.11.1910
December	122	Riksgränsen (Lapland)	14.12.1909

* Measured during a hydrological project carried out by the University of Lund.

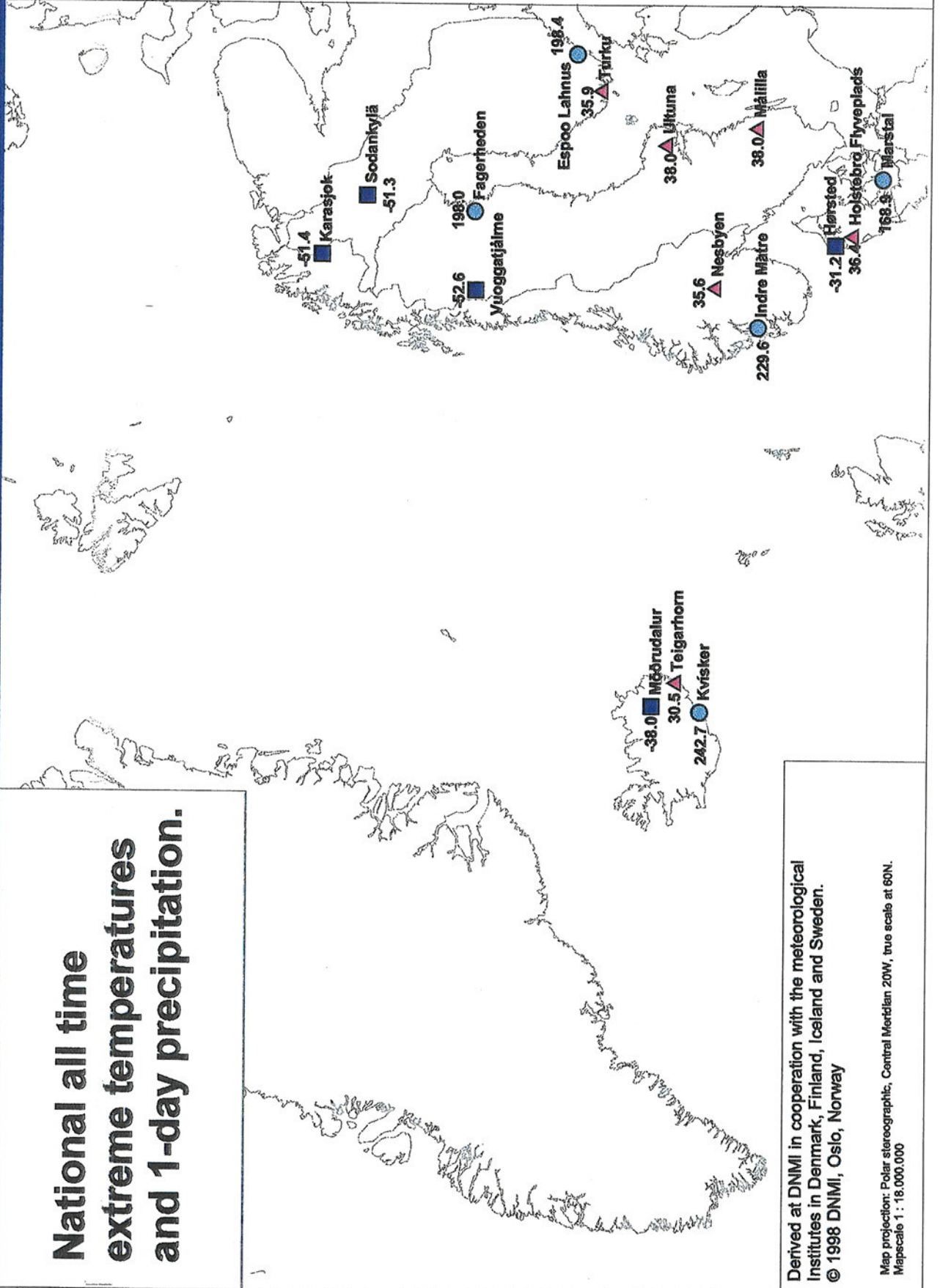
The all time extreme temperatures and 1-day precipitation in each country is presented in map 5.1.

5.1

Nordic Atlas of Climatic Extremes

National all time extreme temperatures and 1-day precipitation.

- Highest 1-day precipitation
- ▲ Highest air-temperature
- Lowest air-temperature



Derived at DDMI in cooperation with the meteorological institutes in Denmark, Finland, Iceland and Sweden.
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Map projection: Polar stereographic, Central Meridian 20W, true scale at 60N.
 Mapscale 1 : 18,000,000

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