



DECEMBER 2002

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

DULUTH, MN

INTERNATIONAL AIRPORT (DLH)

Lat: 46° 50' N Long: 92° 11' W Elev (Ground): 1426 Feet

Time Zone: CENTRAL WBAN: 14913 ISSN #:0198-2702

DATE	TEMPERATURE °F						DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND (IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		0600 LST	1200 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM					
																			5-SEC		2-MIN			
																			SPEED	DIR	SPEED	DIR		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
01	20	6	13	-7	10	14	52	0	SN BR	T		0.5	0.03	28.25	29.83	4.5	32	7.2	21	25	17	26	01	
02	11	-4	4	-16	-7	1	61	0		T		0.0	0.00	28.67	30.30	9.8	36	9.9	23	36	17	36	02	
03	14	-10*	2*	-17	-8	2	63	0	SN	T		T	T	28.99	30.64	4.5	34	4.8	13	36	9	35	03	
04	17	2	10	-9	1	7	55	0	SN	T		T	T	28.84	30.47	6.2	30	7.1	16	27	13	29	04	
05	14	0	7	-12	1	5	58	0	SN	T		T	T	28.56	30.18	9.4	28	9.9	17	29	15	30	05	
06	26	2	14	-4	13	16	51	0	SN	T		T	T	28.26	29.85	11.9	25	13.3	28	22	23	22	06	
07	26	10	18	1	10	17	47	0	SN	T		T	T	28.39	29.97	12.9	30	13.5	28	27	24	27	07	
08	12	-1	6	-11	-6	4	59	0		T		0.0	0.00	28.84	30.48	8.7	29	10.5	25	32	18	33	08	
09	35	7	21	5	13	19	44	0		T		0.0	0.00	28.48	30.07	15.8	24	16.1	36	24	28	24	09	
10	42	19	31	15	24	28	34	0	BR HZ	T		0.0	0.00	28.38	29.94	8.4	23	9.0	17	22	15	22	10	
11	32	27	30	15	28	29	35	0	FZDZ FG+ FZFG BR	0		0.0	T	28.30	29.85	10.3	22	10.7	23	22	20	24	11	
12	32	26	29	14	28	30	36	0	FZDZ FG+ FZFG BR	0		0.0	T	28.38	29.94	8.2	25	8.4	16	27	14	27	12	
13	37	24	31	16	29	30	34	0	FG+ FZFG BR	0		0.0	0.00	28.39	29.95	4.3	23	5.6	16	22	13	21	13	
14	45*	26	36*	22	27	31	29	0	BR	0		0.0	0.00	28.19	29.74	7.7	25	10.3	21	25	17	26	14	
15	32	21	27	13	22	25	38	0	SN BR UP	0		0.2	T	28.45	30.01	14.0	08	15.7	37	09	29	09	15	
16	23	20	22	8	17	20	43	0	SN BR	T		1.1	0.11	28.55	30.14	18.8	10	19.0	35	11	26	10	16	
17	33	22	28	15	21	26	37	0	RA FZDZ	1		0.0	0.01	28.38	29.95	17.7	10	18.0	32	09	25	09	17	
18	36	30	33	20	31	32	32	0	RA DZ FZRA FZDZ FG+ BR	1		0.0	0.54	27.97	29.51	11.8	09	13.1	30	08	23	09	18	
19	35	26	31	19	29	30	34	0	DZ SN BR	1		0.5	0.10	27.88	29.41	10.0	25	11.2	21	28	16	29	19	
20	26	18	22	10	19	22	43	0	SN BR	2		0.6	0.01	27.81	29.34	13.2	29	13.3	29	30	22	30	20	
21	23	18	21	9	16	19	44	0	SN BR UP BLSN	2		0.1	0.01	28.03	29.59	16.7	29	16.8	31	28	24	29	21	
22	21	13	17	5	14	17	48	0	SN BR UP BLSN	2		0.4	T	28.19	29.76	17.8	30	17.9	35	29	28	28	22	
23	17	9	13	2	7	12	52	0	SN	2		T	T	28.43	30.03	14.5	30	15.0	32	30	28	29	23	
24	23	8	16	5	10	13	49	0		2		0.0	0.00	28.47	30.07	7.5	33	8.1	16	33	14	33	24	
25	24	13	19	8	15	17	46	0	BR	2		0.0	0.00	28.41	29.99	9.0	28	10.2	20	25	16	26	25	
26	31	7	19	9	12	17	46	0	BR	1		0.0	0.00	28.51	30.10	8.3	26	9.1	18	23	15	24	26	
27	31	18	25	15	17	22	40	0		1		0.0	0.00	28.34	29.91	12.6	24	13.1	28	25	23	24	27	
28	37	20	29	19	22	26	36	0		1		0.0	0.00	28.33	29.89	7.0	29	7.3	16	30	14	31	28	
29	33	17	25	15	25	27	40	0	BR	1		0.0	0.00	28.32	29.89	11.0	10	12.4	30	10	24	09	29	
30	35	10	23	14	20	25	42	0	SN BR HZ	1		T	T	28.06	29.60	8.4	27	14.2	40*	28	31*	28	30	
31	16	4	10	1	0	7	55	0		1		0.0	0.00	28.46	30.07	11.0	30	12.2	28	30	21	31	31	
27.1 13.2 20.2 ■■ ■											< MONTHLY AVERAGES		TOTALS->			28.37 29.95		4.7	28	11.7	<- MONTHLY AVERAGES			
4.8 7.6 6.2 ■■ ■											<-----DEPARTURE FROM NORMAL----->		- .13			SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3								
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 0.54 DATE :18				SEA LEVEL PRESSURE DATE TIME											
MONTHLY									GREATEST 24-HR SNOWFALL: 1.1 DATE :16				MAXIMUM											
TOTAL DEPARTURE									GREATEST SNOW DEPTH: 2 DATE :25+				MINIMUM											
HEATING: 1383 -204 3798 -101									NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 0				PRECIPITATION ≥ 0.01 INCH : 7							
COOLING: 0 0 311 122									MAXIMUM TEMP ≤ 32 :21				MINIMUM TEMP ≤ 0 : 4				PRECIPITATION ≥ 0.10 INCH : 3							
									THUNDERSTORMS : 0				HEAVY FOG : 4				SNOWFALL ≥ 1.0 INCH : 1							

DECEMBER 2002
DULUTH, MN

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

DULUTH, MN

DECEMBER 2002

DLH

WBAN # 14913

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water Equiv.
01	T	T	T	T	T	T	T	T	T	T	T		01	T												01	T	0.03
02													02													02		0.00
03													03								T	T	T			03		T
04	T	T	T	T	T	T	T						04	T	T	T	T	T								04		T
05													05													05		T
06				T	T								06													06		T
07													07													07	0.00	T
08													08													08		0.00
09													09													09		0.00
10													10													10		0.00
11													11							T	T	T	T	T	T	11		T
12	T	T											12													12		T
13													13													13		0.00
14													14													14		0.00
15								T	T	T	T	T	15	T												15		T
16													16					T	T	T	T	T	T	T		16	T	0.11
17													17												T	17	T	0.01
18	T	T				0.02	0.01	T	T	0.05	0.05		18	0.02	0.04	0.04	0.03	0.01	0.01	T	T	T	T	0.01		18	0.29	0.54
19	T	T											19	T	T	T	0.01	T	T	T	T	T	T			19	0.02	0.10
20	T	T	T	T	T	T	T	T	T	T	T	T	20	T	T	T	0.01	T	T	T	T	T	T			20	T	0.01
21	T	T	T										21	T	T	T	T	T	T	T	T	T	T	T		21	T	0.01
22	T	T											22					T	T	T	T	T	T			22		T
23	T	T											23	T	T	T	T									23		T
24													24													24		0.00
25													25													25		0.00
26													26													26		0.00
27													27													27		0.00
28													28													28		0.00
29													29													29		0.00
30													30													30		T
31													31													31		0.00

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
Ending Date												
Ending Time (Hour/Min)												

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

* = Extreme for the month (last occurrence if more than one)
T = Trace precipitation amount
+ = also occurs on earlier date
FG+ = Heavy fog, visibility .25 miles or less
BLANK entries denote missing or unreported data

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

WEATHER NOTATIONS

**DULUTH, MN
DECEMBER 2002**

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							1.50	10.00	
02							10.00	10.00	
03							9.00	10.00	
04							6.00	10.00	
05							5.00	10.00	
06							9.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							4.00	10.00	
11							<.25	4.00	
12							.25	6.00	
13							.25	10.00	
14							3.00	10.00	
15							.50	10.00	
16							.75	10.00	
17							10.00	10.00	
18							<.25	10.00	
19							.50	9.00	
20							1.00	10.00	
21							2.00	10.00	
22							1.50	10.00	
23							5.00	10.00	
24							10.00	10.00	
25							1.50	10.00	
26							3.00	10.00	
27							8.00	10.00	
28							10.00	10.00	
29							.75	10.00	
30							2.00	10.00	
31							10.00	10.00	
MONTHLY AVGS							4.85	9.65	

SUNSHINE (MINUTES)

Total: Possible:

Percent Possible:

NUMBER OF DAYS WITH:

SKY CONDITION

CLR PTLY CLDY CLOUDY MISSING

31

MINIMUM VISIBILITY (MILES)

<=0.25 <=3.0 >=7.0

4 16 12

OBSERVATIONS AT 3-HOURLY INTERVALS

DULUTH, MN

DECEMBER 2002

DLH

WBAN # 14913

HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)			
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT <small>Okta</small>		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT <small>Okta</small>	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0733						DEC 01	SUNSET: 1623						SUNRISE: 0740						DEC 07	SUNSET: 1621									
03	OVC	025			8.00	-SN	17	12	16	80	9	27	28.28	29.87	03	OVC	020			10.00	23	16	21	74	13	30	28.26	29.83	
06	OVC	015			9.00	-SN	17	15	16	92	7	25	28.23	29.81	06	BKN	031			10.00	21	15	19	78	10	32	28.32	29.90	
09	OVC	011			7.00	-SN	18	16	17	92	5	27	28.21	29.79	09	FEW	NC			10.00	19	8	16	62	14	31	28.41	29.98	
12	OVC	017			10.00		19	12	17	74	7	36	28.20	29.77	12	OVC	045			10.00	21	8	18	57	17	27	28.41	29.98	
15	OVC	024			10.00		19	9	16	65	5	35	28.20	29.77	15	FEW	NC			10.00	23	9	19	55	10	28	28.38	29.96	
18	SCT	NC			10.00		16	6	14	65	5	34	28.24	29.81	18	CLR	NC			10.00	19	7	16	59	14	29	28.42	30.00	
21	CLR	NC			10.00		10	6	9	84	8	36	28.28	29.87	21	FEW	NC			10.00	14	5	12	67	14	31	28.49	30.08	
24	CLR	NC			10.00		7	2	6	80	9	34	28.32	29.91	24	CLR	NC			10.00	10	4	9	76	16	31	28.55	30.15	
SUNRISE: 0734						DEC 02	SUNSET: 1622						SUNRISE: 0741						DEC 08	SUNSET: 1621									
03	CLR	NC			10.00		1	-6	0	72	6	36	28.41	30.01	03	CLR	NC			10.00	7	0	6	73	12	31	28.69	30.30	
06	CLR	NC			10.00		-3	-8	-4	79	12	35	28.50	30.11	06	CLR	NC			10.00	1	-7	0	68	10	32	28.81	30.44	
09	CLR	NC			10.00		-3	-9	-4	75	13	01	28.62	30.24	09	FEW	NC			10.00	1	-7	0	68	12	33	28.91	30.55	
12	BKN	034			10.00		7	-4	5	60	10	36	28.67	30.30	12	CLR	NC			10.00	7	-8	5	50	8	28	28.96	30.60	
15	FEW	NC			10.00		10	-6	7	48	10	35	28.73	30.36	15	CLR	NC			10.00	11	-9	7	40	8	29	28.94	30.57	
18	CLR	NC			10.00		3	-9	1	57	9	35	28.82	30.47	18	CLR	NC			10.00	6	-8	4	52	8	24	28.90	30.54	
21	CLR	NC			10.00		0	-10	-1	62	8	35	28.88	30.53	21	CLR	NC			10.00	5	-5	3	63	9	24	28.84	30.49	
24	CLR	NC			10.00		-3	-10	-4	71	7	36	28.93	30.58	24	CLR	NC			10.00	8	-4	6	57	16	24	28.75	30.38	
SUNRISE: 0735						DEC 03	SUNSET: 1622						SUNRISE: 0742						DEC 09	SUNSET: 1620									
03	CLR	NC			10.00		-7	-12	-8	79	6	34	28.97	30.62	03	CLR	NC			10.00	11	-1	8	58	18	23	28.67	30.29	
06	CLR	NC			10.00		-8	-13	-9	78	6	34	28.98	30.65	06	CLR	NC			10.00	13	5	11	70	18	23	28.55	30.16	
09	CLR	NC			10.00		-3	-10	-4	71	8	35	29.02	30.68	09	FEW	NC			10.00	17	9	15	70	20	24	28.48	30.09	
12	BKN	110			10.00		11	-13	7	33	5	35	29.00	30.66	12	CLR	NC			10.00	28	16	24	61	20	24	28.43	30.02	
15	SCT	NC			10.00		13	-9	9	36	3	31	28.98	30.63	15	CLR	NC			10.00	34	20	29	56	18	25	28.39	29.96	
18	BKN	075			10.00		10	-3	8	55	3	29	28.97	30.63	18	CLR	NC			10.00	29	19	26	66	10	23	28.40	29.98	
21	OVC	046			9.00	-SN	10	-1	8	61	3	33	28.97	30.63	21	CLR	NC			10.00	24	19	22	81	9	26	28.41	29.99	
24	OVC	050			10.00		8	0	6	69	3	34	28.96	30.59	24	CLR	NC			10.00	23	19	22	85	9	25	28.41	29.98	
SUNRISE: 0737						DEC 04	SUNSET: 1621						SUNRISE: 0743						DEC 10	SUNSET: 1620									
03	OVC	040			6.00	-SN	5	0	4	79	0	00	28.95	30.58	03	CLR	NC			9.00	22	20	21	92	8	26	28.42	29.98	
06	SCT	NC			9.00	-SN	5	0	4	79	6	35	28.92	30.55	06	CLR	NC			9.00	21	20	21	96	7	26	28.41	29.98	
09	CLR	NC			10.00		6	-3	4	66	6	34	28.91	30.54	09	CLR	NC			7.00	25	22	24	88	7	25	28.42	29.99	
12	CLR	NC			10.00		15	3	12	59	8	30	28.87	30.50	12	CLR	NC			10.00	39	26	34	60	12	23	28.39	29.95	
15	CLR	NC			10.00		16	3	13	56	10	30	28.81	30.43	15	CLR	NC			10.00	42	26	36	53	12	23	28.36	29.91	
18	CLR	NC			10.00		8	2	7	76	7	26	28.77	30.40	18	CLR	NC			10.00	33	24	30	70	7	19	28.35	29.92	
21	CLR	NC			10.00		4	0	3	83	9	27	28.74	30.38	21	CLR	NC			6.00	33	27	31	78	10	21	28.34	29.90	
24	CLR	NC			10.00		3	-1	2	83	9	28	28.68	30.30	24	CLR	NC			4.00	31	29	30	92	9	21	28.32	29.87	
SUNRISE: 0738						DEC 05	SUNSET: 1621						SUNRISE: 0744						DEC 11	SUNSET: 1620									
03	CLR	NC			10.00		1	-4	0	79	9	26	28.63	30.24	03	CLR	NC			3.00	28	27	28	96	9	22	28.30	29.85	
06	CLR	NC			10.00		2	-2	1	83	10	28	28.57	30.19	06	VV	001			0.25	27	26	27	96	8	21	28.27	29.83	
09	SCT	NC			10.00		6	2	5	83	13	27	28.54	30.17	09	VV	001			<.25	28	28	28	100	12	20	28.28	29.83	
12	SCT	NC			7.00		13	5	11	70	12	28	28.52	30.14	12	OVC	002			0.50	29	29	29	100	10	21	28.27	29.83	
15	BKN	029			6.00	-SN	13	6	11	74	13	30	28.51	30.13	15	OVC	002			1.00	28	28	28	100	13	23	28.27	29.83	
18	BKN	026			10.00		9	3	8	77	6	31	28.55	30.17	18	OVC	002			1.00	29	28	29	96	14	22	28.32	29.88	
21	CLR	NC			10.00		4	1	3	88	6	26	28.55	30.18	21	OVC	004			1.50	30	29	30	96	10	23	28.32	29.88	
24	CLR	NC			10.00		3	-1	2	83	7	27	28.54	30.16	24	OVC	006			3.00	31	30	31	96	10	25	28.33	29.89	
SUNRISE: 0739						DEC 06	SUNSET: 1621						SUNRISE: 0745						DEC 12	SUNSET: 1621									
03	OVC	090			9.00	-SN	8	5	7	87	7	20	28.48	30.08	03	OVC	006			4.00	31	29	30	92	7	25	28.34	29.90	
06	SCT	NC			10.00		9	6	8	88	10	23	28.42	30.02	06	OVC	006			4.00	30	29	30	96	10	26	28.34	29.90	
09	CLR	NC			10.00		12	8	11	84	14	22	28.31	29.92	09	OVC	004			2.00	29	28	29	96	9	23	28.37	29.93	
12	CLR	NC			10.00		23	15	21	72	14	23	28.20	29.79	12	OVC	004			2.50	30	28	29	92	10	26	28.39	29.95	
15	CLR	NC			10.00		26	19	24	75	14	24	28.11	29.68	15	OVC	008			4.00	32	28	30	85	9	25	28.38	29.94	
18	OVC	016			10.00		25	21	24	85	17	27	28.12	29.70	18	OVC	012			6.00	31	28	30	89	7	24	28.41	29.97	
21	BKN	060			10.00		24	20	23	84	15	29	28.14	29.72	21	OVC	016			6.00	31	28	30	89	5	28	28.43	29.97	
24	OVC	026			10.00		24	18	22	77	16	29	28.20	29.76	24	VV	001			0.25	28	27	28	96	7	26	28.43	30.00	

OBSERVATIONS AT 3-HOURLY INTERVALS

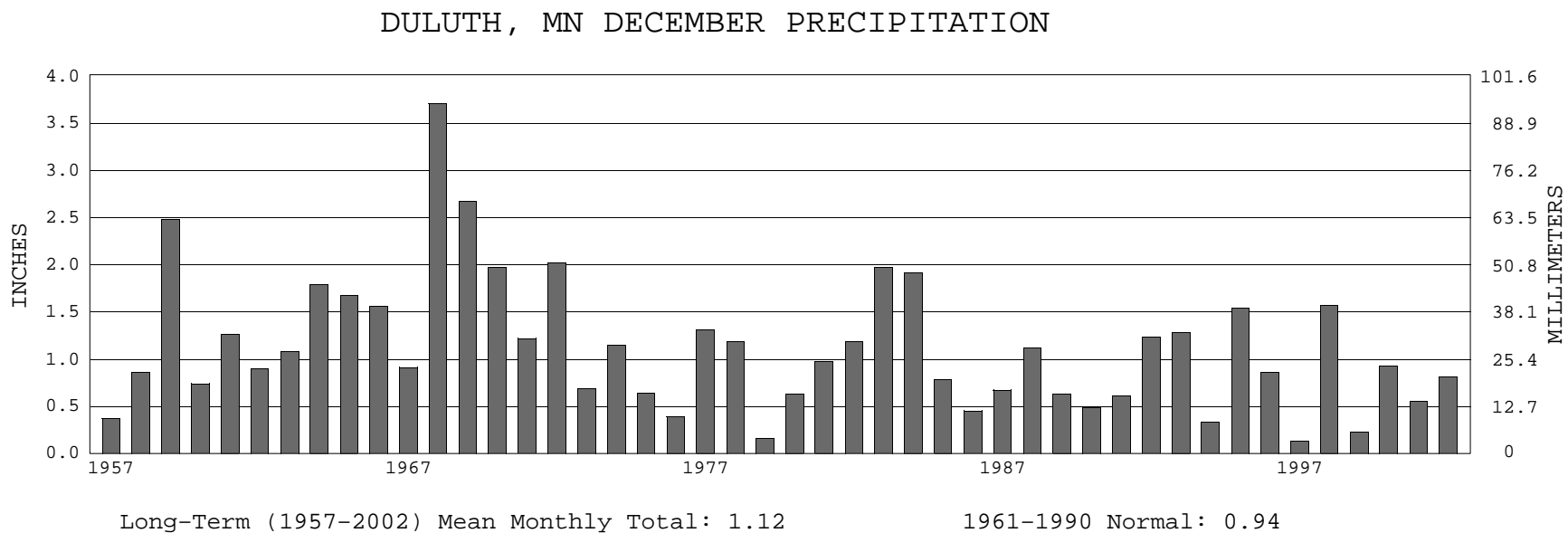
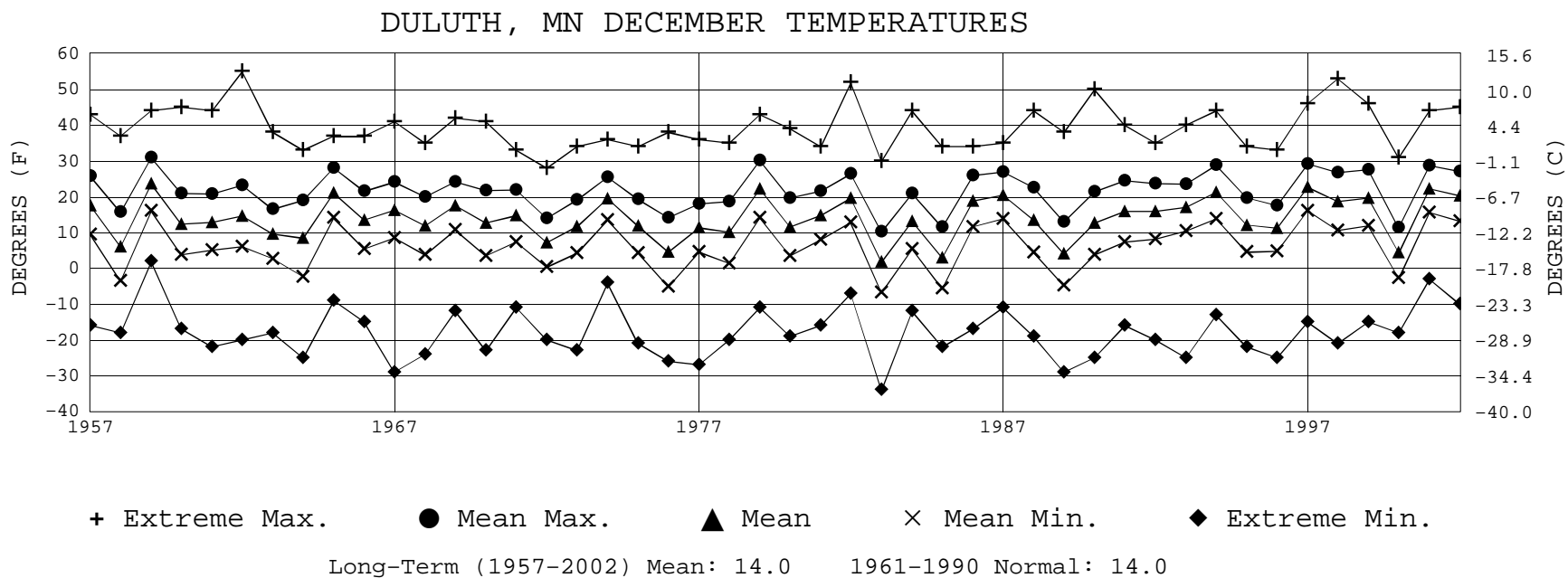
DULUTH, MN

DECEMBER 2002

DLH

WBAN # 14913

HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F				RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F				RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)							
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT <small>Okta</small>		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL		SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT <small>Okta</small>		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL						
SUNRISE: 0745						DEC 13						SUNSET: 1621						SUNRISE: 0750						DEC 19						SUNSET: 1622					
03	OVC	015			5.00	BR	30	29	30	96	7	26	28.45	30.01	03	OVC	006			6.00	BR	33	31	32	92	12	23	27.90	29.43						
06	OVC	017			7.00		31	30	31	96	0	00	28.44	30.01	06	OVC	004			2.00	BR	32	31	32	96	10	23	27.91	29.44						
09	OVC	019			5.00	BR	32	31	32	96	0	00	28.44	30.00	09	OVC	004			1.50	BR	32	31	32	96	12	23	27.91	29.44						
12	OVC	017			10.00		36	31	34	82	5	30	28.40	29.96	12	OVC	008			3.00	-SN BR	32	30	31	92	10	24	27.89	29.42						
15	BKN	017			10.00		36	29	33	76	5	23	28.37	29.92	15	OVC	015			1.50	-SN BR	32	30	31	92	8	25	27.87	29.40						
18	CLR	NC			10.00		30	27	29	88	6	16	28.36	29.92	18	OVC	026			4.00	-SN BR	30	28	29	92	12	28	27.86	29.39						
21	CLR	NC			8.00		30	28	29	92	12	20	28.33	29.89	21	OVC	012			4.00	-SN BR	29	26	28	89	13	29	27.83	29.36						
24	FEW	NC			4.00	BR	28	27	28	96	13	21	28.30	29.85	24	OVC	027			2.00	-SN BR	26	22	25	84	15	30	27.80	29.33						
SUNRISE: 0746						DEC 14						SUNSET: 1621						SUNRISE: 0750						DEC 20						SUNSET: 1623					
03	BKN	003			3.00	BR	28	27	28	96	12	21	28.25	29.79	03	OVC	012			9.00	-SN	25	22	24	88	10	29	27.78	29.30						
06	CLR	NC			4.00	BR	26	24	25	92	9	22	28.19	29.74	06	OVC	010			6.00	-SN BR	24	21	23	88	12	30	27.76	29.28						
09	CLR	NC			7.00		27	24	26	89	13	22	28.16	29.71	09	OVC	015			8.00	-SN	24	21	23	88	12	29	27.77	29.30						
12	CLR	NC			10.00		37	28	33	70	12	25	28.11	29.65	12	OVC	019			3.00	-SN	25	20	23	81	20	31	27.78	29.31						
15	CLR	NC			10.00		42	28	36	58	9	28	28.11	29.65	15	OVC	023			10.00		25	20	23	81	14	28	27.80	29.34						
18	CLR	NC			10.00		39	29	35	67	12	30	28.20	29.74	18	BKN	016			10.00		21	17	20	85	15	30	27.84	29.39						
21	CLR	NC			10.00		33	29	31	85	9	30	28.22	29.77	21	OVC	065			10.00		19	14	18	81	13	30	27.87	29.42						
24	SCT	NC			10.00		31	27	29	85	8	34	28.24	29.78	24	OVC	046			10.00		19	14	18	81	15	29	27.90	29.45						
SUNRISE: 0747						DEC 15						SUNSET: 1621						SUNRISE: 0751						DEC 21						SUNSET: 1623					
03	OVC	013			10.00		31	28	30	89	6	36	28.30	29.85	03	OVC	025			9.00		19	15	18	85	18	30	27.94	29.49						
06	OVC	027			10.00		31	28	30	89	5	02	28.33	29.88	06	SCT	NC			10.00		19	15	18	85	18	29	27.96	29.52						
09	OVC	008			10.00	UP	30	27	29	88	16	08	28.41	29.97	09	OVC	016			4.00	-SN BLSN	20	15	18	81	15	30	28.02	29.58						
12	OVC	007			10.00	UP	26	23	25	88	15	07	28.48	30.04	12	OVC	016			9.00	-SN BLSN	22	16	20	78	22	29	28.04	29.60						
15	OVC	011			10.00		24	20	23	84	15	08	28.50	30.08	15	OVC	016			10.00	BLSN	23	17	21	78	15	28	28.05	29.62						
18	BKN	021			10.00		22	15	20	75	21	09	28.55	30.13	18	OVC	020			9.00	-SN	22	17	20	82	14	29	28.09	29.66						
21	OVC	017			10.00		22	17	20	82	21	10	28.55	30.13	21	OVC	016			9.00	-SN	20	15	18	81	18	29	28.07	29.64						
24	OVC	018			10.00		22	17	20	82	23	10	28.56	30.15	24	OVC	016			9.00	-SN	18	14	17	84	12	29	28.11	29.68						
SUNRISE: 0748						DEC 16						SUNSET: 1621						SUNRISE: 0751						DEC 22						SUNSET: 1624					
03	OVC	012			10.00		22	18	21	85	18	10	28.59	30.18	03	OVC	012			10.00		17	14	16	88	16	30	28.10	29.67						
06	OVC	014			10.00		20	16	19	85	20	11	28.58	30.17	06	OVC	008			10.00		18	15	17	88	17	30	28.12	29.69						
09	FEW	NC			10.00		22	17	20	82	23	10	28.61	30.20	09	OVC	014			10.00		19	15	18	85	16	30	28.15	29.72						
12	CLR	NC			10.00		21	13	19	71	21	10	28.56	30.15	12	OVC	016			10.00		20	14	18	78	21	30	28.17	29.74						
15	SCT	NC			10.00		23	16	21	74	20	10	28.53	30.11	15	OVC	014			10.00		20	15	18	81	20	30	28.21	29.78						
18	VV	007			0.75	-SN BR	20	18	19	92	15	11	28.52	30.11	18	OVC	014			9.00		19	14	18	81	16	29	28.25	29.82						
21	OVC	013			1.25	-SN BR	21	19	20	92	17	12	28.52	30.11	21	OVC	021			8.00	-SN	17	10	15	74	22	30	28.26	29.84						
24	OVC	032			10.00		22	19	21	89	15	11	28.50	30.08	24	OVC	017			9.00	-SN	13	8	12	81	22	29	28.27	29.85						
SUNRISE: 0748						DEC 17						SUNSET: 1621						SUNRISE: 0752						DEC 23						SUNSET: 1624					
03	OVC	023			10.00		22	19	21	89	15	11	28.49	30.06	03	CLR	NC			10.00		10	5	9	80	17	29	28.30	29.89						
06	OVC	019			10.00		24	19	22	81	14	11	28.46	30.04	06	BKN	018			10.00		10	4	9	76	15	29	28.34	29.93						
09	OVC	021			10.00		26	20	24	78	16	11	28.44	30.01	09	CLR	NC			9.00	-SN	10	4	9	76	17	31	28.40	30.00						
12	OVC	023			10.00		28	22	26	78	17	11	28.40	29.97	12	BKN	019			10.00		15	6	13	67	15	31	28.42	30.02						
15	OVC	023			10.00		30	23	28	75	20	09	28.35	29.91	15	OVC	021			10.00		17	9	15	70	10	32	28.44	30.03						
18	OVC	029			10.00		32	23	29	69	18	09	28.34	29.90	18	OVC	047			10.00		16	11	15	80	9	29	28.53	30.13						
21	OVC	023			10.00		33	21	29	61	17	08	28.27	29.83	21	OVC	039			10.00		16	11	15	80	12	31	28.56	30.16						
24	OVC	021			10.00	-FZDZ	31	25	29	79	25	09	28.19	29.74	24	CLR	NC			10.00		12	9	11	87	8	31	28.53	30.14						
SUNRISE: 0749						DEC 18						SUNSET: 1622						SUNRISE: 0752						DEC 24						SUNSET: 1625					
03	OVC	012			9.00	-FZRA	31	29	30	92	16	09	28.14	29.69	03	CLR	NC			10.00		10	7	9	87	6	30	28.52	30.13						
06	OVC	004			5.00	FZRA BR	32	31	32	96	17	08	28.07	29.62	06	CLR	NC			10.00		9	6	8	88	9	33	28.51	30.11						
09	OVC	002			0.75	-FZDZ BR	32	31	32	96	17	08	28.02	29.55	09	SCT	NC			10.00		10	7	9	87	9	32	28.53	30.14						
12	OVC	002			2.00	-RA BR	32	32	32	100	17	08	27.95	29.48	12	CLR	NC			10.00		18	11	16	74	9	34	28.48	30.07						
15	OVC	001			0.50	-DZ FG	33	32	33	96	8	08	27.88	29.41	15	CLR	NC			10.00		22	14	20	71	9	01	28.42	30.01						
18	OVC	001			0.75	-DZ BR	35	32	34	89	9	08	27.87	29.39	18	CLR	NC			10.00		17	13	16	84	3	32	28.42	30.02						
21	VV	001			0.25	-DZ FG	35	32	34	89	6	12	27.87	29.40	21	OVC	042			10.00		16	14	15	92	10	34	28.42	30.01						
24	OVC	002			0.75	-DZ BR	35	34	35	96	8	23	27.88	29.41	24	OVC	032			10.00		17	15	16	92	10	34	28.37	29.96						





DECEMBER 2002

DULUTH, MN

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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