

\*Original text written for time with a period instead of a semi-colon (ex. 7.30 instead of 7:30) - time written to match modern grammatical correctness

January 1877		
Jan. 1	Snow	Light snow in the morning. Snow about 12 inches deep on the ground. No aurora.
2	Private Lyons/Pvt. J.M. Marr	Private Patrick Lyons, Signal Service N.S.A. reported for duty on the station, relieving Private J.M. Marr. No aurora.
3		Minimum thermometer -8 degrees. The lowest known in 20 years. Obscured.
4		No aurora.
5		Obscured.
6	Rain	Light rain during the day. Obscured.
7	Ice in the river breaks up	River full of floating ice caused by breaking of Gorge formed on Dec. 31, 1876. Obscured.
8	Snow	Light snow in the morning. No aurora.
9	Fog & Frost	Dense fog. Minimum temperature -7 degrees. Effect on trees and wires when the sun rises very fine, being covered with a heavy coat of frost. No aurora.
10	Snow	River almost free from floating ice. Light snow in the morning. No aurora.
11		Obscured.
12	Rain	Light rain and mist during the day and night. Obscured.
13		Obscured.
14	Rain	Light rain during the day. Obscured.
15	Rain	Heavy rain at intervals. Obscured.
16	Wild Geese	Obscured. Wild geese flying eastward.
17	Rain	Heavy rain in the morning. No aurora.
18	Fog	Dense fog in the morning. Mist falls during the day. Obscured.
19	Rain	Dense fog in the morning. Light rain at night. No aurora. Obscured.
20	Lunar halo	Lunar halo very faint, at 7 p.m. No aurora.
21		Obscured
22	Lunar halo	Faint lunar halo at 7 p.m. Obscured.
23		No aurora.
24		No aurora.
25	Lunar halo	Lunar halo at 9 p.m. to 9:40 p.m. No aurora.
26	Lunar halo	Lunar halo at 9 p.m. Faint. Obscured.
27		Clear and hazy. No aurora.
28		Clear and hazy. No aurora.
29	Solar halo	Dense fog in the morning. Hazy during the day. A solar halo of about 20 degrees radius was observed at 2:30 p.m. with very clearly defined border and a light yellow tint. It was visible without marked

		change until 4:40 p.m. where the sun had sank so low as to show but little more than half the circle above the horizon when it gradually faded from view. Obscured.	
30		Clear and hazy. No aurora.	
31	Printing Press	Printing press is unfit for use to do good work, by reason of fastenings working loose. Repaired by authority from Inst. To Obs. Sergt. Par. 210. Light shower in the morning. No aurora.	
<b>River Totals</b>			
Highest water	40.4 inches	Jan. 22 <sup>nd</sup>	
Lowest water	2.7 inches	Jan. 1 <sup>st</sup> to 6 <sup>th</sup>	
Range	37.9 inches		
<b>Condition of Instruments</b>			
Thermometers	Standard	3261	Serviceable (DO)
Thermometer	Standard	2890	Serviceable (DO)
Thermometer	Maximum	116	Serviceable (DO)
Thermometer	Minimum	110	Serviceable (DO)
Thermometer	Hygrometer	42	Serviceable (DO)
Thermometer	Water	412	Serviceable (DO)
Thermometer	Water Case	70	Serviceable (DO)
Anemometer	-	154	Serviceable (DO)
Self-register for anemometer		30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and Rain Gauge			Serviceable (DO)
A.C. Ford			
<b>February 1877</b>			
1		Obscured.	
2	Rain	Light rain and mist during the day and fog at night. Obscured.	
3		Obscured.	
4	Rain	Light rain during the day. Obscured.	
5		Clearing weather. No aurora.	
6	Sunsets begin	The sun set at 5:33 p.m. in a dense haze and from 5 p.m. appeared like a ball of fire. Fair weather sunset. Verified. No aurora.	
7		Purple and crimson clouds and sky at sunset. Fair weather sunset. Verified. No aurora.	
8		Fair weather sunset. Verified. No aurora.	
9		Fair weather sunset. No aurora. Verified.	
10		Fair weather sunset. Verified. No aurora.	
11		Doubtful sunset. No aurora.	
12		Fair weather sunset. Not verified. No aurora.	
13	Barometers	Foul weather sunset. Verified. Obscured.	

		Barometers changed – No. 175 to No. 163.	
14		Foul weather sunset. Obscured. Verified.	
15		Foul weather sunset. Verified. Obscured.	
16		Fair weather sunset. No aurora. Verified.	
17		Fair weather sunset. No aurora. Verified.	
18		Fair weather sunset. Brilliant yellow changing to crimson. No aurora. Verified.	
19		Doubtful sunset. Obscured.	
20		Fair weather sunset. Verified. No aurora.	
21	Lunar Halo	Foul weather sunset. Verified. Lunar halo of 15 degrees radius and very pale, visible from 9 p.m. to 9:30 p.m. No aurora.	
22		Foul weather sunset. Obscured. Verified.	
23		Foul weather sunset. Obscured. Verified.	
24		Foul weather sunset. Verified. Obscured.	
25		Foul weather sunset. Verified. Obscured.	
26		Doubtful sunset. Obscured.	
27		Fair weather sunset. Verified. No aurora.	
28	Lunar Halo	Fair weather sunset. No aurora. Faint lunar halo at 10:30 p.m. Not verified.	
<b>River Totals</b>			
Highest water	10 feet 0 inches	Feb. 8 <sup>th</sup>	
Lowest water	3 feet 10 inches	Feb. 28 <sup>th</sup>	
Range	6 feet 2 inches		
<b>Condition of Instruments</b>			
Thermometers	Standard	2890	Serviceable (DO)
Thermometers	Standard	3261	Serviceable (DO)
Thermometers	Maximum	116	Serviceable (DO)
Thermometers	Minimum	110	Serviceable (DO)
Thermometers	Hygrometer	42	Serviceable (DO)
Thermometers	Water	412	Serviceable (DO)
Thermometers	Water case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Self register for anemometer		30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and Rain gauge			Serviceable (DO)
All other government property on station in good condition.			
A.C. Ford – Sergeant Signal Service			
<b>Summary of Sunsets</b>			
	No. of Predictions	Verified	Not Verified
Fair	12	10	2
Foul	9	9	0
Doubtful	3		

<b>March 1877</b>		
1	Rain/Wild ducks	Light rain during the afternoon. Wild ducks flying north. Foul weather sunset. Verified. Obscured.
2		Foul weather sunset. Obscured. Verified.
3	Wild geese/thunderstorms	Foul weather sunset. Not verified. Wild geese heard flying at 10:30 p.m. to northward. Thunderstorm at 11 p.m. Obscured.
4		Fair weather sunset. Verified. Obscured.
5	Snow	Snow began falling at 0.5 a.m. and continued until 4 a.m. covering the ground to a depth of about (3.5) three and one half inches. Melted off during the day. Fair weather sunset. Verified. No aurora.
6		Fair weather sunset. No aurora. Not verified.
7		Foul weather sunset. No aurora. Verified.
8	Thunderstorm/Rain	Heavy rain, thunder and lightning at 4 a.m. to 7 a.m. Foul weather sunset. Verified. Obscured.
9	Snow	Light snow in the morning. Fair weather sunset. No aurora. Verified.
10		Fair weather sunset. No aurora. Verified.
11		Foul weather sunset. Obscured. Verified.
12	Heavy rain	Foul weather sunset. Obscured. Heavy rain. Verified.
13		Doubtful sunset. No aurora.
14	Rainbow	Rainbow in the heavens to the northeast, at 5 p.m. Fair weather sunset. Verified. No aurora.
15		Fair weather sunset. No aurora. Verified.
16	Thunderstorm	Foul weather. Thunderstorm at 7:20 p.m. to 10 p.m. Obscured. Verified.
17	Fruit blooms	Fair weather sunset. No aurora. Verified. Cherry & peach trees in bloom.
18		Fair weather sunset. No aurora. Verified.
19		Fair weather sunset. No aurora. Verified.
20	Thunderstorms	Foul weather sunset. Thunder storm at 10:30 p.m. Obscured. Verified.
21		Fair weather sunset. No aurora. Verified.
22		Fair weather sunset. No aurora. Verified.
23		Foul weather sunset. Lunar halo. 25 degrees 7:30 to 9 p.m. Obscured. Verified.
24		Foul weather sunset. Obscured. Verified.
25	Rain	Rain fell steadily from midnight until night. Foul weather sunset. Obscured. Not verified. Peaches in bloom.
26		Fair weather sunset. No aurora. Verified.
27		Fair weather sunset. No aurora. Verified.
28		Fair weather sunset. No aurora. Verified.
29	Lunar halo	Doubtful sunset. No aurora. Lunar halo 20 degrees – 9 p.m.

30		Foul weather sunset. Obscured. Not verified.	
31	Tests	The standard thermometers in use at this station were tested today. Both instruments read 32 degrees. Foul weather sunset. Obscured. Verified.	
<b>River Totals</b>			
Highest water	19 feet 9 inches	March 26 <sup>th</sup>	
Lowest water	3 feet 9 inches	March 1 <sup>st</sup>	
Range	16 feet 0 inches		
<b>Condition of Instruments</b>			
Thermometer	Standard	2890	Serviceable (DO)
Thermometer	Standard	3261	Serviceable (DO)
Thermometer	Maximum	116	Serviceable (DO)
Thermometer	Minimum	110	Serviceable (DO)
Thermometer	Hygrometer	42	Serviceable (DO)
Thermometer	Water	412	Serviceable (DO)
Thermometer	Water case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Self-Register for Anemometer		30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and rain gauge			Serviceable (DO)
All other government property on station in good conditions			
A.C. Ford – Sergeant Signal Service U.F.A.			
<b>Summary of Sunsets</b>			
	No. of Predictions	Verified	Not Verified
Fair	15	14	1
Foul	14	11	3
Doubtful	2		
<b>March 1877</b>			
1	Thunderstorm	Thunderstorm commenced at 4:30 a.m. accompanied with high winds and heavy rains. Rain continued during the morning. Foul weather sunset. Obscured. Not verified.	
2		Fair weather sunset. No aurora. Stars are unusually brilliant and twinkling. Verified.	
3	Balloon	The Sergeant, by permission from O.C.D. O. accompanied Prof. S.H. King in the balloon "King Carnival", for the purpose of taking meteorological observations. The ascension was made at 3.5 p.m. from the Public Square. Foul weather sunset. Obscured. Verified.	
4		Fair weather sunset. No aurora. Verified.	
5		Fair weather sunset. No aurora. Not verified.	

6		Foul weather sunset. Obscured. Verified.
7		Foul weather sunset. Obscured. Verified.
8	Rain	Heavy rain in the morning. Foul weather sunset. Verified.
9		Rain and mist during the day. Foul weather sunset. Obscured. Verified.
10		Foul weather sunset. Obscured. Verified.
11		Doubtful sunset. No aurora.
12		Foul weather sunset. Obscured. Verified.
13		Foul weather sunset. Obscured. Not verified.
14		Fair weather sunset. No aurora. Verified.
15		Fair weather sunset. No aurora. Verified.
16	Rainbow	Doubtful sunset. Very brilliant rainbow near the N.E. horizon. Visible from 5:20 p.m. to 5:40 p.m. No aurora.
17		Foul weather sunset. Obscured. Verified.
18	Rain	Heavy rain in showers during the day and at 2:15 p.m. A few small hail stones fell. Foul weather sunset. Obscured. Verified.
19		Tornado at Lavergne. Several lives lost on the 18 <sup>th</sup> . Foul weather sunset. Obscured. Verified.
20		Doubtful sunset. Obscured.
21		Fair weather sunset. No aurora. Verified.
22		Fair weather sunset. No aurora. Verified.
23	Halo	Foul weather sunset. No aurora. Not verified. Halo lunar. 20 degrees at 8:30 to 9:30 p.m.
24		Foul weather sunset. Obscured. Verified.
25		Light shower of rain at 6 p.m. Foul weather sunset. Obscured. Verified.
26	Rain	Frequent and heavy showers of rain during the day. Foul weather sunset. Obscured. Verified.
27		Fair weather sunset. Showers at intervals. Obscured. Verified.
28		Battery examined and wiped with moist cloth. No leaks. Fair weather sunset. No aurora. Verified.
29		Fair weather sunset. No aurora. Verified.
30	Frost	Light frost in the morning. No damage. Fair weather sunset. No aurora. Verified.
<b>River totals</b>		
Highest water	34 feet 4 inches	April 11 & 12
Lowest water	14 feet 1 inch	April 6 <sup>th</sup>
Range	20 feet 3 inches	
<b>Condition of Instruments</b>		
Thermometers	Standard	2890 Serviceable (DO)

Thermometers	Standard	3261	Serviceable (DO)
Thermometers	Maximum	116	Serviceable (DO)
Thermometers	Minimum	110	Serviceable (DO)
Thermometers	Hygrometer	42	Serviceable (DO)
Thermometers	Water	412	Serviceable (DO)
Thermometers	Water case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Self register for anemometer		30	Serviceable (DO)
Barometers		1753 and 163	Serviceable (DO)
Anemoscope and Rain Gauge			Serviceable (DO)
All other government property on station in good condition.			
<b>Summary of Sunsets</b>			
<b>Fair</b>	11	10	1
<b>Foul</b>	16	13	3
<b>Doubtful</b>	3	-	-
A.C. Ford – Sergeant Signal Service U.F.A.			
<b>May 1877</b>			
1	Light frost	Fair weather sunset. No aurora. Verified. Heavy frost in the valleys. No damage done because of the dry atmosphere.	
2		Foul weather sunset. Obscured. Verified.	
3	Rain	Light rain and high wind in the evening. Foul weather sunset. Obscured. Verified.	
4	Rain	Steady rain during the day up to 7:30 p.m. Foul weather sunset. Obscured. Verified.	
5		Battery cleaned. Fair weather sunset. No aurora. Not verified.	
6		Doubtful sunset. No aurora.	
7		Fair weather sunset. Obscured. Not verified.	
8		Fair weather sunset. No aurora. Verified.	
9	Civilian printer employed	Fair weather sunset. N.S.B. Sparkman civilian printer, commenced work under instructions from O.C.S.O., printing the Farmers Bulletins at \$50.00 per month. No aurora. Verified.	
10		Fair weather sunset. No aurora. Verified.	
11		Foul weather sunset. No aurora. Not verified.	
12		Battery cells wiped with moist cloth. Foul weather sunset. Obscured. Verified.	
13		Doubtful sunset. No aurora.	
14		Doubtful sunset. No aurora.	
15		Foul weather sunset. No aurora. Verified.	
16	Rain	Light shower at 12:30 p.m. Doubtful sunset. No aurora.	
17		Fair weather sunset. No aurora. Verified.	
18		Fair weather sunset. Lunar halo 22 degrees at 7:30 to 9 p.m. No aurora. Verified.	
19		Fair weather sunset. Battery cleaned. No aurora. Verified.	

20		Fair weather sunset. No aurora. Verified.	
21		Fair weather sunset. No aurora. Verified.	
22		Fair weather sunset. No aurora. Verified.	
23		Fair weather sunset. No aurora. Verified.	
24		Fair weather sunset. No aurora. Verified.	
25		Fair weather sunset. No aurora. Verified.	
26		Fair weather sunset. No aurora. Verified. Battery wiped & examined.	
27		Fair weather sunset. No aurora. Verified.	
28		Fair weather sunset. No aurora. Verified.	
29		Fair weather sunset. No aurora. Verified.	
30		Fair weather sunset. No aurora. Verified.	
31	Corp. John Healy relieved from duty	No aurora. Private John Healy relieved from duty & ordered to Winnemucca, Nevada. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest water</b>	-	-	-
<b>Lowest water</b>	-	-	-
<b>Range</b>	-	-	-
<b>Condition of Instruments</b>			
Thermometers	Standard	2890	Serviceable (DO)
Thermometers	Standard	3261	Serviceable (DO)
Thermometers	Maximum	116	Serviceable (DO)
Thermometers	Minimum	110	Serviceable (DO)
Thermometers	Hygrometer	42	Serviceable (DO)
Thermometers	Water	412	Serviceable (DO)
Thermometers	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Anemometer		1753 & 163	Serviceable (DO)
		Anemoscope and Rain Gauge	Serviceable (DO)
All other public property on station in good condition.			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	21	19	2
<b>Foul</b>	6	5	1
<b>Doubtful</b>	4	-	-
A.C. Ford – Sergeant Signal Service U.F.A.			
<b>June 1877</b>			
1		Fair weather sunset. No aurora. Not verified.	
2		Battery cleaned. Foul sunset. No aurora. Not verified.	



3		Doubtful sunset. No aurora.
4		Fair weather sunset. No aurora. Not verified.
5	Rain	Light rain in the morning and afternoon. Brilliant double arc rainbow at 6:35 p.m. to 7 p.m. height of centre of arc, about 30 degrees above Eastern horizon. Foul weather sunset. No aurora. Not verified.
6		Fair weather sunset. No aurora. Verified.
7	Thunderstorm	Foul weather sunset. Thunder storm at 9 p.m. to 12 p.m. Obscured. Verified.
8		Heavy rain during today. Foul weather sunset. Obscured. Verified.
9		Battery wiped with rag. Heavy rain at intervals during the day. Foul weather sunset. Obscured. Verified.
10		Fair weather sunset. No aurora. Verified.
11		Fair weather sunset. No aurora. Verified.
12		Fair weather sunset. No aurora. Verified.
13		Fair weather sunset. No aurora. Not verified.
14		Light rain during the day. Obscured. Foul weather sunset. Verified.
15		Heavy rain at intervals during the day. Foul weather sunset. Obscured. Verified.
16		Fair weather sunset. No aurora. Verified. Battery wiped with rag.
17		Fair weather sunset. No aurora. Not verified.
18	Civilian employed during absence of Sergt./Balloon/Thunderstorm	W.J. McMorrow, Civilian employed to take station work during absence of (obs.) Clear to 10 a.m. after which cumulus clouds appeared and increased changing to cum.-stratus at 11:35 a very heavy shower began, lasting until 1:40 p.m. at 5:04 p.m. Sergt. Ford ascended from this city in Balloon "Buffalo" Prof. S.A. King Arenaut (?) 5:30 p.m. a light thunder shower lasting to 6:10 p.m. Fair weather sunset verified. No aurora.
19	Thunderstorm/rain	Light thunder shower during the latter part of the evening. Fair weather sunset. Not verified. No aurora.
20	Rain	Light rain during the day. Sergt. Ford safety returned from Balloon ascension at 10 a.m. Fair weather sunset. Verified. No aurora.
21		Fair weather sunset. No aurora. Verified.

22		Fair weather sunset. No aurora. Verified.	
23		Foul weather sunset. No aurora. Not verified. Battery wiped with a damp cloth.	
24		Fair weather sunset. No aurora. Verified.	
25		Fair weather sunset. No aurora. Not verified.	
26	Rain	Foul weather sunset. Rain at short intervals from 9:45 a.m. to 4:50 p.m. Not verified. Obscured.	
27	Rain	Light rain from 8:20 p.m. to 8:50 p.m. Foul weather sunset. No aurora. Verified.	
28		Fair weather sunset. No aurora. Verified.	
29		Fair weather sunset. No aurora. Verified.	
30	Tests	The standard thermometers in use at this station were tested today. Both instruments read 32 degrees. Battery cleaned. Fair weather sunset. No aurora. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	10 ft 9 inches	June 17 <sup>th</sup>	
<b>Lowest Water</b>	2 feet 4 inches	June 7 <sup>th</sup>	
<b>Range</b>	8 feet 5 inches		
<b>Condition of Instruments</b>			
Thermometers	Standard	2890	Serviceable (DO)
Thermometers	Standard	3261	Serviceable (DO)
Thermometers	Maximum	116	Serviceable (DO)
Thermometers	Minimum	110	Serviceable (DO)
Thermometers	Hygrometer	42	Serviceable (DO)
Thermometers	Water	412	Serviceable (DO)
Thermometers	Water case	70	Serviceable (DO)
Anemometer	-	154	Serviceable (DO)
Anemometer	S.R. for	30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and Rain Gauge			Serviceable (DO)
All other public property on station in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	17	11	6
<b>Foul</b>	12	8	4
<b>Doubtful</b>	1	-	-
A.C. Ford, Sergeant N.S.A.			
<b>July 1877</b>			

1		Fair weather sunset. No aurora. Verified.
2		Fair weather sunset. No aurora. Verified.
3		Fair weather sunset. No aurora. Verified.
4		Fair weather sunset. No aurora. Verified.
5		Fair weather sunset. No aurora. Not verified.
6	Thunderstorm	Thunderstorm began at 4:15 p.m. ended 5 p.m. Heavy fog on river at night. Fair weather sunset. No aurora. Verified.
7		Battery cells wiped with damp cloth. Fair weather sunset. No aurora. Verified.
8		Fair weather sunset. No aurora. Verified.
9		Fair weather sunset. No aurora. Not verified.
10	Rain	Light rain began at 3 a.m. lasting one hour and 40 minutes. Doubtful sunset. No aurora.
11		Fair weather sunset. No aurora. Verified.
12		Fair weather sunset. No aurora. Verified.
13		Fair weather sunset. No aurora. Verified.
14		Battery cells wiped with damp cloth. Fair weather sunset. No aurora. Verified.
15		Foul weather sunset. Obscured. Verified.
16	Rain	Light rain began to fall at 3:45 a.m. and continued at short intervals until 5:30 a.m. Rain commenced at 11:35 a.m. lasting until 1 p.m. without intermission. Showers at short intervals followed until about 5 p.m. Steady rain set in and lasted until 5:50 p.m. Foul weather sunset. Obscured. Not verified.
17		Fair weather sunset. No aurora. Not verified.
18	Thunder/rain	Brilliant crimson dawn, the surest precursor among atmospheric phenomena of approaching storms. Thunder heard at 5:20 a.m. continuing almost without interruption until 6:15 a.m. Rain began falling at 6:10 a.m. and came down in torrents for the half hour following. Foul weather sunset. Rain continued at intervals until 1:10 p.m. Obscured. Verified.
19		Light shower of rain at 3 a.m. Fair weather sunset. No aurora. Verified.
20		Fair weather sunset. Obscured. Verified.
21		Battery cleaned. Fair weather sunset. No aurora. Verified.
22	Halo	Halo (lunar) of 15 degrees radius lasting from 8:30 p.m. until 10:30 p.m. Fair weather sunset. Obscured. Not verified.
23	Thunderstorm/Rain	Heavy thunder at 3 a.m. Rain began at 3:40 a.m. and continued at intervals during the day and night. Foul weather sunset. Obscured.

		Verified.	
24	Rain/halo	Foul weather sunset. Heavy showers of rain during the morning. Frequent light showers from 11 a.m. to 4:50 p.m. Faint lunar halo at 9:30 to 10:30 p.m. having a radius of about 1 degree. Obscured. Not verified.	
25		Fair weather sunset. No aurora. Verified.	
26		Doubtful sunset. No aurora.	
27		Fair weather sunset. No aurora. Verified.	
28	Thunderstorm	Battery wiped with moist cloth. A thunderstorm moves north to eastward of the station at 2:30 p.m. No rain falls at station. Fair weather sunset. No aurora. Not verified.	
29	Thunderstorm/Rain	Thunder heard to northward at 11 a.m. Light shower at 1:30 p.m. Heavy shower at 8:30 p.m. Foul weather sunset. Obscured. Verified. One extremity of rainbow at 6p.m. to 6:30 p.m.	
30	Rain	Light showers at noon to 1 p.m. One extremity of rainbow in the N.E. at 6:15 p.m. Foul weather sunset. No aurora. Not verified.	
31	Thunderstorm/Rainbow	Thunderstorm a few miles northeast of the station at 4 p.m. Brilliant rainbow at 4:10 p.m. to 4:30 p.m. about 25 degrees above the eastern horizon at the centre of arch. Another and fainter bow was visible at the same time about 10 degrees above the first. Fair weather sunset. No aurora. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	6 feet 0 inches	20 <sup>th</sup>	
<b>Lowest Water</b>	2 feet 4 inches	16th & 17th	
<b>Range</b>	3 feet 8 inches		
<b>Condition of Instruments</b>			
Thermometers (DO)	Standard	2890	Serviceable (DO)
Thermometers (DO)	Standard	3261	Serviceable (DO)
Thermometers (DO)	Maximum	116	Serviceable (DO)
Thermometers (DO)	Minimum	110	Serviceable (DO)
Thermometers (DO)	Hygrometer	42	Serviceable (DO)
Thermometers (DO)	Water	412	Serviceable (DO)
Thermometers (DO)	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Anemometer S.R. for		30	Serviceable (DO)
Barometers		1753 and 163	Serviceable (DO)
Anemoscope and rain gauge			Serviceable (DO)
All other public property in good condition			

<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	22	17	5
<b>Foul</b>	7	4	3
<b>Doubtful</b>	2	-	-
A.C. Ford, Sergt. Signal Service N.S.A.			
<b>August 1877</b>			
1		Fair weather sunset. No aurora – verified.	
2		Foul weather sunset. No aurora. Not verified.	
3		Fair weather sunset. No aurora. Verified.	
4		Fair weather sunset. No aurora. Battery wiped with moist cloth. Verified.	
5		Fair weather sunset. No aurora. Verified.	
6		Foul weather sunset. No aurora. Not verified.	
7		Foul weather sunset. Obscured. Verified.	
8	Rain	Light rain began at 3 a.m. and continued until 6 a.m. Another light shower at 8:40 a.m. to 9:20 a.m. No aurora. Fair weather sunset. Verified.	
9		Fair weather sunset. No aurora. Verified.	
10		Fair weather sunset. No aurora. Verified.	
11		Battery cleaned. Fair weather sunset. No aurora. Verified.	
12	Rain/Thunderstorm	Light rain began at 5:45 p.m. but less than one hundredth had fallen at sunset. Heavy thunder at intervals during and before the rain. Heavy showers from 7:30 to 8:35 p.m. Obscured. Foul weather sunset. Verified.	
13	Thunderstorm	Thunderstorm from 7:45 to 11 a.m. Heavy rain. Thunder & lightning during the evening. Obscured. Foul weather sunset. Not verified.	
14		Fair weather sunset. No aurora. Verified.	
15		Fair weather sunset. No aurora. Verified.	
16		Fair weather sunset. No aurora. Verified.	
17		Threatening storms in the vicinity of station. No rain. Fair weather sunset. No aurora. Verified.	
18		Battery wiped with moist cloth. Fair weather sunset. No aurora. Verified.	
19		Fair weather sunset. No aurora. Verified.	
20		Fair weather sunset. No aurora. Verified.	
21	Rain	Light shower of rain at 5:30 p.m. Perfectly formed rainbow at 5:35 p.m. lasting 10 minutes. Obscured. Foul weather sunset. Verified.	
22	Rain	Rain began at 7:35 a.m. and continued steadily	

		throughout the day and night. Foul weather sunset. Obscured. Verified.	
23	Rain	Rain continued from yesterday, until 1:15 a.m. A light mist fell at intervals until 7 a.m. Partially obscured. No aurora. Fair weather sunset. Verified.	
24	Fog	Dense fog from 1:00 a.m. to daylight. No aurora. Fair weather sunset. Verified.	
25		Battery wiped with moist cloth. Fair weather sunset. No aurora. Verified.	
26		No aurora. Fair weather sunset. Verified.	
27		No aurora. Fair weather sunset. Verified.	
28		No aurora. Fair weather sunset. Not verified.	
29	Rain/Thunderstorm	A light shower of rain fell at 12:50 a.m. to 1 p.m. also a light shower accompanied by thunder and lightning, at 4:15 p.m. to 4:30 p.m. No aurora. Doubtful sunset.	
30	Rain	Heavy cumulo stratus clouds in which thunder is heard, pass to westward of the station at 3 p.m. to 5 p.m. Heavy shower of rain at 5:30 p.m. No aurora. Foul weather sunset. Not verified.	
31		Obscured. Doubtful sunset.	
<b>River Totals</b>			
<b>Highest water</b>	3 feet 5 inches	Aug. 1 <sup>st</sup>	
<b>Lowest water</b>	1 foot 2 inches	Aug. 28, 29, 30	
<b>Range</b>	2 feet 3 inches		
<b>Condition of Instruments</b>			
Thermometer	Standard	2890	Serviceable (DO)
Thermometer (DO)	Standard	3261	Serviceable (DO)
Thermometer (DO)	Maximum	116	Serviceable (DO)
Thermometer (DO)	Minimum	110	Serviceable (DO)
Thermometer (DO)	Hygrometer	42	Serviceable (DO)
Thermometer (DO)	DO	698 & 699	Serviceable (DO)
Thermometer (DO)	Water	412	Serviceable (DO)
Thermometer (DO)	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
S.R. for Anemometer		30	Serviceable (DO)
Barometers		1753 & 163	Serviceable (DO)
Anemoscope and Rain Gauges			Serviceable (DO)
All other public property on station, in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>

<b>Fair</b>	21	20	1
<b>Foul</b>	8	4	4
<b>Doubtful</b>	2	-	-
A.C. Ford – Sgt. Signal Service U.F.A			
<b>September 1877</b>			
1	Rain/Thunderstorm	Heavy rain accompanied by thunder and lightning from 6:10 a.m. to 7:30 a.m. at intervals. Battery cleaned. Light shower of rain at 5:20 p.m. to 5:30 p.m. Fair weather sunset. No aurora. Verified.	
2		Fair weather sunset. No aurora. Verified.	
3		Foul weather sunset. Obscured. Verified.	
4	Rain	Rain began early in the evening and continued during the night. Obscured. Foul weather sunset. Verified.	
5	Rain	Light rain continued steadily until 6:10 a.m. Light shower in the afternoon. Obscured. Foul weather sunset. Verified.	
6	Rain	Light rain from 4 a.m. to 7:10 a.m. Occasional misting during the day. Light rain and mist during the night until 11 p.m. Obscured. Foul weather sunset. Verified.	
7		No aurora. Fair weather sunset. Verified.	
8		Battery cells wiped with moist cloth. No aurora. Fair weather sunset. Not verified.	
9	Rain	Light shower of rain at 12:15 p.m. Heavier showers in the evening. Obscured. Foul weather sunset. Verified.	
10	Rain	Light shower of rain at 1:20 a.m. Also showers at intervals during the afternoon. Indications not received until 9:05 a.m. telegraph wires down. No farmers bulletins printed. No aurora. Fair weather sunset. Not verified.	
11	Rain	Light shower of rain at 12:20 p.m. Obscured. Fair weather sunset. Verified.	
12		Fair weather sunset. No aurora. Verified.	
13	Fog	Dense fog before daylight. No aurora. Fair weather sunset. Verified.	
14	Fog	Dense fog early in the morning. No aurora. Fair weather sunset. Not verified.	
15	Fog/Wind vane	Fog early in the morning. Light shower of rain at 2 p.m. Wind vane oiled. Battery cleaned. Obscured. Foul weather sunset. Verified.	
16	Rain	Light rain early in the morning. Obscured. Foul weather sunset. Verified.	
17	Rain	Rain began at five minutes after midnight and	

		continued until the afternoon. Heaviest rain of the season. Obscured. Fair weather sunset. Verified.	
18		Cold, cloudy weather. Obscured. Doubtful sunset.	
19		Cool cloudy weather. Obscured. Fair weather sunset. Verified.	
20		Fair weather sunset. Verified. No aurora.	
21	Indian Summer	Bright hazy weather. Indian summer. No aurora. Fair weather sunset. Verified.	
22		Indian summer. Battery wiped with moist cloth. No aurora. Fair weather sunset. Verified.	
23		No aurora. Fair weather sunset. Verified.	
24		Sgt. summoned to produce records in court. Fair weather sunset. No aurora. Verified.	
25		Fair weather sunset. Dense fog in the morning. No aurora. Verified.	
26	Rain	Very light shower of rain in the afternoon. Quantity unmeasurable. Obscured. Foul weather sunset. Verified.	
27		Light shower of rain at 9:20 a.m. No aurora. Fair weather sunset. Verified.	
28		Fair weather sunset. No aurora. Verified.	
29		No aurora. Fair weather sunset. Verified. Battery cleaned.	
30		Dense fog early in the morning. No aurora. Fair weather sunset. Verified. All thermometers at this rotation were tested today and found to read 32 degrees.	
<b>River Totals</b>			
<b>Highest Water</b>	4 feet 11 inches	18 <sup>th</sup>	
<b>Lowest Water</b>	1 foot 1 inch	4 <sup>th</sup>	
<b>Range</b>	3 feet 10 inches		
<b>Condition of Instruments</b>			
Thermometers	Standard	2890 and 3261	Serviceable
Thermometers	Maximum	116	Serviceable (DO)
Thermometers	Minimum	110	Serviceable (DO)
Thermometers	Hygrometers	42 and (698 – 699)	Serviceable (DO)
Thermometers	Water	412	Serviceable (DO)
Thermometers	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Anemometer	Self-Register	30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and Rain Gauges			Serviceable (DO)
All other public property on station in good condition			



<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	21	18	3
<b>Foul</b>	8	8	0
<b>Doubt</b>	1	-	-
	30	26	3
A.C. Ford – Sgt. Signal Service U.F.A.			
<b>October 1877</b>			
1		No aurora. Fair weather sunset. Verified.	
2	Rain	Light shower of rain. Quantity unmeasurable fell in the afternoon. No aurora. Foul weather sunset. Not verified.	
3		Very light sprinkle of rain commencing at 11:30 a.m. and continuing until evening. Foul weather sunset. Obscured. Not verified.	
4		No aurora. Fair weather sunset. Verified.	
5	Frost	Light frost reported from the valleys in the country. None in the city. No aurora. Fair weather sunset. Verified.	
6	Frost	Light frosts reported from the country districts. No aurora. Fair weather sunset. Verified. Battery wiped with moist cloth.	
7	Rain	Brisk southerly winds and rapidly falling barometer, exactly verifying the official indications for this section. Light rain began at 6:30 p.m. and continued until nearly midnight. Obscured. Foul weather sunset. Verified.	
8		Fair weather sunsets. No aurora. Verified.	
9		No aurora. Fair weather sunset. Verified.	
10		No aurora. Fair weather sunset. Verified.	
11	Fog	No aurora. Fair weather sunset. Verified. Dense fog in the morning.	
12	Fog	Dense fog in the morning. No aurora. Fair weather sunset. Verified.	
13		Battery cleaned. No aurora. Fair weather sunset. Verified.	
14		Fair weather sunset. No aurora. Verified.	
15	Indian Summer	Hazy Indian Summer weather, no aurora. Fair weather sunset. Verified.	
16		Indian Summer. No aurora. Doubtful sunset.	
17		Foul weather sunset. No aurora. Verified.	
18		Light rain commenced at 11:30 a.m. and continued to fall slowly until 12:10 p.m. Foul weather sunset. Obscured. Verified.	
19		Light rain began at 0:35 a.m. and fell in	

		showers until daylight. Light shower in the evening, partially obscured. Foul weather sunset. Verified.	
20		Light rain early in the morning. Peculiar and beautiful arrangement of cirro-cumulus clouds at night, showing the mottled or buttermilk sky. A wide belt of this cloud extended from north to south across the zenith, and moved from the south slowly, from 9 p.m. to 9:20 p.m. Battery wiped. No aurora. Doubtful sunset.	
21	Rain	Light shower of rain early in the morning. Mist and light rain during the evening. Obscured. Foul weather sunset. Verified.	
22		No aurora. Fair weather sunset. Verified.	
23	Fog	Dense fog early in the morning, in consequence of which there was no frost at the station. No aurora. Fair weather sunset. Verified.	
24	Fog	Dense fog in the morning, over the valleys. Lunar halo at 10 p.m. to 10:30 p.m. radius, about 22 degrees. Very faint. No aurora. Doubtful sunset.	
25		Obscured. Foul weather sunset. Verified.	
26	Rain/fog	Gentle showers of rain during the day commencing at 5:30 p.m. and continuing at intervals until 12:40 p.m. Dense fog in the evening and at night. Obscured. Fair weather sunset. Verified.	
27	Fog	Battery wiped. Dense fog early in the morning. Fair weather sunset. No aurora. Verified.	
28		No aurora. Fair weather sunset. Not verified.	
29	Thunderstorm	Rain began to fall at 3:30 p.m. and continued during the evening and night, with occasional thunder and lightning. Obscured. Foul weather sunset. Verified.	
30		Doubtful sunset. Obscured.	
31		Hazy indian summer. No aurora. Fair weather sunset. Not verified.	
<b>River Totals</b>			
<b>Highest Water</b>	2 feet 2 inches	10 <sup>th</sup>	
<b>Lowest Water</b>	1 foot 1 inch	20th, 21st	
<b>Range</b>	1 – 1		
<b>Condition of Instruments</b>			
Thermometer	Standard	2890	Serviceable
Thermometer (DO)	Standard	3261	Serviceable

Thermometer (DO)	Maximum	116	Serviceable
Thermometer (DO)	Maximum	440	Serviceable
Thermometer (DO)	Minimum	110	Serviceable
Thermometer (DO)	Minimum	3133 & 298	Serviceable
Thermometer (DO)	Hygrometer	42 & 42	Serviceable
Thermometer (DO)	Hygrometer	698 & 699	Serviceable
Thermometer (DO)	Water	412	Serviceable
Thermometer (DO)	Water Case	70	Serviceable
Anemometer		154	Serviceable
Anemometer		52	Serviceable
Anemometer	Self Register For	30	Serviceable
Barometers		1753 and 163	Serviceable
Anemoscope and Rain Gauges			Serviceable
All other public property on the station in good condition			
<b>Summary of Sunset</b>			
	<b>Total No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	18	16	2
<b>Foul</b>	9	7	2
<b>Doubtful</b>	4	-	-
A.C. Ford – Sgt. Signal Service – U.F.A			
No. 298 Received broken and returned to O.C.S.O. same day			
<b>November 1877</b>			
1	Rain	Brilliant crimson dawn. Rain began at 11:45 a.m. and continued during the day and evening. Obscured. Fair weather sunset. Not verified.	
2		No aurora. Fair weather sunset. Verified.	
3	Frost	Heavy frost. Battery wiped. No aurora. Fair weather sunset. Verified.	
4	Frost	Heavy frost. No aurora. Foul weather sunset. Verified.	
5		Light rain and mist fell almost continuously during the morning. Obscured. Fair weather sunset. Verified.	
6	Ice	Ice formed first of the season. No aurora. Fair weather sunset. Verified.	
7	Frost	First killing frost of the season, in the city. Obscured. Rain at 10:15 p.m. Foul weather sunset. Verified.	
8	Battery/Rain	Eagle battery substituted for Daniells in working S.R.A. Light rain and mist during the forenoon. Light shower in the evening. Obscured. Foul weather sunset. Verified.	

9	Rain	Light rain and mist during the day. Obscured. Doubtful sunset. Battery wiped
10		Fair weather sunset. No aurora. Verified.
11	Frost	Heavy frost & ice in the morning. No aurora. Fair weather sunset. Verified.
12	Frost	Heavy frost and ice in the morning. Hazy in the afternoon and evening. No aurora. Fair weather sunset. Verified.
13	Fog	Fog and smoke morning and evening. No aurora. Fair weather sunset. Verified.
14	Rain	Light rain in the evening and night. Foul weather sunset. Verified.
15	Rain	Steady light rain fall until daylight in the morning. No aurora. Fair weather sunset. Verified.
16	Fog	Dense fog over the station in the morning, and not entirely disappearing until afternoon. Fog and smoke in the evening. No aurora. Fair weather sunset. Verified.
17		Battery cells wiped with a moist cloth. Fog in the morning. No aurora. Fair weather sunset. Verified.
18		No aurora. Fair weather sunset. Verified.
19		Obscured. Foul weather sunset. Verified. No aurora.
20	Rain	Light rain began at 2:35 p.m. Continuing throughout the afternoon and evening. Obscured. Foul weather sunset. Verified.
21	Rain	Heavy and almost continuous rain from midnight until daylight. Showers and mist continue until 8 a.m.
22		Obscured. Doubtful sunset.
23	Mist rain	Light mist and rain at 1:20 p.m. Obscured. Fair weather sunset. Verified.
24	Bands/Polar	Battery cells wiped with moist cloth. At 9 p.m. the sky was about 2-4 covered with cir-stratus clouds arranged in parallel bands. Extending from north to south. Light fog also prevailed. Fair weather sunset. Not verified.
25	Rain	Light rain constant during the morning, commencing at 7 a.m. Light showers during the evening and night. Obscured. Foul weather sunset. Verified.
26	Rain/Wild Geese	Showers of rain continued at intervals attempting with heavy mist until 5:30 a.m. Wild geese flying eastward. No aurora. Fair weather sunset. Not Verified.

27	Rain	Light rain from 2:00 a.m. to 8:10 a.m. No aurora. Fair weather sunset. Verified.	
28		Obscured. Fair weather sunset. Verified.	
29	First snow 1877-78	A few snowflakes fall at 7:10 a.m. No aurora. Fair weather sunset. Verified.	
30		Heavy frost. No aurora. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	1 ft 5 inches	Nov. 1 <sup>st</sup>	
<b>Lowest Water</b>	14 ft 4 inches	Nov. 30 <sup>th</sup>	
<b>Range</b>	12 feet 11 inches		
<b>Condition of Instruments</b>			
Thermometer (DO)	Standard	2890	Serviceable
Thermometer (DO)	Standard (DO)	3261	Serviceable (DO)
Thermometer (DO)	Maximum	116	Serviceable (DO)
Thermometer (DO)	Maximum	440	Serviceable (DO)
Thermometer (DO)	Minimum	110	Serviceable (DO)
Thermometer (DO)	Minimum	3133	Serviceable (DO)
Thermometer (DO)	Hygrometer	42 & 42	Serviceable (DO)
Thermometer (DO)	Hygrometer	698 & 699	Serviceable (DO)
Thermometer (DO)	Water	412	Serviceable (DO)
Thermometer (DO)	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Anemometer		Self register for 30	Serviceable (DO)
Barometers		1753 & 163	Serviceable (DO)
		Anemoscope & Rain Gauges	Serviceable (DO)
All the public property on station in good condition			
<b>Summary of Sunsets</b>			
	<b>Total no. of predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	20	18-1	2+1
<b>Foul</b>	7	7	0
<b>Doubtful</b>	3	0	0
A.C. Ford – Sgt. Signal Service (NFA)			
<b>December 1877</b>			
1	Frost	Heavy frost. Battery wiped. No aurora. Fair weather sunset. Verified.	
2		Cold, hazy, bright, Indian Summer. No aurora. Fair weather sunset. Verified.	
3		Clear hazy weather. No aurora. Foul weather sunset. Verified.	
4	Rain & Mist	Light rain began at 1:00 a.m. and showers and mist continued to fall until 9:10 a.m. Obscured.	

		Light rain directly after sunset. Foul weather sunset. Verified.
5		Partially obscured. No aurora. Fair weather sunset. Verified.
6	Snow	Light fall of snow at 10:20 a.m. First of the season. Water thermometer no. 412 broken and rendered unserviceable. No aurora. Fair weather sunset. Verified.
7		Clear and hazy weather. No aurora. Fair weather sunset. Verified.
8		Weather clear and hazy. Battery wiped. No aurora. Fair weather sunset. Verified.
9		No aurora. Small luminous circle around the moon in evening. Fair weather sunset. Verified.
10		Bands of cirro-stratus cloud in the afternoon. Extend from north to south. No aurora. Fair weather sunset. Verified.
11		No aurora. Smoke in the evening. Fair weather sunset. Verified.
12	Smoke	Dense smoke over the station in the morning. Haze and smoke during the day and evening. No aurora. Fair weather sunset. Verified.
13		Smoke in the morning. No aurora. Fair weather sunset. Verified.
14		Dense smoke and haze over the station during the day. Indian summer. No aurora. Fair weather sunset. Verified.
15	Water Thermometer	Battery cells wiped with moist cloth. Water thermometer no. 506 received from O.C.S.O. and observations of temperature of water in river resumed. N. J. no. 412 returned to O.C.S.O. No aurora. Yellow luminous appearance surrounding the moon at 7:30 p.m. Fair weather sunset. Verified.
16		Light shower of rain at night. Unmeasurable. Obscured. Foul weather sunset. Verified.
17	Rain	Light rain in the morning. No aurora. Foul weather sunsets. Not verified.
18		No aurora. Fair weather sunset. Verified.
19		No aurora. Fair weather sunset. Verified.
20		Dense fog over the station early in the morning. No aurora. Fair weather sunset. Verified.
21		Light rain in the evening. Obscured. Foul weather sunset. Verified.
22	Rain	Light rain before daylight in the morning. Battery cells wiped with moist cloth. Obscured. Fair weather sunset. Not verified.

23		Light rain in the morning. Mosquitos(?) Obscured. Rain at 10 p.m. to midnight. Foul weather sunset. Verified.	
24		Light rain during the day. Obscured. Foul weather sunset. Verified.	
25		Light rain in showers during the day. Obscured. Foul weather sunset. Verified.	
26	Rain	Light showers of rain in the morning and again at night. Obscured. Foul weather sunset. Verified.	
27		Light showers of rain early in the morning. Obscured. Foul weather sunset. Verified.	
28	Grass Green	Grass green and growing. Light rain and mist during the morning. Showers of rain afternoon and evening, obscured. Foul weather sunset. Verified.	
29		Continuous rain during the day and evening. Battery cells wiped. Obscured. Foul weather sunset. Verified.	
30		Light rain and mist in the morning. Mist and rain in the evening. Obscured. Foul weather sunset. Verified.	
31		All thermometers at this station were tested today and found to read 32 degrees. Obscured. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	13 feet 6 inches	1 <sup>st</sup>	
<b>Lowest Water</b>	3 feet 2 inches	23 <sup>rd</sup>	
<b>Range</b>	10 feet 4 inches		
<b>Condition of Instruments</b>			
Thermometers	Standard	2890	Serviceable
Thermometer (DO)	Standard (DO)	3261	Serviceable (DO)
Thermometer (DO)	Maximum	116	Serviceable (DO)
Thermometer (DO)	Maximum (DO)	440	Serviceable (DO)
Thermometer (DO)	Minimum	110	Serviceable (DO)
Thermometer (DO)	Minimum (DO)	3133	Serviceable (DO)
Thermometer (DO)	Hygrometer	42 & 42	Serviceable (DO)
Thermometer (DO)	Hygrometer (DO)	698 & 699	Serviceable (DO)
Thermometer (DO)	Water	412	Broken
Thermometer (DO)	Water (DO)	506	Returned to O.C.S.O.
Thermometer (DO)	Water Case	70	Serviceable (DO)
Anemometer		154	Serviceable (DO)
Anemometer		52	Serviceable (DO)
Anemometer S.R. For		30	Serviceable (DO)
Barometers	1753 and 163		Serviceable (DO)
Anemoscope and Rain Gauges			Serviceable (DO)

All other public property on station is in good condition			
<b>Summary of sunsets</b>			
	<b>Total # of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	18	17	1
<b>Foul</b>	13	12	1
<b>Doubtful</b>	0	0	0
A.C. Ford – Sgt. Signal Service (U.S.A.)			
<b>January 1878</b>			
1	Hygrometer	Hygrometer out of repair. Changed and new one substituted. No aurora. Fair weather sunset. Verified.	
2		Obscured. Doubtful sunset.	
3	Snow	Snow began falling at 5:30 p.m. and continued during the night at times falling rapidly and heavy. The snow was about six inches deep on soft Earth at midnight. Obscured. Foul weather sunset. Verified.	
4	Snow	Light snow in the morning. Snow melting slowly. Indications received incomplete from the telegraph company owing to wires breaking while the message was being transmitted. No telegraphic reports received in time to post manifold bulletins in the morning. Light fall of snow in the evening. No aurora. Fair weather sunset. Verified.	
5	Battery	Battery wiped with moist cloth. No aurora. Fair weather sunset. Verified.	
6		Clear and cold. No aurora. Fair weather sunset. Verified.	
7	Private Lyons relieved from duty	Order received relieving Private P.F. Lyons from duty on this station. Coldest day of the season. No aurora. Fair weather sunset. Verified.	
8		Snow melting rapidly. Obscured.	
9	Fog & Mist	Fog and fine mist at 8 a.m. Dense fog over the station in the evening. No aurora. Foul weather sunset. Not verified.	
10		Obscured. Doubtful sunset.	
11	Fog/Lunar Halo	Fog in the valleys in the evening. Faint Lunar halo from 7 p.m. to 8:30 p.m. Radius about 20 degrees. No aurora. Fair weather sunset. Verified.	
12	Rain	Rain began at 9:30 p.m. and continued during the night. Obscured. Foul weather sunset. Verified.	



13	Rain	Light rain in the morning. Obscured. Foul weather sunset. Verified.
14	Rain	Light rain and mist from 4 a.m. to 8 a.m. Obscured. Foul weather sunset. Not verified.
15		Obscured. Fair weather sunset. Verified.
16		No aurora. Fair weather sunset. Verified.
17	Fog/frost/Private Stevens assigned to duty as assistant	Dense fog over the station in the morning clearing away before noon. Heavy white frost in the morning. Orders received assigning Private Charles L. Stevens to duty at this station as assistant. Fog in the evening. No aurora. Fair weather sunset. Verified.
18	Frost/Lunar Halo	Heavy frost in the morning. No aurora. Faint lunar halo 9:30 to 11 p.m. 20 degrees. Fair weather sunset. Not verified. No aurora.
19	Rain/battery	Light rain in the morning. Battery cells wiped with moist cloth. Light rain in the evening. Obscured. Foul weather sunset. Verified.
20	Rain	Light rain in the morning. Obscured. Foul weather sunset. Not verified.
21	Rain	Light rain and mist in the morning. Obscured. Foul weather sunset. Not verified.
22		No aurora. Fair weather sunset. Verified.
23		No aurora. Fair weather sunset. Verified.
24		No aurora. Fair weather sunset. Not verified.
25	Rain/mist	Light rain began at 7:10 a.m. Ending at 11 a.m. Mist in the afternoon. No aurora. Fair weather sunset. Verified.
26	Fog/battery	Dense fog in the morning. Battery wiped with cloth. Obscured. Foul weather sunset. Verified.
27	Rain/mist	Light shower of rain in the morning. Mist and rain in the evening. Obscured. Foul weather sunset. Not verified.
28		No aurora. Fair weather sunset. Verified.
29		Obscured. Fair weather sunset. Not verified. Maple & lilac buds swelling.
30		Heavy rain during the day. Obscured. Foul weather sunset. Verified.
31		Light rain in the morning turning to snow about noon. Heavy snow in the evening. Obscured. Foul weather sunset. Not verified.
<b>River Totals</b>		
<b>Highest water</b>	18 feet 3 inches	31 <sup>st</sup>
<b>Lowest water</b>	6 feet 9 inches	10 <sup>th</sup>
<b>Range</b>	11 feet 6 inches	

<b>Condition of Instruments</b>			
Thermometers	Standard	2890	Serviceable
Thermometers (DO)	Standard (DO)	3261	Serviceable
Thermometers (DO)	Maximum (DO)	116	Serviceable
Thermometers (DO)	Maximum (DO)	440	Serviceable
Thermometers (DO)	Minimum	110	Serviceable
Thermometers (DO)	Minimum (DO)	3133	Serviceable
Thermometers (DO)	Hygrometer	42-42	Fastenings broken, can be repaired for \$1.25
Thermometers (DO)	Hygrometer (DO)	698-699	Serviceable
Thermometers (DO)	Water	506	Serviceable
Thermometers (DO)	Water case	70	Serviceable
Anemometer		154	Serviceable
Anemometer		52	Serviceable
Anemometer (DO)	S.R. for	30	Serviceable
Barometers		1753 & 163	Serviceable
Anemoscope & Rain Gauge			Serviceable
All other public property or station in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	16	13	3
<b>Foul</b>	12	6	6
<b>Doubtful</b>	3	-	-
A.C. Ford – Sgt. Signal Service			
<b>February 1878</b>			
1	Snow	Light snow in the morning. Obscured. Foul weather sunset. Not verified.	
2		Battery cells wiped with moist cloth. Foul weather sunset. Obscured. Not verified.	
3	Rain	Obscured. Light rain at 9 p.m. Unmeasurable. Foul weather sunset. Not verified.	
4		Obscured. Foul weather sunset. Not verified.	
5		No aurora. Fair weather sunset. Verified.	
6		Frost in the morning. No aurora. Fair weather sunset. Not verified.	
7	Rain	Light rain commenced at 10 a.m. and continued at intervals during the day. Obscured. Foul weather sunset. Verified.	
8		Light showers during the morning. Mist & rain in the afternoon. Obscured. Foul weather sunset. Verified.	

9		Light rain in the morning. Battery cells wiped with moist cloth. Heavy shower of rain at 11:30 a.m. A few small hailstones fall at 11:45 a.m. Obscured. Foul weather sunset. Not verified.
10	Snow	Light fall of snow in the morning. Quantity unmeasurable. Obscured. Foul weather sunset. Not verified.
11		Faint lunar halo was observed at 10 to 11 a.m. having a radius of about 10 degrees. NO aurora. Fair weather sunset. Verified.
12	Halo	Faint lunar halo at 10 to 10:40 p.m. having a radius of about 10 degrees. Rural sun furnished with weather report. No aurora. Fair weather sunset. Verified.
13		Light mist and rain in the evening. Obscured. Foul weather sunset. Verified.
14	Rain	Showers of rain early in the morning, light rain and mist at night. Obscured. Foul weather sunset. Verified.
15		Light rain and mist in the morning. Damp heavy weather with occasional showers during the day and evening. Obscured. Fair weather sunset. Verified. Continuous current on anemometer. S.R. at 11 a.m. S.R. loses 3 miles.
16	Fog	Dense fog over the station at 7 a.m. No aurora. Battery wiped. Fair weather sunset. Not verified.
17	Rain	Light shower of rain in the morning. No aurora. Fair weather sunset. Verified.
18		No aurora. Fair weather sunset. Verified.
19		No aurora. Fair weather sunset. Not verified.
20	Rain	Light rain during the afternoon and evening. Obscured. Foul weather sunset. Verified.
21	Rain/Famous bulletins/thunderstorm	Heavy shower of rain early in the morning. Accident to R.R. prevents delivery to P.M.S. of 24 farmers' bulletins. Thunder and lightning accompanying heavy rain at 2:15 p.m. Obscured. Foul weather sunset. Not verified.
22		Obscured. Foul weather sunset. Not verified.
23		No aurora. Foul weather sunset. Verified.
24		No aurora. Fair weather sunset. Verified.

25		Fair weather sunset. Verified.	
26		Frost in the morning. No aurora. Fair weather sunset. Verified.	
27		Hazy weather. Frost in the morning. No aurora. Fair weather sunset. Verified.	
28		Frost in the morning. Hygrometer repairs. No aurora. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	20 ft. 10 inches	1 <sup>st</sup>	
<b>Lowest Water</b>	9 ft 0 inches	20 <sup>th</sup>	
<b>Range</b>	11 ft 10 inches		
<b>Condition of Instruments</b>			
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometer (DO)	Standard	3261	Serviceable
Thermometer (DO)	Maximum	116	Serviceable
Thermometer (DO)	Maximum	440	Serviceable
Thermometer (DO)	Minimum	110	Serviceable
Thermometer (DO)	Minimum	3133	Serviceable
Thermometer (DO)	Hygrometer	42-42	Serviceable
Thermometer (DO)	Hygrometer	698-699	Serviceable
Thermometer (DO)	Water	412	Serviceable
Thermometer (DO)	Water Case	70	Serviceable
Anemometer		154	Serviceable
Anemometer (DO)		52	Serviceable
Anemometer (DO)		Self register for 30	Serviceable
Barometers		1753 and 163	Serviceable
Anemoscope and Rain Gauges			Serviceable
All other public property on station in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	15	12	3
<b>Foul</b>	13	5	8
<b>Doubtful</b>	0	-	-
A.C. Ford/Sgt. Signal Service U.S.A.			
<b>March 1878</b>			
1	Farmers Bulletin	Hazy and warm weather. No aurora. Fair weather sunset. Not verified. No farmers bulletins issued owing to early closing of telegraph office.	
2	Rain	Heavy rain early in the morning accompanied by high wind. Battery cells	

		cleaned. Light showers of rain during the day. No aurora. Fair weather sunset. Not verified.
3	Rain	Light showers of rain at intervals during the day accompanied by brisk winds. Obscured. Foul weather sunset. Not verified.
4		Fair weather sunset. Verified. No aurora.
5	Frost	Heavy frost in the morning. No aurora. Fair weather sunset. Verified.
6		Light shower of rain in the afternoon. Obscured. Foul weather sunset. Verified.
7		Shower of rain in the morning. No aurora. Fair weather sunset. Not verified.
8	Rain	Shower of rain in the morning. No aurora. Fair weather sunset. Verified.
9		Battery cleaned. No aurora. Foul weather sunset. Verified.
10		Heavy shower of rain at noon. Fair weather sunset. Verified. No aurora.
11	Fog/Thunderstorm	Dense fog over the station in the morning. Thunders and lightning in the evening. No aurora. Fair weather sunset. Not verified.
12	Thunderstorm/fruit blooms	Thunderstorm at 6 a.m. and again at 1p.m. Peach and plum trees in full bloom. No aurora. Fair weather sunset. Verified.
13		No aurora. Fair weather sunset. Verified.
14		No aurora. Fair weather sunset. Verified.
15		No aurora. Fair weather sunset. Verified.
16	Private Stevens relieved by Private Prender	Battery cells wiped with moist cloth. No aurora. Orders received relieving Private C.L. Stevens and assigning Private George Prender to duty at this station. Fair weather sunset. Verified.
17		No aurora. Foul weather sunset. Not verified.
18	Frost	Light frost in the morning. No aurora. Fair weather sunset. Verified.
19	Frost	Frost in the morning. No aurora. Fair weather sunset. Verified.
20	Dew	Heavy dew in the morning. No aurora. Fair weather sunset. Verified.
21		Dense fog over the station during the day. No aurora. Crimson appearance of the moon owing to the haze. Fair weather sunset. Verified.
22		No aurora. Fair weather sunset. Verified.
23		Dense haze over the station during the

		morning. Battery cleaned and renewed. No aurora. Fair weather sunset. Verified.	
24		Haze disappeared soon after sunset leaving very clear and starry sky. Maximum and minimum temperatures occur at 10:21 p.m. of 23 degrees and 10:21 p.m. of 24 inches (?) No aurora. Fair weather sunset. Verified.	
25		No aurora. Fair weather sunset. Verified.	
26	Last frost	Light frost in the morning. Not injurious owing to dryness of the air. No aurora. Fair weather sunset. Not verified.	
27	Rain/thunderstorm	Showers of rain at intervals from noon to 6:15 p.m. Thunder and lightning from 4:20 to 5:30 p.m. Sheeting lightning in the evening. Rainbow at 6:20 p.m. Obscured. Foul weather sunset. Verified.	
28		Heavy rain early in the morning. Cloudy and threatening during the day. Obscured. Foul weather sunset. Not verified.	
29		No aurora. Fair weather sunset. Not verified.	
30	Rain	Light shower of rain at 6 a.m. Battery examined and zines cleaned. Sunset fair. Verified. No aurora.	
31	Tests	All thermometers in use at this station were tested today. All read 32 degrees except Min.-no. 110 reads 31 degrees. No aurora. Fair weather sunset. Verified.	
<b>Condition of River</b>			
<b>Highest Water</b>	17 feet 6 inches	14 <sup>th</sup>	
<b>Lowest water</b>	5 feet 7 inches	31 <sup>st</sup>	
<b>Range</b>	11 feet 11 inches		
<b>Condition of Instruments</b>			
<b>Thermometers</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometer (DO)	Standard (DO)	3261	Serviceable
Thermometer (DO)	Maximum	116	Serviceable
Thermometer (DO)	Maximum (DO)	440	Serviceable
Thermometer (DO)	Minimum	110	Serviceable
Thermometer (DO)	Minimum (DO)	3133	Serviceable
Thermometer (DO)	Hygrometer	42-42	Serviceable
Thermometer (DO)	Hygrometer (DO)	698-699	Serviceable
Thermometer (DO)	Water	412	Serviceable
Thermometer (DO)	Water case	70	Serviceable
Anemometer		154	Serviceable
Anemometer (DO)		52	Serviceable

Anemometer (Self register for)		30	Serviceable
Barometers		1753 & 163	Serviceable
Anemoscopes and Rain gauges			Serviceable
All other public property on station in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	25	19	6
<b>Foul</b>	6	3	3
<b>Doubtful</b>	0	-	-
A.C. Ford – Sgt. Signal Service.			
<b>April 1878</b>			
1		No aurora. Fair weather sunset. Verified.	
2		No aurora. Fair weather sunset. Verified.	
3	Rain/S.R. Anemometer	Light showers of rain during the afternoon. The self-register of the anemometer stopped working at 3:45 p.m. and on examination it was found that a binding screw had worked loose and fallen out, allowing the wire to drop to the roof. The noon reading of dial showed the loss of 18 miles by the register. Obscured. Foul weather sunset. Verified.	
4	Rain	Light shower of rain before daylight. Another shower from 8:10 a.m. to 9:15 a.m. Cloudy until 8 p.m. when the sky became clear. No aurora. Fair weather sunset. Verified.	
5		No aurora. Foul weather sunset. Not verified.	
6		Battery cleaned. No aurora. Fair weather sunset. Verified.	
7		No aurora. Foul weather sunset. Verified.	
8	Rain	Light rain began falling at 2:30 p.m. and continued at intervals until 6:30 p.m. when the fall became heavy with occasional deep thunder sounds. Heavy rain continued until 9:40 p.m. after which light showers fell until midnight. Wind veering from east to northwest during the rain. Obscured. Foul weather sunset. Verified.	
9	Rain/Thunderstorm	Heavy showers of rain during the morning with an occasional peal of thunder. Sheet lightning from 8 to 9 p.m. No aurora. Foul weather sunset. Verified.	
10	Rain	Heavy shower of rain early in the morning. Light shower in the afternoon. No aurora. Foul weather sunset. Not verified.	

11		No aurora. Fair weather sunset. Verified.
12		Faint lunar halo observed at 10 p.m. Radius about 12 degrees. No aurora. Foul weather sunset. Not verified.
13		Battery cells wiped with moist cloth. Temperature 82 degrees. Highest of the season. Clouds form at sunset and disappear at 8 p.m. No aurora. Fair weather sunset. Not verified.
14		Light rain commenced at 10 a.m. and continued until 12:30 p.m. clear sky in the evening. No aurora. Fair weather sunset. Verified.
15		No aurora. Fair weather sunset. Verified.
16		No aurora. Fair weather sunset. Verified.
17		No aurora. Fair weather sunset. Not verified.
18	Rain	Light showers of rain in the morning. Clouds moving from south with surface wind from southeast. Obscured. Foul weather sunset. Verified.
19	Rain	Heavy shower of rain in the morning. Wild ducks flying to southeast. No aurora. Foul weather sunset. Verified.
20	Rain	Rain began early in the morning and continued steadily and heavy until about 1 p.m. Battery wiped with moist cloth. No aurora. Fair weather sunset. Verified.
21	Rain	A few drops of rain fell between 4 and 5 p.m. Obscured. Foul weather sunset. Verified.
22	Rain	Light shower of rain early in the morning. Clear sky in the evening. No aurora. Foul weather sunset. Verified.
23	Rain	Heavy rain in the morning followed in the afternoon by the heaviest fall of rain in this section for years. The amount of rain at the p.m. observation was 2.20 inches having overflowed the gauge proper into the standard attachment. An unusual commotion was observed in the air at 8:00 p.m. characterized at first by a sudden and violent downward pressure and followed during 5 minutes by a whirlpool motion driving the vane to every point of the compass. The sudden wrench given the wires by the wind caused a binding screw to fall out from its place on the anemometer and owing to the darkness and the violence of the storm connection was not restored until 9 p.m. Greatest velocity of wind – 20 miles. Obscured. Foul weather sunset. Verified.



24	Rain	Frequent showers of rain during the day. The heavy rains of the 23 <sup>rd</sup> cause a rapid rise in the river. Driftwood running heavily. No aurora. Foul weather sunset. Verified.	
25	Rain/river	Shower of rain at noon. The river continues to rise slowly and large quantities of driftwood float past the station. Rainbow at 6:30 p.m. Obscured. Foul weather sunset. Not verified.	
26		Light shower of rain in the afternoon. Not measurable. A great many inquiries are made at the office and on the street in regard to the river and temperatures overflow and frost being feared. Obscured. Fair weather sunset. Verified.	
27		Battery cells wiped with moist cloth. No aurora. Interest & inquiries continue. Fair weather sunset. Verified.	
28		A few drops of rain fell between 2 p.m. and 2:30 p.m. No aurora. Fair weather sunset. Verified.	
29		No aurora. Fair weather sunset. Verified.	
30	Citizen assistant instructed	John B. Lillard, a citizen was today instructed in the duties of an observer. Mr. Morris the citizen previously so instructed having left the city. No aurora. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	27 feet 3 inches	26 <sup>th</sup>	
<b>Lowest Water</b>	5 feet 6 inches	3 <sup>rd</sup> and 4 <sup>th</sup>	
<b>Range</b>	21 feet 9 inches		
<b>Condition of Instruments</b>			
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometer (DO)	Standard (DO)	3261	Serviceable
Thermometer (DO)	Maximum	116	Serviceable
Thermometer (DO)	Maximum (DO)	440	Serviceable
Thermometer (DO)	Minimum	110	Serviceable
Thermometer (DO)	Minimum (DO)	3133	Serviceable
Thermometer (DO)	Hygrometer	42-42	Serviceable
Thermometer (DO)	Hygrometer	698-699	Serviceable
Thermometer (DO)	Water	412	Forwarded to O.C.S.O under inst. dates April 1, 1878. Returned to O.C.S.O. April 4, 1878
Anemometer		154	Serviceable
Anemometer		52	Serviceable
Anemometer S.R. for		30	Serviceable
Barometers		1753 and 163	Serviceable
		Anemoscope and Rain Gauges	Serviceable

All other public property at the station in good condition			
<b>Summary of Sunsets</b>			
	<b>No. of predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	16	14	2
<b>Foul</b>	14	10	4
<b>Doubtful</b>	0	-	0
A.C. Ford – Sgt. Signal Service (U.S.A.)			
<b>May 1878</b>			
1		Fair weather sunset. No aurora. Verified.	
2		No aurora. Foul weather sunset. Verified.	
3	Thunderstorm/Rain	Thunderstorm between 9 a.m. and 11 a.m. Light shower of rain at 5:20 a.m. and again during the afternoon. Obscured. Foul weather sunset. Verified.	
4	Rain	Light rain early in the morning, .03 battery wiped with cloth. Obscured. Foul weather sunset. Not verified.	
5		No aurora. Fair weather sunset. Verified.	
6		No aurora. Foul weather sunset. Verified.	
7	Hail/Rain	Hail began falling at 6:28 p.m. and continued for 2 minutes. The hailstones were small and did no damage. Rain followed the hail and continued until 6:40 p.m. No aurora. Foul weather sunset. Verified.	
8		Very light showers of rain at intervals during the day from 6:20 a.m. to 8:40 p.m. Obscured. Foul weather sunset. Verified.	
9		No aurora. Fair weather sunset. Verified.	
10		No aurora. Fair weather sunset. Verified	
11	Dew/crops	Heavy dew in the morning. Cotton and other crops 15 days earlier than usual. Battery wiped and renewed. Faint lunar halo. 8:30 to 9:30 p.m. Radius about 15 degrees. No aurora. Fair weather sunset. Verified.	
12	Rain	Light rain fell between 8 and 9 p.m. (unmeasurable) Obscured. Foul weather sunset. Verified.	
13	Mist & Rain	Mist and rain fell at intervals during the day with a heavy shower at 10 p.m. Obscured. Foul weather sunset. Verified.	
14	Rain/Anemometer	Rain continued at intervals until 6:10 a.m. Cloudy and hazy during the day and night. No aurora. Anemometers changed at noon. Fair weather sunset. Verified.	

15	Fog	Dense fog over the station in the morning. No aurora. Fair weather sunset. Not verified.
16	Rain	Light rain began falling at 10:30 a.m. and continued at intervals until 8:30 p.m. Obscured. Foul weather sunset. Verified.
17	Rain	Light shower of rain early in the morning. No aurora. Fair weather sunshine. Verified.
18	Thunderstorms	Thunderstorms and heavy rains in the vicinity of the station during the afternoon but only a light shower fell at the station. Battery wiped with moist cloth. Obscured. Foul weather sunset. Verified.
19	Rain/thunderstorm	Light shower of rain with thunder and lightning at 1:10 to 2:30 a.m. No aurora. Fair weather sunset. Verified.
20		Lightning in the evening. No aurora. Foul weather sunset. Not verified.
21		No aurora. Fair weather sunset. Verified.
22	Rain	Cloudy weather, very light rainfall at 4:00 to 5:10 p.m. Obscured. Foul weather sunset. Not verified.
23		Cirrus clouds take the place of cumulus at 3 p.m. and a clear night follow. No aurora. Fair weather sunset. Verified.
24	Rain	Battery cells wiped with moist cloth. Light shower of rain at 10:10 p.m. Obscured. Foul weather sunset. Verified.
25	Rain/picknicks	Light showers of rain at 1:45 p.m. and 8:10 p.m. Frequent inquiries at the office in regard to picnic excursions. No aurora. Foul weather sunset. Verified.
26	Rain	Light rain in the morning from 6 a.m. to 6:45 a.m. Light shower in the afternoon – clear sky at night. No aurora. Foul weather sunset. Not Verified.
27		No aurora. Fair weather sunset. Verified.
28	Cool	Temperature fell to 57 degrees this A.M. No aurora. Fair weather sunset. Verified.
29	Sick	On account of sickness , Sgt. A.C. Ford was unable to attend to his official duties today. He directed Private George Prender to assume charge of station and to apprise the Chief Signal Officer of the fact. No aurora. Fair weather sunset. Not verified.
30	Rain/Inspector	Rain, accompanied by lightning, began falling at 11:25 a.m. and continued for thirty minutes – amount 0.30. This rain was preceded and

		followed by a west wind, but during the shower the arrow pointed south-eastward. Threatening weather prevailed until 8:30 p.m. when a clear sky succeeded. First Lieutenant John McClellan, A.S.O. arrived at 5 p.m. and, at once, began the inspection of station. No aurora. Foul weather sunset. Not verified.	
31	Inspection of Station continued/bulletin frames and bulletins	Inspection of station continued. Sgt. Ford visited the office, but was too feeble to remain. Rain threatened (but none fell) up to noon. The afternoon was fair and the night clear. The Inspector made a tour of the city, with the assistant observer, saw the River Gauge, and the several bulletin frames, and obtained evidence that the Bulletins were regularly properly posted. No aurora. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	15 feet 10 inches	22 <sup>nd</sup>	
<b>Lowest Water</b>	5 feet 9 inches	29 <sup>th</sup> and 30 <sup>th</sup>	
<b>Range</b>	10 feet 1 inch		
<b>Condition of Instruments</b>			
<b>Thermometer</b>	<b>Standard</b>	<b>No. 2890</b>	<b>Serviceable</b>
Thermometer	Standard	No. 3261	Serviceable
Thermometer	Maximum	No. 116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Anemometer		No. 154	Serviceable
Anemometer		No. 52	Serviceable
Anemometer	Self-reg for.	No. 30	Serviceable
Barometers		Nos. 1753 & 163	Serviceable
Anemoscope		-	Serviceable
Rain Gauges (2)		-	Serviceable
All other property, at the station, in good condition.			
<b>Summary of Sunsets</b>			
	<b>Total No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	15	13	2
<b>Foul</b>	16	11	5
<b>Doubtful</b>	0	-	-
George Prender – Private Signal Service U.F.A.			
<b>June 1878</b>			

1	Inspection of Station continued/Measurements	Lt. McClellan continued inspection throughout the day, and concluded at 11 p.m. He directed that the following data be recorded.		
Measurements	Measured by Lt. McClellan, May 31, 1878			
Height of	Barometer	from ground	33 feet	5 inches
Height of	Thermometer	from ground	34 feet	1.5 inches
Height of	Hygrometer	from ground	34 feet	6 inches
Height of	Maximum	from ground	35 feet	6 inches
Height of	Minimum	from ground	35 feet	9.5 inches
Height of	Rain Gauge	from ground	49 feet	0.5 inches
Inspector's Barometer		29.51746		
Station Barometer		29.51023		
Extra Barometer		29.4989		
Station server than inspector's		.00723		
Extra server than inspector's		.01856		
Barometer cleaned on 30 <sup>th</sup> (May)		Bubble of air taken from tube of extra barometer on June 1 <sup>st</sup> .		
Battery cleaned and renewed. The day opened cloudy and closed with a clear sky. No aurora. Sunset "fair". Verified.				
2	Solar halo	High temperature was observed throughout the day. Barometer fell steadily and uninterruptedly. Cirrus clouds prevailed. No aurora. Solar halo at 12:15 to 12:30 p.m. 20 degrees very faint. Sunset foul. Verified.		
3	Threatening rain	Threatening weather prevailed until 6:30 p.m. when rain began falling. Rain ceased at 9:10 p.m. Amount 0.08. Obscured. Sunset foul. Verified.		
4	Rain/Thunderstorm/Lightning	Rain began falling before day, ceased at 7:15 a.m., recommenced at 6:55 p.m. and ended at 8 p.m. This last rain was accompanied by sharp electrical discharges. Light rain (not measurable) again fell, between 10 and 10:30 p.m. Obscured. Sunset foul. Verified.		
5	Rain	Rain found in gauge this a.m. Not measurable. Cirrus clouds prevailed. Obscured. Sunset foul. Not verified.		
6		Cloudy until 2:30 p.m. and fair thereafter. No aurora. Fair weather sunset. Verified.		
7	Rain	Barometer fell rapidly – cloudy & "thtng" (thundering and lightning)? Weather. Light rain from 8:35 p.m. to 9:10 p.m. Obscured. Foul weather sunset. Verified.		
8		Showers of rain in the forenoon and evening. Battery cleaned. No aurora. Foul weather		

		sunset. Verified.
9	Rain	Light rain from 9:55 a.m. to 1 p.m. No aurora. Fair weather sunset. Verified.
10	Threatening	Steadily rising barometer and cloudy threatening weather with low temperature. Cleared off at night. Without rain. No aurora. Fair weather sunset. Verified.
11		Cirro-cumulus clouds were observed at 8:30 a.m. remaining until 10 a.m. when they gradually disappeared before heavy cumulus. Cirro-stratus at 7 p.m. Clear & calm at night. No aurora. Foul weather sunset. Verified.
12	Rain	Light rain began falling at 12:40 p.m., continuing until 4:10 p.m. Another light shower from 6:30 to 9:10 p.m. Obscured. Foul weather sunset. Verified.
13	Cloudy/rain	Sun not visable at any time today. Showers of rain from 3 to 4 a.m. and from 4:20 to 4:30 p.m. Obscured. Foul weather sunset. Verified.
14	Rain	Rain began at 4 a.m. and ceased at 8 a.m. Recommenced at 10 a.m. and finally ended at 10:30 a.m. Cloudy all day. Obscured. Foul weather sunset. Not verified.
15	Sgt. Ford relieved and Private Prender assigned to temporary charge	Orders received relieving Sgt. A.C. Ford from charge of station and assigning Private George Prender to temporary charge. Battery cleaned. Cloudy day. Barometer falling, doubtful sunset. Obscured.
16	Unofficial "Yale" A.C. Ford	Fair weather during the day with light southerly winds. Followed at night by cloudy and threatening weather. Obscured. Foul weather sunset. Verified.
17	Rain/Special O. No. 80 carried out	Rain began falling at 6:40a.m. and continued until 1:30 p.m. – amount 1.11. At 8:30 p.m. the wind changed from S.E. to N.W. and rain fell for 10 minutes – amount .09. As directed, in special orders, no. 80, Sgt. A.C. Ford relinquished charge of station. And transferred instruments, property. Etc. to Private George Prender. Obscured. Foul weather sunset. Verified.
18	Rain	Another cloudy day. Between 9:30 and 9:40 a.m. Light rain (not measurable) fell. Obscured. Foul weather sunset. Not verified.
19		Fair day throughout, except at noon when rain threatened. A light to gentle north wind prevailed. No aurora. Fair weather sunset. Verified.

20	Cirri	Cirrus clouds, of almost every variety, were observed during the afternoon and small dark stratus at night. No aurora. Foul weather sunset. Verified.
21	Rain/Visitors	Rain began falling at 12:30 a.m. and continued for half an hour – amount .08 Haze was observed from sunrise to mid-day and cumulus clouds during the afternoon. The night was clear. Representatives of Excursion and kindred parties, were on hand, in increased numbers, some to acknowledge past favors and others in quest of information. No aurora. Fair weather sunset. Verified.
22		Clear day. Battery cleared. One zinc completely worn out. No aurora. Fair weather sunset. Verified.
23	Confidence	Another clear and charming day. On the faith of the official weather forecasts numerous pic-nic and Excursion parties repaired (s) to the county pleasure resorts and none were disappointed. No aurora. Fair weather sunset. Verified.
24	The River – its appearance	Fair day, with light winds and calms. The water of the Cumberland presents a green unhealthy color, doubtless due to the low stage (2' 10 " above low water). No aurora. Fair weather sunset. Verified.
25		Haze and smoke, in the early morning, gave place to cirrus clouds and they in turn, were followed by cumuli. Clear night. No aurora. Sunset Fair weather. Verified.
26		Barometer steady, and above 30.00. Gentle winds, with varying direction. Cumulus clouds prevailed. No aurora. Fair weather sunset. Not verified.
27	Rain with high barometer	High barometer. Rain began falling (from cumulus clouds) at 11:12 a.m. and ceased in one minute: recommenced at 12:40 p.m. and ceased in 5 minutes: total fall 0:02. While this last – and very light – rain fell at station, heavy rain, accompanied by a brisk wind, was falling one mile north of observatory. The afternoon reports from LaCrosse, Paul and Yankton occasioned a delay of 35 minutes. No aurora. Foul weather sunset. Verified.
28	Showers here and at other points/thunderstorm	Cir-cum clouds, amounting to 2/4, were observed at 6 a.m.; half an hour later they were hidden by cumuli and stratus. At 2:30 p.m. the

		exposed thermometer indicated 92.5 degrees, and at 3:30 p.m. 77 degrees – the wind, in the meantime, shifting from NW to NE and rising from 3 to 16 miles per hour. At 3 p.m. heavy rain was observed to fall NE of, and at no great distance from, the station. Light rain began falling over the observatory at 3:15 p.m. – lasting 15 minutes: recommenced at 4:30 and again ceased in a few minutes. Mr. Jones, of the “American” informs me that a severe rain and wind storm occurred on the Louisville road, 10 miles from Nashville, at about 4 p.m., and other parties report heavy showers at different points, near the city. All this seems strange, as the barometer reads higher today than at any time during the month. No aurora. Foul weather sunset. Verified.			
29	Rain, with high bar.	Rain began falling at 4 a.m. and ceased at 5 a.m. – amount 0.60. Rain also fell between 9:50 and 11 a.m., 12:30 and 2:15 p.m., and 7:30 and 8:10 p.m. – Total precipitation 1.10 inches, no clear sky was observed today and notwithstanding this, and the fact that the rainfall was unusually large, the lowest corrected, barometric reading was 30.036. Much to the delight and advantage of steamboat and Raftmen, the river rose 4 inches. The battery (which is on its ‘last legs’) was cleaned. Barometers compared. Obscured. Foul weather sunset. Verified.			
30	Comparative readings of bars. Testing Thursday.	The forenoon was cloudy, with a high barometer, and the remainder of the day fair to clear, with a falling barometer. Comparative barometric readings continued. Result of comparative readings...			
	Station	Barometer	No. 163	-error + .010	29.54785
	Extra	Barometer	No. 1753	-error -.015	29.53990
The thermometers were tested today , with the following result:					
	Standard	No. 2890	Read	32 degrees	
	Standard	No. 3261	Read	32 degrees	
	Maximum	No. 116	Read	32 degrees	
	Maximum	No. 440	Read	30 degrees	
	Minimum	No. 110	Read	32 degrees	
	Minimum	No. 3133	Read	32 degrees	
	Hygrometer	No. 42	Read	32 degrees	
	Hygrometer	No. 42	Read	32 degrees	
	Hygrometer	No. 698	Read	32 degrees	



	Hygrometer	No. 699	Read	31.8 degrees
	No aurora. Foul weather sunset: verified.			
<b>River Totals</b>				
<b>Highest water</b>	5 feet 6 inches			
<b>Lowest water</b>	2 feet 8 inches			
<b>Range</b>	2 feet 10 inches			
<b>Condition of Instruments</b>				
Anemometer	No. 52		Serviceable	
Anemometer	No. 154		Serviceable	
Anemometer (self register for)	No. 30		Serviceable	
Anemoscope	No. -		Serviceable	
Barometer	No. 163		Serviceable	
Barometer	No. 1753		Serviceable	
Clock	No. -		Serviceable	
Rain Gauges (2)	No. -		Serviceable	
Thermometer Standard	No. 2890		Serviceable	
Thermometer Standard	No. 3261		Serviceable	
Thermometer Maximum	No. 116		Serviceable	
Thermometer Maximum	No. 440		Serviceable	
Thermometer Minimum	No. 110		Serviceable	
Thermometer Minimum	No. 3133		Serviceable	
Thermometer Hygrometer	No. 42		Serviceable	
Thermometer Hygrometer	No. 42		Serviceable	
Thermometer Hygrometer	No. 698		Serviceable	
Thermometer Hygrometer	No. 699		Serviceable	
<b>Summary of Sunsets</b>				
	<b>Total No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>	
<b>Fair</b>	11	10	1	
<b>Foul</b>	18	15	3	
<b>Doubtful</b>	1	-	-	
George Prender – Private Signal Service U.F.A.				
<b>July 1878</b>				
1	Rain	Cloudy succeeded fair weather at 3 p.m. with a southwest wind. Rain began falling at 5:15 and ceased at 5:30 p.m. – amount 0.15. While rain was falling a fresh wind blew from W-N-W and when precipitation ceased, the arrow pointed east. Temperature reached 91 degrees. No aurora. Foul weather sunset. Verified.		
2	Rain	The day opened cloudy, and at 11:55 a.m. rain began falling. This rain increased until, at 1:30 p.m. it was very heavy. Heavy rain was followed by light at 2:15		

		p.m. , and precipitation ceased at 5 – amount 0.63. Within half an hour after rain commenced the temperature 6 degrees. Light winds, with varying direction, and calms prevailed. Obscured. Foul weather sunset. Verified.
3	Rain	Rain began falling at 5 a.m. and ceased at 6:30 – amount 0.34. Fresh southerly, was preceded by light and followed by gentle N.E. winds. No aurora. Fair weather sunset. Verified.
4	Hot	The day opened cloudy and so continued until 10 a.m., when the clouds broke and the temperature rose rapidly – reaching 91 degrees at 2:30 p.m. and with a gentle north wind. Barometer fell. It seems scarcely necessary to state that Nashvillians, representing every class, were early on hand to interview the observer, and none were suffered to depart without some comforting assurance, and an increased store of knowledge. Regrets too, were expressed that my duties were of such a character as to forbid participation in the festivities of the day. No aurora. Foul weather sunset. Not verified.
5	Rain	Upper clouds only, were observed until 6 p.m. when cum-stratus rapidly formed, and soon amounted to 4/4. Light rain began falling at 8 p.m. and continued remainder of day – amount at 10:21 p.m. too small to measure. Obscured. Foul weather sunset. Verified.
6	Rain	Rain ceased at 6:30 a.m. recommenced at 11:25 a.m. and finally ended at 1”10 p.m. Total fall 0.27. Cloudy and threatening weather was observed until close of day. Battery cleaned. Obscured. Foul weather sunset. Not verified.
7		Cirrus clouds were observed all day. Light rain (not measurable) fell between 12:40 and 12:45 p.m. Barometer steady and above 29.90. Temperature high and (?). Gentle southerly wind prevailed. No aurora. Foul weather sunset. Verified.
8	Rain storm!	The barometer rose slightly during the past night, its corrected reading being 30.016 at 6:56 a.m. at which time the exposed thermometer indicated 83 degrees. Cirro-cumulus clouds, small and well defined, which covered 2/4 of the sky and descended within 10 degrees of the western horizon at 6 a.m., soon gave place to large cumuli, and moving towards the south developed ordinary stratus clouds. At 9:30 a.m. the wind shifted from east to south southeast and rose from 2 to 5 miles per hour. The standard thermometer now read 89 degrees and the day big

		<p>fair to be the hottest of the season _at least such as the opinion of many who claimed to possess some knowledge of meteorology, and who could count, to a dead certainty, on the signs of the firmament. Half an hour, however sufficed to prove that it is dangerous to speculate in the mysteries of space; for, at that time (10 a.m.) the temperature had fallen to 80 degrees; the sky was overcast, and light rain began to descend. Rain ceased in 50 minutes, and '14 of the sky cleared, light to gentle winds, with varying directions, continuing. A light rain recommenced at 1:30 and continued until 3:15 p.m., when the barometer began falling. Cloudy and threatening weather continued until 8 p.m. when numerous patches of clear sky were observed. At 9 p.m. the weather was again threatening, especially in the west, when a small black cloud seemed bent on mischief. In a few minutes this cloud was observed to expand and move toward the station. My friend Sparkman, the printer, now kindly watched for me while I consulted the barometer. It was rising rapidly, or at least had risen, and read corrected 30.027. The air was perfectly calm but oppressive. At 9:30 the storm cloud had assumed vast proportions, and a sharp electrical discharge suggested the propriety of closing the trap door to the observatory. A gentle breeze now sprang up from the west, and with it, the heaviest rain storm of the season began. Soon the wind veered to south (velocity 4 miles per hour) then to east, back to south and again to east, but at no time rising above 5 miles per hour. For one hour and 20 minutes rain poured down, lightning, fierce and vivid, flashed, and peal after peal of thunder hit(?) the air. At 10:21 p.m. 2.90 inches of rain had fallen, and when precipitation ceased (10:50 p.m.) the total amounted to 3.05. A lunar rainbow was observed at 10:30 p.m. and remained in view half an hour. The gable end of the residence of Officer Fletcher, in the southern part of the city, was struck by lightning, and damaged to a limited extent. A water main in Carroll Street was also struck by the electric current. The roof of the building leaked in several places and tubs, buckets etc. were all used to catch the intruding waters. The most remarkable feature of this storm was the absence of high or even fresh winds – but then, this city appears to be the centre of calms. Obscured. Foul weather sunset. Verified.</p>
9	Rain Storm continued	As stated, under previous date, the rain measured

		<p>after last observation of 8<sup>th</sup> amounted to 0.15. Visitors were early on hand to learn the cause and effect of last night's storm. Among those who called was a representative of the "Banner," but not having time to "write him up" a special report, I permitted him the use of my Journal, and abstract of which was published in this days paper. The strongest proof that last night's was a local storm is found in the fact that a rise of one inch, only, was shown by river gauge at 3 p.m. today. Light rain (not measurable) fell between 5:30 and 5:35 p.m. Cloudy weather prevailed. Pressure and temperature steady. Obscured. Fair weather sunset. Verified.</p>
10	Rain	<p>Fair day, with barometer above the mean and steady, and even summer temperature. Light rain (not measurable) began at 6 p.m. and continued 5 minutes. No aurora. Fair weather sunset. Verified.</p>
11	Hot	<p>High barometer, hot and oppressive day. Temperature rose to 95 degrees. No aurora. Fair weather sunset. Verified.</p>
12	Hotter!	<p>Barometer continues high and thermometer higher. The maximum temperature (96 degrees) occurred at 2:30 p.m. Old and young, white and black complained of the excessive heat, and the observer was no exception. In fact I suffered more than in central Dakota with the temperature above 100 degrees, but then a breeze was felt there, here none. No aurora. Fair weather sunset. Verified.</p>
13	And yet/why?	<p>Another hot day (max. 95 degrees) with slowly falling barometer. I found the keys in my pockets rusted this morning. This is of course, due to excessive perspiration. Delivering bulletins and making river observations is quite the reverse of amusement now. The water gauge showed a rise of 4 inches in the Cumberland, but to what cause due, I know not. Battery renewed. Many inquiries were answered and disputes decided, by the observer, in regard to the high temperature, and a newspaper man was furnished with comparative tables for a year. Cloudy weather, calms and light winds prevailed. Obscured. Foul weather sunset. Not verified.</p>
14	Sweltering	<p>The maximum temperature of today (97 degrees) occurred at 2 p.m. Suffering, caused by heat was universal. Cumulus clouds, only (?), were observed and clear weather prevailed. No aurora. Fair weather sunset. Verified.</p>
15	Sweltering/Sunstroke	<p>Excessive heat (max 97 degrees) as in yesterday. Light</p>

		to gentle winds. Numerous cases of sunstroke have been reported but up to date two, only resulted fatally. No aurora. Fair weather sunset. Verified.
16	None of it	The heat today exceeded that of any preceding. For 4 hours the thermometer indicated 97 degrees. At 9 p.m. the temperature of this room was 95 degrees, and at midnight, 92 degrees. Unless assistance is furnished me by the city office, I will doubtless have to give up. The air was painfully calm. No aurora. Fair weather sunset. Verified.
17	Rain	The maximum temperature (96 degrees) occurred at 11 p.m. and again at 1 p.m. after the latter hour, it fell slowly. Threatening weather prevailed, and at 2:30 p.m., light rain (not measurable) fell. Obscured. Fair weather sunset. Not verified.
18	Rain/Hot notwithstanding	Rain began falling at 7:10 p.m. and ceased at 9 a.m.; amount .84. Rain recommenced at 8 and again ceased at 8:30 p.m.; amount .90. Notwithstanding then heavy local showers, the temperature was above 90 degrees half of the day, and reached 93 degrees. While the last rain was falling the wind rose to 16 miles per hour – the highest during the month. Obscured. Foul weather sunset. Verified.
19	Hot again/Visitors	We fail to observe the effects of yesterday's heavy rain for the temperature is again up to 96 degrees, and above 90 degrees, three-fourths of the time between sun-rising and setting. Light (2 per hour) NW wind prevailed. Clear weather also prevailed. Representatives of the local papers and the Health officer claimed more of my time than I could afford. The heat of the room is sickening. No aurora. Fair weather sunset. Not verified.
20	How the thermometer read	At 9 a.m. the thermometer read 93 degrees, and at 1 p.m. 95 degrees (the maximum). Light rain began falling, directly over the station, at 1:50 p.m. and continued for 15 minutes; amount 0.03. With this rain a 7 mile breeze sprang up and the temperature fell. The cooling process continued after dark and at midnight the exposed thermometer indicated 80 degrees, while the instrument in the office read 88 degrees. Clear night. Battery cleaned. No aurora. Foul weather sunset. Not verified.
21	Again	At 9 a.m. the exposed thermometer read 92 degrees, at 9:30 – 93 degrees, at 10:00 – 94 degrees, at noon – 95 degrees, 12:30 p.m. – 96 degrees, 1:00 – 97 degrees, 2:00 – 97 degrees, 3:00 – 96 degrees, and a 4 p.m. – 95 degrees. At midnight the temperature of

		the air had fallen to 83 degrees, but that of the room was 91 degrees. Clear weather prevailed. Barometer fell slowly. No aurora. Sunset fair. Verified.
22	Temperature falls	A most welcome and refreshing change in temperature occurred today. A gentle to fresh wind blew continuing from N. Cirrus Clouds prevailed. The highest temperature reached was 85 degrees. Barometer above the mean and steady. No aurora. Fair weather sunset. Verified.
23	Cool	Another comparative cool day. North winds, gentle to fresh continue. Maximum temperature 87 degrees. Barometer high and steady. No aurora. Fair weather sunset. Verified.
24	Cooler/Cirri	The temperature fell to 63 degrees at dawn but rose to 90 degrees shortly after noon. Barometer fell slowly. N. winds followed by a dead calm. During the early morning an attractive looking band of cir-stratus and ci-cumulus reached almost across the sky from the western to eastern horizon. No aurora. Foul weather sunset. Not verified.
25	Rising temperature	Temperature rose rapidly – reaching 94 degrees at 2 p.m. Cirrus clouds were followed by stratus, and occasionally rain seemed at hand. The night was clear: No aurora. Foul weather sunset: verified.
26		The temperature, which at 7 a.m. was 85 degrees, increased steadily until 2:30 p.m. when the thermometer read 94 degrees. About this time the cumulus clouds united and developing stratus hid the sun. Wind rose to 10 miles per hour and the temperature began falling. Rain descended from 3:00 to 3:35 p.m. and again between 4:20 and 4:40 p.m. – amount .04. Within an hour from the commencement of rain the thermometer showed a fall of 14 degrees. Cloudy weather continued but temperature at midnight was 1 degree higher than at 4 p.m. Obscured. Foul weather sunset. Verified.
27	Rain	Rain began falling at 12:30 a.m. and continued until 1:30 p.m. – or for 13 hours – amount 1.91. Rain recommenced at 7:50 and again ceased at 9:15 a.m. – amount 0.58 – total for 24 hours 2.49 inches. While all this rain was being precipitated the barometer rose, the wind's direction – which shifted from S.E. to N.W., next to N. and lastly to N.E. – having no noticeable effect; but then this wind came as near a calm as is almost possible. Temperature steady and bearable – the extremes being 87 degrees and 75 degrees. Battery cleaned and in excellent working

		order. No aurora. Foul weather sunset. Verified.	
28	Rain	But little change occurred in temperature last night; the last reading of 27 <sup>th</sup> being 77 degrees and the minimum thermometer recording 74 degrees this a.m. With the corrected barometer at 30.00 and the temperature of the air 75 degrees and calm, heavy rain began falling at 7:20 a.m. Rain ceased at 9:30 a.m. recommenced at 7:10 p.m. and finally ended at 8:40 p.m. Obscured. Foul weather sunset. Verified.	
29	Rain/Eclipse	At 12:30 p.m. wind changed suddenly from South to West and rain began falling. Suds(?) moved rapidly before the wind, but the dense clouds from which rain descended were carried in the opposite direction. Rain ceased at 3:10 p.m., when a break in the clouds lent encouragement to those who had made preparations to observe the Solar Eclipse. However, they were almost wholly disappointed; for, at the moment of contact, an unusually large and massive cumulo-stratus cloud concealed the sun. Two momentary breaks, and 2 only, occurred, during one of which I was among those who saw the phenomenon. The impression having obtained that this was the proper place to view the eclipse from and to be guided with reference to time, people of all ages and condition thronged the office and, with my consent, occupied the roof. With darkness, clouds disappeared. No aurora. Foul weather sunset. Verified.	
30	Rain	Rain began falling at 3:30 a.m. (time noted by the printer) and ceased in half an hour – amount .05. Threatening gave place to fair weather shortly before noon. No aurora. Fair weather sunset. Verified.	
31		High temperature and clear weather prevailed. No aurora. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>Highest Water</b>	6 feet 0 inches	3 <sup>rd</sup>	
<b>Lowest Water</b>	1 foot 5 inches	26 <sup>th</sup>	
<b>Range</b>	4 feet 7 inches		
<b>Condition of Instruments</b>			
Anemometer		No. 52	Serviceable
Anemometer		No. 154	Serviceable
Anemometer	Self Reg. for	No. 30	Serviceable
Anemoscope		-	Serviceable
Barometer		No. 163	Serviceable
Barometer		No. 1753	Serviceable

Clock		-	Serviceable
Rain Gauges (2)		-	Serviceable
Thermometer	Standard	No. 2890	Serviceable
Thermometer	Standard	No. 3261	Serviceable
Thermometer	Maximum	No. 116	Serviceable
Thermometer	Maximum	No. 440	Serviceable
Thermometer	Minimum	No. 110	Serviceable
Thermometer	Minimum	No. 3133	Serviceable
Thermometer	Hygrometer	No. 42	Serviceable
Thermometer	Hygrometer (also)	No. 42	Serviceable
Thermometer	Hygrometer	No. 698	Serviceable
Thermometer	Hygrometer	No. 699	Serviceable
<b>Minimum Thermometer</b>	Note: Minimum thermometer No. 110 reads 2 degrees too low. River gauge, near low water, needs repainting and marking.		
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	15	13	2
<b>Foul</b>	16	11	5
<b>Doubtful</b>	0	-	-
George Prender – Private Signal Service (U.F.A. or U.S.A.)			
<b>August, 1878</b>			
1	Barometric corrections for instrumental error changed	On and after this date, and including A.M. observation of today, .003 will be added to reading of barometer, No. 163 for instrumental error, and to barometer No. 1753, .028 will be added. O.C.S.O. July 23 <sup>rd</sup> , 1878. Heretofore .010 was deducted from No. 163, and .015 added to No. 1753. Fair day; high temperature. No aurora. Fair weather sunset. Not verified.	
2	Rain	Barometer fell, and temperature rose to 97 degrees. Rain began falling at 4:45 p.m. and continued four hours: amount 0.80. No aurora. Foul weather sunset. Verified.	
3		The temperature did not rise above 88 degrees. How thankful I, at least, am. Barometer fell slightly and slowly. Battery cleaned. No aurora. Foul weather sunset. Not verified.	
4	Temperature Rising	The expected rain did not fall and the thermometer crept up to 92 degrees. No aurora. Foul weather sunset. Not verified.	
5	Used up and tired	Another hot day. I am worn out, tired and discouraged. Barometer fell slowly. No aurora. Fair weather sunset. Verified.	



6	Hot	Clear, hot day. Barometer steady and air motionless. No aurora. Fair weather sunset. Verified.
7	Hot/Rain	The day opened without a cloud, and with the air provokingly calm. The maximum temperature (95 degrees) occurred at 2:15 p.m., and a few minutes dark and dense cumuli approached from W. Rain (not measurable) began falling at 4:15 p.m., and continued for 5 minutes. Temperature fell slightly _but even a slight fall is thankfully noticed. No aurora. Foul weather sunset. Not verified.
8	Hot	Hot – persistently hot – again. The weather is fair and man’s strength fails him. No aurora. Fair weather sunset. Verified.
9	Hot/sunstroke	As in yesterday, the temperature rose to 95 degrees; it, however, remained above 90 degrees for a much longer time. One fatal case of sunstroke was reported (a colored man). No aurora. Fair weather sunset. Verified.
10		Temperature one degree lower than in yesterday. Cloudy weather and fresh westerly winds prevailed. Barometer steady. Battery cleaned. Obscured. Foul weather sunset. Verified.
11	Rain	Light rain began falling at 6:45 a.m., became heavy at 7:15; continued heavy until 10:45 and ceased at 11 a.m.: amount 2.10. This very heavy was unaccompanied by change of pressure and temperature, nor did the wind rise above 5 miles per hour. Observer troubled with lame hand. Obscured. Foul weather sunset. Verified.
12	Rain	Very light rain began falling at 10 a.m. and continued at (long) intervals until 1:30 p.m. Rain recommenced at 11 p.m. Obscured. Foul weather sunset. Verified.
13	Rain	Rain ceased at 12:10 a.m. Barometer steady: temperature rose. Obscured. Foul weather sunset. Not verified.
14	Temp and pressure higher	Temperature rose, as did also the barometer. Hazy weather prevailed. No aurora. Fair weather sunset. Verified.
15	The same	The temperature was so much (?) at higher than on yesterday, as also the barometer. NE winds and fair weather prevailed. No aurora. Fair weather sunset. Verified.
16	Medical relief	Barometer high and steady. Temperature rose, very light winds and fair weather. No aurora. Fair weather sunset. Verified. The observer was obliged to call in Dr. Atchison on account of his hand; and faintness, the result of our work and heat.

17	Improving	Clear and hot day. Barometer high and remarkably steady. Air almost motionless. Battery cleaned. Observer improving. No aurora. Fair weather sunset. Verified.
18	Hot!	Hot day – maximum temperature 94 degrees. Air very calm. Barometer very steady. No lower clouds were observed. No aurora. Fair weather sunset. Verified.
19	Temp 96 degrees	Barometer fell slowly and temperature rose to 96 degrees. Gentle westerly winds and clear weather prevailed. One fatal case of sun stroke reported. No aurora. Foul weather sunset. Verified.
20	Rain. Winds from SW 25 per hour	Rain began falling at 12:30 p.m. , ceased at 2:15, recommenced at 5:20 and finally ended at 6:30 p.m. At 4:50 p.m. a gust from NW attained a velocity of 25 per hour – quite remarkable for this station. The barometer fell and, with the rain, the temperature fell also. Obscured. Foul weather sunset. Verified.
21	Rain/Yellow Fever and Elevation	Light rain, amounting to 0.01, began and ended before day. Cloudy weather gave place to fair about 9 a.m. but the temperature did not rise above 88 degrees. A controversy having arisen as to whether yellow fever can exist at certain elevations, Physicians and other parties consulted the official tables on file in this office. No aurora. Fair weather sunset. Verified.
22		Barometer steady, with temperature all that could be desired for the season. Clear day. No aurora. Fair weather sunset. Verified.
23	Cool	The minimum thermometer indicated 64 degrees this a.m. Gentle winds and frequent calms were observed. No aurora. Fair weather sunset. Verified.
24	Hot! Battery	Temperature rose to 91.5 degrees – the maximum occurring at 1:30 p.m. Barometer fell slowly. Battery cleaned and renewed. No aurora. Foul weather sunset. Verified.
25	Arrived at station/Rain	Sgt. L. Dunne reported at the signal office this morning, having reached the city late last night. Rain began falling at 7:40 a.m. ceased at 1:30 p.m. recommenced at 7:30 and finally ended at 8:30 p.m. Obscured. Foul weather sunset. Verified.
26		The day opened cloudy and closed clear. No aurora. Fair weather sunset. Verified.
27	Sgt. Dunne assumed charge S.O. No. 113	In obedience to S.O. No. 113, Private George Prender transferred the charge of, and property pertaining to station to Sgt. L. Dunne, and having done so reported for duty to his successor in charge. In obedience to the order about guided (?) Sgt. Dunne assumed

		charge of the station. Recurring over from Private George Prender all government property in his charge. No aurora. Fair weather sunset. Verified.
28		Cooler today, NW to W winds. Lightning in N at 8:30 p.m. No aurora. Foul weather sunset. Verified. Mayis (?)Lewis, the superintendent of the Nashville, Chattanooga, and Louisville applied at this office for information regarding the state of the weather from April 30 to May 2 <sup>nd</sup> , 1878 in connection with a fire that occurred at Shelbyville about May 1 <sup>st</sup> , the particular information required if rain occurred on any of the above dates, the office finished the required information.
29	Thunderstorm	Barometer steady, heavy rain began at 2:45 p.m. A few peals of thunder, wind veered from NW to S by 3 p.m. Thunder cloud moved from SW to NE, rain ended at 10 p.m. Amount of fall - .88 inches. Obscured. Foul weather sunset. Verified.
30	Rain & lightning	A few drops of rain fell between 10:10 and 10:13 a.m. Light rain began at 4:50 p.m. Eased (?) at 8:00 p.m., recommenced at 11:45 p.m. and continued into night. A few flashes of lightning at 7:30 p.m. No thunder heard. Amount rain fall .70 inches. Obscured. Foul weather sunset. Verified.
31	Battery	Cleaned and examined battery. Rain ended in early a.m. at 1:06, amount 10 inches SW to W winds. No aurora. Fair weather sunset. Verified.

**Summary of Sunsets**

	No. of Predictions	Verified	Not verified
<b>Fair</b>	16	15	1
<b>Foul</b>	15	11	4
<b>Doubtful</b>	0	0	0

**River Totals**

<b>High water</b>	4 feet 10 inches	3 <sup>rd</sup>
<b>Lowest water</b>	1 foot 6 inches	21 <sup>st</sup> , 22 <sup>nd</sup>
<b>Range</b>	3 feet 4 inches	

**Condition of Instruments**

Thermometer	Standard	2890	Serviceable
Thermometer	Standard	3261	Serviceable
Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable

Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard	1753	Serviceable
Anemometer		52	Serviceable
Anemometer		154	Serviceable
Self register for ditto		20	Serviceable
Anemoscope		-	Serviceable
Rain Gauge		-	Serviceable

Note *illegible* thermometer No. 110 reads 2 degrees too low. River gauge near low water, needs repairing and marking.

L. Dunne – Sgt. Signal Corps U.S.A.

**September, 1878**

1		Higher barometer and thermometer. NW winds, backing to SW about 1 p.m. No aurora. 6:29 p.m. A few fine Ci. From W western horizon – orange color – blue sky. Wind calm, fair weather sunset. Verified.
2	Fog	SW to NW winds, Barometer comparatively steady fog cleared away by 8:15 a.m. No aurora. 6:29 p.m. Cloudless sun, clear, wind, w. light (?) Fair weather sunset. Verified.
3	Lightning	Barometer lower. N. winds backing ( <i>illegible</i> ) to SE in evening. High temperature, 6:35 p.m. Lightning in N. Obscured. 6:29 p.m. Dense banks of Cu st. extending from W to N and N.E. Sky hazy, sun yellowish, lightning in N. Wind calm. Foul weather sunset. Not verified.
4		N winds, barometer and thermometer lower. No aurora. 6:29 p.m. Cloudless, sun clear, west slightly, orange color. Wind calm. Fair weather sunset. Verified.
5		N winds, shifting to NE about 10 p.m. Barometer higher. Thermometer lower and little cloud. No aurora. 6:29 p.m. cloudless sun clear, blue sky west orange color, wind, N. gentle. Fair weather sunset. Verified.
6		Thermometer higher. Barometer steady. No aurora. 6:29 p.m. A few patches of broken (?) st. (stratus) from east, sky blue, sun clear. West slightly red, wind gentle. Fair weather sunset. Not verified.
7	Battery/thunderstorm	Cleared and examined battery. Large Cu. (cumulus?) gathering in SW at 2 p.m. and wind shifting from S. Thunder at 3:30p.m. Light rain began at 3:40 p.m. Thunder and lightning, rain ended at 5:10 p.m. and of fall .10 inches. Storm moved from SW to NE, clouded

		up with CuSt. By 10 p.m. No aurora. 6:29 p.m. CuSt. In W. very red, a few Cirrus from W and high, sky blue, wind SW gentle. Fair weather sunset. Verified.
8		Barometer lower, Thermometer lower an E winds. No aurora. 6:29 p.m. cloudless sun clear. Sky blue, West orange twice, wind. Fair weather sunset. Verified.
9	Yellow Fever	Variable NE to SE winds. Barometer gradually falling. Thermometer steady. No aurora. Four cases of imported yellow fever from Menynsis is reported in the city this evening. 6:29 p.m. sky haze a few Ci-St in SW, Sun pale. Wind. Foul weather sunset. Verified.
10	Rain/Yellow Fever (2 deaths)	Rain began at 8:22 a.m. ceased at 9:05 a.m. Clouds moving rapidly from NE wind veered to NW about 3 p.m. and thermometer began. Falling rapidly. Rain recommenced at 10:30 p.m. and continued into night. Amount of rain fall - .03 inches. Obscured. 6:29 p.m. clouded with stratus of threatening appearance, wind NW. Foul weather sunset. Verified. Two of the cases of Yellow Fever reported yesterday, Died today.
11	The weather v. Yellow Fever discussed/Rain/One death from Yellow Fever	<p>The weather and Yellow Fever is all the topic just now. Everybody that can scans the weather reports with interest in the hope to glean some comfort from reports of any decrease in the temperature. This morning as I was coming to the office in a strut, I was a silent listener to a colloquy between several gentlemen on the state of the weather and Yellow Fever. By one of the party it was mentioned that the weather reports have become more valuable just now, another that the progress made in this branch of science was most wonderful and that by and by it would in all likelihood become so perfect, that the state of the weather would be reported for several days in advance with as much accuracy as Eclipses of the sun and moon are more foretold for years. The conversation was carried on with much interest and great credit given to the signed service for its information, though all was said in my presence, none of the party at the time knew of my connection with the service. There is not a day passes but somebody calls to the office for information about the weather.</p> <p>6 a.m. Light rain continue, wind backed from NE to NW between 8 and 9 a.m. Rain ended at 4:40 p.m., wind veered to N between 7 and 8 p.m. Barometer steady , Thermometer lower but very steady all day, amount rain fall - .43 inches. Obscured. The day was cool and fires (?) and overcasts were comfortable.</p>

		6:14 p.m. Clouded with stratus, moving from N, wind N. Foul weather sunset. Not verified. Another death today from Yellow Fever. This makes 3 deaths out of the 4 cases reported on the 9 <sup>th</sup> .
12		Variable NW to N winds. Cool cloudy weather. Obscured. 6:14 p.m. Clouded with stratus occasional opening showing blue sky in North. Wind N. gentle. Fair weather Sunset. Verified.
13		Pleasant day with little cloud. No aurora. 6:14 p.m. Cloudless, sun clear, blue sky west-orange wind NW. Light – Fair weather sunset. Verified.
14	Battery	Cleaned and examined battery. High barometer, Cool and pleasant NE to N winds. Clear day. No aurora. 6:14 p.m. Cloudless. Sun clear, Blue sky, West reddish, wind, calm. Fair weather sunset. Verified.
15		Cloudless. No aurora. 6:14 p.m. Cloudless, blue sky, west orange-red wind. E – light. Fair weather sunset. Verified.
16		Clear. No aurora. 6:14 p.m. Cloudless, blue sky. West reddish wind. Calm. Fair weather sunset. Verified.
17		Barometer comparative steady. SE to SW winds. No cloud. No aurora. 6:14 p.m. Cloudless, blue sky. West orange color. Wind SW light. Fair weather sunset. Verified.
18		Clear. No aurora. 6:14 p.m. Cloudless. West deep orange color. Wind calm. Fair weather sunset. Verified.
19		Barometer falling steadily. Higher temperature with Ci. From SW in afternoon, moving off by 8 p.m. No aurora. 6:14 p.m. Ci.St. bands of a dullish red in west sky floury, sun pale, wind gentle. Foul weather sunset. Verified.
20	Rain	Variable SE to N winds, clouding up from SW by 10 a.m. and increasing to brisk. Light rain began at 12:44 p.m., wind shifted from SW to NW and thermometer began falling rapidly. Light rain ended at 5 p.m. Amount of fall - .14 inches. Clouds breaking and began moving off about 8 p.m. Wind backed to SW, falling calm by 10 p.m. Obscured. 6:14 p.m. clouded with stratus, dullish red and yellowish in N. wind NW. Gentle. Foul weather sunset. Verified.
21	Battery/Rain	Cleaned and examined battery. Light rain fell during the night. Drizzling from 7:35 a.m. to 9 a.m. Amount .01 inch. Clouds began clearing off between 12 a.m. and 1 p.m. wind veering from NW to NE. No aurora. 5:59 p.m. Cloudless. West orange red, sun clear. Wind. N. light. Fair weather sunset. Verified.

22	Inspecting Officer	Lt. C.A. Gingle called in the office this morning, en route of inspecting stations, depailed (?) 9:30 p.m. Cloudless day, and pleasant NE winds. No aurora. 5:59 p.m. Cloudless, west slightly red, wind NE. Fair weather sunset. Not verified.
23	Rain	E wind veering to SE about 8 a.m. Light rain began at 5 a.m. ended at 8:05 a.m. Amount of fall, 17 inches, barometer comparatively steady, with lower thermometer. Clouds broke and began clearing off rapidly at 5 p.m. Clear at 8 p.m. Clouding up again by 10:06 p.m. No aurora. 5:59 p.m. Clouds breaking and moving off from SW somewhat – yellowish in west sky pale blue. Wind SE light. Foul weather sunset. Not verified.
24		SE to E winds. Morning threatening clouds breaking at 1 p.m. Cleared off by 5 p.m. No aurora. 5:59 p.m. , a few patches of Cu. from SE. Sky blue, west orange color. Sun clear. Wind. Fair weather sunset. Verified.
25	Thunderstorm/Private Puidell	Variable S to SE winds, a few Ci. From N in afternoon, began to cloud at 10 p.m. Light rain began at 11:10 p.m. a few flashes of lightning and thunder, rain ended at 12:30 a.m. Thunder cloud moved from W to E. No aurora. 5:59 p.m. long narrow band of cloud in N horizon, edges red. Illegible pale blue wind. Fair weather sunset. Not verified. 1st class Private L.M. Puidell reported for duty at this station today at 10:30 a.m. relieving 1 <sup>st</sup> class Private G. Prender ordered to report to Montgomery, Alabama.
26	Rain	NW winds veering to N rising barometer. Thermometer began falling after 2 p.m. cloud began to break at 5 p.m. Moving at 8 p.m. Rain ended about 12:30 a.m. Obscured. 5:59 p.m. Clouds breaking in NW and showing red edges. Wind gentle. Fair weather sunset. Verified.
27		Fair and pleasant. Barometer falling steadily til evening. No aurora. 5:59 p.m. Ci. Moving from NW slightly red and orange in W. wind. Fair weather sunset. Not verified.
28	Battery/Private Prender/Rain/Deaths from Yellow Fever	Cleared and examined battery. 1 <sup>st</sup> class Private Left hire this morning en route to Montgomery, Alabama. Light rain began at 9 a.m. continued at intervals up to 6:30 p.m. assured of fall. 25 inches. Began clearing at 8 p.m. from SW. No aurora. Two deaths this morning from Yellow Fever imported cases from Memphis. 5:59 p.m. Light rain wind E. light. Foul weather sunset. Verified.
29		S to SE wind. Barometer steady with higher

		thermometer. No aurora. 5:59 p.m. Cloudless sky blue, west orange color. Wind calm. Fair weather sunset. Verified.	
30		Cloudless SE winds, higher temperature. No aurora. 5:59 p.m. cloudless sun clear. Blue sky – west orange color wind SE gentle. Fair weather sunset. Verified.  All the thermometers were tested today. All reads 32 degrees except minimum thermometer (ext. 110) which reads 30 degrees.	
<b>River Totals</b>			
<b>Highest Water</b>	2 feet 7 inches	1 <sup>st</sup>	
<b>Lowest Water</b>	0 feet 4 inches	27 <sup>th</sup>	
<b>Range</b>	2 feet 3 inches		
<b>Condition of Instruments</b>			
<b>Thermometers</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometers	Standard	3261	Serviceable
Thermometers	Maximum	116	Serviceable
Thermometers	Maximum	440	Serviceable
Thermometers	Minimum	110	Serviceable
Thermometers	Minimum	3133	Serviceable
Thermometers	Hygrometer	42 & 42	Serviceable
Thermometers	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard	1753	Serviceable
Anemometer		52	Serviceable
Anemometer		154	Serviceable
Self-register to anemometer		30	Serviceable
Anemoscope			Serviceable
Rain gauge			Serviceable
Minimum thermometer No. 110 reads 2 degrees below (melting ice) test. River gauge, near low water mark needs repairing			
<b>Summary of sunsets</b>			
	<b>No. of predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	23	19	4
<b>Foul</b>	7	4	3
<b>Doubtful</b>	0	0	0
<b>L. Dunne – Sgt. Signal Corps UFA</b>			
<b>October, 1878</b>			



1		Warmer SE to S winds. No aurora. 5:44 p.m. a few CuSt. In W and SW dissolving edges golden color. Western horizon dullish red, wind SE fresh. Fair weather sunset. Verified.
2		Morning threatening. Clouds breaking up at 10 a.m. No aurora. 5:44 p.m. <i>illegible</i> Ci. Scattered those in <i>illegible</i> becoming scarlet color. Sun clear, wind, NW light. Fair weather sunset. Veriified.
3		NE winds, backing to N in evening. Barometer comparatively steady. Clear day. No aurora. 5:44 p.m. cloudless, blue sky, sun clear. West orange color. Wind NE light. Fair weather sunset. Verified.
4	Inspector arrived	Lt. J.A. Buchanan armed this morning at 7:30 proceeded to inspect station and cleaned barometers. E. winds backing to NW barometer. Steady but little cloud. No aurora. 5:44 p.m. a few smokey Ci. Moving slowly from NW west copper color. Wind N. light. Fair weather sunset. Verified.
5	Battery Inspection/Dimensions of office/Rain	Cleaned and examined battery. Inspection of station continued and completed this evening. The Inspectors condemns old material and applies for new carpet and window curtains for office, also repairing of River gauge. He also condemns the printing press and recommends that another of more modern style to be furnished. Measurements made by Lt. J.A. Buchanan. Office room: Length: 21 ft 11 inches Width: 18 ft 11 inches Windows: 9 ft x 3 ft Door: 7 ft x 2ft 9.5 inches Printing Room: Length: 51 feet 0 inches Width: 18 feet 11 inches Windows: 7 feet 3 inches Shelter, height 6'3", width 2.0, depth 2.0 Cloudy, a few drops rain fell between 10:27 and 10:58 a.m. Light rain recommenced at 5:30 p.m. ended at 8:30 p.m. Amount of fall 0.3 inches. Obscured. 5:44 p.m. Light rain, wind N. first, foul weather sunset. Verified.
6	Inspector departs	NE winds backing to E in afternoon. Fair card pleasant (?) No aurora. 5:44 p.m. Ci. Moving from S. Sky haze west reddened and orange. Wind E. light. Fair weather sunset. Not verified. Inspecting Officer departed this morning at 9:06.
7	Rain	Rain began 4 a.m. ended at 4:45 a.m. amount .07

		inches. E winds veering to SW about 10 a.m. Barometer steady. Obscured. 5:44 p.m. CuSt in W sky floury (?) wind W. calm. Foul weather sunset. Not verified.
8		SE to S winds, Warmer, fair weather. No aurora. 5:44 p.m. a few CuSt in W dissolving west orange twice, wind S gentle. Fair weather sunset. Verified.
9		Winds varying from SE to SW and threatening in evening. Obscured. 5:44 p.m. clouded with stratus. Foul weather sunset. Verified.
10	Rain	Light rain began at 6:33 a.m. Light at intervals through the day, ending at 5:30 p.m. Amount of fall - .04 inches. SE to E winds light to gentle. Obscured. 5:44 p.m. clouded with stratus. Wind NE, light. Foul weather sunset. Verified.
11	Rain	Light rain began at 9:15 a.m., ceased at 11:15 a.m. recommenced at 3:20 and ended at 3:50 p.m. SW winds in a.m. Veering to NW between 2 and 3 p.m. Humidity (?) falling and barometer rising. Clouds clearing off rapidly at 8 p.m, clear by 9:06. Amount of rain fall - .01 inches. No aurora. 5:30 p.m. Clouded with St. (clouds) moving rapidly from N (?) a few Ci. Seen through openings in St. Wind NE light. Foul weather sunset. Not verified.
12	Battery	Clear day. Cleaned and examined battery. No aurora. 5:30 p.m. cloudless. West – deep orange color. Wind N. – light. Fair weather sunset. Verified.
13	1 <sup>st</sup> Frost	Light frost this morning. The first of the season. Minimum thermometer – 41 degrees. Report – with AM (?) report by special orders. Clear. No aurora. 5:30 p.m. cloudless. West – orange, red. Wind, SW light. Fair weather sunset. Verified.
14		Clear. SE to S winds. No aurora. 5:30 p.m. cloudless. Sun clear – west-smokey? Appearance. E. crimson. Wind – south, light. Fair weather sunset. Verified.
15	Light halo	SE winds, W <i>illegible</i> with barometer. Slightly lower. Lunar halo formed and faded away, between 9 and 11 a.m. No aurora. 5:30 p.m., bank rising in SW. Sky floury, sun pale, wind SE, gentle. Foul weather sunset. Not verified.
16		Barometer fading with variable S to SE winds, wind increasing to brisk in evening began clouding up at 11 p.m. Obscured. 5:30 p.m. heavy banks coming up from NE. Ci. St. high changing in color very rapidly. Greenish sky in West. Wind SE, fresh. Foul weather sunset. Verified.
17	Rain	Heavy rain began at 1:05 a.m. ended at 11:25 a.m.

		amount of fall - .92 inches. NW to W winds. Thermometer falling and barometer rising. Clouds basking and moving off at noon. Clear by 4:30 p.m. No aurora. 5:30 p.m. cloudless. Blue sky, sun clear, west orange color. Wind W first (?). Fair weather sunset. Verified.
18	Frost	Light frost this morning. Minimum thermometer: 42 degrees. Clouds cleared off by 8 p.m. Cool day W to NW winds. Barometer higher. No aurora. 5:30 p.m. Broken stratus moving off from W. Sky blue above, wind N. Gentle. Fair weather sunset. Verified.
19	1 <sup>st</sup> Ice/Battery	Film of ice formed in water in bands, this morning. First ice of the season. Minimum thermometer – 35 degrees. Cleaned and examined battery. Clear day. Winds veering to N in evening. No aurora. 5:30 p.m. Cloudless. Sun clear. West orange-red. Wind N. light. Fair weather sunset. Verified.
20	Frost	Heavy frost this morning. SE to S winds. No cloud. No aurora. 5:30 p.m. Cloudless – west orange. East – crimson. Sun clear. Wind SE. light. Fair weather sunset. Verified.
21	Frost	Light frost this morning. Clear. No aurora. 5:17 p.m. – a few stray patches of Cir. From SW. West dullish red. Wind. Fair weather sunset. Not verified.
22	Rain	Light rain began at 6:10 a.m. ending at 2:15 p.m. Amount of fall - .51 inches. W. winds veering to NW and colder weather. Clouds breaking and moving off rapidly at 5 p.m. No aurora. 5:17 p.m. Clouds moving off rapidly from NW blue sky and clear sun. Wind NW fresh. Fair weather sunset. Verified.
23	Frost/River gauge	Heavy frost this morning. W winds veering to SW about 3 p.m. Clear day. No aurora. 5:17 p.m. cloudless, west orange. Sun clear. Wind SW light. Fair weather sunset. Verified. River gauge repaired today <i>illegible</i> dated Oct. 8 <sup>th</sup> , 1878.
24		Cloudless. S to SE winds. No aurora. 5:17 p.m. Cloudless. West –orange. Wind SE light. Fair weather sunset. Verified.
25		E winds veering to S, warmer and barometer steady. No aurora. 5:17 p.m. A few Ci.St. bands in W wind S light. Fair weather sunset. Verified.
26	Battery	Cleaned and examined battery SE to S winds veering to after 10 p.m. and began clouding up from SW. Obscured. 5:17 p.m. CiSt. ( <i>illegible</i> ) moving from W. Sun yellowish wind S. gentle. Foul weather sunset. Verified.
27	Rain	Rain began at 3:20 a.m. ended at 12:25 p.m. Amount

		of full .41 inch, W and NW winds veering to N between 4 and 5 p.m. Barometer high and thermometer lowering. Clouds breaking at 5 p.m. and moving off. No aurora. 5:17 p.m. clouds moving off from W. Clear blue sky through openings. Winds N. Light. Fair weather sunset. Verified.	
28	Frost	Heavy frost. Ice formed in pods. Cool all day. Barometer falling <i>illegible</i> . Obscured. 5:17 p.m. $\frac{3}{4}$ Ci. Moving from SW moving off slowly. Wind N. gentle. Fair weather sunset. Not verified.	
29	Rain	Light rain began at 3 a.m. ceased at 4:15 a.m. recommenced at 1:29 p.m. Ceased at 6:10 p.m. Amount of fall - .16 inches. E to SE winds. Veering to NW between 8 and 9 p.m. Obscured. 5:17 p.m. Light rain. Wind E. light. Foul weather sunset. Verified.	
30	Rain	Light rain began at 2 a.m. ceased at 6:05 a.m. SW winds veering to NW between 6 and 7 p.m. Barometer rising thermometer falling. Light rain began at 6:50 p.m., ended at 7:30 p.m. Total fall - .02 inches. No aurora. 5:17 p.m. Bank low down in W and NW remaining portion of sky clear, and state color. Wind SW gentle. Foul weather sunset. Verified.	
31	Frost	Colder N and NW winds. Frost this morning. No aurora. 5:17 p.m. West – orange. No cloud. Wind. Fair weather sunset. Verified.	
<b>River Totals</b>			
<b>High Water</b>	1 foot 2 inches	31 <sup>st</sup>	
<b>Low Water</b>	0 feet 4 inches	9 <sup>th</sup>	
<b>Range</b>	0 feet 10 inches		
<b>Summary of Sunsets</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	23	19	4
<b>Foul</b>	8	6	2
<b>Doubtful</b>	0	0	0
<b>Condition of Instruments</b>			
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometer	Standard	3261	Serviceable
Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable

Barometer	Standard	1753	Serviceable
Anemometer		52	Serviceable
Anemometer		154	Serviceable
Self Register to Anemometer		30	Serviceable
Anemoscope		Blank	Serviceable
Rain Gauge		Blank	Serviceable

All other property is in serviceable order – minimum thermometer No. 110 reads 2 degrees too low.  
 L. Dunne – Signal Service Corps UFA.

**November, 1878**

1	Frost	Heavy frost. Clear day. No aurora. 5:04 p.m. Cloudless, not orange, wind SE light. Fair weather sunset. Verified.
2	Battery	Cleaned and examined battery. Clear day. No aurora. 5:04 p.m. clouding up with broken St. and moving off rapidly, everything in deep orange, sun clear, wind NW. Light. Fair weather sunset. Verified.
3	Frost	High barometer W to NW winds. Lower temperature/ Clear. Light frost in a.m. No aurora. 5:04 p.m. Cloudless, Sun clear. West orange. Winds NW light. Fair weather sunset.
4	Frost	Heavy frost this morning. Cloudless. No aurora. 5:04 p.m. Cloudless. Sun red. Atmosphere smokey. Wind SE light. Fair weather sunset. Verified.
5	Frost	Frost this morning. Fair wind pleasant. E to SE winds. No aurora. 5:04 p.m. a few <i>illegible</i> Ci. West pale <i>illegible</i> color. Wind SE light. Fair weather sunset. Verified.
6		S winds. Barometer falling slowly. Morning smokey. Thermometer higher. No aurora. 5:04 p.m. Smokey atmosphere. No clouds. Sun red. Wind S. Light. Fair weather sunset. Not verified.
7	Thunderstorm/Light halo	A small thunder cloud moved from W to E between 9:35 and 9:53 a.m. Rain began at 9:32 and ended at 10:15 a.m. Winds veering from SW in forenoon W-NW in evening, clouds breaking and moving off at 6 p.m. Clouded up from NW at 10 p.m. Lunar halo found between 8 a.m. and 9 and faded away by 9:30 p.m. No aurora. 5:04 p.m. Clouded with stratus portions of hazy sky above, wind W gentle. Foul weather sunset. Not verified.
8	Frost	Frost this morning. Cooler and NW winds. No aurora. 5:04 p.m. cloudless sun clear, sky slightly red in W. Wind NW light. Fair weather sunset. Verified.
9	Battery/Frost	Cleaned and examined battery. Heavy frost this

		morning. Cloudless SE to NE winds. No aurora. 5:04 p.m. Cloudless. West orange color. Wind NE light. Fair weather sunset. Verified.
10	Frost	Heavy frost this a.m. E to SE winds. Barometer falling. Thermometer rising. No aurora. 5:04 p.m. Broken stratus of <i>illegible</i> color in W. Wind SE gentle. Foul weather sunset. Verified.
11	Rain	Rain began at 4 a.m. ended at 5:45 a.m. S winds veer to N about 10 a.m. Barometer rising and thermometer falling in afternoon. Light rain began at 6:40 p.m. ended 7:45 p.m. Too small to measure. Obscured. 4:55 p.m. Clouded with stratus W wind fresh. Fair weather sunset. Verified.
12		W winds. Clouds moving off at 11 a.m. Barometer steady. No aurora. 4:55 p.m. Cloudless. Red sunset. Wind W. light. Fair weather sunset. Verified.
13	Frost	Heavy frost this a.m. Cloudless W to NW winds. No aurora. 4:55 p.m. Cloudless, west red. Wind NW light. Fair weather sunset. Verified.
14		Heavy frost this morning, Thermometer 43 degrees. Barometer flustering. Thermometer higher. Winds NE veering WE. Clouding up from W between 4 and 5 p.m. Partly cleared off by 7 a.m. Clouded up by 10 p.m. Obscured. 4:55 p.m. $\frac{3}{4}$ Ci. From W. A few St. clouds in W. Changing rapidly in colors. Falling away in <i>illegible</i> . Wind E. Light. Foul weather sunset. Verified.
15	Rain	Barometer falling. SE winds clouding up by 10 a.m. Light rain began at 3:05 p.m. Ceased at 8 p.m. recommenced at 9 p.m. Ceased at 11:30. Amount .25 inches. Obscured. 4:55 p.m. Light rain. Wind SE. Fresh. Foul weather sunset. Verified.
16	Battery/rain	Cleaned and examined battery. Rain recommenced at 5:20 a.m. Ended at 10:30 a.m. Amount .49 inches. Barometer began rising between 3 and 5 p.m. Winds veering from SW to W. No aurora. 4:55 p.m. Clouds breaking in W. and moving off. Blue sky and clear sun wind W. Fair weather sunset. Verified.
17		N to NW. Winds higher barometer. Obscured. 4:55 p.m. Clouded with heavy St. Redish purple in W. Wind NW gentle. Foul weather sunset. Not verified.
18		NE to NW winds. Heavy fog in A.M. clearing off by 9:06. Clear in afternoon. No aurora. 4:55 p.m. Cloudless. West orange color. Wind NW. Gentle. Fair weather sunset. Verified.
19	Frost/Fog	Frost this morning. Fog cleared off by 9 a.m. No clouds. Barometer falling til between 4 and 5p.m. No

		aurora. 4:55 p.m. Cloudless West Orange. Sun red. Wind SW light. Fair weather sunset. Verified.
20	Frost	Frost this morning. Clouded up between 11 and 12 noon. Barometer falling. Obscured. 4:55 p.m. Clouded with uniform sheet of stratus, winds SW. Gentle. Foul weather sunset. Verified.
21	Rain	Light rain began at 12:30 p.m. Ceased at 1:50 p.m. recommenced at 6:15 a.m. ended at 7 p.m. Amount of fall .47 inches. Clouds cleared off by 8 p.m. barometer rising slowly. 4:50 p.m. Clouded with stratus moving rapidly from NW. Wind NW. Fresh. Fair weather sunset. Verified.
22		W winds. Barometer rising slowly, clouds cleared off between 4 and 5 p.m. No aurora. 4:50 p.m. Cloudless. West orange. Sun clear. Wind W fresh. Fair weather sunset. Verified.
23	Battery/ice	Cleared and examined battery. Ice 1/32 <sup>nd</sup> thick this morning. Cloudless. No aurora. Fair weather sunset. Verified.
24		SW to S winds. Thermometer higher. No aurora. 4:50 p.m. Broken stratus from SW. Slightly red at edges. Sky in NW. Greenish <i>illegible</i> . Wind SE. Fair weather sunset. Not verified.
25	Rain/Change of observed	Light/rain began at 2:30 a.m. Ceased at 7:40 a.m. recommenced at 2:25 p.m. Continue into night. Amount of fall .35 inches. Sgt. D.P. Waters arrived this morning, relieving Sgt. L. Dunne under authority of special order No. 170 current series. Obscured. 4:50 p.m. Light rain wind N gentle. Foul weather sunset. Verified.
26	Rain	Falling barometer. Rain and very disagreeable. Winds steady, varying from N to E. Obscured. Foul weather sunset. Verified.
27	Rain/snow	Rising barometer. Rain continued from the 26 <sup>th</sup> turned to snow at 12:15p.m. and to rain again at 2:30 p.m. and ended at 6:05 p.m. Obscured. Foul weather sunset. Verified.
28	Frost	Heavy frost. Fair weather sunset. Verified. No aurora.
29	Frost	Heavy frost. Lunar halo from 8 to 9 p.m. Fair weather sunset. Verified. Ice ¼ inch thick a.m. No aurora.
30	Frost	Light frost. The wind remained east all day with cloudy and disagreeable weather. Obscured. Foul weather sunset. Verified.
<b>River Totals</b>		
Highest Water (Reading of gauge)	11 ft 8 inches	30 <sup>th</sup>

Lowest water	1 ft 4 inches	28 <sup>th</sup>	
Range	10 feet 4 inches		
<b>Condition of Instruments</b>			
<b>Thermometers</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometers	Standard	3261	Serviceable
Thermometers	Maximum	116	Serviceable
Thermometers	Maximum	440	Serviceable
Thermometers	Minimum	110	Serviceable
Thermometers	Minimum	3133	Serviceable
Thermometers	Hygrometer	42 & 42	Serviceable
Thermometers	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard	1753	Serviceable
Anemometer		52	Serviceable
Anemometer		154	Serviceable
Self register (anemometer)		30	Serviceable
Anemoscope		Blank	Serviceable
Rain gauge		Blank	Serviceable
<b>Summary of Sunsets</b>			
<b>Fair</b>	<b>Foul</b>	<b>Verified</b>	<b>Not Verified</b>
<b>20</b>	-	18	2
-	10	8	2
Minimum Thermometer No. 110 reads 2 degrees too low			
D.P. Waters – Sgt. Signal Corps USA			
<b>December, 1878</b>			
1	Rain	The barometer fell rapidly from 8 a.m. to 2 p.m. with winds from NW. Rain commenced at 7:03 a.m. and ended 6:40 p.m., recommenced at 11:05 p.m. and continued till after midnight, amount fallen 1.33 inches. Foul weather sunset. Verified. Obscured.	
2	Rain	Rain ended at 12:15 a.m., amount .01 inches W to SW winds with barometer unsteady. Fine weather after 9 a.m. Fair weather sunset. Verified. No aurora.	
3	Frost/Lunar Halo	Light frost this a.m. Rain commenced at 10:45 a.m. and ended at 11:10 a.m., the amount was too small to measure. Fair weather with higher temperature. A lunar halo was observed at 8 p.m. and faded away at 9 p.m. 22 degrees radius. Foul weather sunset. Not verified. No aurora.	
4		Rising barometer with lower temperature W to NW winds. Foul weather sunset. Not verified. Obscured.	
5	Frost/Lunar Halo	Light frost this a.m. Barometer nearly stationary with	



		W and SW winds. Lunar Halo observed at 7:15 p.m., it faded away at 8:30 p.m., 22 degrees radius with colors indistinct. Fair weather sunset. Verified. No aurora.
6	Rain	Rain commenced at 1:45 p.m. and ended at 2:50 p.m. The amount was too small to measure. Cloudy and disagreeable. Fair weather sunset. Verified. No aurora.
7	Frost and Ice/Rain/Battery	Falling barometer with NE to E winds. Rain commenced at 5:50 p.m. and ended at 8:30 p.m. Recommenced at 10:05 p.m. and continued till after midnight. Amount .01 inches. Heavy frost this a.m. with ice 1/16 inch thick in gutters. Battery cleaned. Foul weather sunset. Verified. Obscured.
8	Rain	Rain ended at 4:15 a.m. Recommenced 10:10 a.m., ended 11:35 a.m. Recommenced 3:00 p.m. and continued during day. Rainfall up to last observation 1.31 inches. Foul weather sunset. Verified. Obscured.
9	Rain and Snow	Stationary barometer with NW winds. Rain continued from yesterday, turning to snow at 4:05 p.m. and continued snowing up to last observation. Amount of rain and melted snow 1.60 inches. Foul weather sunset. Verified. Obscured.
10	Snow	Snow ended at 2:30 a.m., amount .02 inches. The barometer rose steadily all day with winds backing from NW to S and lower temperatures, clear and cold in evening. Fair weather sunset. Verified. No aurora.
11	Frost and Ice	Heavy frost this a.m. with ice 1/16 <sup>th</sup> inch thick in gutters, reported ¼ inch thick in open country. The barometer rose rapidly in afternoon with winds veering from W to NW. The thermometer fell 12 degrees from 5:30 p.m. to last observation. Fair weather sunset. Verified. No aurora.
12	Frost/Lunar Halo	The barometer rose rapidly from 7 p.m. to 9 p.m. with winds veering from N to NE, and lower temperature. Light frost this a.m. Fair day. A lunar halo of 44 degrees radius was observed at 9 p.m. Fair weather sunset. Verified. No aurora.
13		The barometer fell rapidly during day with winds backing from E to N. Foul weather sunset. Verified. Obscured.
14	Rain/battery	The barometer rose slowly and steadily all day with winds veering from S to NW and lower temperature. Rain commenced at 3:30 a.m. and ended at 11:45 a.m. – amount .31. Foul weather sunset. Not verified. Battery wiped off and zincs cleaned. Obscured.
15		Barometer remained stationary until about 8 p.m.

		when it rose slowly wind remaining NW all day with nearly stationary temperature. Chilly and cloudy weather. Foul weather sunset. Not verified. Obscured.
16	Frost and Ice	Heavy frost and ice this a.m. Ice 1/16 inch thick. Cloudy and cold with stationary barometer and temperature. Foul weather sunset. Not verified. Obscured.
17	Frost and Ice/Snow	Heavy frost and ice this morning. Ice 1/16 inch thick. Barometer higher, but temperature about same as yesterday. Snow began at 8:35 p.m. and ended at 10:10 p.m. Amount .01. Foul weather sunset. Verified. Obscured.
18	Frost and Ice	Heavy frost and ice 1/8 inch thick this a.m. Higher barometer, lower temperature and W to NW winds. This is the coldest day of the season. Minimum thermometer 19 degrees. Clear. Fair weather sunset. Verified. No aurora.
19	Frost and Ice	Heavy frost and ice. Ice this morning in suburbs ¼ inch thick. Clear and cold. High barometer with winds NE and E. Fair weather sunset. Not verified. No aurora.
20	Frost and Ice/Snow/Rain	Falling barometer, slight rise in temperature with E winds. Heavy frost and ice this a.m.; snow began at 9:25 a.m. turned to rain and continued during the day. Amount up to last observation 0.41. Foul weather sunset. Verified. Obscured.
21	Rain/snow/battery	Barometer rose steadily from 2p.m. to midnight, temperature nearly stationary with W to SW winds. Rain changed to snow at 11:05 a.m., to rain again at 1:40 p.m. ending at 2:36 p.m. Snow commenced at 4:10 p.m. and ended at 6:35 p.m., amount 0.35. Foul weather sunset. Verified. Battery examined and cleaned. Obscured.
22	Frost and Ice/Snow	Heavy frost this a.m. and ice ¼ inch thick. Barometer rose steadily all day with the wind from W. A fall of 7 degrees the thermometer from 5 p.m. to last observation. Snow commenced at 3:00 a.m., ended 5:20 a.m., recommenced 7:30 a.m. and ended 11:45 a.m. Amount .01. Fair weather sunset. Verified. No aurora.
23	Frost and ice/Snow	Heavy frost and ice this a.m. The barometer fell steadily until 3:45 p.m. when it rose rapidly up to last observation, the temperature falling 15 degrees with the wind from NW. Snow commenced at 8:20 p.m. and continued during day amount to last observation 0.02. Foul weather sunset. Verified. Obscured.

24	Frost and ice/skating	Heavy frost this a.m. Ice reported $\frac{1}{4}$ inch thick. Parties are on the way to skating ponds with skates. Barometer stationary with lower temperature and NW winds. Cool, clear and bracing weather. Fair weather sunset. Verified. Snow ended 11:45 a.m. Amount not measurable. No aurora.
25	Frost and ice/Coldest day	Heavy frost and ice, the ice this a.m. is 2 inches thick. Coldest day of the season temp 8 degrees, barometer fell steadily all day with W and SW winds. Clear and cold. Fair weather sunset. Verified. No aurora.
26	Snow	Snow commenced 3:40 a.m., ended 10:55 a.m. recommenced 2:30 p.m. and ended 9:45 p.m. Amount .10. Barometer unsteady with continued low temperature and variable winds. Foul weather sunset. Verified. Obscured.
27	Snow	Barometer rose steadily all day with NW to W winds and continued cold weather. Threatening (?) weather with light snow in the A.M. Clear weather in P.M. Snow commenced at 7:30 a.m. and ended 1:55 p.m. Amount not measureable. Fair weather sunset. Verified. No aurora.
28	Thermometer 8 degrees/Battery	Falling barometer and higher temperature. The minimum thermometer read 8 degrees this a.m. being as cold as any day of the season. Wind NE to SE. Battery examined and cleaned today. Foul weather sunset. Verified. Obscured.
29	Snow/sleet/rain	Falling barometer, higher temperature and S to SE winds, snow commenced at 3:50 a.m. and changed to rain, sleet, and finally rain which continued throughout the day. Amount up to last observation was 0.46 inches. Foul weather sunset. Verified. Obscured.
30	Rain/Lunar Halo/Comparative rdgs	Rain ended at 2:30 a.m., amount 0.07 inches, slowly rising barometer, stationary temperature and N winds. Lunar Halo of 22 degrees radius observed at 9 p.m., very distinct colors. Comparative readings commenced this a.m. Fair weather sunset. Verified. Obscured.
31	Rain/Thermometers tested/minimum thermometer 110 – 2 degrees too low	Falling barometer, slightly warmer weather with NE to E winds. Rain commenced at 9:20 p.m. and continued during the day. Amount up to last observation - .01 inches. The thermometers were all tested here today and read 32 degrees excepting minimum thermometer No. 110 which reads 2 degrees too low. Foul sunset. Verified. Obscured.
<b>River Totals</b>		

Highest reading	17 ft 8 inches	2 <sup>nd</sup> Range		
Lowest reading	6 ft 10 inches	31 <sup>st</sup> – 10 ft 10 inches		
<b>Summary of Sunset Observations</b>				
<b>Fair</b>	<b>Foul</b>	<b>Doubtful</b>	<b>Verified</b>	<b>Not Verified</b>
13	-	0	11	2
-	18	0	13	5
<b>Condition of Instruments at Nashville</b>				
Thermometer	Standard	2890	Serviceable	
Thermometer	Standard	3261	Serviceable	
Thermometer	Maximum	116	Serviceable	
Thermometer	Maximum	440	Serviceable	
Thermometer	Minimum	110	Serviceable	
Thermometer	Minimum	3133	Serviceable	
Thermometer	Hygrometer	42 and 42	Serviceable	
Thermometer	Hygrometer	698 and 699	Serviceable	
Barometer	Standard	163	Serviceable	
Barometer	Standard (Extra)	1753	Serviceable	
Anemometer		52	Serviceable	
Anemometer		154	Serviceable	
Self-register (anemometer)		30	Serviceable	
Anemoscope		Blank	Serviceable	
Rain Gauge		-	Serviceable	
D.P. Waters – Sgt. Signal Corps USA				
<b>January, 1878</b>				
1	Rain	Rain ended 10:30 a.m., recommenced at 3:20 p.m. and continued at intervals during the day, amount fallen today 0.57 inches. Foul weather sunset. Verified. Obscured.		
2	Rain/Snow	The rain of yesterday changed to snow at 12:30 a.m. today which ended at 2:40 a.m. Amount .01 inches. Rising barometer with temperature below freezing and NW winds. Fair weather sunset. Verified. No aurora.		
3	2 degrees below zero	Temperature this a.m. 2 degrees below zero. Coldest day of the season, continued high barometer with NW winds and clear weather. Fair weather sunset. Verified. No aurora.		
4	3 degrees below zero/coldest day/battery/lunar halo	Temperature this a.m. 3 degrees below zero. Coldest day of the season, high barometer, N to NW winds and fair weather. Battery examined and cleaned. Lunar halo was observed at 9 p.m. and disappeared at 10:15 p.m. 22 degrees radius. Foul weather sunset.		

		Not verified. Obscured.
5	Cold	Severe cold continues. Clear after 2 p.m. Fair weather sunset. Verified. No aurora.
6	Cold	Cold weather continues with higher barometer and variable winds. Clear weather. Fair weather sunset. Verified. No aurora.
7	Snow/sleet/Rain	Falling barometer, temperature higher but below freezing during a.m. Winds variable but mostly from SE. Snow began at 5:40 p.m., changed to sleet at 8:45 p.m. and to rain at 9:30 p.m. and continued during day, amount up to last observation 0.03 inches. Foul weather sunset. Verified. Obscured.
8	Rain and Snow	Falling barometer. Rain continued, changing to snow at 4:10 a.m. Amount up to last observation, 1.68 inches. Foul weather sunset. Verified. Obscured.
9	Snow	Snow ended at 10:10 a.m. Amount since yesterday .10. Rising barometer, temperature below freezing, and W to N winds, clear during p.m. Fair weather sunset. Verified. No aurora.
10	Cold	Falling barometer, rising temperature and E winds, cold and clear during a.m. Fair weather sunset. Not verified. No aurora.
11	Rain	Falling barometer, higher temperature and E to NE winds. Rain began 1:50 p.m. and continued during day. Amount up to at last observation – 0.97 inches. Foul weather sunset. Battery cleaned today. Verified. Obscured.
12	Rain/river	Rain ended at 5:20 a.m. amount 0.86 inches. Rising barometer, slight changes in temp. Cloudy with W and NW winds. Foul weather sunset. Not verified. River rising rapidly. Obscured.
13	Frost/River	Heavy frost this a.m. Falling barometer, rising temperature and SE winds. River is still rising rapidly. Foul weather sunset. Not verified. Obscured.
14		Cloudy weather. Foul weather sunset. Not verified. Obscured.
15	Rain	Falling barometer, rising temperature and variable winds. Rain commenced at 6:30 a.m. and ended 8:50 a.m. Amount too small to measure. Foul weather sunset. Verified. Obscured.
16	Rain	Rising barometer, falling temperature and variable winds. Rain commenced at 7:12 a.m. and ended at 8:50 a.m. Amount 0.06 inches. Clear during p.m. Fair weather sunset. Not verified. No aurora.
17	Frost/rain	Falling barometer, rising temperature and variable winds, heavy frost this a.m. Rain commenced at 8:10 a.m. and ended at 11:00 a.m., recommenced at 1:20

		p.m. and continued during the day. Amount at last observation 1.71 inches. Foul weather sunset. Verified. Obscured.
18	Rain/Battery	Rain ended at 2:15 a.m. Amount .12 inches. Rising barometer, lower temperature and N to NW winds. Battery cleaned today. Fair weather sunset. Verified. No aurora.
19		Clear, temperature below freezing all day. Fair weather sunset. Verified. No aurora.
20	Frost	Heavy frost this a.m. Clear weather, higher temperature and N to SW winds. Fair weather sunset. Verified. No aurora.
21	Frost	Heavy frost this a.m. Rapidly rising temperature, clear weather and S to SW winds. Fair weather sunset. Verified. No aurora.
22		Falling barometer, high temperature and S to SW winds. Foul weather sunset. Verified. Obscured.
23	Rain	Rising barometer, lower temperature and variable winds. Rain commenced at 5:50 a.m. and ended at 6:40 a.m. Recommenced at 7:25 a.m. and ended at 8:00 a.m. Amount 0.01 inches. Fair weather sunset. Verified. No aurora.
24	Frost/fog	Heavy frost this a.m. Light fog prevailed from 8 p.m. to 10:45 p.m. when cumulo-stratus commenced to form. Fair weather sunset. Verified. No aurora.
25	Battery	Clear after 6 p.m. Battery cleaned and renewed today. Fair weather sunset. Verified. No aurora.
26		Variable winds, warm and fair weather. Fair weather sunset. Verified. No aurora.
27	Rain	Continued warm weather. Rain commenced at 6:45 a.m. and continued at intervals during the day. Amount too small to measure. Foul weather sunset. Verified. Obscured.
28	Rain	Rain ended at 2:30 a.m. Amount 0.01 inches. Unusually warm weather. Maximum temp – 74 degrees. Winds mostly from the SW. Rain commenced at 4:35 p.m. and ended at 9:45 p.m. Amount 0.15 inches. Foul weather sunset. Verified. Obscured.
29		Rising barometer and continued high temperature. Cloudy day. Foul weather sunset. Not verified. Obscured.
30		Fair and pleasant weather up to 4 p.m. when dense cum-stratus commenced to form and continued up to last observation. Foul weather sunset. Verified. Obscured.
31	Rain	Lower temperature and barometer. Rain commenced

		at 2:40 a.m. and ended at 7:30 a.m. Amount 0.01 inches. Foul weather sunset. Not verified. Obscured.		
<b>River Totals</b>				
Highest reading of gauge	41 ft 4 inches			
Lowest reading of gauge	7 ft 4 inches			
Range	34-0			
<b>Summary of Sunset</b>				
Fair	Foul	Doubt	Verified	Not Verified
15	-	0	13	2
-	16	0	10	6
<b>Condition of Instruments &amp; Property</b>				
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>	
Thermometer	Standard	3261	Serviceable	
Thermometer	Maximum	116	Serviceable	
Thermometer	Maximum	440	Serviceable	
Thermometer	Minimum	110	Serviceable	
Thermometer	Minimum	3133	Serviceable	
Thermometer	Hygrometer	42 & 42	Serviceable	
Thermometer	Hygrometer	698 & 699	Serviceable	
Barometer	Standard	163	Serviceable	
Barometer	Standard	1753	Serviceable	
Anemometer		52	Serviceable	
Anemometer		154	Serviceable	
Self-register (Anemometer)		30	Serviceable	
Anemoscope		Blank	Serviceable	
Rain Gauge		Blank	Serviceable	
All the other govt. property at this station is in good condition excepting the printing press. It is almost useless and can only be worked by exercising great care and ingenuity in keeping its venerable parts together. A new one is badly needed. D.P. Waters – Sgt. Signal Corps U.S.A.				
<b>February, 1879</b>				
1	Battery/Lunar Halo	Heavy frost this a.m. Rising barometer with NW winds. Clear day. Battery examined and cleaned. A Lunar halo of 22 degrees radius was observed at 8 p.m. and disappeared about 9 p.m. Colors indistinct. Fair weather sunset. Verified. No aurora.		
2	Frost	Temperature below freezing this a.m. High barometer with NW winds. Clear day. Fair weather sunset. Verified. No aurora.		

3	Frost	Heavy frost this a.m. Falling barometer with rapidly rising temperature up to 4 p.m. Clear day. Fair weather sunset. Verified. No aurora.
4	Frost/Rain	Heavy frost this a.m. Rapidly falling barometer. Rain commenced at 12:05 p.m. and ended at 1:30 p.m. Recommenced at 4:20 p.m. and continued during the day. Amount fallen up to last observation 0.53 inches. Foul weather sunset. Verified. Obscured.
5	Rain	Rain ended at 4:45 a.m. Amount since yesterday, 0.77 inches. Cloudy day. Foul weather sunset. Verified. Obscured.
6	Rain	Rising barometer with W and NW winds. Rain commenced at 2:10 a.m. and ended at 4:30 a.m. Amount 0.01 inches. Lower temperature than yesterday, cloudy and disagreeable weather. Foul weather sunset. Not verified. Obscured.
7	Frost	Heavy frost this a.m. Clear after 4 p.m. Fair weather sunset. Verified. No aurora.
8	Frost/smoke/battery/lunar halo	Heavy frost this a.m. Dense smoke prevailed until about 8 a.m. Nearly stationary barometer with winds from N to W. Battery examined and cleaned. A lunar halo of 44 degrees radius was observed at 9 p.m. and disappeared at 10:30 p.m. Fair weather sunset. Verified. No aurora.
9	Frost/lunar halo	Heavy frost this a.m. Remarkably clean sky with winds from NE to E. A lunar halo of 22 degrees radius was observed at 7:45 p.m. and disappeared at 8:30 p.m. The colors could not be defined. Fair weather sunset. Verified. No aurora.
10	Rain	Falling barometer with E to S winds. Rain commenced at 8:40 p.m. and continued during the day. Amount up to last observation 0.09 inches. Foul weather sunset. Verified. Obscured.
11	Rain	Rain ended at 5:20 a.m. Recommenced at 9:20 a.m. and ended at 10:30 a.m. Amount fallen 0.23 inches. Clear weather and rising barometer after 4 p.m. Fair weather sunset. Verified. No aurora.
12	Frost	Heavy frost this a.m. Commenced to cloud up at 10 a.m. and continued cloudy throughout the day with winds backing from E to NW. Foul weather sunset. Not verified. Obscured.
13	Below freezing	Temperature 7 degrees below freezing this a.m. with cloudy weather and NW winds. Rising barometer. Cleared up suddenly at 9:15 a.m. Fair weather sunset. Verified. No aurora.
14	Very cold	Minimum temp 11 degrees this a.m. Falling barometer after 11:30 a.m. Clear after 4:30 p.m. Fair



		weather sunset. Verified. No aurora.
15	Frost	Heavy frost this a.m. Falling barometer rising temperature with NE to E winds. Battery cleaned today. Foul weather sunset. Verified. Obscured.
16	Snow/rain	Falling barometer with E to NE winds. Snow commenced at 4:45 a.m. and ended at 10:30 a.m. Recommended at 8:15 p.m. and continued during the day. Amount up to last observation 0.12 inches. Foul weather sunset. Verified. Obscured.
17	Rain	Rain ended at 5:30 a.m. Recommended at 8:00 a.m., ended at 9:50 a.m., recommenced at 10:40 p.m. and continued during the day. Amount up to last observation 0.60 inches. Barometer rose rapidly after 4 p.m. Foul weather sunset. Verified. Obscured.
18	Rain	Rain ended at 3:20 a.m. Amount since yesterday 0.04 inches. Cold, cloudy and disagreeable weather. Foul weather sunset. Not verified. Obscured.
19	Rain	Falling followed by rising barometer. S to W and ended at 7:45 p.m. – amount 0.01 inches. Clear after 9:10 p.m. Foul weather sunset. Verified. Obscured.
20	Frost	Heavy frost this a.m. Clear day after 1 p.m. Fair weather sunset. Verified. No aurora.
21	Frost	Heavy frost this a.m., the barometer fell rapidly today. E to SE winds. Clear weather after 6 p.m. (?) Foul weather sunset. Verified. No aurora.
22	Rain/Battery warmer	Rain commenced at 8:15 a.m. and ended at 6:30 p.m. Amount fallen 0.42 inches, cleared up at 7:30 p.m. Battery cleaned and renewed throughout. Higher temperature. Foul weather sunset. Verified. No aurora.
23	Rain	Higher temperature with NW winds. Rain commenced at 8:00 p.m. and ended at 9:15 p.m. Amount was too small to measure. Foul weather sunset. Not verified. Obscured.
24	Warmer	Falling barometer, rapidly rising temperature and SW to S winds. Fair weather sunset. Verified. No aurora.
25	Rain/thunderstorm/sheet lightning/rising barometer	Falling and low barometer with continued high temperature and SE veering to S winds. Rain commenced at 7:30 p.m. and ended at 8:25 p.m. Amount .01 inches. At 10:30 p.m. The cumulo-stratus clouds before existing changed to dense stratus and the air became very warm and appeasing. Misc. conditions lasted until 11:20 p.m. when the loud rolling of thunder was heard and rain began to fall in torrents. Heavy rain lasted only 15 minutes but during that time, the muffled roll of thunder was almost incessant and accompanied by vivid flashes of

		sheet lightning at short intervals. At 11:35 p.m. the wind veered suddenly from S to N backing quickly to W (the velocity increasing from 4 to 16 miles per hour), which direction was nearly constant up to midnight, the barometer meanwhile rising rapidly while the heavy rain changed to a very light shower which continued after midnight. Foul weather sunset. Verified. Obscured.		
26	Rain/Solar Halo/Colors	Rain ended at 1:40 a.m. Amount 0.30 inches. Rapidly rising barometer, low temperature and W to NW winds. Clear weather after 1 p.m. A beautiful solar halo of 46 radius was observed at 11:10 a.m. and was dissipated at 11:45 a.m. The circumscribed area presented a much darker hue than the surrounding sky, and of the same hazy character. The inner edge of the circle was red in color and well defined while the outer edge was a yellowish green instead of the characteristic pale blue of such phenomena. Fair weather sunset. Verified. No aurora.		
27		Very high barometer this a.m. and heavy frost. A solar halo was observed at 10 a.m. and was dissipated by cum-stratus clouds about 11:10 a.m. It was 46 degrees radius and colors were indistinct. Continued low temperature with N veering to E and SE winds. A lunar halo of 22 degrees radius was observed at 8 p.m. and faded away at about 9 p.m. The colors red and pale blue were easily defined. Fair sunset (yellow) verified. No aurora.		
28		Slowly falling barometer, higher temperature and E veering to SE winds. Heavy frost this a.m. Clear day. Fair weather sunset. Verified. No aurora.		
<b>River Totals</b>				
<b>Highest reading of gauge</b>	25 ft 2 inches	22 <sup>nd</sup>		
<b>Lowest reading of gauge</b>	13 ft 0 inches	14 <sup>th</sup>		
<b>Range</b>	12 ft 2 inches			
<b>Summary of Sunsets</b>				
Fair	Foul	Doubtful	Verified	Not Verified
14	-	0	14	0
-	14	0	10	4
<b>Condition of Instruments</b>				
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>		<b>Serviceable</b>
Thermometer	Standard	3261		Serviceable

Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard	1753	Serviceable
Anemometer	-	52	Serviceable
Anemometer	-	154	Serviceable
Self-register (anemometer)		30	Serviceable
Anemoscope	Blank		Serviceable
Rain gauge	Blank		Serviceable

D.P. Waters – Sgt. Signal Corps U.S.A.

**March, 1879**

1	Frost/Battery	Light frost this a.m. Falling barometer with rapidly rising temperature. Battery cleaned. Fair weather sunset. Not verified. No aurora.
2	Rain	Rain commenced at 3:40 a.m. and continued at intervals until 3:30 p.m. Amount 0.05 inches. Foul weather sunset. Not verified. Obscured.
3		Lower temperature than yesterday with variable winds. Cloudy day. Foul weather sunset. Not verified. Obscured.
4	Frost	Heavy frost this a.m. Clouded up rapidly after 7 p.m. Foul weather sunset. Not verified. Obscured.
5		Higher temperature than yesterday. Unusually calm – no wind recorded excepting at 11:21 a.m. observation. Foul weather. Fair weather sunset. Verified. No aurora.
6	Hazy	Higher temperature with S to SW winds. Weather unusually hazy. Fair weather sunset. Verified. No aurora.
7		Falling barometer with continued high temperature. Clear day. Fair weather sunset. Verified. No aurora.
8	Battery	Falling barometer with higher temperature and S winds. Clear day. Battery cleaned. Fair weather sunset. Verified. No aurora.
9		Warm weather with fresh S winds. Fair weather sunset. Verified. No aurora.
10	High temperature	Maximum temp. 79 degrees. Light SW winds and fair weather. Fair weather sunset. Verified. No aurora.

11		Rising barometer, lower temperature than yesterday with no winds. Clear after 4:30 p.m. Fair weather sunset (yellow 1/8). Verified. No aurora.
12	Frost/Lunar halo/yellow	Falling barometer. No clouds were observed today. Light frost was reported in the in the open country. A well –defined lunar halo was observed at 10:30 p.m. and disappeared shortly before midnight. 22 degrees radius. Fair weather sunset (yellow 1/8). Verified. No aurora.
13		Falling barometer, temperature about the same as yesterday with variable winds. Cloudy after 1 p.m. Foul weather sunset. Not verified. Obscured.
14	Lunar Halo	Rising barometer, low temperature and NW winds. A lunar halo was observed at 9 p.m. and disappeared at about 11 p.m. It was 22 degrees radius and colors well-defined. Fair weather sunset. Verified. No aurora.
15	Snow/frost/battery	Heavy frost this a.m. Snow commenced at 3:30 p.m. and ended at 5:10 p.m. Amount 0.01 inches. Battery cleaned today. Foul weather sunset. Verified. Obscured.
16	Rain/Lightning/Thunder	The barometer fell rapidly during the day with winds mostly from E and SE. Light rain commenced at 1 p.m. and continued at intervals until 5:30 p.m. when it changed to heavy rain which continued during day. Vivid flashes of sheet lightning with heavy rolling thunder accompanied the storm up to about 11 p.m. Amount up to last observation 1.26 inches. Foul weather sunset. Verified. Obscured.
17	Rain	Rain ended at 12:40 a.m. Amount 0.50 inches. The barometer rose rapidly during the night and continued rising during the day with NW winds and lower temperature than yesterday. Clear after 6 p.m. Fair weather sunset. Verified. No aurora.
18	Frost	Heavy frost this a.m. Clear and cold. Fair weather sunset. Verified. No aurora.
19	Frost	Heavy frost this a.m. Falling barometer higher temperature and variable winds. Clear day. Fair weather sunset. Not verified. No aurora.
20	Rain	Falling barometer, higher temperature and variable winds. Rain commenced at 9:30 a.m. and ended at 7:45 p.m. Recommenced at 10:30 p.m. and ended at 11:45 p.m. Amount up to last observation 0.35 inches. Foul weather sunset. Verified. Obscured.
21	Smoke	Amount of rain since last observation yesterday

		.02 inches, dense smoke early in a.m. Foul weather sunset. Verified. Obscured.
22	Thunderstorm/American Dis. Telephone Company/Rain/Battery	At 2:30 a.m. the western sky was partially hidden by a dense black cloud. It rapidly spread over the entire sky until 3 a.m. when it was completely obscured by dense stratus at 3:15 a.m. heavy rain commenced falling accompanied by loud crashes of thunder and electrical discharges of extraordinary brilliancy and frequency. The wires of the American Dis. Telephone Company were sensibly affected during the storm. So much so that many were called out of bed by the ringing of their electric bells. The velocity of wind did not exceed 15 miles per hour, with no change in barometer and only slight changes in temperature. Rain ended at 6:30a.m. Light rain commenced at 7:45 a.m. and ended at 9:20 a.m. Amount today .80 inches, barometer rose rapidly after 7 p.m. Battery examined and cleaned. Fair weather sunset. Verified. Obscured.
23	Frost	Light frost this a.m. The barometer falls steadily after 1 p.m., the wind veering from N to E. Clear and pleasant. Fair weather sunset. Verified. No aurora.
24	Frost	Light frost this a.m. Higher temperature than yesterday. Clear after 3 p.m. Fair weather sunset. Verified. No aurora.
25	Frost	Light frost this a.m. Falling barometer, and E to SE winds. Foul weather sunset. Verified. Obscured.
26	Heavy rain/Light rain/Thunderstorm	Heavy rain commenced at 1:50 a.m. and ended at 6:30 a.m. Light rain commenced at 8:25 a.m. and ended at 10:00 a.m. Amount .38 inches. The heavy rain was accompanied by considerable thunder and lightning up to 4 a.m. Fair weather sunset. Verified. No aurora.
27	Yellow	Higher temperature than yesterday with fair and pleasant weather. Fair weather (yellow 1/8) sunset. Verified. No aurora.
28		Falling barometer with unusually high temperature and variable winds. Foul weather sunset. Verified. No aurora.
29	Heavy rain/thunderstorm/rain/battery	Heavy rain commenced at 12:05 a.m. and ended at 3:20 a.m. accompanied by rolling thunder and frequent electric discharges. No damage reported in this vicinity. Falling and very low barometer with high temperature and winds mostly from the west. Light rain commenced at 7:05 p.m., ended at 9:50

		p.m., recommenced at 10:10 p.m. and continued after midnight. Amount fallen up to last observation 0.31 inches. Battery cleaned and examined today. Foul weather sunset. Verified. Obscured.	
30	Rain/comparative readings	Rain ended at 12:40 a.m., amount 0.12 inches. Steadily rising barometer with lower temperature and NW winds. Comparative readings of barometers commenced today. Fair weather sunset. Verified. No aurora.	
31	Frost/Minimum thermometer 110	Heavy frost this a.m. All the thermometers were tested today and read 32 degrees. Minimum thermometer No. 110 reads 2 degrees too low after a second test. Foul weather sunset. Verified. Obscured.	
<b>River Totals</b>			
Highest reading of gauge	22 ft 6 inches	27 <sup>th</sup>	
Lowest water	6 ft 1 inch	16 <sup>th</sup>	
Range	16 ft 5 inches		
<b>Summary of Sunset Observations</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
Fair	19	17	2
Foul	12	8	4
Doubtful	0	0	0
<b>Condition of Instruments – March 1879</b>			
<b>Thermometer</b>	<b>Standard</b>	<b>2890</b>	<b>Serviceable</b>
Thermometer	Standard	3261	Serviceable
Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard Extra	1753	Serviceable
Anemometer	-	52	Serviceable
Anemometer	-	154	Serviceable
Self-register Anemometer	-	30	Serviceable
Anemoscope		Blank	Serviceable
Rain Gauge		Blank	Serviceable

D.P Waters – Sgt. Signal Corps U.S.A.		
April, 1879		
1	Rain	Rain commenced at 12:45 a.m. and ended at 2:30 a.m. Amount 0.15 inches. Fair weather sunset. Verified. Obscured.
2	Frost	Light frost this a.m. Clear day. Rising barometer. Foul weather sunset. Not verified. No aurora.
3	Frost	Heavy frost this a.m. Rising barometer, low temperature and NW winds. Clear. Fair weather sunset. Verified. No aurora.
4	Frost/Peach crop destroyed	Clear heavy frost. The peach buds are reported destroyed by frost in this vicinity, also great damage done to various plants. Clear day with fresh W and NW winds. Fair weather sunset. Verified. No aurora.
5	Lunar halo/frost/battery	A well-defined lunar halo of 22 degrees radius was observed at 2 a.m. and disappeared about 4 a.m. Heavy frost this morning. Clear. Fair weather sunset. Battery cleaned. Verified. No aurora.
6	Frost/rain	Heavy frost this a.m. Falling barometer, higher temperature. Rain commenced at 9:15 p.m. and continued after midnight. Amount up to last observation – 0.01 inches. Foul weather sunset. Verified. Obscured.
7	Rain	Rain ended at 4:35 a.m., recommenced at 8:30 a.m. and ended at 12:30 a.m. Amount today .40. Rising barometer, nearly stationary temperature and winds veering to N. Fair weather sunset. Verified. No aurora.
8	Lunar Halo	Clear, warm weather with gentle E winds. A lunar halo was observed at 10 p.m. and disappeared shortly before midnight. It was well-defined and 22 degrees radius. Fair weather sunset. Verified. No aurora.
9	Thunderstorm	Rapidly falling barometer all day. The wind increased in velocity and at 5:15 p.m. had reached 30 miles per hour, rain commenced at 5:50 p.m. and ended at 9:55 p.m. Amount 1.40 inches, this storm is remarkable for unusual velocity of wind and being succeeded by very slight changes in barometer and temperature. Foul weather sunset. Verified. Obscured.
10	Rain	Rain commenced at 7:15 p.m., ended at 9:50 p.m., recommenced at 11:20 p.m. and continued after midnight. Amount up to last

		observation 0.02 inches. Foul weather sunset. Verified. Obscured.
11	Rain	Rain ended at 3:15 a.m. Amount today 0.04 inches. Rapidly rising barometer with NW and N winds. Clear after 10 p.m. Fair weather sunset. Verified. No aurora.
12	Frost/lunar halo/battery	Heavy frost this a.m. Falling barometer with E winds. Clear day. A faint lunar halo of 22 degrees radius was observed at 2 a.m. and was dissipated by the morning twilight. Battery examined and cleaned. Fair weather sunset. Verified. No aurora.
13		Rapid rise in temperature up to 2 p.m. accompanied by falling barometer. Fair weather sunset. Verified. No aurora.
14	Thunderstorm	Falling barometer. Heavy thunder was heard at 9:30 p.m. Rain commenced at 10:15 p.m. and continued after midnight. Amount up to last observation was not measureable. Foul weather sunset. Verified. Obscured.
15	Rain	Rain ended at 2:45 a.m. Amount today .39 inches. Foul weather sunset. Verified. Obscured.
16	Rain	Rain commenced at 3:50 a.m. and continued at intervals up to 3:45 p.m. Amount 0.16 inches, the barometer rose rapidly after 2 p.m. Foul weather sunset. Not verified. Obscured.
17		Rising barometer, lower temperature and NW winds. Clear after 9:10 p.m. Fair weather sunset. Verified. No aurora.
18	Frost (last frost)	Light frost reported in the open country this a.m. Low temperature and NW winds. Fair weather sunset. Verified. No aurora.
19	Battery	Warmer weather with winds veering from S to N. Clear after 5 p.m. Fair weather sunset. Battery cleaned. Verified. No aurora.
20	Clear	Clear day. Fair weather sunset (yellow 1/8). Verified. No aurora.
21	Yellow	Clear weather with rising barometer. Fair weather sunset (yellow 1/16). Verified. No aurora.
22	Yellow	Warmer weather, clear with SE winds. Fair weather sunset (yellow 1/8). Verified. No aurora.
23		Falling barometer with warm and clear weather. Fair weather sunset. Verified. No aurora.
24		Falling barometer with continued warm weather & SE winds veering to S. Foul weather sunset.



		Not verified. No aurora.	
25	Warm!	Falling barometer followed by a rise after 5 p.m. Warm temperature 83 degrees at 2 p.m. Clouded up rapidly after 10 p.m. Foul weather sunset. Not verified. Obscured.	
26	Battery	Cloudy weather with lower temperature and SE winds. Battery cleaned. Foul weather sunset. Verified. Obscured.	
27	Rain	Rain commenced at 12:10 a.m. and continued at intervals up to 9:45 p.m. Amount 0.30 inches. Foul weather sunset. Verified. Obscured.	
28	Lunar halo/solar halo	Cooler with NW winds. Clear after 2 p.m. A faint lunar halo was observed - 22 degrees radius – at 9:30 p.m. It disappeared at about 11:30 p.m. A faint solar halo was observed at 11 a.m. of 46 degrees radius, disappeared at 11:45 a.m. Fair weather sunset. Verified. No aurora.	
29		Fair weather sunset. Verified. No aurora.	
30	Rain	Rain commenced at 5:30 p.m. and ended at 7:15 p.m. amount - .01 inches. Foul weather sunset. Verified. Obscured.	
<b>River Totals</b>			
Highest reading of gauges	17-0	14 <sup>th</sup>	
Lowest reading of gauges	6-4	30 <sup>th</sup>	
Range	10-8		
<b>Summary of sunset observations</b>			
	<b>No. of Predictions</b>	<b>Verified</b>	<b>Not Verified</b>
<b>Fair</b>	17	17	0
<b>Foul</b>	13	9	4
<b>Doubtful</b>	0	-	-
<b>Conditions of instruments for April, 1879</b>			
Thermometer	Standard	2890	Serviceable
Thermometer	Standard	3261	Serviceable
Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable
Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard extra	1753	Serviceable
Anemometer		52	Serviceable

Anemometer		154	Serviceable
Self-register (Anemometer)		30	Serviceable
Anemoscope		-	Serviceable
Rain gauge		-	Serviceable

D.P. Waters, Corporal Signal Service Corps U.S.A.

**May, 1879**

1	Rain	Rain commenced at 12:35 a.m. and ended at 3:20 a.m. Amount .18 inches. Fair weather sunset. Verified. No aurora.
2		Clear day. Fair weather sunset. Verified. No aurora.
3	Battery	Falling barometer, higher temperature and SE winds. Clouded up rapidly after 9 p.m. Battery cleaned. Foul weather sunset. Verified. Obscured.
4	Rain/thunderstorm	Rain commenced at 6:40 a.m., ended at 8:50 a.m., recommenced at 1:40 p.m. and ended at 3:35 p.m. Amount .18 inches. Occasional thunder claps accompanied by electric discharges occurred during the early part of the storm, no damage from lightning reported. Foul weather sunset. Not verified. Obscured.
5		Rising barometer, warm and fair weather, fair weather sunset. Verified. No aurora.
6	Yellow	Slowly rising barometer, lower temperature and cloudy weather. Fair weather sunset (yellow) 1/10. Verified. No aurora.
7	Yellow	Clear weather with fresh N winds. Fair weather sunset. (yellow) 1/10. Verified. No aurora.
8		Clear and pleasant weather with N and NE winds. Fair weather sunset. Verified. No aurora.
9	Yellow	Clear and warmer with higher barometer. Fair weather sunset. (Yellow) 1/8. Verified. No aurora.
10	Battery	Falling barometer, higher temperature and clear weather. Battery cleaned and renewed. Fair weather sunset. Verified. No aurora.
11	Drought/Yellow	Clear with higher temperature and S to SE winds. Crops are reported as suffering severely from drought. Fair weather sunset (yellow) 1/16. Verified. No aurora.
12		Higher temperature – maximum 86 degrees. Clear. Fair weather sunset. Verified. No aurora.
13	Crops	Falling barometer, lower temperature and fair weather. Cereal crops are very much retarded. The remarkably dry weather is a subject of

		anxious comment among farmers. Foul weather sunset. Verified. Obscured.
14	Rain/Thunderstorm	The long looked-for and welcome rain commenced at 12:05 a.m., ended at 3:15 a.m. recommenced at 3:15 a.m. and ended at 3:40 p.m. Amount 1.06 inches. The approach of rain was gradual and unaccompanied by any remarkable features. The rolling of thunder and electric discharge were frequent but without damage to property of life in this vicinity. Cooler. Clear after 8 p.m. Foul weather sunset. Verified. No aurora.
15	Rain/Thunderstorm	Rain accompanied by thunder and lightning commenced at 10:10 a.m. and continued at intervals up to 4:50 p.m. Amount 0.52 inches. No damage from lightning reported. Foul weather sunset. Verified. No aurora.
16	Rain	Light rain commenced at 1:20 p.m. and ended at 1:50 p.m. Amount 0.01 inches. Foul weather sunset. Verified. No aurora.
17	Rain/Battery	Rain commenced at 5:05 p.m. and ended at 10:40 p.m. Amount .01 inches. Battery cleaned. Foul weather sunset. Verified. Obscured.
18	Rain/Yellow	Rain measured since(?) last observation yesterday .01. Clear after 5 p.m. and cooler. Fair weather sunset (yellow 1/8). Verified. No aurora.
19		Warm and clear weather with variable winds. Fair weather sunset. Verified. No aurora.
20	Solar Halo	A solar halo was observed at 10:45 a.m. and disappeared at 11:30 a.m. The usual characteristics were observed. Foul weather sunset. Verified. Obscured.
21	Rain/Thunder	Rising barometer. Rain commenced at 1:55 p.m. and ended at 2:30 p.m. Amount .14. No electric discharges occurred during the shower, although thunder was occasionally heard. Fair Sunset. Verified. No aurora.
22	Yellow	Higher barometer, cooler weather. N to NE winds. Fair (yellow 1/8) sunset. Verified. No aurora.
23		Warm and pleasant weather with gentle N to NE winds. Foul weather sunset. Not verified. No aurora.
24	Battery/Lunar Halo	Falling barometer with S winds and fine weather. Battery cleaned today. A lunar halo of 22 degrees radius was observed at 8:30 p.m. The colors could not be defined. Foul weather sunset. Not verified.

		No aurora.
25	Yellow	Falling barometer, higher temperature and W to SW winds. Fair (yellow 1/10) sunset. Verified. No aurora.
26	Yellow	Lower barometer and higher temperature. Fair (yellow 1/10) sunset. Verified. No aurora.
27	Yellow	Fair (yellow 1/8) sunset. Verified. No aurora.
28	Solar halo/rain	Very warm. A faint solar halo of 46 radius was observed at 11 a.m. and disappeared about 11:30 a.m. Light rain commenced at 3:40 a.m. and ended at 3:50 p.m. The amount was too small to measure. A lunar halo of 22 degrees radius with colors well-defined was observed at 9 p.m. and disappeared shortly before midnight. Foul weather sunset. Verified. Obscured.
29	Hot! Lunar Halo/Yellow	Hot! The maximum was 93 degrees at 2 p.m. Light rain commenced at 2:05 p.m. and ended at 2:25 p.m. Amount .01 inches. A faint lunar halo of 22 degrees radius was observed at 9:30 p.m., and disappeared at 11 p.m. Fair (yellow 1/16) sunset. Verified. No aurora.
30		Continued warm weather with S winds. Foul weather sunset. Verified. No aurora.
31	Rain/lightning	A welcome rain commenced at 5:50 p.m. and ended at 9:55 p.m. Amount .67 inches. Occasional flashes of sheet lightning were observed during the storm, but no thunder was heard. Battery cleaned. Foul weather sunset. Verified. Obscured.

**River Totals**

Highest reading of gauge	6 ft 8 inches	24 <sup>th</sup>
Lowest reading of gauge	4 ft 0 inches	31 <sup>st</sup>
Range	2 ft 8 inches	

**Summary of Sunset Observations**

Predictions	Number	Verified	Not Verified
Fair	18	18	0
Foul	13	10	3
Doubtful	0	0	0

**Condition of Instruments, May 1879**

Name		Number	Condition
Thermometer	Standard	2890	Serviceable
Thermometer	Standard	3261	Serviceable
Thermometer	Maximum	116	Serviceable
Thermometer	Maximum	440	Serviceable

Thermometer	Minimum	110	Serviceable
Thermometer	Minimum	3133	Serviceable
Thermometer	Hygrometer	42 & 42	Serviceable
Thermometer	Hygrometer	698 & 699	Serviceable
Barometer	Standard	163	Serviceable
Barometer	Standard (extra)	1753	Serviceable
Anemometer	-	52	Serviceable
Anemometer	-	154	Serviceable
Anemometer	Self-register for	30	Serviceable
Anemoscope	-	-	Serviceable
Rain Gauge	-	-	Serviceable

D.P. Water – Corporal Signal Corps U.S.A.

**June, 1879**

1	Rain	Rain commenced at 5 p.m. and continued at intervals during p.m. and after midnight. Amount up to last observation - .11. Fair weather sunset. Not verified. Obscured.
2	Rain/Yellow	Rain ended at 6:00 a.m. Amount 0.31 inches. Lower temperature and NW winds. Fair (yellow 1/8) sunset. Verified. No aurora.
3	Lunar Halo	Cool and pleasant weather. A faint lunar halo of 22 degrees radius was observed at 9 p.m., and faded away about 11 p.m. Fair weather sunset. Verified. No aurora.
4	Yellow	Clear, Fair (yellow 1/8) sunset. Verified. No aurora.
5	Yellow	Falling barometer, higher temperature and clear weather. Fair (yellow ¼) sunset. Verified. No aurora.
6	Shooting stars	At 11:50 p.m. – 3 shooting stars were observed, followed in about 5 seconds by 2 more, of greater brilliancy. The apparent course of the meteors was a downward curve with a direction from S to N. Fair (yellow 1/8) sunset. Verified. No aurora.
7		Higher temperature, variable winds and fair weather. Fair weather sunset. Verified. No aurora.
8		Warmer weather with NE to E winds. Foul weather sunset. Not verified. No aurora.
9		Fair weather sunset. Verified. No aurora.
10	Rain/Lunar halo	Rain commenced at 9:15 p.m. and ended at 11:30 p.m. Amount at last observation 0.04. A faint lunar halo of 22 degrees radius was observed at 3 a.m. and faded away on the appearance of morning twilight. Foul weather sunset. Verified. Obscured.
11	Rain/Thunderstorm	Amount of rain since last observation yesterday 0.13 inches. Higher temperature – maximum 93

		degrees. Rain commenced at 10:12 p.m. and ended at 10:30 p.m. whole amount .03 inches. Thunder and sheet lightning occurred at intervals during shower. Foul weather sunset. Verified. Obscured.
12		Continued warm weather with W to N winds. Fair weather sunset. Verified. No aurora.
13		Fair weather sunset. Verified. No aurora.
14	Battery/Civilian Assistant	Falling barometer & higher temperature. Battery examined and cleaned. Mr. J.P. Higgins engaged at civilian assistant during the illness of Private Prindell. Foul weather sunset. Verified. No aurora.
15	Rain	Falling and low barometer. Rain commenced at 6:30 a.m. and ended at 6:50 a.m., recommenced at 8:50 a.m. and ended at 3:30 p.m. Amount 1.57 inches. Clean with rising barometer after 5 p.m. Fair weather sunset. Verified. No aurora.
16		Rising barometer and cooler weather. Foul weather sunset. Not verified. Obscured.
17	Yellow	Rising barometer, cooler, clear weather and N winds. Fair (yellow 1/8) sunset. Verified. No aurora.
18	Yellow	Cool and clear weather continues. Fair weather sunset (yellow 1/8). Verified. No aurora.
19	Yellow	Fair (yellow ¼) sunset. Verified. No aurora.
20	Yellow	Warmer with variable winds. Fair weather (yellow 1/8) sunset. Verified. No aurora.
21	Battery	Cloudy after 6 p.m. Battery cleaned today. Foul weather sunset. Verified. Obscured.
22	Rain	Rain commenced at 1:15 a.m. and ended at 2:30 a.m. Amount .01 inches. Foul weather sunset. Not verified. Obscured.
23	Rain	Rain commenced at 11:30 p.m. and continued after midnight. Foul weather sunset. Verified. Obscured.
24	Rain	Rain ended at 12:20 p.m. Amount .02 inches. Foul weather sunset. Verified. Obscured.
25	Rain	Rain commenced at 11:55 a.m. and ended at 12:15 a.m. Amount .01 inches. Foul weather sunset. Verified. Obscured.
26	Rain	Falling barometer , and higher temperature. Rain commenced at 1 p.m. and ended at 1:45 p.m. Amount .01 inches. Fair weather sunset. Not verified. No aurora.
27	Rain	Falling barometer and higher temperatures. Rain commenced at 11:50 a.m., ended at 12:20 p.m. , recommenced at 8:45 p.m. and ended at 9:15 a.m.

		Amount 0.16 inches. Foul weather sunset. Verified. Obscured.	
28	Rain/Battery	Higher temperature with SW winds. Rain commenced at 4:25 p.m. and continued at intervals up to 8:45 p.m. Amount .10 inches. Battery cleaned today. Foul weather sunset. Verified. Obscured.	
29	Yellow	Fair weather (yellow 1/8) sunset. Verified. No aurora.	
30	Thermometers/Minimum thermometer #110	The thermometers at this station were tested today and all read 32 degrees excepting minimum thermometer #110 which read 30 degrees. Fair weather sunset. Verified. No aurora.	
<b>Highest River</b>			
Highest reading of gauge	5 feet 0 inches	16 <sup>th</sup>	
Lowest reading of gauge	1 foot 5 inches	30 <sup>th</sup>	
Range	3-7 ft		
<b>Summary of Sunset Observations</b>			
Predictions	No. of	Verified	Not Verified
Fair	18	16	2
Foul	12	9	3
Doubtful	0	0	0
<b>Condition of Instruments for June, 1879</b>			
<b>Name</b>	<b>Number</b>	<b>Condition</b>	
Thermometer Standard	2890	Serviceable	
Thermometer Standard	3261	Serviceable	
Thermometer Maximum	116	Serviceable	
Thermometer Maximum	440	Serviceable	
Thermometer Minimum	110	Serviceable	
Thermometer Minimum	3133	Serviceable	
Thermometer Hygrometer	42 & 42	Serviceable	
Thermometer Hygrometer	698 & 699	Serviceable	
Barometer Standard	163	Serviceable	
Barometer Standard (Extra)	1753	Serviceable	
Anemometer	52	Serviceable	
Anemometer	154	Serviceable	
Anemometer (Self register for)	30	Serviceable	
Anemoscope	-	Serviceable	
Rain Gauge	-	Serviceable	
D.P. Waters – Corporal Signal Corps U.S. Army			

July, 1879		
1		High temperature with SE winds. Fair weather sunset. Verified. No aurora.
2		Fair weather sunset. Verified. No aurora.
3		Fair weather sunset. Verified. No aurora.
4	Rain/Thunderstorm	High temperature with winds mostly from the W. Rain, accompanied by thunder and lightning commenced at 6:50 p.m. and ended at 10:45 p.m. Amount 0.46 inches. Foul weather sunset. Verified. Obscured.
5	Battery/Yellow	Falling barometer lower temperature and NW winds. Battery cleaned. Fair weather (yellow 1/8) sunset. Verified. No aurora.
6		Falling barometer, higher temperature and E winds. Fair weather sunset. Verified. No aurora.
7		Higher temperature with SW winds. Foul weather sunset. Not verified. No aurora.
8	Lunar halo/yellow	Higher temperature with winds mostly from SW. A lunar halo 22 degrees was observed at 10 p.m. and disappeared at 11:30 p.m. Colors faint. Fair (yellow 1/8) sunset. Verified. No aurora.
9	Lunar halo/yellow	Continued hot weather with SW winds. A lunar halo was observed at 10 p.m. and disappeared shortly before midnight. Its colors were faint. Fair weather (yellow 1/8) sunset. Verified. No aurora.
10	Maximum 99.5 degrees/Drought/Fatal sunstroke	Lower barometer, very high temperature and W winds – maximum thermometer 99.5 degrees. In Sumner and Rutherford Counties, TN, the corn crop is very much injured by drought. German laborer sunstruck fatal. Fair weather sunset. Verified. No aurora.
11	Sweltering/Maximum 101 degrees	Falling barometer, sweltering heat – maximum thermometer 101 degrees and SW winds. Foul weather sunset. Not verified. No aurora.
12	Maximum 101 degrees/Battery/Civilian Assistant	Maximum thermometer 101 degrees. The excessive heat and overwork is almost unbearable. Clear day. Battery cleaned. Fair weather sunset. Not verified. Civilian assistant employed. No aurora.
13	Rain	Barometers nearly stationary with a cooler weather. Light rain commenced early in the morning and continued at intervals up to 4:25 p.m. Amount .40 inches. Foul weather sunset. Verified. No aurora.
14	Hot! Rain	Higher temperature – maximum 96 degrees! – with winds mostly from the E. Rain commenced at



		3:20 a.m. and ended at 4:00 a.m. Amount .03 inches. Fair weather sunset. Verified. No aurora.
15	Hotter! Sunstruck	Continued high temperature – Maximum 97 degrees – with E winds. Two colored laborers sunstruck, but will recover. Fair weather sunset. Verified. No aurora.
16	Hottest!	Hotter. Maximum thermometer 99 degrees. The heat is terrible. The records of the station do not show such continued high temperatures since 1872. Foul weather sunset. Verified. No aurora.
17	Maximum 97 degrees/Rain	Continued hot weather. Maximum today 97 degrees; and no prospect of additional assistance from Washington. Rain commenced at 2:15 p.m. and continued at intervals up to 6:00 p.m. – amount .25. Fair weather sunset. Verified. No aurora.
18		Cooler, fair weather with winds mostly NE. Foul weather sunset. Verified. Obscured.
19	Rain/Battery	Light rain fell from 5:40 p.m. to 8:20 p.m. Battery cleaned and renewed. Foul weather sunset. Verified. Obscured.
20		Higher barometer with SE winds. Temperature same as yesterday. Fair weather sunset. Verified. No aurora.
21		Fair weather sunset. Verified. No aurora.
22		Foul weather sunset. Verified. Obscured.
23	Maximum 94 degrees/Heavy rain	Falling barometer and very high temperature. Maximum 94 degrees. Heavy rain commenced at 4:20 p.m. and ended at 5:30 p.m. Amount .34. Foul weather sunset. Verified. Obscured.
24	Rain/Heavy rain/Thunderstorms	Cooler. Rain commenced at 7:30 a.m. and ended at 12:15 p.m. Very heavy rain accompanied by loud thunder, and lightning of great intensity and frequency, commenced at 9:30 p.m. and continued after midnight. Amount of rain up to last observation. 1.98 inches. Foul weather sunset. Verified. Obscured.
25	Rain/Heavy rain/thunderstorm/damage/"American"	Rain ended at 12:30 a.m., recommenced at 3:00 a.m. and continued at intervals up to 8:30 p.m. The heaviest rainstorm that has visited this section for years, fell from 4 11:50 a.m. to 4:40 p.m. , the fall in that interval being 3.30 inches, much damage to property in the west and northwest portions of the city was caused by flooding. Detailed facts and figures furnished the press and Board of Health concerning the storm. The "American" of this date with full particulars,

		forward to O.C.S.O. Foul weather sunset. Verified. Obscured.
26	Rain/Battery/Lunar Halo	Rain commenced at 9:30 a.m. and ended at 12:10 p.m. Amount .46 inches. Battery cleaned. A faint lunar halo of 22 degrees radius was observed at 1 a.m. and disappeared at 3 a.m. Foul weather sunset. Verified. Obscured.
27	Rain/Lunar Halo	Rain commenced at 12:45 a.m. and ended at 1:30 a.m. Amount .01 inches. Higher barometer and temperature. A faint lunar halo of 22 degrees radius observed at 9:30 p.m. and disappeared after midnight. Foul weather sunset. Verified. No aurora.
28	Rain/Lunar halo	Higher barometer, lower temperature and winds mostly NW. Light rain commenced at 9:45 a.m. and ended at 4:15 p.m. Amount .11 inches. A lunar halo of 44 degrees radius was observed at 10 p.m. Foul weather sunset. Verified. Obscured.
29	Rain/Yellow	Rain commenced at 12:15 a.m. and continued at intervals up to 11:40 a.m. – amount .53. Fair (yellow ¼) sunset. Verified. No aurora.
30	Yellow	Higher temperature with NW winds. Fair (yellow 1/8) sunset. Verified. No aurora.
31	Lunar halo/yellow	Higher barometer and temperature with NE winds. A faint lunar halo of 22 degrees radius was observed at 10 p.m. Fair (yellow 1/8) sunset. Verified. No aurora.

**River Totals**

Highest reading of gauge	30 feet	26 <sup>th</sup>
Lowest reading of gauge	0-8 feet	16 <sup>th</sup> and 17 <sup>th</sup>
Range	2-4	

**Summary of Sunset Observations**

Predictions	No. of	Verified	Not Verified
Fair	17	16	1
Foul	14	12	2
Doubtful	0	-	-

**Condition of Instruments - July, 1879**

Name	Number	Condition
Thermometer Standard	2890	Serviceable
Thermometer Standard	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Maximum	440	Serviceable

Thermometer Minimum	110	Serviceable
Thermometer Minimum	3133	Serviceable
Thermometer Hygrometer	42 & 42	Serviceable
Thermometer Hygrometer	698 & 699	Serviceable
Barometer Standard	163	Serviceable
Barometer Standard (extra)	1753	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer (self register for)	30	Serviceable
Anemoscope	-	Serviceable
Rain gauge	-	Serviceable

D.P. Waters – Corporal Signal Corps U.S.A.

**August, 1879**

1	Rain	Slight changes in barometer and temperature with steady E winds. Light rain commenced at 1:55 p.m. and ended at 2:50 p.m. The amount was too small to measure. Foul weather sunset. Verified. Obscured.
2	Battery/rain	Falling followed by rising barometer. Higher temperature than yesterday with variable winds mostly E. Battery examined and cleaned. Light rain commenced at 5:45 p.m. and fell steadily up to 8:00 p.m. Amount 0.15 inches. Foul weather sunset. Verified. No aurora.
3	Lunar halo/Yellow	Higher temperature than yesterday with light variable winds and generally fine weather. A lunar halo of 22 degrees radius was observed at 9 p.m., and disappeared at 11:30 p.m. Fair weather (yellow $\frac{1}{4}$ ) sunset. Verified. No aurora.
4	Maximum 90 degrees/Hazy/Lunar halo	Falling barometer with very high temperature - maximum 95 degrees – and SW winds. Very hazy in the morning. A well-defined lunar halo – 22 degrees – was observed at 9 p.m., and became obscured by clouds at 9:30 p.m. Foul weather sunset. Not verified. Obscured.
5	Maximum 96 degrees/solar halo/lunar halo	Continued high temperature, maximum today 96 degrees. Variable winds mostly SW and fair weather. A large but faint solar halo (46 degrees radius) was observed at 11 a.m. and disappeared at 11:45 a.m. A lunar halo of 22 degrees radius, well-defined, was observed at 9 p.m. Obscured at 10:30 p.m. Foul weather sunset. Verified. No aurora.
6	Maximum 94 degrees/Rain/Lunar halo	Nearly stationary barometer, continued high temperature – maximum 94 degrees – and

		variable winds mostly S. Rain commenced at 11:15 a.m. and continued at intervals up to 8:30 p.m. Amount 0.78 inches. A well-defined lunar halo was observed at 9 p.m. (22 degrees) and disappeared at 11 p.m. Foul weather sunset. Verified. Obscured.
7	Lunar Halo	Lower temperature than yesterday with W and SW winds. Clearing weather after 2 p.m. A faint lunar halo was observed at 11 p.m. 22 degrees radius. Foul weather sunset. Not verified. No auroa.
8	Solar halo	Cooler weather with NW winds. A small solar halo was observed at 11:20 a.m., but became obscured at 11:40. Clear weather after 9:20 p.m. Fair weather sunset. Verified. No aurora.
9	Battery	Barometer nearly stationary today with lower temperature and N winds. Battery examined and cleaned. Clear. Fair weather sunset. Verified. No aurora.
10	Hazy	Very hazy weather during the early morning. Slight changes in barometer and temperature. Cool and pleasant. Fair weather sunset. Verified. No aurora.
11	Hazy	Barometer same as yesterday with slightly higher temperature and SE winds prevailing. Very hazy weather during the morning, but clear after noon. Foul weather sunset. Not verified. No aurora.
12	Solar halo	Slightly warmer, with SE to S winds and fine weather. A small and faint solar halo was observed at 11:20 a.m. and disappeared at noon. Fair weather sunset. Verified. No aurora.
13		Barometer and temperature about the same as yesterday. Fair weather with SW to S winds. Foul weather sunset. Not verified. No aurora.
14		Slowly falling barometer during the day, slightly warmer, S winds and clear weather. Fair weather sunset. Verified. No aurora.
15	Rain	Falling barometer, slightly warmer, variable winds mostly from the S. Rain commenced at 6:45 p.m., ended at 7:14 p.m., recommenced at 11:20 p.m. and continued after midnight. Amount up to last observation, .01 inches. Foul weather sunset. Verified. Obscured.
16	Rain/Battery	Rain ended at 3:00 a.m., recommenced at 4:30 a.m. and ended at 1:53 p.m. Amount 1.23 inches. Slowly rising barometer, low temperature and N to NW winds. Battery cleaned. Foul weather sunset. Not verified. Obscured.
17		Nearly stationary barometer, continued cool

		weather and N winds. Fair weather sunset. Verified. No aurora.
18	Yellow	Slightly higher temperature and barometer with NW to N winds and clear weather. Fair weather (yellow 1/8) sunset. Verified. No aurora.
19	Yellow	Slightly warmer, clean weather with variable winds. Fair weather (yellow ¼) sunset. Verified. No aurora.
20	Calm	Falling followed by rising barometer, decidedly warmer, clear weather with calms prevailing. Fair weather sunset. Verified. No aurora.
21		Barometer nearly the same as yesterday, slightly warmer, clear weather with variable winds mostly south. Fair weather sunset. Not verified. No aurora.
22	Rain/Hazy	Falling barometer, lower temperature than yesterday with SE and SW winds. Rain commenced at 2:25 p.m., ended at 3:10 p.m., recommenced at 4:20 p.m. and continued after midnight. Amount up to last observation, 0.22 inches. Dew haze in early a.m. Foul weather sunset. Verified. Obscured.
23	Rain/Heavy rain/Battery	The barometer fell steadily all day, low temperature as compared with yesterday and E winds. Rain continued at intervals during the day, finally ending at 8:30 p.m. Amount today, 1.86 inches. The fall of rain was remarkably heavy from 2:10 p.m. to 3:50 p.m., fully ¾ of the whole amount today having fallen during that interval. Battery cleaned, foul weather sunset. Verified. Obscured.
24	Low barometer/Rain	The barometer fell steadily up to 2 p.m. At that hour the corrected barometer was 29.519. It rose steadily the remainder of the day. Higher temperature with variable winds mostly SW. Rain fell at intervals up to 11:50 p.m. Amount up to last observation, 0.36 inches. Foul weather sunset. Verified. Obscured.
25	Velocity/Rain/Yellow	The barometer rose rapidly during the early a.m. and has continued to rise all day. Lower temperature and NW winds, an unusual velocity of wind has prevailed from 1 a.m. to 4 p.m., the average being about 16 miles per hour. Rain commenced at 12:45 a.m. and ended at 2:30 a.m. Amount .01 inches. Fair weather (yellow 1/8) sunset. Verified. No aurora.
26	Calm/Lunar halo/Yellow	Falling followed by rising barometer, cooler. Clear

		weather with variable winds mostly calm. A well-defined lunar halo of 22 degrees was observed at 8 p.m. Fair weather (yellow 1/8) sunset. Verified. No aurora.
27		Falling followed by rising barometer, temperature the same as yesterday, clear weather with NE winds. Fair weather sunset. Verified. No aurora.
28	Calm/Lunar halo/Yellow	Higher temperature than yesterday, calm prevailing, and clear weather. A lunar halo, well-defined and 22 degrees radius was observed at 9 p.m. and disappeared about 11:30 p.m. Fair weather (yellow 1/8) sunset. Verified. No aurora.
29	Hazy/Lunar halo/Yellow	Higher barometer and temperature than yesterday with NE winds and clear weather, hazy morning. A well-defined lunar halo of 22 degrees radius was observed at 10 p.m. Fair weather (yellow 1/8) sunset. Verified. No aurora.
30	Hazy/smoke/lunar halo/battery	Slightly lower barometer and higher temperature than yesterday with variable winds mostly calm. Haze and dense smoke prevailed from 9:30 to 11:30 a.m. A well-defined lunar halo was observed at 10 p.m. 22 degrees. Battery cleaned. Fair weather (yellow 1/8) sunset. Verified. No aurora.
31	Calm	Falling barometer, slightly warmer weather and variable winds mostly calm. Clouded up rapidly after 8 p.m. Foul weather sunset. Verified. Obscured.

**River Totals**

Highest reading of gauge	2-10 feet	31 <sup>st</sup>
Lowest reading of gauge	0	11, 12, 13, 28th & 29 <sup>th</sup>
Range	1-11	

**Summary of sunset observations**

Predictions	No. of	Verified	Not Verified
Fair	17	16	1
Foul	14	11	3
Doubtful	0	-	-

**Condition of Instruments**

Name	Number	Condition
Thermometer Standard	2890	Serviceable
Thermometer Standard	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Maximum	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Minimum	3133	Serviceable

Thermometer Hygrometer	42 and 42	Serviceable
Thermometer Hygrometer	698 & 699	Serviceable
Barometer Standard	163	Serviceable
Barometer Standard Extra	1753	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

**D.P. Waters – Corporal Signal Corps U.S.A.**

**September, 1879**

1	Rain	Rain commenced at 3:15 a.m. and continued at intervals during the day and after midnight. Amount up to last observation , 2.60 inches. Falling barometer, cool weather and variable winds mostly from the E. Foul weather sunset. Obscured. Verified.
2	Rain	Rain ended at 2:00 a.m., recommenced at 8 a.m. and continued during the day and after midnight. Amount up to last observation, 1.20 inches. The barometer fell rapidly up to 2 p.m. It rose slowly from 2 p.m., the remainder of the day, the wind veering during the rise, from NE to W with lower temperature. Obscured. Foul weather sunset. Verified.
3	Rain	Rain ended 1:30 a.m. Amount since yesterday, .03 inches. Rising barometer and temperature with W winds and fair weather. No aurora. Fair weather sunset. Verified.
4		Slowly falling followed by slowly rising barometer, warmer, clear weather and W winds. No aurora. Fair weather sunset. Verified.
5		Slowly falling barometer, lower temperature and variable winds mostly calm. Clear day. No aurora. Fair weather sunset (yellow 1/8). Verified.
6	Smoke and haze/Battery/Yellow	Falling followed by rising barometer, higher temperature, winds veering from SE to W. Dense smoke and haze prevailed up to 3 p.m. Clear after 3 p.m. Battery cleaned. No aurora. Fair weather sunset (yellow ¼) Verified.
7	Rain	Falling followed by rising barometer, higher temperature and variable winds mostly SW. Rain commenced at 11:40 a.m. ended 11:50 a.m., recommenced at 11:20 p.m. and continued after midnight. The amount today was too small to

		measure. Obscured. Foul weather sunset. Verified.
8	Rain/Yellow	Rain ended at 1:10 a.m. Amount .01 inches. Higher barometer, lower temperature and winds backing from NE to NW. Clear weather day. No aurora. Fair weather sunset (yellow 1/8). Verified.
9		Higher barometer, lower temperature and variable winds mostly N. Cirro-stratus clouds prevailed all day. Fair weather sunset. Verified. No aurora.
10	Lunar halo/smoke/rain	Lunar halo 22 degrees at 1 a.m. Higher barometer and temperature with NE winds. Dense smoke prevailed during the early a.m. Cirro-stratus clouds subsided into stratus after 5 p.m. Rain commenced at 8:20 p.m. and continued after midnight. Amount up to last observation, 0.09 inches. Foul weather sunset. Verified. Obscured.
11	Rain	Rain ended at 1:30 a.m. Amount since yesterday – 0.31 inches. Slowly falling barometer, warmer weather and variable winds most SE. Clear after 5 p.m. Fair weather sunset. Not verified. No aurora.
12	Rain	Falling barometer, slightly warmer, variable winds mostly SW. Rain commenced at 2:15 a.m. and continued at intervals up to 10:05 p.m. Amount 0.58 inches. Foul weather sunset. Verified. Obscured.
13	Rain/Battery	Rain commenced at 12:30 a.m. and ended at 3:10 a.m. Falling followed by rising barometer, cooler weather and W winds. Rain commenced at 9:08 p.m. and did at 9:55 p.m. Amount today 0.36 inches. Battery cleaned. Foul weather sunset. Verified. Obscured.
14	Yellow	Higher barometer, lower temperature, clear weather with winds mostly N. Fair weather (yellow 1/8) sunset. Verified. No aurora.
15	Haze	Falling barometer, higher temperature and variable winds mostly S. Dense haze prevailed from 1:30 p.m. to 5 p.m. Fair weather sunset. Verified. No aurora.
16	Yellow	Falling followed by rising barometer, warmer, clear weather with W winds. Fair weather (yellow 1/8) sunset. Verified. No aurora.
17	Haze	Dense haze prevailed early in the morning. Higher barometer and temperature, clear weather and variable winds mostly calm. Fair weather sunset. Verified. No aurora.
18	Yellow	Falling followed by rising barometer, higher temperature with clear weather and W winds. Fair weather (yellow 1/8) sunset. Verified. No aurora.



19	Haze/yellow	Higher and rising barometer, decidedly cooler, partly cloudy weather and steady N winds. Dense haze prevailed during the early morning. Fair weather (yellow $\frac{1}{4}$ ) sunset. Verified. No aurora.
20	Battery/yellow	Slowly falling barometer, colder N winds and clear weather, battery cleaned and renewed throughout. Fair weather (yellow $\frac{1}{8}$ ) sunset. Verified. No aurora.
21	Colors/haze/yellow	The barometer fell steadily up to 5 a.m., rising slowly from that time up to midnight. Higher temperature with calm prevailing. Dense haze prevailed during the early morning. Fair weather sunset (yellow $\frac{1}{8}$ ). Verified. No aurora.
22	Hazy	Falling followed by rising barometer higher temperature and generally hazy weather with variable winds. Fair weather sunset. Verified. No aurora.
23	Calm	Slowly falling barometer with slightly higher temperature during the morning, than yesterday, partly cloudy weather with SW winds and calm. Fair weather sunset. Verified. No aurora.
24	Hazy, Lunar Halo	Higher and rising barometer, colder NW and N winds. Dense haze prevailed during the early morning followed up to 3 p.m. by cloudy weather. Clear after 4 p.m. A faint lunar halo of 22 degrees radius was observed at 9 p.m. Fair weather sunset. Verified. No aurora.
25		Falling, followed by a slight rise in barometer after 7 p.m. Colder, clear weather with steady N winds. Fair weather sunset. Verified. No aurora.
26	Heavy dew/Minimum 42 degrees/Hazy/Lunar Halo	Falling followed by rising barometer, a very heavy dew was deposited during the early a.m., the minimum thermometer reading 42 degrees, no frost was reported from the country or vicinity. Warmer weather during the day than yesterday with dense haze prevailing after 3 p.m. Fair weather sunset. Faint lunar halo – 22 degrees at 9 p.m. Verified. No aurora.
27	Haze/Battery/Lunar halo/Minimum thermometer broken/yellow	Dense haze prevailed during the morning. Barometer slightly higher than yesterday. Warmer E to SE winds and generally fair weather. Battery examined and cleaned. A faint lunar halo of 22 degrees radius was observed at 9 p.m. Minimum thermometer #3133 broken. Fair weather (yellow $\frac{1}{8}$ ) sunset. Verified. Obscured.
28	Haze/lunar halo 22 degrees/lunar halo 44	Falling, followed by slowly rising barometer after 5 p.m., warmer SE and S winds, dense haze

	degrees	prevailed during the morning. Cloudy weather after 3 p.m. A well-defined lunar halo of 22 degrees radius was observed at 8 p.m. during an interval of a few minutes while the moon was not obscured. At 11:30 p.m. a 44 degree halo was observed, the same continuing visible up to midnight. Foul weather sunset. Not verified. Obscured.
29	Lunar halo/yellow	Falling followed by rising barometer, higher temperature with SE winds and calm. A well-defined lunar halo of 22 degrees radius was observed at 9 p.m. Fair weather (yellow 1/8) sunset. Verified. Obscured.
30	Thermometers tested, minimum thermometer no. 110 2 degrees too low/ 2 degrees added lunar halo	Slowly falling, followed by rising barometer, higher temperature with steady SE winds and generally clear weather. The thermometers in use at this station were this day tested and found to read 32 degrees, excepting minimum thermometer 110 which reads 2 degrees too low. 2 degrees are added to the readings of this instrument. A well-defined lunar halo of 22 degrees radius was observed at 10 p.m. Fair weather sunset. Verified. No aurora.

**River Totals**

Highest reading of gauge	9 feet 4 inches	3 <sup>rd</sup>
Lowest reading of gauge	0 feet 9 inches	30 <sup>th</sup>
Range	8-7	

**Summary of Sunset Observations**

Prediction	No. of	Verified	Not Verified
Fair	23	22	1
Foul	7	6	1
Doubtful	0	-	-

**Condition of Instruments – September 1879**

Name	Number	Condition
Thermometer Standard	2890	Serviceable
Thermometer Standard	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Maximum	440	Serviceable
Thermometer Minimum	110	Broken
Thermometer Minimum	3133	Broken
Hygrometer	42 and 42	Serviceable
Hygrometer	698 and 699	Serviceable
Barometer (station)	163	Serviceable
Barometer (extra)	1753	Serviceable

Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer (self register for)	30	Serviceable
Anemoscope	Blank	Serviceable
Rain Gauge	Blank	Serviceable

**D.P. Waters – Corporal Signal Corps U.S.A.**

**October, 1879**

1	Calm/Lt. Buchanan/Lunar Halo/Yellow	The barometer fell steadily up to 5 p.m., higher temperature than yesterday with calm prevailing and generally clear weather, Lt. J.A. Buchanan. A.S.O. visited the station this evening. A well-defined lunar halo of 22 degrees radius was observed at 8 p.m. Fair weather sunset (yellow 1/8). Verified. No aurora.
2	Lunar halo	Falling followed by rising barometer, higher temperature, winds mostly S and generally clear weather. A well-defined lunar halo of 22 degrees radius was observed at 9 p.m. Fair weather sunset. Verified. No aurora.
3	Yellow	Lower barometer, higher temperature, variable winds and fair weather. Fair weather (yellow 1/8) sunset. Verified. No aurora.
4	Civilian Assistant/Private Prendall sick/battery/yellow	Lower barometer, higher temperature and fair weather with variable winds mostly NE. N.B. Sparkman engaged as civilian assistant during illness of Private Prindell under authority from O.C.S.O. of this fate. Battery examined and cleaned. Fair weather sunset (yellow 1/8). Verified. No aurora.
5		Barometer slightly higher with lower temperature E to SE winds and fair weather. Fair weather sunset. Verified. No aurora.
6		Slowly falling barometer with lower temperature, NE backing to W winds and generally fair weather. Foul weather sunset. Verified. No aurora.
7	Rain	Slowly falling, followed by rising barometer after 6 p.m. Lower temperature and E to SE winds. Rain commenced at 12:40 a.m. and continued at intervals up to 8:40 p.m. Amount 1.29 inches. Foul weather sunset. Verified. Obscured.
8		Higher barometer and temperature SE to SW winds and fair weather. Foul weather sunset. Not verified. No aurora.
9		Barometer about the same as yesterday, higher temperature, SE to SW winds and fair weather.

		Fair weather sunset. Verified. No aurora.
10	Changes of observers/Special Orders No. 162/Yellow	Barometer and temperature same as yesterday with variable winds mostly NW and fair weather. Special Order No. 162, current series, received relieving Corporal D. P. Waters from duty at Nashville and assigning him to duty at Grand Haven, Michigan, relieving Sgt. S.C. Emery who is assigned to duty at Nashville. Fair weather (yellow 1/8) sunset. Verified. No aurora.
11	Rain/Battery	Lower barometer, higher temperature, and variable winds. Light rain fell at intervals during the afternoon but the amount was too small to measure. Battery cleaned. Foul weather sunset. Verified. Obscured.
12	Rain	Higher barometer, lower temperature and steady SE winds. Rain commenced at 1:30 a.m. and ended at 2:00 a.m. Amount .08 inches. Clear after 5 p.m. Fair weather sunset. Verified. No aurora.
13	Yellow	Slightly higher barometer, lower temperature winds mostly E and clear weather. Fair weather (yellow 1/8) sunset. Verified. No aurora.
14	Battery/ <i>illegible</i> / Calm	Slightly lower barometer, higher temperature, variable winds mostly calm and clear weather. Fair weather sunset. Verified. No aurora.
15		Lower barometer and temperature, SE to E winds and generally clear weather. Fair weather (vert 1/8). Not verified. No aurora.
16	High winds/Rain	The barometer fell rapidly up to 5 p.m., when it commenced to rise accompanied by brisk SW and S winds. Velocity (max) was 24 miles per hour at 6:15 p.m. Rain commenced at 6:50 a.m. and continued at intervals up to 8:20 p.m. Amount 1.37 inches. Low temperature with variable winds mostly E. Foul weather sunset. Verified. Obscured.
17		Higher and generally rising barometer, higher temperature with variable winds, mostly W, and generally fair weather. Fair weather sunset. Verified. No aurora.
18		Higher barometer, decidedly lower temperature, steady NW winds and clear weather. Battery examined and cleaned. Fair weather sunset. Verified. No aurora.
19		Weather faces (?) is cool, wind steady from <i>illegible</i> rising. Foul weather sunset. No aurora. Verified.
20	Sgt. Emery arrived/Light rain	Sgt. Emery arrived is work change of station, relieving Corporal D.P. Waters who proceeded to

		G. Haven, Michigan. Weather cloudy. Falling barometer is light easterly winds. Light rain began 4:45 p.m. ended 7 p.m. Foul weather sunset. Obscured. Verified.
21	Rain	Rain began at 11-30 p.m. the 20 <sup>th</sup> and continued all night at intervals during the day. Obscured. Foul weather sunset. Verified.
22		Cloudy in the morning, clearing off about noon, remained clear the remainder of the day. No aurora. Fair weather sunset. Verified.
23	Yellow	Clear, ¼ yellow sunset. No aurora. Fair weather sunset, Verified.
24	Frost (first frost)	Clear, frost this a.m. No aurora. Fair weather sunset. Verified.
25	Cleaned battery/yellow/frost	Clear, cleaned battery. No aurora. Fair weather sunset. Verified. ¼ yellow sunset. Frost this a.m.
26	Light frost	Weather fair clear with low temperature. Light frost this a.m. No aurora. Fair weather sunset. Verified.
27	Yellow	Morning opened cloudy is threatening clearing in the afternoon, 1/8 yellow sunset. Fair weather sunset. No aurora. Verified.
28	Yellow	Clear is smoky at night, ¼ yellow sunset, no aurora. Fair weather sunset. Verified.
29		Clear. No aurora. Fair weather 1/8 yellow sunset. Verified.
30		Clear. No aurora. Fair weather sunset. Verified.
31		Cloudy and cool. No aurora. Fair weather sunset. Verified.

**Summary of Sunsets**

	No. of Predictions	Verified	Not Verified
<b>Fair</b>	23	22	-
<b>Foul</b>	8	7	-
<b>Doubtful</b>	None	-	-

**River Totals**

<b>Highest reading of gauge</b>	2	11	20 <sup>th</sup>
<b>Lowest reading of gauge</b>	0	5	3 <sup>d</sup>
<b>Range</b>	2-6		

**Condition of Instruments**

Name	No.	Conditions
Thermometer Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable

Thermometer Maximum	116	Serviceable
Thermometer Maximum	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Minimum	3133	Broken
Hygrometer	42 and 42	Serviceable
Hygrometer	698 & 699	Serviceable
Barometer Standard	163	Serviceable
Barometer Extra	1753	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self Register	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

**D.C. Emory – Sgt. Signal Corps**

**Monthly Comparative Readings – Barometers**

Station Barometer: No. 163 Instrumental Error: illegible					Extra Barometer No.: 1753 Instrumental Error: -.028				
Date	Time	Original Reading	Attached Thermo meter	Corrected for temperat ure and instrumen tal error	Date	Time	Original reading	Attache d thermo meter	Corrected for temperature and instrumenta l error
Oct 30 <sup>th</sup>	7 a.m.	29640	70	29.534	Oct. 30 <sup>th</sup>	7 a.m.	29628	70	29547
	8 a.m.	29645	70	29.542	-	8 a.m.	29635	70	29554
	9 a.m.	29655	71	29.546	-	9 a.m.	29643	71	29559
	10 a.m.	29659	74	29.542		10 a.m.	29646	74	29554
	11 a.m.	29674	74	29.557		11 a.m.	29661	74	29569
	12 p.m.	29680	74	29.563		12 p.m.	29668	74	29548
	1 p.m.	29685	73	29.571		1 p.m.	29673	73	29576
	2 p.m.	29670	73	29.556		2 p.m.	29657	73	29568
	3 p.m.	29686	74	29.569		3 p.m.	29673	74	29581
	4 p.m.	29690	75	29.571		4 p.m.	29678	75	29584
31 <sup>st</sup>	7 a.m.	29900	67	29.800	31 <sup>st</sup>	7 a.m.	29887	67	29812

	8 a.m.	29904	59	29.825		8 a.m.	29893	60	29836
	9 a.m.	29915	65	29820		9 a.m.	29902	65	29832
	10 a.m.	29926	66	29828		10 a.m.	29913	66	29840
	11 a.m.	29935	67	29835		11 a.m.	29922	67	29847
	12 p.m.	29919	67	29819		12 p.m.	29907	67	29832
	1 p.m.	29918	68	29815		1 p.m.	29906	68	29828
	2 p.m.	29900	68	29797		2 p.m.	29887	68	29809
	3 p.m.	29905	71	29794		3 p.m.	29892	71	29806
	4 p.m.	29905	71	29794		4 p.m.	29892	71	29806

Mean Observation: 29684

Mean Observation: 29694

**S.C. Emery – Sgt., Signal Service U.S. Army**

Note – The comparative observations will be made on the last 2 days of each month, 10 being made each day at hourly intervals. This form, properly filled up, will be forwarded with the Monthly abstract of journal.

**November, 1879**

1	Changing of time in taking of observations/battery	Weather clear all day. Cleaned battery. The change in the time of taking in a.m. and p.m. Observations went into <i>illegible</i> today. The local time for a.m. <i>illegible</i> 6.21 and for p.m. 2.21 No aurora. Fair weather sunset. Verified.
2	Heavy frost	Clear, heavy frost. No aurora. Fair weather sunset. Verified.
3		Clear and smokey. Fair weather sunset. No aurora. Verified.
4	Frost	Clear weather. Heavy frost this a.m. No aurora. Fair weather 1/8 yellow sunset. Verified.
5	Frost	Cloudy in the morning but became clear in the afternoon. Light frost in a.m. No aurora. Fair weather 1/8 yellow sunset. Verified.
6		Fair to cloudy with slightly higher temperature. No aurora. Fair weather sunset. Not verified.
7		Fair to cloudy with high temperature. No aurora. Fair weather sunset. Verified.
8	Rain/battery	Fair weather prevailed. A light-face of rain from 5:10 p.m. to 6 p.m. After which the sky became clear. Cleaned battery. No aurora. Fair weather sunset. Verified.
9	Rain	Rain began 8 a.m. and continued at intervals

		until 11:05 a.m. Falling followed at night by using barometer and southerly winds. No aurora. Fair weather sunset. Not verified.
10	Heavy Rain/Thunderstorm	Heavy rain began at 4 a.m. Accompanied by thunder and lightning, lasting until 10:15 a.m. Barometer during the rain was above normal, light and slower (?) above station, the entire day. Clear at night. No aurora. Fair weather sunset. Verified.
11		Fair and warm. No aurora. Foul weather sunset. Verified.
12	Rain	Rain began at 4:30 a.m. and continued at intervals until 2:00 p.m. soon after rain ended. The sky became clear and remained there all night. No aurora. Fair weather sunset. Verified.
13		Clear to fair ¼ yellow sunset. No aurora. Fair weather sunset. Verified.
14	Rain	Cloudy and light (?) through the day but no rain fell until 7 p.m. when it began to rain heavily and continued all night. Temperature high. Obscured. Fair weather sunset. Verified.
15	Rain/battery	Rain ended at 7:40 clear. Weather clear the remainder of the day, with high temperature. Cleaned battery. No aurora. Fair weather sunset. Verified.
16		Clear. No aurora. Fair weather ¼ yellow sunset. Not verified.
17	Heavy rain/thunderstorm	Heavy rain began at 9:30 a.m. accompanied by thunder and lightning. Ending at 8:30 p.m. Amount of fall 1.27 inches. Obscured. Foul weather sunset. Verified.
18	Rain	Light rain began 3.30 a.m. and ended 4:40 a.m. Fair to clear remainder of the day. Rain was 3 feet 6 inches since yesterday. No aurora. Fair weather sunset. Verified.
19	Frost	Clear, light frost. No aurora. Fair weather sunset. Verified.
20		Clear, light frost this a.m. No aurora. Fair weather ¼ yellow sunset. Verified.
21	Frost	Clear to fair weather and low temperature. Heavy frost this a.m. No aurora. Fair weather ¼ yellow sunset. Verified.
22	Frost/	Clear weather. Heavy frost this a.m. Temperature somewhat higher. Lunar halo at 9 p.m. of 22 degrees radius. Cleaned battery. No aurora. Fair weather sunset. Verified.
23	Frost	Clean with frost in the a.m. Lunar halo at 9 p.m.



		22 degrees radius. No aurora. Fair weather sunset. Verified.
24		Clear during the day but cloudy soon after sunset. Obscured. Fair weather sunset. Verified.
25	Rain	Light rain during early morning, during the afternoon the sky become clear again with high temperature. No aurora. Fair weather sunset. Verified.
26	Lunar halo	Fair weather. Halo at 9 p.m. No aurora. Fair weather sunset. Verified.
27		Cloudy weather with light sprinkle of rain in afternoon and night. Obscured. Foul weather sunset. Verified.
28	Heavy rain	Heavy rain from 2:30 a.m. to 7:40 a.m. and again in the evening. Obscured. Foul weather sunset. Verified.
29		Clear weather. Cleaned battery. No aurora. Fair weather sunset. Verified.
30	Frost	Clear light frost in morning. No aurora. Fair weather $\frac{1}{4}$ yellow sunset. Verified.

**Summary of Sunsets**

	No. of predictions	Verified	Not Verified
Fair	23	21	2
Foul	7	6	1
Doubtful	0	-	-

**River Totals**

<b>Highest reading of gauges</b>	8.11	23 <sup>rd</sup>
<b>Lowest reading of gauges</b>	1.2	?
<b>Range</b>	7.9	

**Monthly Comparative Readings – Barometers**

Station Barometer No.: <u>163</u> Correction for Instrumental Error: +003					Extra Barometer No.: <u>1753</u> Correction for Instrumental Error: +028				
Date	Time	Original Reading	Attached Thermometer	Corrected for temperature and instrumental error	Date	Time	Original Reading	Attached Thermometer	Corrected for temperature and instrumental error
Nov. 29th	7 a.m.	29.944	70	29.836	Nov. 29 <sup>th</sup>	7 a.m.	29.931	70	29.348
	8 a.m.	29.978	76	29.854		8 a.m.	29.965	76	29.866
	9 a.m.	29.993	74	29.874		9 a.m.	29.980	74	29.886

	10 a.m.	30.005	72	29.891		10 a.m.	29.992	72	29.903
	11 a.m.	30.005	71	29.894		11 a.m.	29.992	71	29.906
	12 p.m.	29.995	71	29.884		12 p.m.	29.983	71	29.897
	1 p.m.	29.988	71	29.877		1 p.m.	29.975	71	29.889
	2 p.m.	29.992	72	29.878		2 p.m.	29.979	72	29.890
	3 p.m.	29.996	72	29.882		3 p.m.	29.984	72	29.895
	4 p.m.	29.999	71	29.888		4 p.m.	29.986	71	29.900
Nov. 30	7 a.m.	30.095	66	29.997	Nov. 30	7 a.m.	30.082	66	30.009
	8 a.m.	30.100	68	29.997		8 a.m.	29.087	68	30.009
	9 a.m.	30.103	70	29.995		9 a.m.	29.090	70	29.007
	10 a.m.	30.100	67	30.000		10 a.m.	30.088	67	30.013
	11 a.m.	30.082	69	29.976		11 a.m.	30.069	69	29.988
	12 p.m.	30.058	69	29.952		12 a.m.	30.045	69	29.964
	1 p.m.	30.014	68	29.911		1 p.m.	30.001	68	29.923
	2 p.m.	29.996	69	29.890		2 p.m.	29.984	69	29.903
	3 p.m.	30.002	73	29.886		3 p.m.	29.990	73	29.899
	4 p.m.	29.998	75	29.876		4 p.m.	29.985	75	29.888
Sum: 598238					Sum: 598483				
Mean Observation: 29.911					Mean Observation: 29.924				
S.C. Emery – Sgt. Signal Corps, U.S. Army									
<b>Remarks</b>									-.013
Note: the comparative observations will be made on the last 2 days of each month, ten being made each day at hourly intervals. This form, properly filled up, will be forwarded with the Monthly Abstract of Journal.									
<b>Condition of Instruments</b>									
Barometer Standard				163	Serviceable				
Barometer Extra				1753	Serviceable				
Thermometer Standard				2890	Serviceable				
Thermometer Extra				3261	Serviceable				
Thermometer Maximum				116	Serviceable				
Thermometer Maximum				440	Serviceable				
Thermometer Minimum				110	Serviceable				
Thermometer Minimum				3133	Broken				
Hygrometer				42 & 42	Serviceable				
Hygrometer				698 & 699	Serviceable				
Anemometer				52	Serviceable				
Anemometer				154	Serviceable				
Anemometer Self-Register				30	Serviceable				
Anemoscope				-	Serviceable				
Rain Gauge				-	Serviceable				
<b>S.C. Emery – Sgt. Signal Service Corps U.S.A.</b>									
<b>December, 1879</b>									
1		Half?			Clear lunar half 22 degrees. No aurora. Fair weather sunset. Hazy frost ? Verified.				

2	Half?	Fair lunar half. No aurora. Fair weather sunset. Verified.
3	Rain	Light rain began 3:30 a.m. and continued at intervals through the day ending at 7 p.m. Obscured. Foul weather sunset. Verified.
4	Half?	Cloudy in the a.m. but became clear after. Lunar halo at 7:00 p.m. No aurora. Fair weather sunset. Verified.
5	Rain	Light rain began at 11:40 a.m. Ending 12:30 p.m. Heavy rain again began at 2:47 p.m. Continuing at <i>illegible</i> . Fair weather sunset. Verified.
6		Rain ended at 1:12 a.m. and the clouds began to disappear in the afternoon and at night, it <i>illegible</i> was clear. Battery in good order. No aurora. Fair weather sunset. Verified.
7	Fog	Dense fog in the morning but clear weather prevailed during it most (?) of today. No aurora. Fair weather 1/8 yellow sunset. Verified.
8	Rain	Light rain fell during the a.m. but not ending <i>illegible</i> . A light fall of rain in the evening. No aurora. Fair weather sunset. Verified.
9	Rain	Winds steady from SE all day and occasional shower. Obscured. Foul weather sunset. Verified.
10		Heavy rain all day and fresh bust wind. Rain ended. <i>Illegible</i> began to rise. Heavy rain began 10:40 p.m. Obscured. Foul weather sunset. Verified.
11	Rain	North winds and colors, weather prevailed. Rain ended 1:00 a.m. Weather became clear at night. A rise of <i>illegible</i> and 8 inches in the rain some yesterday (?). No aurora. Fair weather 1/8 yellow sunset. Verified.
12	Ice	Fair and cloudy and low temperature. Ice formed in the <i>illegible</i> of ¼ of an inch in shallow water. No aurora. Fair weather sunset. Verified.
13	Lt. McClellan/Barometer cleaned/battery	Lt. McClellan arrived today to <i>illegible</i> station. Cleaned both barometers and began taking comparative readings. Fair <i>illegible</i> weather and light rain in evening. Cleaned battery. Obscured. Fair weather sunset. Verified.
14	Rain	Rain continued all night and at intervals

		during the day up to 8:40 p.m., wind changing to southerly during the day, higher comparative (?) prevailed. Lt. McClellan finished inspecting the station this evening. Station barometer reads .004 higher than inspection and extra reads .015 higher. Obscured. Fair weather sunset. Verified.
15		Cloudy and cool in the morning but became clear in p.m. No aurora. Fair weather sunset. Verified.
16		Weather clear and warm with fresh south winds. No aurora. Fair weather sunset. Verified.
17	Rain	Cloudy weather with light rain from 6:45 p.m. to 8 p.m. Temperature somewhat lower rain again at 10:50 p.m. Obscured. Fair weather sunset. Verified.
18	Rain/fog	Light rain continued all night and up to 1:20 p.m. after which a heavy fog came up lasting until the night. Obscured. Foul weather sunset. Verified.
19	Rain/River	Rain began at 7:15 a.m. and ended at 1:15 p.m. Cloudy the remainder of the day. River fell 8 ft 8 inches since yesterday. Obscured. Foul weather sunset. Verified.
20	Battery	Heavy rain began at 7:20 a.m. and continued all day and was still falling at midway. Temperature high for the season. Battery in good order. Obscured. Foul weather sunset. Verified.
21		Cloudy and warm all day with light rain at night. Obscured. Foul weather sunset. Verified.
22	River	Rain fell at intervals all day and at times the fall was very heavy. Barometer above its normal light and steady with light northerly winds. Obscured. Foul weather sunset. Verified.
23	Rain	Rain continued at intervals throughout the day and in as still falling at <i>illegible</i> the temperature high though the wind was southerly. <i>Illegible</i> on becoming anxious at the continued of warm weather and daily <i>illegible</i> the office in regard (?) to the probability of it getting cold. Obscured. Foul weather sunset. Verified.

		Light rain all day. Wind from south to SE. Rain ended 10:35 p.m. Obscured. Foul weather sunset. Verified.
24		Rain continued the entire day cause of times the face (?) was very heavy over 6 feet since yesterday and 1.15 inches of rain fell. Rapidly falling temperature. Obscured. Foul weather sunset. Verified.
25	First snow	The temperature fell during the night to 27 and continued to fall during the day, snow began at 9:45 a.m. and continued until 3:05 p.m. The first snow of the season. About since the sky became clear and the temperature fell <i>illegible</i> . No aurora. Fair weather sunset. Verified.
26		Clear, no aurora. Fair weather sunset. Verified.
27	Battery	Fair weather. Battery in good order. No aurora. Fair weather sunset. Verified.
28		Cloudy with light sprinkle of rain from 9:15 p.m. to 11:40 p.m. Obscured. Foul weather sunset. Verified.
29		Light sprinkle of rain in the morning and again from 5:40 p.m. to 6:00 p.m. Obscured. Foul weather sunset. Verified.
30	Rain	Began taking comparative reading of barometer. Light rain from 11:45 a.m. to 12:00 p.m. After rain ended. Wind changed to north (?) and clear weather prevailed at night. No aurora. Fair weather sunset. Verified.
31		Cloudy and threatening all day but no rain fall. Finished taking comparative readings of barometer. The thermometer at this station was tested and all found to read 32 degrees except minimum thermometer no. 110 which read 31.2 degrees. Obscured. Fair weather sunset. Verified.

**Summary of Sunsets**

	No. of Predictions	Verified	Not Verified
Fair	12	12	0
Foul	19	19	0
Doubtful	None	-	-

**River Totals**

Highest reading of gauge	35	9
Lowest reading of gauge	6	

<b>Range</b>				<b>29</b>				<b>8</b>			
<b>Instruments</b>											
<b>Name</b>				<b>No.</b>			<b>Condition</b>				
Barometer Standard				162			Serviceable				
Barometer Extra				1753			Serviceable				
Thermometer				2890			Serviceable				
Thermometer Extra				3261			Serviceable				
Thermometer Maximum				116			Serviceable				
Thermometer Maximum				440			Serviceable				
Thermometer Minimum				110			Serviceable				
Thermometer Minimum				3133			Broken				
Hygrometer				42 and 42			Serviceable				
Hygrometer				698 and 699			Serviceable				
Anemometer				52			Serviceable				
Anemometer				154			Serviceable				
Anemometer Self-Register				30			Serviceable				
Anemoscope				-							
Rain Gauge				-							
							<b>D.C. Emery – Sgt. Signal Corps U.S.A.</b>				
<b>Monthly Comparative Readings – Barometers</b>											
Station Barometer: No. 163						Extra Barometer No.: 1753					
Correction for Instrumental Error: +.003						Correction for Instrumental Error: +.028					
Date	Time	Orig. Reading	Attached Thermometer	Corrected for temperature and instrumental error	Date	Time	Original Reading	Attached thermometer	Corrected for temperature and instrumental error	Remarks	
Dec 30	7 a.m.	29.812	70	29.705	Dec. 30	7 p.m.	29.798	70	29.716		
	8 a.m.	29.820	69	29.715		8 p.m.	29.805	69	29.725		
	9 a.m.	29.832	67	29.732		9 p.m.	29.820	67	29.745		
	10 a.m.	29.843	70	29.736		10 p.m.	29.830	70	29.748		
	11 a.m.	29.852	72	29.739		11 p.m.	29.840	72	29.752		
	12 M.	29.837	71	29.727		12 M.	29.823	71	29.738		
	1 p.m.	29.815	71	29.705		1 p.m.	29.803	71	29.718		
	2 p.m.	29.800	71	29.690		2 p.m.	29.787	71	29.702		
	3 p.m.	29.794	72	29.681		3 p.m.	29.780	72	29.692		
	4 p.m.	29.796	72	29.683		4 p.m.	29.783	72	29.695		
Dec. 31	7 a.m.	29.834	70	29.727	Dec. 31	7 a.m.	29.820	70	29.738		
	8 a.m.	29.853	69	29.748		8 a.m.	29.838	69	29.758		
	9 a.m.	29.870	68	29.768		9 a.m.	29.857	68	29.780		
	10 a.m.	29.874	68	29.771		10 a.m.	29.861	68	29.784		

	11 a.m.	29.872	69	29.767		11 a.m.	29.858	69	29.778	
	12 p.m.	29.866	69	29.761		12 p.m.	29.852	69	29.772	
	1 p.m.	29.838	69	29.733		1 p.m.	29.825	69	29.745	
	2 p.m.	29.838	69	29.753		2 p.m.	29.842	69	29.762	
	3 p.m.	29.874	68	29.771		3 p.m.	29.860	68	29.783	
	4 p.m.	29.900	67	29.800		4 p.m.	29.885	67	29.810	
Sum: 294712 Mean Observation: 29.735					Sum: 294941 Mean Observation: 29.747			Difference: .012		
<b>S.C. Emery – Sgt. Signal Corps, U.S. Army</b>										
<b>Note: The comparative observations will be made on the last 2 days of each month, ten being made each day at hourly intervals. This form, properly filled up, will be forwarded with the Monthly Abstract of Journal.</b>										