

Climate of the Past

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Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.7	1.4	1.3	0.0	-0.3	-0.9	-1.3	-1.3	-0.7	0.0	0.5	0.8

Nuuk	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	SON	DJF	MAM	JJA	Sep-Aug
1784/85																	
P max abs	1007.5	1030.0	1029.0	1029.3	1022.4	1026.2	1029.1	1019.2	1021.2	1013.7			1030.0	1029.3	1029.1		1030.0
P max	996.8	1001.0	1014.2	1002.0	1001.8	1013.1	1011.5	1004.0	1014.2	1003.7			1004.0	1005.6	1009.9		1006.2
P	994.6	998.1	1012.3	999.3	999.4	1010.8	1008.6	1001.4	1012.8	1001.6			1001.7	1003.1	1007.6		1003.9
P min	992.6	995.3	1010.3	996.3	997.0	1008.5	1005.7	998.9	1011.3	999.6			999.4	1000.6	1005.3		1001.5
P min abs	979.2	972.7	976.8	963.6	976.6	983.7	980.0	978.2	1003.4	983.5			972.7	963.6	978.2		963.6
1789/90																	
P max abs					1010.9	1014.9	1020.8	1023.2	1032.8	1014.2	1014.7	1012.0			1032.8	1014.7	1032.8
P max					989.2	994.9	998.6	1010.8	1006.6	1002.7	1001.1	1001.6			1005.3	1001.8	1000.7
P					989.1	994.8	998.4	1010.6	1006.4	1002.5	1000.9	1001.5			1005.2	1001.6	1000.5
P min					998.3	994.7	998.3	1010.5	1006.3	1002.4	1000.7	1001.3			1005.0	1001.5	1001.6
P min abs					961.2	968.9	977.8	985.5	988.3	983.3	981.4	982.0			977.8	981.4	961.2
1790/91																	
P max abs	1010.7	1011.0	1019.8	1015.0	1020.0	1014.0	1028.8	1036.2	1027.5	1014.6	1006.6	1012.8	1019.8	1020.0	1036.2	1014.6	1036.2
P max	999.3	994.6	1001.1	996.1	997.3	989.9	997.4	1010.7	1004.2	1003.6	998.8	1002.6	998.3	994.4	1004.1	1001.6	999.6
P	999.2	994.5	1001.0	996.0	997.2	989.7	997.2	1010.5	1003.8	1003.3	998.5	1002.4	998.2	994.3	1003.8	1001.4	999.4
P min	999.1	994.4	1000.9	995.9	997.1	989.6	997.1	1010.3	1003.5	1003.1	998.4	1002.2	998.1	994.2	1003.6	1001.2	999.3
P min abs	985.5	971.6	979.0	977.8	984.1	965.3	969.5	998.9	982.5	988.5	991.3	987.8	971.6	965.3	969.5	987.8	965.3
1791/92																	
P max abs	1011.7	1013.8	1014.8	1026.3	1025.8	1032.2	1015.9	1020.8	1016.2	1023.2			1014.8	1032.2	1020.8		1032.2
P max	998.5	998.5	1000.1	1002.0	1007.8	1000.6	1004.0	1004.4	1004.0	1005.8			999.0	1003.5	1004.1		1002.6
P	998.3	998.4	1000.1	1001.9	1007.7	1000.5	1003.8	1004.1	1003.7	1005.6			998.9	1003.4	1003.9		1002.4
P min	998.2	998.3	1000.0	1001.8	1007.7	1000.4	1003.7	1003.9	1003.5	1005.4			998.8	1003.3	1003.7		1002.3
P min abs	983.0	979.4	980.7	977.0	979.7	980.8	983.4	991.0	982.2	980.8			979.4	977.0	982.2		977.0
1784-92																	

P max abs	1011.7	1030.0	1029.0	1029.3	1025.8	1032.2	1029.1	1036.2	1032.8	1023.2	1014.7	1012.8	1030.0	1032.2	1036.2	1023.2	1036.2
P max	998.2	998.0	1005.2	1000.1	999.0	999.6	1002.9	1007.5	1007.3	1003.9	999.9	1002.1	1000.5	999.6	1005.9	1002.0	1002.0
P	997.4	997.0	1004.5	999.1	998.3	999.0	1002.0	1006.6	1006.7	1003.2	999.7	1001.9	999.6	998.8	1005.1	1001.6	1001.3
P min	996.6	996.0	1003.7	998.0	1000.0	998.3	1001.2	1005.9	1006.2	1002.6	999.5	1001.7	998.8	998.8	1004.4	1001.3	1000.8
P min abs	979.2	971.6	976.8	963.6	961.2	965.3	969.5	978.2	982.2	980.8	981.4	982.0	971.6	961.2	969.5	980.8	961.2
1SD	2.0	1.8	5.6	2.4	6.7	7.8	4.5	4.0	3.7	1.5	1.2	0.5	1.5	4.2	1.5	0.1	1.7

Table S3. Annual (Sep–Aug), seasonal (SON, DJF, ..., etc.) and monthly mean (V), maximum (V max) and minimum (V min) values, and highest (V max abs) and lowest (V min abs) observed wind speed values ($\text{m}\cdot\text{s}^{-1}$) at Nuuk in historical period (1767/68; 1786–92)

[illegible]

V max abs	30.5	18.9	18.9	30.5	18.9	18.9	18.9	18.9	18.9	30.5			30.5	30.5	18.9			30.5
V max	9.2	7.2	9.9	10.4	7.8	6.4	7.6	8.8	7.6	10.9			8.8	8.2	8.0			8.2
V	6.1	4.7	5.7	6.9	5.2	4.0	5.0	5.7	4.8	7.7			5.5	5.4	5.2			5.4
V min	2.8	2.4	2.1	3.4	2.4	1.9	2.4	2.9	2.1	4.3			2.4	2.5	2.5			2.7
V min abs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0			0.0
1767/68; 1786-92																		
V max abs	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	18.9	30.5	30.5	30.5	30.5	30.5	30.5
V max	9.3	7.6	10.0	9.8	8.4	9.2	8.4	7.8	9.5	8.2	7.9	7.5	9.0	9.1	8.5	7.8	9.8	8.6
V	7.3	5.5	7.0	6.7	5.9	6.4	5.7	5.6	6.9	5.7	5.8	4.8	6.6	6.4	6.1	5.4	6.1	6.1
V min	5.1	3.3	4.2	3.8	3.5	3.4	3.2	3.5	4.3	3.4	3.8	1.8	4.2	3.6	3.7	3.0	3.5	3.6
V min abs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1SD	1.3	1.7	1.0	0.6	1.5	1.9	1.3	1.1	2.6	1.8	0.7	0.3	1.3	1.3	1.7	0.9	1.3	1.7

Table S4. Monthly, seasonal (SON, DJF, ..., etc .) and annual (Sep-Aug) mean wind speed values (m·s⁻¹) at Nuuk in contemporary period (1991-2020)

Nuuk	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	SON	DJF	MAM	JJA	Sep-Aug
1990-91	-	-	-	-	7.5	7.5	8.3	6.0	4.7	5.1	4.4	6.2	-	-	6.3	5.2	6.2
1991-92	5.3	8.4	6.6	7.2	8.3	7.2	7.3	5.5	5.1	5.6	3.9	4.3	6.8	7.6	6.0	4.6	6.2
1992-93	6.4	5.7	5.8	6.9	6.7	8.2	6.9	6.6	5.3	4.1	4.2	5.7	6.0	7.3	6.3	4.7	6.0
1993-94	5.2	7.3	6.1	7.8	7.3	6.4	7.3	6.2	5.2	4.5	5.8	5.3	6.2	7.2	6.2	5.2	6.2
1994-95	5.2	4.9	5.3	7.2	7.1	6.1	7.1	5.5	3.9	6.7	4.9	5.7	5.1	6.8	5.5	5.8	5.8
1995-96	6.9	5.4	7.8	6.6	8.1	7.4	8.1	6.8	5.9	5.6	5.3	5.4	6.7	7.4	6.9	5.4	6.6
1996-97	5.5	6.6	7.9	7.6	8.5	6.2	6.7	6.3	5.0	6.0	4.5	6.1	6.7	7.4	6.0	5.5	6.4
1997-98	5.6	6.1	5.7	7.2	6.7	7.8	7.0	6.1	6.4	4.5	4.9	5.1	5.8	7.3	6.5	4.9	6.1
1998-99	4.2	4.8	5.7	7.0	7.1	7.7	6.4	5.7	7.0	6.8	4.7	7.1	4.9	7.3	6.4	6.2	6.2
1999-2000	6.0	5.7	7.2	6.5	9.2	7.3	7.2	6.2	5.2	4.1	6.4	7.2	6.3	7.7	6.2	5.9	6.5
2000-01	5.8	6.3	6.8	6.0	7.4	7.1	5.9	6.2	7.4	5.5	4.5	5.1	6.3	6.9	6.5	5.0	6.2
2001-02	5.8	4.3	7.2	6.8	6.0	7.1	7.6	5.9	5.3	5.1	5.4	5.4	5.8	6.6	6.3	5.3	6.0
2002-03	5.6	4.5	6.4	6.6	6.9	6.8	7.0	5.8	5.8	4.5	4.8	6.0	5.5	6.8	6.2	5.1	5.9
2003-04	7.2	6.2	6.0	7.5	7.0	7.4	8.9	5.9	4.8	5.0	5.1	5.1	6.5	7.3	6.5	5.1	6.3
2004-05	5.9	6.4	6.8	8.7	7.2	8.7	7.8	6.6	7.5	6.3	5.8	3.7	6.3	8.2	7.3	5.3	6.8
2005-06	5.5	5.6	6.6	7.1	6.4	7.0	6.5	6.3	4.6	6.7	5.4	5.1	5.9	6.8	5.8	5.7	6.1
2006-07	5.7	4.8	7.0	6.4	7.2	5.7	8.1	6.3	5.1	3.9	5.2	5.3	5.8	6.4	6.5	4.8	5.9
2007-08	6.4	5.8	7.8	5.5	6.4	6.8	6.7	5.7	5.4	5.2	4.4	4.8	6.7	6.2	5.9	4.8	5.9
2008-09	6.2	7.9	6.1	6.4	6.3	6.1	5.9	5.6	5.6	5.2	4.3	4.0	6.7	6.3	5.7	4.5	5.8
2009-10	6.5	6.2	6.5	7.6	7.6	5.7	5.8	5.1	5.6	4.2	4.3	5.5	6.4	7.0	5.5	4.6	5.9
2010-11	4.4	5.3	6.4	7.6	6.9	6.6	6.1	5.7	4.9	4.5	5.2	4.6	5.4	7.0	5.6	4.7	5.7
2011-12	5.0	5.2	7.7	7.4	7.3	6.8	7.2	6.5	5.0	3.8	4.7	3.9	6.0	7.2	6.2	4.1	5.9
2012-13	6.8	6.6	7.0	6.2	6.1	7.7	6.2	5.9	7.1	5.3	4.6	5.6	6.8	6.7	6.4	5.2	6.3
2013-14	5.9	5.4	8.6	6.7	6.7	6.2	6.8	7.4	4.9	6.2	4.3	5.3	6.6	6.6	6.4	5.3	6.2
2014-15	6.3	6.2	5.7	6.8	6.9	6.5	6.3	6.8	5.6	3.7	3.8	4.3	6.1	6.7	6.2	3.9	5.7
2015-16	4.6	6.7	7.9	7.6	5.9	6.9	6.8	7.0	5.7	4.8	4.1	4.0	6.4	6.8	6.5	4.3	6.0
2016-17	5.6	5.6	6.1	5.4	7.4	6.4	6.5	6.6	4.6	3.9	4.8	5.0	5.8	6.4	5.9	4.6	5.7
2017-18	5.7	5.9	5.7	6.3	5.5	7.7	5.7	5.6	-	4.9	5.0	5.6	5.8	6.5	-	5.2	5.8
2018-19	4.9	7.2	6.6	5.9	6.7	5.6	6.2	7.0	3.9	3.9	4.8	3.9	6.2	6.1	5.7	4.2	5.6
2019-20	5.3	5.6	5.2	5.2	7.0	6.1	8.1	7.0	5.1	4.7	5.4	4.4	5.4	6.1	6.7	4.8	5.8
2020-21	5.0	6.2	6.7	7.2	-	-	-	-	-	-	-	-	6.0	-	-	-	6.3
1991-2020	5.7	6.0	6.6	6.8	7.1	6.9	6.9	6.2	5.4	5.0	4.8	5.2	6.1	6.9	6.2	5.0	6.1

Table S5. Annual (Year) and seasonal (SON, DJF, ..., etc.) frequencies (in %) of wind directions and calms (C) according to different directions at Nuuk in historical (1767/68; 1784-92) and contemporary (1991-2020) periods and their differences

Nuuk	Wind direction			
	Direction	Nuuk 1767-92	Nuuk 1991-2020	Nuuk 1767/68; 1784-92 – Nuuk 1991-2020
Year	N	16%	23%	-6%
	NE	21%	20%	1%
	E	15%	5%	10%
	SE	4%	6%	-2%
	S	16%	21%	-5%
	SW	6%	6%	1%
	W	6%	7%	-2%
	NW	6%	11%	-5%
	C	10%	1%	9%
SON	N	12%	20%	-8%
	NE	33%	31%	2%
	E	18%	5%	13%
	SE	7%	7%	0%
	S	11%	21%	-11%
	SW	7%	4%	3%
	W	3%	4%	-2%
	NW	3%	7%	-4%
	C	8%	1%	7%
DJF	N	16%	25%	-9%
	NE	27%	24%	2%
	E	20%	11%	9%
	SE	6%	8%	-2%
	S	11%	12%	-1%
	SW	3%	3%	1%
	W	5%	6%	-1%
	NW	6%	10%	-4%
	C	5%	1%	5%
MAM	N	26%	29%	-3%
	NE	19%	17%	2%
	E	12%	4%	7%
	SE	3%	5%	-2%
	S	16%	18%	-2%
	SW	5%	5%	0%
	W	6%	7%	-1%
	NW	5%	14%	-9%
	C	8%	1%	7%
JJA	N	22%	16%	6%
	NE	13%	10%	3%
	E	2%	1%	1%
	SE	1%	3%	-2%
	S	14%	33%	-19%
	SW	13%	11%	2%
	W	12%	12%	0%
	NW	7%	13%	-6%
	C	15%	1%	14%

Table S6. Monthly, seasonal (SON, DJF, ..., etc.) and annual (Sep-Aug) frequency (in %) of wind directions at Nuuk in the historical period (1767/68; 1784-92)

Nuuk	N	NE	E	SE	S	SW	W	NW	C	V
Sep	13.6	26.4	10.9	5.5	16.7	10.9	3.6	4.5	7.9	N/O
Oct	5.5	30.3	17.6	4.4	15.2	8.5	3.5	3.5	11.3	0.2
Nov	12.2	30.9	24.4	5.9	12.0	1.4	1.6	2.0	9.2	0.4
Dec	9.5	20.1	20.7	8.3	20.9	5.5	4.4	3.6	6.8	0.2
Jan	15.6	25.2	24.3	4.0	7.4	3.6	4.7	9.9	5.3	N/O
Feb	20.4	28.3	15.4	2.9	10.0	1.9	6.2	8.5	5.8	0.6
Mar	21.5	19.5	16.7	2.3	12.9	4.0	5.5	10.2	7.0	0.4
Apr	20.4	20.0	13.4	2.6	15.5	6.3	4.9	6.7	9.4	0.8
May	23.1	15.6	7.7	1.8	22.9	6.5	6.9	3.0	10.7	1.8
Jun	16.2	11.4	4.4	0.4	20.2	11.1	11.1	5.2	18.6	1.4
Jul	23.5	5.7	4.3	0.4	17.0	12.6	11.7	9.6	15.2	N/O
Aug	8.6	6.5	10.2	1.6	26.3	14.0	7.0	5.4	20.4	N/O
SON	10.3	29.5	18.6	5.3	14.3	6.3	2.8	3.1	9.6	0.2
DJF	15.0	24.4	20.3	5.1	12.8	3.7	5.1	7.3	6.0	0.3
MAM	21.6	18.4	12.6	2.2	17.1	5.6	5.8	6.7	9.0	1.0
JJA	16.5	8.9	5.6	0.7	20.5	12.1	10.5	6.3	18.1	0.8
Sep-Aug	16.1	21.1	15.1	3.5	15.8	6.3	5.7	5.9	9.9	0.6

Explanations: C - calm, V – variable wind, N/O – not occurred

Table S7. Annual (Year) and seasonal (SON, DJF, ..., etc.) average values of air temperature (in °C) according to different directions at Nuuk in historical (1767/68; 1784–92) and contemporary (1991–2020) periods and their differences

Nuuk	Wind direction vs. air temperature			
	Direction	Nuuk 1767-92	Nuuk 1991-2020	Nuuk 1767/68; 1784-92 – Nuuk 1991-2020
Year	N	-4.13	-2.92	-1.20
	NE	-5.02	-1.57	-3.46
	E	-3.86	-4.36	0.49
	SE	-1.22	-0.51	-0.71
	S	1.00	2.50	-1.50
	SW	0.33	1.63	-1.30
	W	-2.08	0.39	-2.46
	NW	-5.98	-1.71	-4.26
	C	0.17	-0.35	0.52
SON	N	-3.00	-0.77	-2.23
	NE	-2.65	-0.78	-1.87
	E	-1.75	-1.12	-0.62
	SE	-0.16	1.21	-1.37
	S	0.93	2.60	-1.67
	SW	0.62	1.79	-1.17
	W	-0.50	0.78	-1.28
	NW	-2.69	0.91	-3.59
	C	-0.32	0.57	-0.90
DJF	N	-12.49	-8.98	-3.51
	NE	-11.16	-6.29	-4.87
	E	-7.85	-6.74	-1.11
	SE	-2.95	-3.69	0.75
	S	-2.66	-3.37	0.71
	SW	-6.80	-7.29	0.49
	W	-11.84	-8.91	-2.93
	NW	-13.27	-9.62	-3.66
	C	-7.90	-7.76	-0.15
MAM	N	-4.88	-4.73	-0.15
	NE	-3.41	-1.93	-1.48
	E	-2.82	-4.83	2.01
	SE	-0.56	-1.48	0.93
	S	0.14	-0.35	0.48
	SW	-3.40	-2.42	-0.98
	W	-5.32	-3.32	-2.00
	NW	-7.52	-5.31	-2.20
	C	-2.17	-3.15	0.99
JJA	N	6.92	6.98	-0.06
	NE	7.51	7.98	-0.46
	E	7.45	6.80	0.65
	SE	5.52	6.36	-0.84
	S	5.81	6.09	-0.28
	SW	5.84	5.78	0.06
	W	6.67	6.42	0.26
	NW	6.62	6.55	0.08
	C	6.99	6.96	0.03

Table S8. Annual (Year) and seasonal (SON, DJF, ..., etc.) average values of atmospheric pressure (in hPa) according to different directions at Nuuk in historical (1767/68; 1784–92) and contemporary (1991–2020) periods and their differences

Nuuk	Wind direction vs. atmospheric pressure			
	Direction	Nuuk 1767-92	Nuuk 1991-2020	Nuuk 1767/68; 1784-92 – Nuuk 1991-2020
Year	N	1001.1	1006.4	-5.4
	NE	1000.6	1006.7	-6.1
	E	1000.8	1003.8	-3.0
	SE	995.2	1005.6	-10.5
	S	999.2	1008.3	-9.1
	SW	1001.6	1009.7	-8.0
	W	999.9	1007.9	-8.0
	NW	999.2	1006.5	-7.3
	C	1002.3	1008.3	-6.0
SON	N	1001.6	1005.4	-3.8
	NE	999.6	1007.0	-7.5
	E	999.5	1006.4	-6.9
	SE	995.6	1006.1	-10.5
	S	997.5	1006.5	-9.1
	SW	999.9	1006.2	-6.3
	W	996.5	1005.0	-8.5
	NW	999.5	1004.5	-5.0
	C	999.4	1007.9	-8.5
DJF	N	999.7	999.8	-0.1
	NE	1001.0	1001.6	-0.6
	E	998.6	1000.3	-1.7
	SE	994.3	1000.1	-5.8
	S	996.1	1000.0	-3.9
	SW	997.3	1001.4	-4.1
	W	999.7	999.0	0.8
	NW	996.6	998.6	-2.0
	C	1000.3	999.1	1.3
MAM	N	1002.5	1010.3	-7.9
	NE	1000.9	1010.9	-10.1
	E	1006.4	1008.4	-2.0
	SE	994.9	1010.7	-15.8
	S	1000.9	1011.4	-10.5
	SW	1004.1	1012.5	-8.4
	W	1000.1	1011.1	-11.1
	NW	1002.6	1009.1	-6.6
	C	1006.6	1012.3	-5.8
JJA	N	999.6	1011.1	-11.5
	NE	1001.4	1010.7	-9.3
	E	1000.0	1010.4	-10.4
	SE	1001.8	1009.9	-8.1
	S	1001.9	1010.6	-8.7
	SW	1002.8	1011.6	-8.8
	W	1001.1	1011.2	-10.1
	NW	998.6	1010.5	-11.9
	C	1002.0	1012.4	-10.3