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Frost, light	15, 16, 18, 23
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Instruments replaced	
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Lunar Halos	19, 21, 25
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Navigation	
Polar Bands	
Rains, light	5, 7, 12, 17, 19, 22, 30, 31
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Rain-Bows	
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Solar Coronal	
Station Inspected	
Thermometers Tested	
Thunderstorms and Lightning	6, 21
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Leave of Absence		
January 1880		
Date	Content	
1	Lunar Halo/yellow	Cloudy and cold through the a.m. but clear at night (illegible). The “midday” observation heretofore taken at 11:21 a.m. (local time) will be taken an hour earlier 10:21 a.m. local time and often this day. Lunar halo at 8 p.m. 22 degrees. No aurora. Fair weather, yellow sunset verified.
2	Fog	Fair weather with heavy fog at night. No aurora. Fair weather sunset. Verified.
3	Battery	Weather from E. clear. Battery in good order. No aurora. Fair weather sunset. Verified
4		Fair. No aurora. Fair weather sunset. Verified.
5	Fair/Light/High Temperature	Rain began at 9:45 AM and continued at intervals until 9:55 PM. High temperature. High. No aurora. Foul weather sunset. Verified.
6	Rain, Thunderstorm, temperature	Heavy rain accompanied by thunder and lightning from 2:45 AM until 12:50 PM. Temperature still very high for the season. Obscured. Foul weather sunset. Verified.
7	Light rain	Cloudy weather with light sprinkle of rain in the early morning. Obscured. Foul weather sunset. Verified.
8	Rain	Heavy rain in the morning beginning at 7:45 AM. Followed by cloudy and at night clear weather. No aurora. Fair weather sunset. Verified.
9	Cloudy	Cloudy. Obscured. Fair weather sunset. Verified.
10	Battery	Clear. Cleaned Battery. No Aurora. Fair weather sunset. Verified.
11	Temperature	Cloudy with high Temperature. Obscured. Fair weather sunset. Not verified.
12	Rain. Pvt. L. M. Prindell. Sgt. S.C. Emery	Rain began at 3:30 AM and continued all day up to 8:00 PM. Barometer continued rising and wind from the N. Pvt. Pindell releases Sgt. Emery from charge. Obscured. Foul weather sunset. Verified.
13	Frost. Farmer’s bulletin.	The day opened cloudy but cleared off by 9:00 AM. Frost, falling barometer, & clear weather with N. winds. No Farmer’s Bulletins were issued today. No Aurora. Fair weather sunset. Verified.
14	Frost. Yellow.	Clear weather with haze and smoke. Barometer fell from noon and rose 9:00 PM. ¼ yellow sunset. No Aurora Yellow sunset. Verified.
15	Frost	Cloudy and calm with falling barometer & frost. No Aurora Fair weather sunset. Verified.
16	Frost	Falling barometer, rising temperature, light frost. Wind from the S E No Aurora. Fair weather sunset. Verified.

17	Rain. Battery.	The temperature remained nearly steady up until the 2:21 PM observation when it began to fall. The barometer continued falling up to the same observation when it began to rise. Rain began at 8:00 AM ended at 11:30 AM commenced again at 3:50 PM ended at 7:20 PM. The batteries were cleaned today. Obscured. Foul weather sunset. Verified.
18	Frost	Calm and clear with most of the day, Smoky. Light frost. No Aurora. Fair weather sunset. Verified.
19	Frost. Rain. Lunar Halo.	The barometer continued falling through the day. Heavy frost. Rain began at 11:05 PM. Lunar halo 44 deg. Was observed at 9:00 PM. Obscured. Foul weather sunset. Verified.
20		Clear weather with rising barometer. No Aurora. Fair weather sunset. Verified.
21	Fog. Rain. Thunder storm. Lunar halo	Barometer fell slowly up to the sunset observation when it began to fall very rapidly. The day opened cloudy and as the day advanced, it became cloudy with light rain from 11:50 AM to 12:10 PM. At seven o'clock, the sky was clear of clouds except in the west where a small cumulus cloud was seen. The wind began to blow from the S.E. and the cloud advanced toward the zenith & show that there were an upper and lower current of wind moving toward each other at obtuse angles. As the cumulus cloud advanced, air enclosed and formed itself into a Cu. St. At 9:00 PM, a lunar halo 44 deg. Was seen & very soon afterward disappeared and the Cu St became St. At 10:10 PM, the first drop of rain fell followed by a heavy peel of thunder and flashes of very vivid lightning. The rain fell in torrents up to 12:10 AM followed by constant thunder and lightning. The rain ceased at 12:45 AM. The lightning was so sharp and vivid that it pained the observers' eyes to watch it. Obscured. Foul weather sunset. Verified.
22	Rain	Steady wind from the N and light rain in the evening commenced at 5:10 PM and ended about 5:50 PM. Obscured. Foul Weather sunset. Verified.
23	Frost.	Barometer rising throughout the day. Light frost this AM. Wind from the N. No Aurora. Fair weather sunset. Verified.
24	Frost. Battery	Hy frost this AM. Clear all day. Battery cleaned today. No Aurora. Fair weather sunset. Verified.
25	Frost. Lunar halo.	Hy frost this AM, Calm. Lunar halo was seen at 10:21 PM. No Aurora. Fair weather sunset. Verified.
26	Hy Frost. Calm	Heavy frost. Clear and calm with falling barometer.

		Obscured. Foul weather sunset. Verified.
27	Calm	Barometer was falling all day. Most of the day was calm. Cloudy in the morning but cleared off. At night was hazy. No Aurora. Fair weather sunset. Verified.
28	Temperature. Smoky. Hazy.	Rising barometer throughout the day. Very high temperature for this season of the year. The day was calm up till 9:00 o'clock at night when the wind was from the W. 7 4 miles. Smoky in the morning and hazy at night. No Aurora. Fair weather sunset. Verified.
29		Rise followed by fall barometer. Cloudy in the morning. Day very calm. Obscured. Foul weather sunset. Verified.
30	Lt. Rain	Rained at intervals throughout the day. Steady temperature. Wind changed from the S.E. to N. to N.W. at night. Obscured. Foul weather sunset. Verified.
31	Lt Rain. Cpl. D.P. Waters. Battery	Rain until 6:40 AM. Higher barometer. Lower temperature and N.W. winds. Corporal Waters arrived and assumed charge of the station... Battery cleaned. Obscured. Foul weather sunset. Not verified.

River

Highest reading of gauge:	24 ft. 11 in.	1 st
Lowest reading of gauge	8 ft. 1 in.	31st
Range	16-10	

Summary of Sunset Observations			
Position	Number of	Verified	Not verified
Fair	17	16	1
Foul	14	11	3
Doubtful	0		

Condition of instruments		
Name	Number	Condition
Barometer standard	163	Serviceable
Barometer standard extra	1753	Serviceable
Thermometer standard	2890	Serviceable
Thermometer standard extra	3261	Serviceable
Thermometer maximum	116	Serviceable
Thermometer maximum extra	440	Serviceable
Thermometer minimum	110	Serviceable
Thermometer minimum	180	Serviceable
Thermometer minimum extra	3133	Broken
Hygrometer	42 & 42	Serviceable
Hygrometer extra	698 & 699	Serviceable
Anemometer	52	Serviceable
Anemometer extra	154	Serviceable
Anemometer self register	30	Serviceable
Anemoscope		Serviceable
Rain Gauge		Serviceable
D. P. Waters Corporal Signal Corps U.S.A.		

Monthly Comparative Readings Barometers											
Station Baromet er No.	163					Extra Baromet er no.	1753				
Instrum ental Error	+ .00 3					Instrum ental error	+ .02 8				
Date	Time	Original reading	Attached Thermo meter	Corrected for tempera ture and instrum ental error	Date	Time	Original Reading	Attached thermo meter	Corrected for tempera ture and instrum ental error	Remarks	
Jan 30	7 AM	29.7 45	70	29.638	Jan 30	7 AM	29.7 30	70	29.648		
	8 AM	29.7 70	72	29.657		8 AM	29.7 55	72	29.667		
	9 AM	29.7 80	71	29.670		9 AM	29.7 65	71	29.680		
	10 AM	29.7 98	70	29.691		10A M	29.7 84	70	29.702		
	11 AM	29.7 88	69	29.683		11 AM	29.7 75	69	29.695		
	12	29.7	69	29.661		12	29.7	69	29.681		

	PM	66				PM	51			
	1 PM	29.7 35	69	29.630	Jan 30	1 PM	29.7 20	69	29.640	
	2 PM	29.7 19	69	29.614	Jan 30	2 PM	29.7 05	69	29.625	
	3 PM	29.7 14	70	29.607	Jan 30	3 PM	29.7 20	70	29.618	
	4 PM	29.7 05	70	29.598	Jan 30	4 PM	29.6 90	70	29.608	
Jan 31	7 AM	29.8 63	66	29.766	Jan 31	7 AM	29.8 49	66	229.777	
	8 AM	29.9 19	75	29.798		8 AM	29.9 05	75	29.809	
	9 AM	29.9 22	71	29.811		9 AM	29.9 09	71	29.823	
	10 AM	29.9 25	67	29.825		10 AM	29.9 10	67	29.835	
	11 AM	29.9 34	70	29.826		11 AM	29.9 20	70	29.837	
	12 PM	29.9 00	65	29.805		12 PM	29.8 85	65	29.815	
	1 PM	29.8 48	68	29.746		1 PM	29.8 35	68	29.758	
	2 PM	29.8 48	67	29.748		2 PM	29.8 35	67	29.760	
	3 PM	29.8 45	69	29.740		3 PM	29.8 31	69	29.751	
	4 PM	29.8 50	69	29.745		4 PM	29.8 36	69	29.756	
Sum	594 29				Sum	5944 85				
Mean Observa tion	29.7 12				Mean Observa tion	29.7 24				
Difference - .012										
D.P. Waters – Corporal Signal Service U.S. Army										

Contents of Journal for February 1880	
Contents	Dates
Auroras	0
Batteries	7, 14, 21, 28
Bars. compared	28,29
Bars. cleaned	
Civilian employed, crops	
Dews	

Drought		
Fog		
Frosts, light		
Frosts, killing		7,9,10,16,19,20,22,24
Hailstorms		
Instruments replaced		
Lightning (separately)		
Lunar Halos		17,18,22,23
Lunar Coronae		
Navigation		
Polar Bands		
Rains, light		18,20,21,25,27,28,29
Rains, heavy		11,12,13
Rainbows		
River Gauge		
Snows		2,3
Solar Halos		
Solar Coronae		
Station Inspected		
Thermometers Tested		
Thunderstorms and Lightning		11,12,13
Thunder (separately)		
Zodiacal Light		13
Leave of Absence		

Journal for February 1880		
Date	Contents	
1		Falling followed by rising barometer, W to N winds and generally cloudy weather. Fair weather sunset. Not verified. No aurora.
2	Light Snow	Falling barometer, lower temperature and NE winds. Snow commenced at 9:30 am and continued after midnight. Foul Weather sunset. Verified. Obscured
3	Light Snow	Rising barometer, higher temperature and steady W winds. Snow ended at 2:15 am, commenced at 4:30 pm and ended 9:50 pm. Foul weather sunset. Verified. Obscured
4		High barometer, lower temperature. Variable winds mostly S and clear weather. Heavy frost this AM. Fair weather sunset. Verified. No aurora.
5	Fog. Calms.	Dense fog this morning. Cloudy weather with calms prevailing. Fair weather sunset. Verified. No aurora.
6	Hazy. Calms.	Higher barometer and temperature. Hazy followed by calm

		weather. Calms prevail. Fair weather sunset. Verified. No aurora.
7	Heavy Frost, smoke. Battery. Yellow.	Heavy Frost and dense smoke. Battery cleaned. Higher barometer, lower temp. NE winds and clear weather. Yellow 1/4 sunset. Verified. No aurora.
8	Calms.	Slowly falling barometer, higher temp, generally clear weather with calms prevailing. Foul weather sunset. Not verified. Obscured.
9	Frost heavy. Calms. Yellow.	Heavy frost this AM. Slowly falling barometer. Decidedly higher temp, generally fair weather with calms prevailing fair weather (yellow 1/8 sunset) Verified. No aurora.
10	Heavy frost. Calms. Yellow.	Heavy Frost this AM. High Temp with no wind. Calms and clear weather. Fair weather sunset (yellow 1/8) Verified. No aurora.
11	Heavy Rain. Thunder Storms.	Falling barometer, higher temperature and variable winds mostly SE. Heavy rain accompanied by thunder and lightning commenced at 6:00 PM and continued after midnight. Foul weather sunset. Verified. Obscured.
12	Heavy rain. Thunderstorms. Heavy Storm.	Falling barometer, higher temperature S winds, cloudy weather with occasional rain during the day. Heavy rain with thunder and lightning commenced at 10:45PM. The wind increased in velocity and blew 30 miles steady from the SW with stationary barometer and high temp (68 deg). At 11:30 PM the wind veered N but almost immediately backed to SE and continued shifting between those points with extraordinary rapidity and frequency for about 5 minutes. At midnight the rain was falling in torrents accompanied by brisk winds and stationary barometer and temperature. Foul weather sunset. Verified. Obscured.
13	Remarkably heavy rain storm. Account of Storm of 13 th . Tornado (?) Loss \$75,000 Battery	Nearly stationary, followed by rising barometer after 2 PM. Rain with winds shifting to SW, Rain ended at 7:00 pm. The remarkable fall of 5.20 inches occurred since last observation yesterday. Reports having reached this station early in the AM that a tornado had passed over us doing great damage. Corporal Waters decided the following facts. The high winds which passed over the city last night developed into a tornado (?) which caused great destruction in some portions, As near as can be determined, two distinct paths or tracks were formed simultaneously at about 11:30pm on the 12 th and passed over the city. The directions of the same being from SW to NE. The northern path having a wrath of about ¼ mile, and the southern one 1/8 mile. On the accompanying map, the space enclosed by the heavy red lines embraces the whole destructive progress of the storm, no damage having been reported north or south of the lines. The points of the storms greatest velocity are marked on the lines thus. The northern path originated about 2 miles SW from this office at

		<p>the house of Mrs. Meriam. Trace of damage being formed beyond that point. This house was almost completely demolished and its inmates buried in the ruins, but extricated an hour later after suffering severe contusions, none of the injuries, however, resulting fatally. After un-roofing several houses and 2 freight cars, and having a laborer, who was walking home on the Northwestern div. of the C, S.L.N. RR. down an embankment and breaking his leg, the storm exhibited its greatest force in the un-roofing of the large building of the EN manufacturing Co and tearing up 2 trees at the Col. Moore's residence. NE and other W. The direction of the wind could here be seen to have been from right to left as shown by a large tree whose branches were all torn from the trunks. Very little damage was observed beyond this point until reaching the houses of Mrs. Gillem, this home was a heavy one story and completely demolished. No trace of the storm could be found beyond this point.</p> <p>The southern path commenced at a point of the Hillsboro Pike as shown on the map, un-roofing a large barn, these passing without further damage to the corner of McNairy and McGavock its un-roofing of several houses from this point to the Austin house where several blocks of granite were moved and a gable end torn down. Heavy "chimney-pots were also torn off and hurled a hundred yards in a NE direction. After tearing up the tin roofing on several buildings on So. Market St, it disappeared without further damage.</p> <p>The average distance between the northern and southern limits of the storm was about 1 ½ miles. In the center of these limits and for nearly a width of a half a mile through the city in the direction of the storms progress, no damage was reported, while on either side of this center, the paths above described could easily be traced,, this leads to the conclusion that two distinct whirlwinds of comparatively light character were formed in this vicinity and progressed simultaneously from SW & NE. The storm was preceded by no known remarkably atmospheric conditions the night being of intense darkness throughout. The bar fell gradually accompanied by light rain and high temperature up to the time of the storm's commencement. It was followed by a deluge of rain, the heaviest was known in the vicinity, without any noteworthy changes in barometer or temperature until after 2 PM (today) when the wind turned to the SW accompanied by rapidly rising barometer and rapidly falling temperature. The damages resulting from this storm are estimated at \$75,000.00, a list of which is herewith appended with account of the storm as clipped from the "American". Foul weather sunset. Battery replaced. Verified. Obscure.</p>
14		Higher barometer. Lower temperatures and N veering to S

		winds and generally fair weather. Fair weather sunset. Verified. No aurora.
15	Yellow	Rising barometer. Higher temperature calms and gentle W winds. Clear day. Fair weather (Yellow 1/8) sunset. Verified. No aurora.
16	Heavy frost	Falling barometer. Higher temp. SE to S winds and fair weather. Heavy frost this morning. Fair Weather sunset. Verified. No aurora.
17	Lunar halo	Falling barometer, higher temp. SE winds and fair weather. A lunar halo of 22 deg. Radius was observed at 10 PM. Foul weather sunset. Verified. Obscured.
18	Rain/ Light Lunar/ halo	Falling followed by rising barometer, decided fall in temperature. SE to N winds. Rain commenced at 4:30am and ended at 11:20 am. A lunar halo of 44 deg. Radius was observed at 9pm. Fair weather sunset. Verified. Obscured.
19	Heavy frost	Heavy frost this morning. Very high barometer. Low temp steady N winds and Clear weather. Fair weather sunset. Verified. No aurora.
20	Heavy Frost/Light Rain	Heavy frost this morning, falling barometer. Rising temperature. Clear followed by cloudy weather and calms prevailing, Rain commenced at 5:00pm and continued after midnight. Foul weather sunset. Verified. Obscured.
21	Light rain./Battery	Rain ended 3am. Lower barometer higher temp W winds and cloudy followed by clear weather, Battery cleaned. Fair weather sunset. Verified. No aurora.
22	Heavy Frost. Lunar Halo	Heavy frost this morning. Falling barometer, higher temperature. Calms and generally fair weather. Lunar halo 22 deg. radius observed at 7pm. Fair weather sunset. Verified. Obscured.
23	Lunar Halo	Rising barom, higher temp. fair weather, N winds, and calms. River falling rapidly, lunar halo 22 degrees radius observed at 8 p.m. Fair weather sunset. Verified. No aurora.
24	Heavy frost	Falling barom. High temp. calm to S winds and clear weather. Heavy frost this a.m. Fair weather sunset. Not verified. No aurora.
25	Light Rain	Falling barom. Very high temp, S to SW winds and cloudy weather. Rain commenced at 2:35 p.m. and ended 11:15 p.m. Foul weather sunset. Verified. Obscured.
26		Higher barom. Lower temp. SW backing to S winds and generally fair weather. Foul weather sunset. Verified. Obscured.
27	Light Rain	Nearly Sta. barom, lower temp and SE winds diminishing to calms, Rain commenced 10:35 a.m. ended 10:30 p.m. Foul weather sunset. Verified. Obscured.
28	Light Rain	Falling followed by rising barom higher temp. Variable winds mostly W. Rain commenced at 7:30 a.m. and continued at intervals up to 10:50 p.m. Battery cleaned. Foul weather

		sunset. Verified. Obscured.
29	Light Rain	Rising barom. Lower temp and NW winds. Rain commenced 12:25 p.m. and ended 11 p.m. Foul weather sunset. Verified. Obscured.

Summary of Sunset Observations

Predictions	No. of	Verified	Not Verified
Fair	16	14	2
Foul	13	12	1
Doubtful	0	-	-

River

Highest Reading of Gauge	44 ft 2 inches	19 th and 20 th
Lowest ""	8 ft 0 inches	1 st and 2nd
Range	36-2	

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville Tenn. Month: February, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Feb, 28	7 a.m.	29.560	69	29.456	Feb. 28	7 a.m.	29.547	69	29.468	
	8 a.m.	29.546	69	29.442		8 a.m.	29.532	69	29.453	
	9 a.m.	29.542	69	29.438		9 a.m.	29.529	69	29.450	

	10 a.m.	29.53 5	70	29.42 9		10 a.m.	29.52 2	70	29.44 1	
	11 a.m.	29.54 5	71	29.43 6		11 a.m.	29.53 2	71	29.44 8	
	12	29.54 5	71	29.43 6		12	29.53 2	71	29.44 8	
	1 p.m.	29.50 5	71	29.39 6		1 p.m.	29.49 2	71	29.40 8	
	2 p.m.	29.48 3	72	29.37 1		2 p.m.	29.47 0	72	29.38 3	
	3 p.m.	29.43 5	71	29.32 6		3 p.m.	29.42 2	71	29.33 8	
	4 p.m.	29.41 5	70	29.30 9		4 p.m.	29.40 2	70	29.32 1	
Feb. 29	7 a.m.	29.73 0	63	29.64 4		7 a.m.	29.71 7	63	29.65 3	
	8 a.m.	29.72 4	64	29.63 4		8 a.m.	29.71 0	64	29.64 5	
	9 a.m.	29.78 2	70	29.67 5		9 a.m.	29.77 0	70	29.68 8	
	10 a.m.	29.77 8	70	29.67 1		10 a.m.	29.76 5	70	29.68 3	
	11 a.m.	29.78 8	70	29.68 1		11 a.m.	29.77 5	70	29.69 3	
	12 N	29.79 0	70	29.68 3		12 N	29.77 7	70	29.69 5	
	1 p.m.	29.74 9	70	29.64 2		1 p.m.	29.73 5	70	29.65 3	
	2 p.m.	29.76 0	71	29.65 0		2 p.m.	29.74 7	71	29.66 2	
	3 p.m.	29.75 8	72	29.64 5		3 p.m.	29.74 5	72	29.65 7	
	4 p.m.	29.75 3	72	29.64 0		4 p.m.	29.74 0	72	29.65 2	
										Differen ce <u>.01</u> <u>1</u>
Sum.....590.604					Sum.....590839					
Mean Observation.....29.530					Mean Observation.....29.541					

D.P. Waters – Corpl., Signal Corps, U.S. Army

Note. – The comparative observations will be made on the (*insert "L" here*) ast two 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.

Condition of Instruments - Feb. 1880

Name	Numbers	Conditions
Barometer Standard	163	Serviceable
Barometer extra	1753	Serviceable
Thermometer standard	2890	Serviceable
Thermometer extra	3261	Serviceable
Thermometer maximum	116	Serviceable
Thermometer extra	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer extra	180	Serviceable
Thermometer extra	3133	Broken
Hygrometer	42, 42	Serviceable
Hygrometer Extra	698, 699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

Returned to C.S.O.

D.P. Waters

Corpl. Signal Corps U.S.A.

Contents of Journal for March 1880

Auroras	0
Batteries	6, 13, 20, 27
Bars. Compared	30, 31
Bars. Cleaned	
Civil Employed...	
Crops	
Dews	
Drought...	
Fog	2
Frosts light	21, 30
Frosts killing	2, 171
Hailstorms	
Instruments replaced	
Lightening (separated)	

Lunar Halos	24, 25
Lunar Coronae	
Navigation	
Polar Bands	
Rains, light	3, 6, 7, 8, 11, 14, 15, 16, 18, 19, 22, 26, 27
Rains, heavy	12
Rain=bows	
River Gauge	
Snows	
Solar Halos	
Solar Coronae	
Station Inspected	
Therms. Tested	
Thr. = storms and lightning	
Thunder (separately)	
Zodiacal Light	
Leave of Absence	

Journal for March 1880

1		Rising temperature, light E veering to W winds, cloudy followed by fair weather. No aurora. Fair weather sunset. Verified.
2	Frost and Fog	Falling barometer, higher temperature E winds and generally fair weather. Light frost and fog this morning. Foul weather sunset. Verified. Obscured.
3	Light Rain	Falling barometer, higher temperature SE to S winds. Rain commenced at 6:10 a.m. and continued at intervals up to 10:10 p.m. Foul weather sunset. Verified. Obscured.
4		Falling barometer, higher temperature, S winds and cloudy weather. Foul weather sunset. Not verified. Obscured.
5		Rising barometer, continued high temperature SW to NW winds, cloudy weather. Fair weather sunset. Verified. Obscured.
6	Light Rain/Battery	Falling barometer, lower temperature NE to E winds. Rain from 2:10 p.m. to 9:50 p.m. Foul weather sunset. Battery cleaned. Verified. Obscured.
7	Light Calm/Rains	Slowly rising barometer, lower temperature and calm prevailing. Rain commenced at 1:30 a.m. and continued at intervals up to 10:25 p.m. Foul weather sunset. Verified. Obscured.
8	Light Rain	Slowly falling barometer, lower temperature, N to NE winds and cloudy weather Rain commenced at 4 p.m. and continued after night. Foul weather sunset. Verified.

		Obscured.
9	Calms	Rain ended 2:45 a.m. Nearly stationary barom, temp same as yesterday, light NW winds and calms, cloudy weather. Foul weather sunset. Not verified. Obscured.
10	Calms	Falling barom., higher temp, generally fair weather, and calms prevailing. Fair weather sunset. Verified. No aurora.
11	Light Rain	Slowly rising barometer, lower temp, calms to N winds, cloudy weather, rain commenced at 8:50 p.m. and continued after midnight. Foul weather sunset. Verified. Obscured.
12	Heavy rain	Falling followed by rising barom, N winds. Heavy rains continued up to 6:45 p.m. Foul weather sunset. Verified. Obscured.
13	Calm/Battery	Higher barometer, lower temperature, light N winds diminishing to calms, cloudy weather. Battery cleaned. Foul weather sunset. Verified. Obscured.
14	Light Rain	Higher barometer, temperature same as yesterday, steady N winds. Rain commenced at 12:15 a.m., ended 3:35 a.m., recommenced at 6:30 p.m. and continued after midnight. Foul weather sunset. Verified. Obscured.
15	Light Rain	Light rain continued at intervals up to 8:10 p.m. Falling barometer, lower temperature N to NE winds. Foul weather sunset. Verified. Obscured.
16	Light Rain	Rising barometer, lower temperature and steady NW winds. Rain commenced at 2:30 a.m. and ended 9:10 a.m. Foul weather sunset. Not verified. Obscured.
17	Heavy frost	Heavy frost this a.m. Higher barom, lower temperature N to E winds and clear weather. Fair weather sunset. Not verified. No aurora.
18	Light Calms/Rain	Falling barometer, higher temp, cloudy weather and calms prevailing, rain commenced at 2:50 p.m. and continued after midnight. Foul weather sunset. Verified. Obscured.
19	Light Rain	Rain ended 1:15 a.m. Rising barom. and temperature, W winds and calms, and generally clear weather. Fair weather sunset. Verified. No aurora.
20	Battery	Falling followed by rising barom, higher temp, calms and NW winds, and generally fair weather, Battery cleaned. Fair weather sunset. Verified. No aurora.
21	Light Frost	Light frost this morning, falling barometers, higher temperature, light N winds and generally clear weather. Foul weather sunset. Verified. Obscured.
22	Light/hazy/Rain	Falling barom. slightly higher temperature, calms and light W winds, clear followed by hazy weather during evening. Rain commenced at 7:20a.m. and ended 7:55 a.m. Fair weather sunset. Verified. No aurora.

23		Falling followed by rising barometer, higher temperature, W to NW winds and clear weather. No aurora. Fair weather sunset. Verified.
24	Lunar halo	Higher barom, lower temp, N to NE winds and clear weather. A lunar halo of 22 degrees radius observed at 9 p.m. Fair weather sunset. Verified. No aurora.
25	Lunar halo	Falling barom. higher temp, E to SE winds and calms, generally fair weather. Lunar halo 22 degrees observed at 11 p.m. Fair weather sunset. Not verified. No aurora.
26	Light Rain	Falling barom., rising temp, winds mostly easterly. Rain commenced at 1:15 a.m. and continued at intervals up to 2:47 p.m. Foul weather sunset. Verified. Obscured.
27	Rapid changes/St. Rain	Falling barom, and very high temp, followed by rapidly rising barom. and falling temp during evening, brisk S to W winds and cloudy followed by clear weather. Rain commenced at 1:40 a.m., ended 3:05 a.m. Fair weather sunset. Verified. Battery cleaned. No aurora.
28		Rising barometer, lower temperature, W to NW winds and cloudy weather. Rain commenced 6:50 p.m. ended 8:40 p.m. Foul weather sunset. Verified. Obscured.
29		Rising barom. and temp., light N to NW winds but mostly calms, clear weather. Fair weather sunset. Verified. No aurora.
30	Light Frost	Higher barom. and temp, light NE to E winds and clear weather. Light frost this morning. Fair weather sunset. Verified. No aurora.
31		Falling barom. higher temp, light S winds but mostly calm, generally fair weather, Foul weather sunset. Not verified. Thermoms in use were tested and read 32 degrees except minimum thermometer 110 31 degrees. Not verified. No aurora.

River

Highest Reading of Gauge	46 ft 6 inches	17 th
Lowest ""	11 ft 2 inches	31 st
Range	35, 4	

Summary of Sunset Observations

Predictions	No. of	Verified	Not Verified
Fair	13	11	2
Foul	18	14	4
Doubtful	-	-	-

Condition of Instruments - March, 1880

Name	Numbers	Conditions
Barometer Standard	163	Serviceable
Barometer extra	1753	Serviceable
Barometer extra	246	Serviceable
Thermometer Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Extra	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Extra	180	Serviceable
Hygrometer	42, 42	Serviceable
Hygrometer Extra	698, 699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

D.P. Waters

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
DATE.	TIME.	Origin al readin g.	Attac hed Ther mome ter	Corre cted for temp eratur e and instru - menta l error.	DATE.	TIME.	Origin al readin g.	Attac hed Ther mome ter	Corre cted for temp eratur e and instru - menta l error.	
March	7 a.m.	29.84 7	59.08 1	29.76 9	March	7 a.m.	29.83 4	39.08 1	29.77 9	
	8 a.m.	29.86 7	62.08 9	29.78 1		8 a.m.	29.85 5	62.08 9	29.79 4	
	9 a.m.	29.89	67.10	29.77		9 a.m.	29.86	67.10	29.78	

		5	3	5			2	3	7	
	10 a.m.	29.89 1	69.10 9	29.78 5		10 a.m.	29.87 9	69.10 9	29.79 8	
	11 a.m.	29.89 4	71.11 4	29.78 0		11 a.m.	29.88 1	71.11 4	29.79 5	
	12	29.86 9	70.11 0	29.76 2		12	29.85 7	70.11 0	29.77 5	
	1	29.85 3	70.11 0	29.74 6		1	29.84 0	70.11 0	29.75 8	
	2	29.83 0	72.11 6	29.71 7		2	29.81 6	72.11 6	29.72 8	
	3	29.81 5	72.11 6	29.70 2		3	29.80 3	72.11 6	29.71 5	
	4	29.79 2	70.11 0	29.68 5		4	29.77 9	70.11 0	29.69 7	
	7	29.75 0	59.08 1	29.67 2		7	25.73 8	59.08 1	29.68 5	
	8	29.74 0	64.09 4	29.64 9		8	29.72 7	64.09 4	29.66 1	
	9	29.73 8	68.10 5	29.63 6		9	29.72 7	68.10 5	29.65 0	
	10	29.73 0	72.11 6	29.61 7		10	29.71 8	72.11 6	29.63 0	
	11	29.72 5	72.11 6	29.61 2		11	29.71 2	72.11 6	29.62 4	
	12	29.71 5	72.11 6	29.60 2		12	29.70 3	72.11 6	29.61 5	
	1	29.70 7	71.11 3	29.59 7		1	29.69 5	71.11 3	29.61 0	
	2	29.68 5	75.12 4	29.56 4		2	29.67 2	75.12 4	29.57 6	
	3	29.66 0	74.12 1	29.54 2		3	29.64 7	74.12 1	29.55 4	
	4	29.64 4	74.12 1	29.52 6		4	29.63 1	74.12 1	29.53 8	

Journal for April, 1880

1		Nearly stationary barometer, slightly lower temperature, calms to S winds and generally cloudy weather. Foul weather sunset. Verified. Obscured.
---	--	--

2	Light Rain	Falling barometer, lower temperature SE to S winds. Rain commenced at 9:15 a.m., ended at 1:35 a.m., recommenced at 11 p.m. and continued after midnight. Foul weather sunset. Verified. Obscured.
3	Light Rain	Rain ended 2:45 a.m. Falling, followed after 9 p.m. by rising barometer with winds veering at same time from S to W and increasing in velocity from 10 to 30 miles per hour. Rain commenced 9:50 p.m. and ended at 11:30 p.m. accompanied by thunder and lightning. Battery cleaned. Foul weather sunset. Verified. Obscured.
4	Yellow	Nearly stationary barometer, higher temperature SW to NW and clear weather. Fair weather (yellow $\frac{3}{4}$) sunset. Verified. No aurora.
5		Slowly falling barometer, higher temperature SE to NE winds and clear weather. Fair weather sunset. Verified. No aurora.
6		Rising barometer, lower temperature N to W winds, generally fair weather. Foul weather sunset. Not verified. Obscured.
7		Slowly rising barometer, low temperature N to NE winds, and cloudy followed after 3 p.m. by clear weather. Fair weather sunset. Verified. No aurora.
8		Continued high barometer, higher temperature N to NW winds and cloudy followed by clear weather. Fair weather sunset. Verified. No aurora.
9	Frost/Vegetation injured/Yellow	Light frost this morning. Peach buds and early vegetables reported slightly injured falling barom. rising temperature N to W winds and clear weather. Fair (yellow $\frac{1}{8}$) sunset. Verified. No aurora.
10	Battery/Yellow	Falling followed by rising barometer, higher temperature, SW to NE winds, clear weather. Battery renewed throughout. Fair (yellow $\frac{3}{4}$) sunset. Verified. No aurora.
11	Light Frost/Crops injured	Light frost this morning. Early crops especially wheat much injured. Rising barom. lower temperature N and NW winds and clear weather. Fair weather sunset. Verified. No aurora.
12	Last Frost/Heavy frost/Peach buds killed	Heavy frost this a.m. Peach buds killed in eastern vicinity, falling barometer, higher temperature N veering to S winds and clear weather. Fair weather sunset. Verified. No aurora.

13	Yellow	Falling barom., higher temperature, S winds and clear, fair (yellow 1/8) sunset. Verified. No aurora.
14		Falling barometer, higher temperature SE to S winds and generally fair weather. Foul weather sunset. Verified. Obscured.
15	Rain/Thunderstorm	Falling barom, lower temperature, S backing to easterly winds. Rain, accompanied by thunder and lightning, fell from 9:30 a.m. to 1:40 p.m. Showers from 2:30 p.m. up to 10:30 p.m. Foul weather sunset. Verified. Obscured.
16	Heavy rain	Heavy rain from 12:30 a.m. to 3:40 a.m. Falling followed by rising barometer, SE winds and cloudy, gradually veering to NW winds and clear weather. Fair weather sunset. Not verified. No aurora.
17	Light Rain/Battery	Slowly falling barometer, higher temp NE winds. Rain from 8:40 a.m. to 9:15 a.m. followed by fair weather, battery cleaned. Foul weather sunset. Not verified. No aurora.
18	Lunar halo	Falling barom, higher temp, NE veering to S winds and fair weather. A lunar halo of 22 degrees radius observed 10 p.m. Fair weather sunset. Not verified. No aurora.
19	Heavy rain	Heavy rain from 3:15 a.m. to 8:40 a.m. Light shower from 2:05 p.m. to 2:30 p.m. Rising barom, lower temp, W winds slowly veering to NE w. Fair weather sunset. Verified. Obscured.
20	Lunar halo	Rising followed by falling barom./lower temperature NE to N winds and generally clear weather. A lunar halo of 44 degrees radius observed at 10 p.m. Fair weather sunset. Verified. No aurora.
21	Lunar halo	Falling barom, higher temp, variable winds mostly E and clear weather. A lunar halo of 44 degrees radius observed at 8 p.m. Fair weather sunset. Verified. No aurora.
22		Falling barom, higher temp SE winds and fair weather. Fair weather sunset. Verified. No aurora.
23		Falling barom, higher temp, SE to S winds and fair weather. Foul weather sunset. Not verified. No aurora.
24	Battery/lunar halo	Low and nearly stationary barom, high temperature steady S winds and clear weather. A lunar halo of 22 degrees radius observed at 9 p.m. Battery cleaned. Fair weather sunset. Not

		verified. No aurora.
25	Light rain/Thunderstorm	Slowly rising barom, lower temperature, steady S winds and cloudy weather, rain with thunder and remarkably great amount of lightning commenced at 3:30 p.m. and ended 10:30 p.m. Foul weather sunset. Verified. Obscured.
26	Yellow	Rising barometer, lower temp, SW slowly veering to N winds and clear weather. Fair (yellow $\frac{1}{4}$) sunset. Verified. No aurora.
27	Lunar halo	Higher barometer, low temperature N winds and clear weather. A lunar halo of 22 degrees radius observed at 9 p.m. Fair weather sunset. Verified. No aurora.
28	Light rain	Falling barom, higher temperature, northerly veering to E and Se winds. Light rain from 8 p.m. to 10:05 p.m. continued after midnight. Foul weather sunset. Verified. Obscured.
29	Heavy rain/thunderstorm	The rain which continued from last night developed into a heavy thunderstorm early this a.m. and ended at 7:15 a.m. Rising barometer, lower temperature W and NW winds, and cloudy followed by clear weather. Fair weather sunset. Verified. No aurora.
30		Rising barometer, lower temperature, steady NW winds and clear weather. Fair weather sunset. Verified. No aurora.

River

Highest gauge	27 feet 2 inches	20 th
Lowest gauge	9 feet 8 inches	15 th
Range – 17-6		

Summary of Sunset Observations

Predictions	No. of	Verified	Not Verified
Fair	20	17	3
Foul	10	7	3
Doubtful	0	-	-

Condition of Instruments April, 1880

Name	Number	Conditions
Barom. standard	163	Serviceable
Barom. extra	1753	Serviceable

Barometer extra	246	Serviceable
Thermometer extra	2890	Serviceable
Thermometer extra	3261	Serviceable
Thermometer maximum	116	Serviceable
Thermometer extra	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer extra	180	Serviceable
Hygrometer	42 and 42	Serviceable
Hygrometer extra	698 and 699	Serviceable
Anemometer	52	Serviceable
Anemometer extra	154	Serviceable
Anemometer Self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

D.P. Waters

Pvt. Signal Corps U.S.A

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville Tenn. Month: April, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					
Correction for Instrumental Error. + .003					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.	REMARKS.
29	7 a.m.	29.513	69	29.409	29	7 a.m.	29.500	69	29.421	
	8 a.m.	29.515	69	411		8 a.m.	29.503	69	29.424	
	9 a.m.	29.519	69	29.415		9 a.m.	29.506	69	29.427	

	10 a.m.	29.545	71	29.436		10 a.m.	29.532	71	29.448	
	11 a.m.	29.550	71	29.441		11 a.m.	29.537	71	29.453	
	12 M	29.558	71	29.449		12 M	29.545	71	29.461	
	1 p.m.	29.570	71	29.461		1 p.m.	29.558	71	29.474	
	2 p.m.	29.566	71	29.457		2 p.m.	29.553	71	29.469	
	3 p.m.	29.561	72	29.449		3 p.m.	29.548	72	29.461	
	4 p.m.	29.556	73	29.442		4 p.m.	29.543	73	29.454	
30	7 a.m.	29.830	64	29.738	30	7 a.m.	29.818	64	29.751	
	8 a.m.	29.850	68	29.748		8 a.m.	29.837	68	29.760	
	9 a.m.	29.875	70	29.767		9 a.m.	29.862	70	29.780	
	10 a.m.	29.878	68	29.775		10 a.m.	29.865	68	29.788	
	11 a.m.	29.882	68	29.779		11 a.m.	29.869	68	29.792	
	12 M	29.888	68	29.785		12 M	29.875	68	29.797	
	1 p.m.	29.888	70	29.780		1 p.m.	29.875	70	29.792	
	2 p.m.	29.890	70	29.782		2 p.m.	29.878	70	29.795	
	3 p.m.	29.885	71	29.774		3 p.m.	29.872	71	29.787	
	4 p.m.	29.877	71	29.766		4 p.m.	29.864	71	29.779	
										Difference - .013
Sum.....592064					Sum.....592313					
Mean Observation...29.603					Mean Observation.....29.615					

Note – The comparative observations will be made on the last two 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.

Contents of Journal for May 1880

Contents	Dates
Auroras	0
Batteries	1, 8, 15, 22, 29
Bars. Compared	30, 31
Bars. Cleaned	
Civilian Employed	
Crops	
Change of force of station	28, 29
Dews	
Drought	
Fog	
Frosts, light	
Frosts, killing	
Hailstorms	
Instruments replaced	
Lightning (separately)	
Lunar Halos	17, 18
Lunar Coronae	
Navigation	
Polar Bands	
Rains, light	3, 4, 5, 20, 21, 27, 28, 29, 30
Rains, heavy	
Rains=bows	
River Gauge	
Snows	
Solar Halos	
Solar Coronae	
Station Inspected	
Thermos tested	
Thr =storms and lightning	
Thunder (separately)	
Zodiacal Light	
Leave of Absense	

Journal for May, 1880

1	Battery/Yellow	Falling barometer, cooler, clear weather. Fair (yellow $\frac{1}{4}$) sunset. Battery cleaned. Verified.
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		No aurora.
2		Falling barometer, warmer fair weather, south winds. Fair weather sunset. Verified. No aurora.
3	Light rain	Lower barometer, higher temperature SE winds, Rain commenced at 9:20 a.m. and ended 11 p.m. Foul weather sunset. Verified. Obscured.
4	Lt rain	Falling barom, higher temp SE slowly veering to SW winds, Rain ended at 1:15 a.m., commenced again at 10:30 p.m. and ended 11:05 p.m. Foul weather sunset. Verified. Obscured.
5	Lt rain	Falling followed by rising barometer, higher temperature, rain commenced at 1:30 a.m. and ended 3:10 a.m. Fair weather after 4 a.m. No aurora. Fair weather sunset. Verified.
6	Yellow	Nearly stationary barom. Warmer S winds and clear weather. No aurora. Fair (yellow $\frac{1}{4}$) sunset. No aurora. Verified.
7		Falling followed by rising barometer, warmer S and SW winds and clear weather. Fair weather sunset. Verified. No aurora.
8	Battery	Falling barom. warm S winds and clear weather, battery cleaned. No aurora. Fair weather sunset. Verified
9		Falling barom. warm SE and S winds and fair weather. No aurora. Fair weather sunset. Verified.
10		Slowly rising barom, warm S winds and generally fair weather. Fair weather sunset. Verified. No aurora.
11	Yellow	Higher barom. NE shifting to warn W winds and fair weather. No aurora. Fair weather sunset (yellow $\frac{1}{8}$) Verified.
12		Falling barom., cooler N winds and clear weather. Fair weather sunset. Verified. No aurora.
13		Falling barom, higher temp, steady N winds and clear weather. No aurora. Fair weather sunset. Verified.
14		Slowly rising barom, temp, N and NE winds and clear weather. Fair weather sunset. Verified. No aurora.
15	Battery	Rising barom, cooler NE wind and clear weather (?) Battery cleaned. No aurora. Fair weather sunset. Verified.

16		Higher barom. and temp NW winds and clear weather. No aurora. Fair weather sunset. Verified.
17	Lunar Halo	Falling barom, higher temp. N to W winds and clear weather, Lunar halo of 22 degrees radius observed 9 p.m. Fair weather sunset. Verified. No aurora.
18	Lunar Halo	Falling barom, higher temp. SW winds and clear weather. Lunar halo observed 9 p.m. Fair weather sunset. Verified. No aurora.
19		Slowly falling barom, W veering to warmer SW and S winds, and partly cloudy weather. No aurora. Fair weather sunset. Verified.
20	Light rain	Falling barom, warm southerly winds and fair weather. Rain commenced at 11:05 p.m. Obscured. Foul weather sunset. Verified.
21	Light rain	Falling followed by rising barometer, SE veering to NW winds. Rain continued at intervals up to 8:30 p.m. Foul weather sunset. Verified. No aurora.
22	Battery	Stationary barom, lower temp, NW veering to NE winds and clear to fair weather. Battery cleaned, fair weather sunset. Verified. No aurora.
23		Slowly falling barom, warmer NE to SE winds and clear weather. Fair weather sunset. Verified. No aurora.
24		Falling followed by rising barom, warmer SE winds and fair weather. Fair weather sunset. Verified. No aurora.
25		Warmer SE winds and fair weather. Foul weather sunset. Not verified. No aurora.
26		Falling barometer, SE winds, fair weather. Foul weather sunset. Verified. No aurora.
27	Lt. rain	Falling followed by rising barometer, SE veers to S winds. Rain began at 5 p.m. and ended at 6:15 p.m. began again at 8:30 p.m. & ended at 11 p.m. Fair weather throughout the day. Foul weather sunset. Verified. Obscured.
28	Lt. rain/Pvts Prindell Frankenfield	Falling barometer, stationary temperature, winds veering from NE to SE, and back to NE. Rain began at 2:30 a.m. ended 12:30 p.m. and commenced again at 2:38. Trained at intervals the rest of the day, and ended at 8:45 p.m. Began again at 11:30 p.m. Private Frankenfield arrived today, relieved Private Prindell. Foul weather sunset. Verified. Obscured.

29	Light rain/battery/Prvts Prindell – Water	Falling barometer, throughout the day stationary at midnight, stationary temperature SE winds. Cloudy and fair weather in the evening, rain ended 1:15 a.m. Battery cleaned. Pvt. Prindell relieved Pvt. Waters today. Foul weather sunset. Verified. No aurora.
30	Rain	Rising barometer, variable winds, rain began 12:45 A.M., ended 1:30 a.m. Fair weather sunset. Verified. No aurora.
31		Stationary barometer variable winds, fair weather. Foul weather sunset. Verified. No aurora.

Appendix: Highest water, 16.2 ft, lowest 4.0 ft Range 122 ft

Summary of Sunset Observations

Predictions	No. Of	Verified	Not Verified
Fair	21	21	0
Foul	10	9	1
Doubtful	-	-	-

Condition of Instruments May, 1880

Name	Number	Condition
Barometer, Standard	163	Serviceable
Barometer, Extra	1753	Serviceable
Barometer, Extra	246	Serviceable
Thermometer Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Extra	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Extra	180	Serviceable
Thermometer Hygrometer	42 and 42	Serviceable
Thermometer extra	698,699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self Register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Month: May, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
May 30 th	7 a.m.	29.444	78	29.317	May 30 th	7 a.m.	29.431	78	29.329	
	8 a.m.	29.451	79	29.321		8 a.m.	29.439	79	29.334	
	9 a.m.	29.467	79	29.337		9 a.m.	29.455	79	29.350	
	10 a.m.	29.487	81	29.352		10 a.m.	29.474	81	29.364	
	11 a.m.	29.493	82	29.355		11 a.m.	29.480	82	29.367	
	12 N	29.499	83	29.359		12 N	29.487	83	29.372	
	1 p.m.	29.499	85	29.353		1 p.m.	29.487	83	29.366	
	2 p.m.	29.506	86	29.358		2 p.m.	29.493	86	29.370	
	3 p.m.	29.535	86	29.387		3 p.m.	29.522	86	29.399	
	4 p.m.	29.538	86	29.390		4 p.m.	29.525	86	29.402	
May 31 st	7 a.m.	29.655	75	29.535	May 31 st	7 a.m.	29.643	75	29.548	
	8 a.m.	29.670	77	29.544		8 a.m.	29.657	77	29.536	
	9 a.m.	29.67	78	29.54		9 a.m.	29.66	78	29.53	

		4		6			1		8	
	10 a.m.	29.67 8	80	29.54 4		10 a.m.	29.66 5	80	29.55 6	
	11 a.m.	29.67 8	82	29.53 9		11 a.m.	29.66 6	82	29.55 2	
	12 N	29.67 5	83	29.53 4		12 N	29.66 3	83	29.54 7	
	1 p.m.	29.66 3	85	29.51 6		1 p.m.	29.65 0	85	29.52 8	
	2 p.m.	29.64 4	85	29.49 7		2 p.m.	29.63 1	85	29.50 9	
	3 p.m.	29.63 2	87	29.48 0		3 p.m.	29.62 0	87	29.49 4	
	4 p.m.	29.62 4	87	29.47 3		4 p.m.	29.61 1	87	29.48 5	
Sun				58873 7	Sun				5889 86	
										Differen ec....013
Mean Observation.....29.436					Mean Observation.....29.449					

L.M. Prindell – Pvt. Signal Corps, U.S.A.

Note – The comparative observations will be made on the last two 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.

Contents of Journal for June, 1880

Contents	Dates
Auroras	
Batteries	5, 12, 19, 26
Bars. Compared	29, 30
Bars. Cleaned	
Civilian Employed	
Crops	
Change in force of station	7
Dews	30
Drought	
Fog	30
Frost, light	
Frosts, heavy	
Hailstorms	
Instruments replaced	

Lightening (separately)	10, 13, 26, 29, 30
Lunar halos	26, 28
Lunar Coronae	18, 19, 20, 22
Navigation	
Polar Bands	
Rains, light	1, 2, 6, 8, 11, 24, 26, 27, 30
Rain, heavy	25, 28, 29
Rain=bows	
River Gauge	
Snows	
Solar Halos	24, 30
Solar Coronae	
Station Inspected	
Thrs. Tested	30
Thr=storms and Ltng	11, 24, 25, 27, 29
Thunder (separately)	25
Zodiacal Light	10
Leave of Absense	

Journal for June, 1880

1	Rain	Falling, followed by rising barometer, N to NW winds, cloudy weather, rain began 5:30 p.m. and ended 6:40 p.m. Foul weather sunset. Verified. Obscured
2	Lt. rain	Higher barometer, cooler weather, rain began at 4:50 a.m. , ended at 6 a.m. Fair weather sunset. Verified. No aurora.
3	Yellow	Higher barometer, stationary temperature. Clear weather, fair (yellow ¼) weather sunset. Verified. No aurora.
4		Falling barometer, higher temperature, variable winds, clear and partly cloudy weather, fair weather sunset. Verified. No aurora.
5	Battery	Falling barometer, higher temperature, southerly to southeasterly winds, fair weather. Battery attended to. Foul weather sunset. Verified. No aurora.
6	Rain	Rising followed by falling barometer, stationary temperature, rain began 3:30 a.m. ended 9:30 a.m. Fair weather sunset. Verified. No aurora.
7	Corp. Jesunofsky, Pvts. Prindell and Frankenfield	Falling barometer, stationary, temperature variable winds, clear weather, Corp. L. W. Jesunofsky arrived today, relieved Pvt.

		Prindell, and Pvt. Prindell relieved Pvt Frankenfield, reported to Corp. Jesunofsky for duty. Foul weather sunset. Verified. No aurora.
8	Lt. rain	Slowly fall Barometer, variable winds. Rain began at 6:20 a.m. ended 6:50 a.m. Fair weather sunset. Verified. No aurora.
9	Yellow	Stationary barometer, higher temperature, winds veering from SE to SW clear and partly cldy weather. No aurora. Fair (yellow $\frac{1}{4}$) weather sunset. Verified.
10	Lightning/Zodiacal Light/Yellow	Heat lightning observed in South eastern horizon from 8:30 to 11:20 p.m. Normal barometer extremely warm. Steady south winds. Zodiacal light very bright. No aurora. Verified.
11	Lt. rain/Thunderstorm/Rain/Yellow	Finely-shaped cumulus clouds, observed at noon. Thunder and lightning observed from 4:02 p.m. to 6:30 p.m. Lt. rain from 5:04 p.m. to 5:35 p.m. Barometer, normal, higher temperature, southerly winds. No aurora. Fair (yellow $\frac{1}{4}$) weather sunset, Verified.
12	Battery	Cum. Clouds of the finest type, observed from 11:00 a.m. to 3 p.m. Battery properly attended to. Stationary followed by falling barometer, lower temperature westerly winds. No aurora. Fair weather sunset. Verified.
13	Lightning	Finely-shaped cumulus clouds from 10:00 a.m. to 3:00 p.m. Heat lightning in southwestern horizon from 7:58 p.m. to 11:00 p.m. Falling barometer, higher temperature. Westerly winds. No aurora. Fair weather sunset. Verified.
14		Normal barometer, decidedly higher temperature, southwesterly winds. No aurora. Fair weather sunset. Verified.
15		Cumulus clouds of finest types observed between 12 noon and 3:00 p.m. Stationary followed by rising barometer. High followed by decidedly lower temperature at 7:25 p.m. Obscured. Foul weather sunset. Not verified.
16		Cumulus clouds of fine descriptions observed from 10:00 a.m. to 4:00 p.m. Stationary followed by rising barometer, much cooler northerly winds, Fair weather.

		No aurora. Fair weather sunset. Verified.
17		Nearly stationary barometer, slightly warmer, clear weather, low humidity. Northeasterly winds. No aurora. Fair weather sunset. Verified.
18	Coronae	At 2:16 a.m. wind suddenly backed from due E to S, and at 6:30 p.m. veered from SW to N. Stationary and falling barometer, variable southerly winds, higher temperature. Faint lunar coronae observed from 8:50 p.m. to 9:40 p.m. No aurora. Fair weather sunset. Verified.
19	Battery/Coronae	Battery thoroughly renovated nearly stationary barometer slightly lower temperature, easterly winds, low humidity. Lunar coronae with well-defined colors visible from 9:05 p.m. to 9:53 p.m. No aurora. Fair weather sunset. Verified.
20	Coronae	Stationary followed by falling barometer, higher temperature, northerly winds, low humidity. Lunar coronae with well-defined colors, visible from 10:30 p.m. to midnight. No aurora. Fair weather sunset. Verified.
21		Stationary followed by falling barometer. Slightly higher temperature. Northeasterly winds. No aurora. Fair weather sunset. Verified.
22	Coronae	At 3:10 p.m., winds backed to southerly. Stationary followed by falling barometer, slightly higher temperature, northeasterly winds. Lower coronae with well-defined colors, visible from 8:50 p.m. to 10:05 p.m. No aurora. Fair weather sunset. Verified.
23		Nearly stationary barometer, slightly higher temperature, easterly winds, fair weather. Obscured. Foul weather sunset. Verified.
24	Rain, Lt. /Solar Halo/Shower/Thunder-lightning/Thunderstorm/Shower	Lt. rain at intervals, from 2:40 a.m. to 6:05 a.m. Solar Halo observed from 10:00 a.m. to about 11:20 a.m. Heavy shower, accompanied by thunder and lightning from 5:12 p.m. to 5:36 p.m. Fierce lightning observed in eastern horizon from 7:20 p.m. to 10:45 p.m. Light shower from 10:29 p.m. to 10:58 p.m. Nearly stationary barometer, slightly lower temperature variable southeast winds. Obscured. Foul weather sunset. Verified.

25	Shower/Lt. rain/Thunderstorm/Lty. Slower lightning/thunder/lightning/destructive showers/thunder	Lt. shower from 11:08 a.m. to 11:15 a.m. Thunder and lightning began at 11:45 a.m. Barometer nearly stationary, temperature falling rapidly. Wind at 11:45 a.m. west, steady; at 12:00 midday, backed suddenly. to S.E. Clouds moving from NW. Heavy shower set in at 12:10 p.m. (wind backing from SE to NE at 12:30 p.m.) and heavy thunder and blinding lightning at 12:05 p.m., disappearing at 12:20 p.m. A Barn in city destroyed by lightning. Lt. showers, at intervals, from 1:55 p.m. to 3:29 p.m. Falling followed by rising barometer, lower temperature, southerly winds. Distant thunder heard during night. Obscured. Foul weather sunset. Verified.
26	Lunar Halo/Lt. Rain/Battery/Lightning	Lunar halo of about 22 ½ deg. Radii, visible from 12:05 a.m. to 3:40 a.m. Lt. rain, at intervals, from 10:30 a.m. to 12:45 p.m. Battery properly attended to. Lightning observed in northern horizon from 7:21 p.m. to 10:00 p.m. Cloudy weather; nearly stationary barometer, slightly higher temperature southerly winds. Obscured. Foul weather sunset. Verified.
27	Rain Lt./Shower/Rain Lt./Thunder/Lightning	Lt. rain from 10:30 a.m. to 11:35 a.m. Lt. shower, accompanied by severe lightning and light thunder, from 8:31 p.m. to 8:57 p.m. Lt. rain, again, from 9:39 p.m. to 11:10 p.m. with sharp zig-zag and chain lightning, accompanied by very light thunder. Fair weather, higher temperature, southwesterly winds, nearly stationary barometer. Obscured. Foul weather sunset. Verified.
28	Lunar halo/Heavy shower	Lunar halo of about 22 ½ degrees radii, visible from 2:45 a.m. to 3:30 a.m. At 5:34 p.m. winds veered from SW to NW with rapidly falling temperature. At 6:38 p.m. winds back from NW to W. Heavy showers at intervals from 3:52 a.m. to 9:08 p.m. Cloudy weather slightly lower temperature falling barometer, southwesterly winds. Obscured. Foul weather sunset. Verified.
29	Heavy rain/Heavy shower/Thunderstorm/lightning/rains	Heavy shower from 12:13 a.m. to 5:50 a.m. Accompanied by heavy thunder and blinding lightning, from 12:46 a.m. to 2:45 a.m. Light rains at intervals during the day.

		Stationary and higher barometer, fair weather lower temperature, southwesterly winds. Incessant lightning observed in northern-eastern and southern-horizon from 7:20 p.m. to 12:40 a.m. of 30 th . No aurora. Fair weather sunset. Verified.
30	Dew/Fog/Solar Halo/Rain Lt./Lightning/Rain Lt. /Ther. tests	Heavy deposition of dew between 1 a.m. and 2:30 a.m. Dense fog formed over river at 1:20 a.m.; spreading over city at 2:50 a.m. disappearing at 7:20 a.m. Solar halo, of about 22 ½ deg. Radius visible from 1:40 p.m. to 3:05 p.m. Lt. rain, with winds veering from SE to NW began at 6:50 p.m. ending at 9:25 p.m. Lightning observed from 9:10 p.m. to 11:00 p.m. Lt. rain from 10:45 p.m. to 11:37 p.m. Nearly stationary barometer slightly higher temperature , southeasterly winds cloudy weather. Ther. tests made today: all read alike, except min. (No. 110) which read 10 too low. Obscured. Foul weather sunset. Verified.

River

Highest reading of gauge during month – 5 ft., 10 in, - 1 p.m. on 3rd

Lowest reading of guage (gauge) during month – 1ft. 6 inch, - 1 p.m. 26th & 27th

Summary of Sunsets

Character	Number	Verified	Not Verified
Fair	19	19	0
Foul	11	10	1
Doubtful	-	-	-

Condition of Instruments

Name	Number	Condition
Barometer standard	163	Serviceable
Barometer Extra	1753	Serviceable
Barometer extra	246	Serviceable
Thermometer Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable
Thermometer Maximum	116	Serviceable

Thermometer Extra	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Extra	180	Serviceable
Hygrometer Extra	698 and 699	Serviceable
Hygrometer Extra	42 and 42	Serviceable
Anemometer	52	Serviceable
Anemometer Extra	154	Serviceable
Anemometer Self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain Gauge	-	Serviceable

L.St. Jesunofsky, Corps Sig. Corps U.S.A.

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: June, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
June 29	7 a.m.	29.578	77	29.453	June 29	7 a.m.	29.568	77	29.468	
	8 a.m.	29.593	78	29.466		8 a.m.	29.581	78	29.479	
	9 a.m.	29.608	78	29.481		9 a.m.	29.595	78	29.493	
	10 a.m.	29.612	78	29.485		10 a.m.	29.600	78	29.498	
	11 a.m.	29.618	78	29.491		11 a.m.	29.605	78	29.503	
	12 M	29.614	79	29.484		12 M	29.601	79	29.496	

	1 p.m.	29.60 8	78	29.48 1		1 p.m.	29.59 5	78	29.49 3	
	2 p.m.	29.60 2	80	29.46 9		2 p.m.	29.59 0	80	29.48 2	
	3 p.m.	29.59 5	81	29.45 9		3 p.m.	29.58 2	81	29.47 1	
	4 p.m.	29.59 4	81.5	29.45 7		4 p.m.	29.58 1	81.5	29.46 9	
June 30	7 a.m.	29.70 3	71	29.59 3	June 30	7 a.m.	29.69 0	71	29.60 5	
	8 a.m.	29.71 9	75	29.59 9		8 a.m.	29.70 7	75	29.61 2	
	9 a.m.	29.72 7	78	29.59 9		9 a.m.	29.71 4	78	29.61 1	
	10 a.m.	29.75 6	80	29.62 2		10 a.m.	29.74 4	80	29.63 5	
	11 a.m.	29.74 9	80	29.61 5		11 a.m.	29.73 6	80	29.62 7	
	12 M	29.74 1	82	29.60 2		12 M	29.72 8	82	29.61 4	
	1 p.m.	29.73 8	83	29.59 7		1 p.m.	29.72 4	83	29.60 8	
	2 p.m.	29.72 9	84	29.58 5		2 p.m.	29.71 5	84	29.59 6	
	3 p.m.	29.71 8	84	29.57 4		3 p.m.	29.70 5	84	29.58 6	
	4 p.m.	29.70 0	84	29.55 6		4 p.m.	29.68 8	84	29.56 9	
Sum.....590.668					Sum.....590.925					
Mean Observation.....29.533					Mean Observation.....29.546					

L.S.T. Jesunofsky

Corpl. Signal Corps, U.S.Army

Note – The comparative observations will be made on the last two 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.

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July, 1880

1	Rain Heavy	Heavy rain at intervals during the day. Fair weather, southwesterly winds, higher temperature, lower barometer. No aurora. Foul weather sunset, verified.
2	Rain-thunder/lightning/ thunderstorm	Heavy showers at intervals during the day, accompanied by light thunder but fierce and incessant lightning. Nearly stationary barometer, lower temperature, cloudy weather, southwesterly winds. Obscured. Foul weather sunset. Verified.
3	Thunder and lightning/thunderstorm/rain lt./battery/river	Fierce lightning without interval from 12:30 a.m. to 9:00 a.m. accompanied by the heaviest thunder known for years. Heavy rain

		from 4:09 a.m. to 8:15 a.m. Battery attended to Lt. rain set in at 3:50 p.m. with high winds at 3:55 p.m., ending at 4:43 p.m. River rising rapidly, with 17.9 ft on the gauge, a use of 11.3 ft. Since yesterday's observation higher barometer, higher temperature variable winds and fair weather. Obscured. Fair weather sunset. Not verified.
4	Fog/Rain-thunder-lightning/thunderstorm/Rain Lt./River/remarks/extract	Dense fog formed over river at 12:20 a.m., spreading over city by 1:05 a.m., disappearing entirely by 6:10 a.m. Heavy shower began at 2:18 p.m., accompanied by thunder and lightning, decreasing at 2:40 p.m. and ending at 3:10 p.m. Lt. rain from 5:58 p.m. to 8:54 p.m. accompanied by thunder and lightning. River rising slowly, with 29.9ft on guage (gauge), a rise of 12 ft. since yesterday's observation. "River men suffering terribly from the loss of logs. "This is something unusual for this time of year, as they were not prepared for it" Higher barometer and temperature, westerly winds, fair weather. Obscured. Foul weather sunset verified.
5	Rain Lt.	Lt. rain at intervals from 6:35 a.m. to 10:10 a.m. Nearly stationary barometer higher temperature, northwest winds, fair weather. No aurora. Foul weather sunset – verified.
6	Zodiacal Light, lightning, rain Lt.	Zodiacal light very bright. Lightning observed in southern horizon from 8:25 p.m. to 10:00 p.m. Light rain, at intervals, from 10:47 a.m. to 12:20 p.m. Slightly higher barometer, higher temperature, northerly winds and fair weather. No aurora. Fair weather sunset, verified.
7	Dew, fog	Heavy deposition of dew this a.m. Dense dog formed over river at about 2:00 a.m. disappearing by 5:30 a.m. Clear weather, easterly winds, higher temperature stationary barometer. No aurora. Fair weather sunset. Verified.
8	Dew and Fog/Zodiacal light/yellow	Heavy dew and light fog this a.m. Finely-shaped cumulus clouds observed this p.m. Zodiacal light very bright clear weather higher temperature, southerly winds, slightly higher temperature and higher barometer. No aurora. Fair weather (1/4 yellow) sunset, verified.

9	Lt. Rain	Finely-shaped cumulus clouds observed this p.m. Lt. rain from 5:23 p.m. to 5:31 p.m. Nearly stationary temperature higher barometer, clear weather and southerly winds. No aurora. Fair weather sunset. Not verified.
10	Lt. rain/battery/thunder-lightning-rain-rainbow/lightning/yellow	Battery properly attended to very severe thunder=storm, accompanied by rain from 4:01 p.m. to 4:49 p.m. with double rainbow from 4:37 p.m. to 5:23 p.m. Lightning and thunder of the most intense kind, observed for some time. Lightning in eastern horizon from 7:40 p.m. to 4:15 p.m. of 11 th . Clear weather, westerly wind, slightly higher temperature, lower barometer. No aurora. Fair weather (1/4 yellow) sunset, Verified. Fair weather. Northwesterly winds, higher temperature, and barometer. No aurora. Fair weather (1/4 yellow) sunset, verified.
11		Fair weather. Northwesterly winds, higher temperature, and barometer. No aurora. Fair weather (1/4 yellow) sunset, verified.
12		Clear weather, northwesterly winds, higher temperature and barometer. No aurora. Fair weather sunset. Verified.
13	Lightning	Finely-shaped cumulus clouds, observed this p.m. Lightning observed in southern horizon from 8:00 p.m. to 4:30 a.m. of 14 th . Clear weather, northwesterly winds, higher temperature and barometer. No aurora. Fair weather sunset, verified.
14	Sunstroke/solar halo/lightning/green-yellow-red	One case of sunstroke reported today. Solar halo, of about 22 ½ degrees radii, observed from 3:10 p.m. to 6:00 p.m. At 8:45 p.m. winds gradually commenced backing from NW to S., reaching the S. point by 9:00 p.m., with fresh to brisk winds from 9:00 p.m. to 9:30 p.m. At 9:3 p.m. wind veered from SE to SW, followed by a dead calm at 10:15 p.m. Incessant lightning from 7:10 p.m. to 4:00 a.m. of 15 th with threatening weather at 9:00 p.m. A remarkable sunset was observed today: one-eighth green, one-eighth yellow and ¼ red. To the right of setting sun the green was perfect. Above it yellow, and to the left, red. Fair weather, northwesterly winds, higher temperature lower barometer.

		Obscured. Foul weather sunset, verified.
15	Lt. rain/thunderstorm/rain-lightning-thunder	Fresh to brisk winds from 5:50 p.m. to 6:15 p.m. Lt. rain from 6:10 p.m. to 7:23 p.m., accompanied by faint lightning and light thunder. Rapid fall in temperature between 5:50 p.m. and 6:30 p.m. Fair weather, southerly winds lower temperature and barometer. Obscured. Foul weather sunset. Not verified.
16	Sunstroke	Another case of sunstroke reported today. Fair weather, northwesterly winds, lower temperature, nearly stationary barometer. No aurora. Fair weather sunset, verified.
17	Battery/Yellow	Battery attended to fair weather, northwesterly winds, lower temperature, higher barometer. No aurora. Fair weather sunset (1/4 yellow). Verified.
18	Dew/Lt. Rain	Higher barometer, northwesterly winds, higher temperature, fair weather. Heavy deposition of dew at midnight. No aurora. Fair weather sunset. Not verified.
19	Rain-lightning-thunder/lunar halo/thunderstorm	Lt. rain, accompanied by lightning and thunder, from 4:47 p.m. to 6:05 p.m. Lunar halo observed from 8:38 p.m. to 11:00 p.m. Fair weather, southerly winds, stationary temperature, lower barometer. Obscured. Fair weather sunset. Verified.
20		Fair weather, northwesterly winds, slightly lower temperature, higher barometer. Obscured. Fair weather sunset. Not verified.
21	Rain lt./lunar coronae/lunar halo	Lt. rain at intervals during the day. Lunar coronae, visible from 8:05 p.m. to about 9:20 p.m. Lunar halo, of about 22 ½ degrees radii, visible from 10:40 p.m. to 11:25 p.m. Cloudy weather, southeasterly winds, lower temperature, higher barometer. Obscured. Foul weather sunset, not verified.
22	Dew	Heavy deposition of dew this a.m. Clear weather, variable northerly winds, higher temperature and barometer. No aurora. Fair weather sunset. Verified.
23	Dew, solar halo/yellow	Heavy deposition of dew this a.m. Solar halo of about 22 ½ degrees radii, visible from 10:00 a.m. to 3:40 p.m. Fair weather, northwesterly winds, slightly lower temperature and barometer. Heavy deposition of dew between 9:50 p.m. and

		4:00 a.m. of 24 th . No aurora. Fair weather (1/4 yellow) sunset. Verified.
24	Battery/subpoena	Battery attended to . Corp'l L.N. Jesunofsky subpoenaed to appear before the Circuit Court at Waverly, Tenn, and produce record of observations for Dec. 2, 1876. Clear weather northwesterly winds, higher temperature, and barometer low humidity. Heavy deposition of dew from 10:00 p.m. to 3:00 a.m. of 25 th . No aurora. Fair weather sunset. Verified.
25	Zodiacal Light/Dew	Fine cumulus clouds observed this p.m. Clear weather, westerly winds, higher temperature, lower barometer; low humidity. Faint zodiacal light. Light deposition of dew this p.m. No aurora. Fair weather sunset, verified.
26	Zodiacal Light	Authority granted Corp'l Jesunofsky to produce meteorological record for Dec. 2, 1876, in Circuit Court at Waverly, Tenn. Zodiacal light quite bright to 9:14 p.m. Clear weather. Northwesterly winds, slight higher temperature, lower barometer. Obscured. Fair weather sunset, verified.
27	Lightning	Incessant lightning observed in western horizon from 7:50 p.m. to 4:00 a.m. of 28 th . Fair weather, easterly winds, higher temperature, slightly lower barometer. Obscured. Fair weather sunset, verified.
28	Lunar Coronae	Lunar coronae, with well-defined colors, visible from 2:30 a.m. to 3:05 a.m. Fair weather, easterly winds, lower temperature, slightly lower barometer. Obscured. Foul weather sunset, not verified.
29	Dew/records of office produced in court/zodiacal light	Lt. deposition of dew this a.m. Corporal Jesunofsky, proceeded under authority from O.C.S.O. granted July 26 th – to Waverly, Tenn. And produced meteorological records in case of Johnson vs. Nashville, Chattanooga and St.Louis. R.R. pending in Circuit Court at that place, and was detained until 4:00 p.m. of 30 th . Faint zodiacal light to 9:10 p.m. Clear weather, northerly winds higher temperature, lower barometer. No aurora. Fair weather sunset, verified.
30	Dew/Zodiacal Light	Heavy deposition of dew this a.m. Zodiacal light quite bright to 9:35 p.m. Clear weather, southeasterly winds, slightly higher

		temperature, nearly stationary barometer. No Aurora. Fair weather sunset, not verified.
31	Lt. rain/battery/rain-lightning-thunder	Battery attended to. Lt. rain from 4:17 p.m. to 4:34p.m., accompanied by faint lightning and light thunder. Fair weather, easterly winds, lower temperature, higher barometer. No aurora. Fair weather sunset, not verified.

River

Highest reading of guage (gauge) during month – 32 feet, 2 inches on 5th

Lowest reading of guage (gauge) during month – 1 foot, 10 inches on 31st

Monthly range – 30 feet, 4 inches

Summary of Sunsets

Character	Number	Verified	Not Verified
Fair	23	17	6
Foul	8	5	3
Doubtful	-	-	-

Condition of Instruments

Name	Number	Conditions
Barometer Standard	163	Serviceable
Barometer Extra	1753	Serviceable
Barometer Extra	246	Serviceable
Thermometer, Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable
Thermometer Maximum	116	Serviceable
Thermometer Maximum	440	Serviceable
Thermometer Minimum	110	Serviceable
Thermometer Minimum	180	Serviceable
Thermometer Hygrometer	42	Serviceable
Thermometer Hygrometer	42	Serviceable
Thermometer Hygrometer	698	Serviceable
Thermometer Hygrometer	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage and reservoir	-	Serviceable
River Guage	-	Considerably worn at low water marks

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: July, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
July 30	7 a.m.	29.628	77	29.502	July 30	7 a.m.	29.616	77	29.516	
	8 a.m.	29.637	79	29.506		8 a.m.	29.625	79	29.519	
	9 a.m.	29.644	82	29.505		9 a.m.	29.630	82	29.516	
	10 a.m.	29.644	83	29.503		10 a.m.	29.630	83	29.514	
	11 a.m.	29.648	84	29.504		11 a.m.	29.635	84	29.516	
	12 N	29.645	86	29.496		12 N	29.633	86	29.509	
	1 p.m.	29.639	88	29.484		1 p.m.	29.626	88	29.496	
	2 p.m.	29.625	89	29.468		2 p.m.	29.612	89	29.481	
	3 p.m.	29.617	89	29.461		3 p.m.	29.604	89	29.473	
	4 p.m.	29.611	91	29.449		4 p.m.	29.599	91	29.462	
July 31	7 a.m.	29.718	79	29.587	July 31	7 a.m.	29.705	79	29.599	
	8 a.m.	29.743	83	29.602		8 a.m.	29.730	83	29.614	
	9 a.m.	29.755	85	29.608		9 a.m.	29.743	85	29.621	
	10 a.m.	29.755	86	29.605		10 a.m.	29.743	86	29.619	
	11	29.759	88	29.604		11	29.74	88	29.615	

	a.m.					a.m.	5			
	12 N	29.752	88	29.597		12 N	29.740	88	29.610	
	1 p.m.	29.741	88	29.586		1 p.m.	29.728	88	29.598	
	2 p.m.	29.723	85	29.576		2 p.m.	29.710	85	29.588	
	3 p.m.	29.705	89	29.548		3 p.m.	29.692	89	29.560	
	4 p.m.	29.701	88	29.546		4 p.m.	29.688	88	29.558	
Sum.....590.737					Sum.....590.984					
Mean Observation.....29.53685					Mean Observation.....29.54920					Difference _.01235

L.N. Jesunofsky

Corpl, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Property – All property on station is in good order, excepting two Bulletin Boards and three map frames, which are considerably broken. The river gauge at low water mark is considerable work. Printing rollers also worn.

L.N. Jesunofsky – Corpl Sig Corps, U.S.A.

Transmitted – Nashville, Tenn., Aug. 4, 1880

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August, 1880

1	Lt. rain/thunderstorms/rain-lightning-thunder	Lt. rain from 1:37 p.m. to 1:56 p.m. accompanied by faint lightning and light thunder. Easterly winds, fair weather, higher barometer and temperature. Obscured. Foul weather sunset. Verified.
2	Rain lt.	Light rain in a.m.; heavy rain in afternoon. Fair weather, westerly wind slightly higher temperature, lower barometer, obscured. Foul weather sunset – verified.
3	Rain lt.	Lt. rain at intervals, from 1:08 a.m. to 12:12 p.m. Generally cloudy weather, northwesterly winds, lower temperature, higher barometer. Obscured. Foul weather sunset, not verified.
4	Zodiacal Light	Faint zodiacal light. Fair weather, variable northern winds, higher temperature and barometer. No aurora. Fair weather sunset. Verified.
5	Shooting Stars	Numerous shooting=stars observed early in a.m. Fair weather, variable northerly winds, higher temperature, and barometer. Obscured. Fair weather sunset – verified.
6		Fine cumulus and cirro-cumulus clouds

		observed throughout the day. Fair weather, variable northeasterly winds, nearly stationary temperature, lower barometer. Obscured. Fair weather sunset. Verified.
7	Battery/zodiacal light	Battery wiped carefully. Fine cumulus clouds, of perfect formation, observed this p.m. Zodiacal light very bright to 9:20 p.m. Clear weather, northeasterly winds, slightly higher temperature, higher barometer. No aurora. Fair weather sunset. Verified.
8	Dew/lightning/Yellow	Lt. dew this a.m. Lightning observed in northern and southern horizon from 8:50 p.m. to 3:00 a.m. of 9 th . Fair weather, westerly winds, lower temperature and barometer. Obscured. Fair weather (1/4 yellow) sunset. Verified.
9	Lt. rain, rain-lightning-thunder/solar halo/fresh to brisk winds-lightning-rain/heavy rain	Lt. rain from 9:17 a.m. to 9:29 a.m., accompanied by lightning and thunder, the former ceasing at about 11:00 a.m. and latter continuing until 7:25 p.m. Solar halo, of about 22 ½ degrees radii, visible from 2:00 p.m. to 2:30 p.m. Fresh SE winds set in at 6:46 p.m., increasing to brisk at 6:50 p.m.; followed by heavy rain from 7:20 p.m. to 7:54 p.m. with fierce lightning, the latter continuing past midnight until 3:30 a.m. of 10 th . Cloudy weather, southeasterly, winds, lower temperature and barometer. Obscured. Foul weather sunset. Verified.
10	Rain Lt./Rain Lt./Barometer	Light rain at intervals, from 12:10 a.m. to 8:17 a.m. and from 7:35 p.m. to 10:30 p.m. Rain began again at 10:50 p.m. continuing past night. Rapid rise in Barometer between 2:21 p.m. and 9:00 p.m. Cloudy weather, southerly winds nearly stationary temperature, and lower barometer. Obscured. Foul weather sunset. Verified.
11	Rain Lt/River/Lightning/yellow	The rain of 10 th ended at 12:26 a.m. River rising rapidly, 5 feet, 5 inches since yesterday's observation. Incessant lightning in northern, eastern and southern horizon from 6:50 p.m. to 1:00 a.m. of 12 th . Fair weather, westerly winds, higher temperature and barometer. Obscured. Fair weather (1/4 yellow) sunset, verified.
12	Dew	Light deposition of dew this a.m. Heavy deposition of dew from 8:50 p.m. to 4:00 a.m. of 13 th . Clear weather, northerly winds,

		stationary temperature, higher barometer. No aurora. Fair weather sunset. Verified.
13	Green	Clear weather, northeasterly winds, lower temperature and barometer. No aurora. Fair weather (1/8 vert) sunset, verified.
14	Dew/Battery	Heavy deposition of dew this a.m. Battery attended to clear weather. Northeast winds lower barometer, higher temperature. No aurora. Fair weather sunset. Verified.
15	Dew	Lt. depositions of dew this a.m. Clear weather, northerly winds higher temperature and stationary barometer. No aurora. Fair weather sunset, not verified.
16	Dew/solar halo/rain lt/ rainbow/lunar halo/lunar coronae	Lt. deposition of dew this a.m. Solar halo 22 ½ degrees from 10:15 to 11:30 a.m. Lt. rain at intervals during day. Double rainbow visible from 4:55 p.m. to 5:09 p.m. Lunar halo, of 22 ½ degrees radii, visible from 8:35 p.m. to 9:50 p.m. Lunar coronae with well-defined colors are visible from 10:40 p.m. to 12:50 a.m. of 17 th . Fair weather, northwesterly winds, slightly lower temperature, higher barometer. No aurora. Fair weather (1/4 yellow) sunset, verified.
17	Dew/lunar coronae/green	Light deposition of dew this a.m. Well-defined lunar coronae, all colors visible, from 8:04 p.m. to 10:18 p.m. Fair weather, easterly winds, higher barometer and temperature. No aurora. Fair weather (1/4 green) sunset, verified.
18	Dew	Lt. deposition of dew this a.m. Lunar halo, of 22 ½ degrees radii, visible from 9:20 p.m. to 11:55 p.m. Fair weather, westerly winds, higher temperature and lower barometer. No aurora. Fair weather sunset, verified.
19	Lunar halo/lunar coronae	Well-defined lunar halo of 22 ½ deg. Radii, visible from 12:40 a.m. to 3:50 a.m. Lunar coronae, with all seven colors, and clearly definable, observed from 7:50 p.m. to 9:27 p.m. Fair weather, southerly winds, decidedly higher temperature, and much lower barometer. No aurora. Fair weather sunset, verified.
20	Lightning/ thunder/rain/thunderstorm	Charm and Fork lightning, and thunder from 7:50 p.m. to past midnight. Lt. rain from 10:19 p.m. to 10:25 p.m. with 2/4 Nimbus (?) Heavy showers reported north and south of station between 8:00 p.m. and midnight. Fair weather

		s. westerly winds, slightly higher temperature, lower barometer. Obscured. Foul weather sunset, not verified.
21	Lightning/thunder/battery/solar halo	The lightning and thunder of 20 th ceased at 2:45 a.m. At 2:20 a.m. Wind backed from east to due W., and at 1:30 a.m. veering again to SE. Battery carefully attended to. Solar halo, of 22 ½ degrees, visible from 11:50 a.m. to 3:00 p.m. Incessant lightning and light thunder from 7:45 p.m. to 11:20 p.m. Cloudy weather, NW winds, higher barometer, lower temperature. Obscured. Foul weather sunset. Verified.
22	Lunar Coronae/Dew	Lunar coronae of the finest, formation, visible from 8:40 p.m. to 10:50 p.m. Heavy deposition of dew from 11:30 p.m. to 4:20 a.m. of 23 rd . Cloudy weather, westerly winds, nearly stationary temperature, and higher barometer. Fair weather sunset. Obscured. Verified.
23	Lunar coronae/fog/rain lt./lightning, thunder/thunderstorm	Lunar coronae, visible from 4:20 a.m. to break of day. Dense fog set in at 5:00 a.m. disappearing by 6:05 a.m. At 4:51 p.m. winds veered from NE to SW, followed by light showers, from 5:42 p.m. to 6:15 p.m. with severe lightning and heavy thunder. Fair weather northwest winds, higher barometer. No aurora. Fair weather sunset, not verified.
24	Dew/fog/rain lightning-thunder/hvy rain/yellow	Lt. dew and fog this a.m. Heavy shower from 1:09 p.m. to 2:45 p.m. accompanied by a single flash of lightning and one heavy peal of thunder at 1:15 p.m. Fair weather, northeast winds higher barometer and temperature. Obscured. Fair weather (1/4 yellow) sunset, verified.
25	Dew/fog/zodiacal light/lunar coronae/yellow	Heavy dew this a.m. Lt. fog observed on low=lands this a.m. Faint zodiacal light. Lunar coronae visible from 10:37 p.m. to 11:40 p.m. Fair weather, easterly winds, lower barometer, higher temperature. No aurora. Fair weather sunset (1/4 yellow). Verified.
26	Lunar coronae/dew/rain lt./rain=bows/zodiacal light/lightning	Lunar coronae visible from 12:25 a.m. to about 2:50 a.m. Light dew this a.m. Lt. rain from 1:30 p.m. to 1:42 p.m. Rainbow and supernumerary visible from 5:32 p.m. to 5:45 p.m. Zodiacal light quite bright, incessant lightning observed in northern and southwestern horizon from 7:50 p.m. to 9:30 p.m. Fair weather, easterly winds, lower barometer and temperature.

		Obscured. Fair weather sunset. Verified.
27	Hvy rain/showers/lightning/thunder/ Rain/thunderstorm	Heavy showers east and south of station, accompanied by fierce lightning and heavy thunder. Light showers from 1:08 p.m. to 1:42 p.m. and 4:30 p.m. to 4:40 p.m. Fair weather, southeasterly winds, higher barometer, much lower temperature. Obscured. Foul weather sunset, verified.
28	Dew/battery/rain lt.	Light dew this a.m. Battery attended to. Light rain, at intervals, from 12:00 midday to 4:08 p.m. Fair weather, easterly winds, higher barometer and temperature. Obscured. Foul weather sunset. Verified.
29	Heavy dew/rain lt.	An extremely heavy deposition of dew this a.m. Early. Lt. Rain from 12:54 p.m. to 2:51 p.m. Fair weather, northeasterly winds, lower barometer and temperature. No aurora. Fair weather sunset. Verified.
30	Heavy dew/Lunar coronae/fog	Heavy deposition of dew this a.m. and dense fog on low lands. Lunar coronae at short intervals, between 3:50 a.m. and 4:30 a.m. Clear weather, easterly winds, lower barometer, decidedly higher temperature. No aurora. Fair weather sunset. Verified.
31	Dew/solar coronae	Light dew this a.m. Solar coronae, observed from 10:20 a.m. to 11:30 p.m. Fair weather, easterly winds, lower barometer, nearly stationary temperature. Obscured. Foul weather sunset. Verified.

River

High water, 5 ft. 10 inches – August 11th — 4.10

Low water, 1 ft. 0 inches – August 9th

Summary of Sunsets

Character	Number	Verified	Not Verified
Fair	21	19	2
Foul	10	8	2
Doutbful	-	-	-

Condition of Instruments

Name	No.	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum	116	Serviceable
Thermometer, maximum	440	Serviceable
Thermometer, minimum	110	Serviceable
Thermometer, minimum	180	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	698	Serviceable
Thermometer, hygrometer	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain=guage (gauge)	-	Serviceable
River guage	-	Worn

Property

The property on station remains in good condition, excepting one water bucket, three map frames and three bulletin boards. The river guage near low water is considerably worn, also. Transmitted, Nashville, TN, Sept 2, 1880.

L.N. Jesunofsky

Corpl Sig Corps

U.S.A.

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: August, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					Correction for Instrumental Error. + .028					
DATE	TIME	Original	Attached	Corrected	DATE.	TIME	Original	Attached	Corrected	
.	.	al	d	d		.	al	ed	d	

		readin g.	Thermo meter	for tempera ture and instru- mental error.			readi ng.	Therm omete r	for tempera ture and instru- mental error.	
Aug 30	7 a.m.	29.637	78	29.509	Aug 30	7 a.m.	29.62 4	78	29.521	
	8 a.m.	29.641	82	29.502		8 a.m.	29.62 9	82	29.515	
	9 a.m.	29.643	84	29.499		9 a.m.	29.63 0	84	29.511	
	10 a.m.	29.638	85	29.491		10 a.m.	29.62 5	85	29.503	
	11 a.m.	29.628	86	29.479		11 a.m.	29.61 5	86	29.492	
	12 N	29.611	88	29.457		12 N	29.59 9	88	29.470	
	1 p.m.	29.583	89	29.427		1 p.m.	29.57 0	89	29.439	
	2 p.m.	29.560	90	29.401		2 p.m.	29.54 7	90	29.413	
	3 p.m.	29.546	91	29.384		3 p.m.	29.53 3	91	29.396	
	4 p.m.	29.537	90	29.378		4 p.m.	29.52 5	90	29.391	
Aug 31	7 a.m.	29.553	80	29.420	Aug. 31	7 a.m.	29.54 1	80	29.433	
	8 a.m.	29.555	83	29.415		8 a.m.	29.54 2	83	29.427	
	9 a.m.	29.555	85	29.409		9 a.m.	29.54 2	85	29.421	
	10 a.m.	29.560	86	29.412		10 a.m.	29.54 8	86	29.425	
	11 a.m.	29.544	87	29.393		11 a.m.	29.53 1	87	29.405	
	12 N	29.539	88	29.385		12 N	29.52 7	88	29.398	
	1 p.m.	29.525	89	29.369		1 p.m.	29.51 3	89	29.382	
	2 p.m.	29.504	89	29.348		2 p.m.	29.49 1	89	29.360	
	3	29.460	90	29.301		3	29.44	90	29.314	

	p.m.					p.m.	8			
	4 p.m.	29.450	89	29.294		4 p.m.	29.43 7	89	29.306	
Sum.....588273						Sum.....588522				Difference _.01245
Mean Observation.....29.41365						Mean Observation.....29.42610				

L.N. Jesunofsky

Corpl Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

September, 1880

1	Rain – heavy	Heavy rains at short intervals during the day, with fresh to brisk and high wind. Fair weather, easterly wind, lower barometer and temperature. Obscured. Foul weather sunset. Verified.
2	Rain - heavy	Heavy rains in a.m. Cloudy, weather, southerly winds, higher barometer, lower temperature. Obscured. Foul weather, sunset verified.
3	Rain – lt.	Lt. rain, at intervals from 3:49 p.m. to 10:55 p.m. Cloudy weather, southeasterly winds, higher barometer and temperature. Obscured. Foul weather sunset. Verified.
4	Battery/rain-lightning-thunder-rainbow/hvy rain	Battery attended to heavy showers, at intervals during the day, accompanied by thunder and lightning from 4:15 p.m. to 4:50 p.m. and double rainbow, with all colors visible from 4:31 p.m. to 5:04 p.m. Higher barometer, stationary temperature, southerly winds, cloudy weather. Obscured. Foul weather sunset. Verified.
5	Hvy rain/rain-lightning/thunder	Heavy rains, at intervals from 1:30 p.m. to past midnight, accompanied by lightning and thunder throughout the afternoon and evening. Fair weather, southeasterly winds, higher barometer and lower temperature. Obscured. Foul weather sunset. Verified.
6	Rain Lt.	The rain of 5 th ended at 12:45 a.m. Lt. rains during the day. Cloudy weather, northwest winds, slightly higher barometer, lower temperature. Obscured. Foul weather sunset. Verified.
7		Generally cloudy weather, northerly winds, lower barometer and temperature obscured. Foul

		weather sunset, not verified.
8	Zodiacal light/p.m.	Faint zodiacal light. Clear weather, northerly winds, higher barometer and decidedly lower temperature. No aurora. Fair weather sunset. Verified.
9	Dew	Heavy deposition of dew from 8:20 p.m. to 5:00 a.m. of 10 th . Clear weather, northerly winds, higher barometer and extremely low temperature. No aurora. Fair weather sunset. Verified.
10	Dew/Yellow	Light dew from 11:00 p.m. to 1:00 a.m. of 11 th . Clear weather, easterly winds, higher barometer and temperature. No aurora. Fair weather (1/8 yellow) sunset. Not verified.
11	Rain lt./Battery	Lt. rain from 5:10 a.m. to 6:35 a.m. Battery wiped carefully, generally cloudy weather, southeasterly winds, lower barometer, higher temperature. Obscured. Foul weather sunset. Not verified.
12		Cloudy weather, southwest winds, lower barometer, higher temperature. Obscured. Fair weather sunset. Verified.
13	Lunar Coronas	Lunar coronae, observed at intervals, from 9:15 p.m. to midnight. Fair weather, northwesterly winds, lower barometer and temperature. No aurora. Fair weather sunset. Verified.
14	Dew/Zodiacal light (a.m.)	Light dew from midnight of 13 th to 1:00 a.m. Zodiacal light very bright (in eastern horizon) from 2:00 a.m. to 4:00 a.m., with an angle and altitude of 45 degrees, each clear weather, northeasterly winds, lower barometer and temperature. Extremely heavy deposition of dew from 10:00 p.m. to 5:00 a.m. of 15 th . No aurora. Fair weather sunset. Verified.
15	Zodiacal light (a.m.)/fog/dew/yellow	Zodiacal light very bright (in eastern horizon) from 2:20 a.m. to 3:50 a.m. Dense fog observed on lowlands from 3:00 a.m. to 6:00 a.m. Heavy deposition of dew from 8:00 p.m. to 4:50 a.m. of 16 th . Clear weather, northwest winds, lower barometer, higher temperature. No aurora. Fair weather (1/8 yellow) sunset. Verified.
16	Zodiacal light a.m./fog/dew	Zodiacal light very bright from 2:00 a.m. to 4:00 a.m. Dense fog observed on lowlands from 3:30 a.m. to 9:00 a.m. An extremely heavy deposition of dew from 8:10 p.m. to 2:50 a.m. of 17 th . Fair weather, northwesterly winds, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
17	Dense fog/lunar coronas/dew	Light fog set in at 2:40 a.m., accompanied by

		numerous lunar coronas from 2:45 a.m. to 3:00 a.m. , when when fog became so dense that objects one foot from observer could scarcely be seen, until 4:30 a.m. when it began to decrease, slightly in density, disappearing by 9:10 a.m. Fair weather, southerly winds, higher barometer and temperature. Heavy deposition of dew from 8:20 p.m. to 1:50 a.m. of 18 th . No aurora. Fair weather sunset – verified.
18	Fog/lunar coronas/battery/dew	Light fog set in at 12:50 a.m. with numerous lunar coronas from that time to 3:40 a.m., increasing in density at 4:00 a.m., continuing so until 6:50 a.m. and disappearing entirely by 7:15 a.m. Battery attended to. Light deposition of dew from 9:40 p.m. to 5:00 a.m. of 19 th . Fair weather, southwesterly winds, stationary barometer, higher temperature. No aurora. Fair weather sunset. Verified.
19	Fog	Lt. fog observed on low-lands from 1:55 a.m. to 5:30 a.m. Fair weather, easterly winds, higher barometer and temperature. Obscured. Fair weather sunset. Verified.
20	Rain lt.	Light rain from 1:49 p.m. to 2:02 p.m. Generally cloudy weather, northwesterly winds, higher barometer, lower temperature. Obscured. Foul weather sunset. Not verified.
21	Lunar halo	Lunar halo, of perfect formation, and of about 20 deg. Radii, visible from 1:00 a.m. to 5:15 a.m. Cloudy weather, easterly winds, higher barometer, lower temperature. Obscured. Foul weather sunset, not verified.
22		Northeasterly winds, cloudy weather, lower barometer, slightly higher temperature. Obscured. Foul weather sunset, verified.
23	Rain lt.	Light rains in a.m.; began again at 10:15 p.m. continuing past midnight. Northeasterly winds, generally cloudy weather, lower barometer and slightly lower temperature. Obscured. Foul weather sunset. Verified.
24	Rain lt./rain/zodiacal light	The rain of 23 rd ended at 12:10 a.m. Lt. shower from 1:54 p.m. to 2:09 p.m. Faint zodiacal light observed from 6:50 p.m. to 8:10 p.m. Fair weather easterly winds, lower barometer, higher temperature. No aurora. Fair weather sunset, not verified.
25	Lunar coronas/battery/rain lt. /yellow	Numerous lunar coronas observed from 1:45 a.m. to 4:30 a.m. Battery carefully attended to lt. rain,

		at intervals, from 12:27 p.m. to 3:47 p.m. Southeasterly winds, cloudy weather, lower barometer and temperature. Obscured. Fair weather (1/8 yellow) sunset. Verified.
26	Lunar corona/dew/rain lt./heavy rain/lightning/thunder/ thunderstorm	Lunar coroneae observed from 1:25 a.m. to 2:00 a.m. Extremely heavy deposition of dew from 2:00 a.m. to 3:00 a.m. Lt. rain, at intervals, from 11:44 a.m. to 12:23 p.m. Lt. rain set in again at 5:05 p.m. (accompanied by lightning and thunder) continuing to 6:20 p.m. after which it began falling heavily continuing so until 8:40 p.m. when it gradually decreased ending at 9:24 p.m. Generally cloudy weather, southerly winds, higher temperature lower barometer. Obscured. Foul weather sunset. Verified.
27	Rain lt.	Light rain, at intervals, during the day. Generally cloudy weather northwesterly winds, higher barometer, decidedly lower temperature. Obscured. Foul weather sunset. Verified.
28	Zodiacal light/dew	Zodiacal light quite bright to 9:00 p.m. Heavy deposition of dew from 8:15 p.m. to 5:00 a.m. of 29 th . Westerly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
29	Dew/yellow	An extremely heavy deposition of dew from 8:00 p.m. to 5:15 a.m. of 30 th . Clear weather, northwest winds, higher barometer, decidedly lower temperature. No aurora. Fair weather (1/8 yellow) sunset, verified.
30	Dew/fog/thermometer/tests	Heavy deposition of dew from 7:50 p.m. to 5:30 a.m. of Oct. 1. Light fog observed on low=lands from 9:50 p.m. to 7:00 a.m. of Oct. 1. Clear weather, northwesterly winds, higher barometer, lower temperature. Thermometer tests made to=day all read alike, excepting minimum no. 110, which read 1 degree too low. No aurora. Fair weather (1/8 yellow) sunset, verified.

River

High water, 2 ft. 11 in. – Sept. 7 and 27

Low water, 0 ft. 7 in. – 26th

Monthly range – 2 ft. 4 in.

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	16	14	2
Foul	14	10	4
Doubtful	0	-	-

Condition of Instruments

Name	Number	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum	116	Serviceable
Thermometer, maximum	440	Serviceable
Thermometer, minimum	110	Serviceable
Thermometer, minimum	180	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	698	Serviceable
Thermometer, hygrometer	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage and reservoir	-	Serviceable
River guage	-	Worn at low-water

Property

All property on station is in good condition, excepting one water bucket, three map frames and three bulletin boards. The river guage near low-water mark is worn considerable.

L.N. Jesunofsky

Sergt., Sig. Corps, U.S.A.

Transmitted – Nashville, Tenn. Oct. 4, 1880

(Form 33.)
MONTHLY COMPARATIVE READINGS.
BAROMETERS.
Station: Nashville, TN Month: September, 1880

Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Sept. 29 th	7 a.m.	29.735	65	29.641	Sept. 29 th	7 a.m.	29.723	65	29.654	
	8 a.m.	29.746	66	28.649		8 a.m.	29.733	66	29.661	
	9 a.m.	29.766	67	29.666		9 a.m.	29.753	67	29.678	
	10 a.m.	29.779	67	29.679		10 a.m.	29.766	67	29.691	
	11 a.m.	29.779	67	29.679		11 a.m.	29.766	67	29.691	
	12 N	29.769	67	29.669		12 N	29.756	67	29.681	
	1 p.m.	29.757	69	29.652		1 p.m.	29.744	69	29.664	
	2 p.m.	29.749	70	29.642		2 p.m.	29.737	70	29.655	
	3 p.m.	29.745	70	29.638		3 p.m.	29.733	70	29.651	
	4 p.m.	29.750	68	29.648		4 p.m.	29.739	68	29.661	
Sept. 30 th	7 a.m.	29.875	60	29.793		7 a.m.	29.862	60	29.806	
	8 a.m.	29.885	61	29.801		8 a.m.	29.873	61	29.814	
	9 a.m.	29.886	61	29.802		9 a.m.	29.874	61	29.815	
	10 a.m.	29.888	62	29.801		10 a.m.	29.876	62	29.814	
	11 a.m.	29.888	63	29.798		11 a.m.	29.876	63	29.811	
	12 N	29.870	64	29.778		12 N	29.858	64	29.791	
	1	29.844	67	29.744		1	29.83	67	29.757	

	p.m.					p.m.	2			
	2 p.m.	29.836	68	29.734		2 p.m.	29.82 4	68	29.747	
	3 p.m.	29.805	69	29.700		3 p.m.	29.79 3	69	29.713	
	4 p.m.	29.795	68	29.693		4 p.m.	29.78 3	68	29.706	
Sum.....594207						Sum.....594461				Difference <u>.01270</u>
Mean Observation.....29.71035						Mean Observation.....29.72305				

L.N. Jesunofsky, Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents	Dates
Auroras	
Batteries	2, 9, 16, 23, 30
Bars. Compared	30, 31
Bars. cleaned	
Civilian Employed	
Crops	
Dews	1, 5, 6, 8, 9, 10, 12, 13, 19, 21, 22
Drought	
Fog	6, 7, 9, 12, 19
Frosts, light	
Frost, killing	18, 19, 23, 24, 25
Hailstorms	
Instruments replaced	
Lightening (separately)	14, 21
Lunar halos	14, 16, 19, 20, 21, 26
Lunar coronae	16, 17
Navigation	
Polar Bands	
Rains, light	4, 11, 14, 15, 22, 26, 27, 28, 29, 30
Rains, heavy	16
Rain=bows	15
River gauge	
Snows	
Solar Halos	1, 2, 3, 9, 19, 20, 21, 25
Solar Coronae	
Station Inspected	
Therms. Tested	

Thr.=storms and ltng.	15, 16
Thunder (separately)	14
Zodiacal lights	2, 6, 7, 8, 9, 10, 12, 13, 14, 31
Leave of absense	

October, 1880

1	Dew/Solar Halo/yellow	Heavy deposition of dew from 8:00 p.m. to 5:00 a.m. of 2 nd . Solar halo this a.m. 22 degrees, 10:00 a.m. to 12:30 p.m. Clear weather, northwest winds, lower barometer, higher temperature. No aurora. Fair weather (1/8 yellow) sunset, verified.
2	Zodiacal light (a.m.)/battery/solar halo/yellow	Zodiacal light exceedingly bright from 2:40 a.m. to 3:45 a.m. Battery attended to solar halo, of about 22 degrees radii, visible from 2:00 p.m. to about 3:50 p.m. Southerly winds, clear weather lower barometer and higher temperature. No aurora. Fair weather (1/8 yellow) sunset. Verified.
3	Solar Halo	Solar halo of about 22 ½ degrees visible from 2:00 p.m. to about 3:30 p.m. Fair weather, southerly winds, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
4	Rain lt.	Light rain set in at 1:09 a.m. ending at 1:10 p.m. – began again at 4:52 p.m. and ended at 6:15 p.m. Variable northerly winds, generally cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset. Not verified.
5	Dew	Heavy deposition of dew from 8:00 p.m. to 5:00 a.m. of 6 th . Generally clear weather, northwesterly winds lower barometer, slightly higher temperature. No aurora. Fair weather sunset. Verified.
6	Zodiacal light (a.m.)/fog/dew	Zodiacal light extremely bright from 2:15 a.m. to 4:50 a.m.; altitude 55 degrees. Light fog formed on low lands at 2:00 a.m. increasing in density at 5:00 a.m. and spreading over city by 5:10 a.m., disappearing at 9:05 a.m. Light deposition of dew from 9:30 p.m. to 5:00 a.m. of 7 th . Fair weather, northerly winds, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
7	Zodiacal Light (a.m.)/fog	Brightest zodiacal light ever witnessed by

		observer, from 2:05 a.m. to 4:50 a.m.; altitude 65 at 4:16 a.m. Light fog on low=lands from 1:55 a.m. to 8:10 a.m. Clear weather, northeasterly winds, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
8	Dew/zodiacal light (a.m.)/dew	Light dew from 12:30 a.m. to 2 a.m. Zodiacal light extremely bright at 2:20 a.m., becoming totally obscured at 4:00 a.m. Altitude, about 68 degrees at 3:55 a.m. Heavy deposition of dew from 11:45 p.m. to 4:40 a.m. of 9 th . Fair weather, easterly winds, lower barometer, higher temperature. No aurora. Fair weather sunset. Verified.
9	Zodiacal light/lt. fog/battery/solar halo/dew	Zodiacal light appeared at at 2:23 a.m., reaching its greatest altitude at 4:10 a.m. (fully 65 degrees) and disappearing with dawn of dawn of day at 5:00 a.m. Light fog formed on low-lands at about 4:10 a.m., and disappearing by 5:30 a.m. Battery attended to. Solar halo of about 15 degrees radii, observed from 10:21 a.m. to 12:10 p.m. Heavy dew from 9:00 p.m. to 5:15 a.m. of 10 th . Easterly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
10	Zodiacal light (a.m.)/dew	Extremely bright zodiacal light, (far more brilliant than that of 7 th and fully as bright as the average Anural beams) from 2:30 a.m. to 5:02 a.m. Altitude 65 degrees at 4:33 a.m., also the times of its greatest brilliancy. Light dew from 10:00 p.m. to 1:50 a.m. of 11 th . Southerly winds, cloudy weather, higher barometer slightly higher temperature. No aurora. Fair weather sunset. Not verified.
11	Rain lt.	Light rain in a.m. and p.m. Southeasterly winds, cloudy weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
12	Dew/zodiacal light (a.m.)/fog/dew	Heavy dew between 2:00 a.m. and 3:00 a.m. Zodiacal light from 2:35 a.m. to 4:00 a.m. afterward becoming obscured. Estimated altitude 60 degrees. Light fog set in on low=lands at 3:00 a.m., disappearing by 5:30 a.m. Heavy dew from 8:30 p.m. to 5:00 a.m. of 13 th . Fair weather, northerly winds, higher barometer, slightly lower temperature. No

		aurora. Fair weather sunset, verified.
13	Zodiacal light (a.m.)/dew	Zodiacal light extremely bright from 2:35 a.m. to 5:04 a.m. Altitude, about 60 degrees. Light dew from 9:00 p.m. to 2:00 a.m. of 14 th . Easterly winds, clear weather, lower barometer and temperature. No aurora. Fair weather sunset, not verified.
14	Zodiacal light (a.m.)/rain-thunder/lightning/clouds/lunar halo/rain lt.	Zodiacal light partly visible, at intervals from 3:05 a.m. to 4:40 a.m. Light rain at intervals from 7:26 a.m. to 12:42 p.m. accompanied by several distinct claps of thunder between 10:50 a.m. and 11:10 a.m. Lightning observed from 6:30 p.m. to about 2:00 a.m. of 15 th . All varieties of cloud observed today, excepting the river. Lunar halo of about 20 degrees radii from 8:10 p.m. to 8:33 p.m. Light rain set in again at 10:14 p.m. continuing over midnight. Southeasterly winds, cloudy weather, lower barometer, higher temperature obscured. Foul weather sunset. Verified.
15	Rain/lightning/thunder /rain=bow/rain	The rain of 14 th ended at 7:07 a.m. Lightning and thunder throughout the day and night. Double rain = bow from 3:22 p.m. to 3:25 p.m. Rain=bow reappeared at 3:50 p.m. disappearing at 3:55 p.m. Light showers at intervals, from 1:48 p.m. to 7:17 p.m. and heavy showers from 8:10 p.m. to 11:45 p.m. with rapidly falling barometer, fresh to brisk and variable southeasterly winds, higher temperature and cloudy weather. Obscured. Foul weather sunset, verified.
16	Rain – heavy rain/lightning/thunder/ Thunderstorm/battery heavily clig'd(?) /lunar halo/lunar coronas	Heavy showers at intervals, from 1:44 a.m. to 8:40 a.m., accompanied by lightning and thunder. Extremely low, followed by rapidly rising barometer, fresh to brisk westerly and southwesterly winds, and decidedly lower temperature. Battery thoroughly renovated Lunar Halo of perfect formation, and of about 20 degrees radii, visible from 10:30 p.m. to about 11:10 p.m. Numerous lunar coronas, with all colors clearly definable, visible from 11:15 p.m. to midnight. Obscured. Foul weather sunset. Not verified.
17	Lunar coronas/green	Numerous lunar coronas, visible from 12:25 a.m. to 1:45 a.m. Southwest winds, generally clear weather, higher barometer, and extremely low temperature. No aurora. Fair

		weather (1/4 green) sunset, verified.
18	First frost of the season/yellow	First frost of season (very heavy) formed between 2:00 a.m. and 5:00 a.m. Clear weather, northwesterly winds, very high barometer, lower temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
19	Lunar halo/frost/fog/solar halo/dew	Lunar halo, of perfect formation and of about 20 degrees radii, visible from 1:15 a.m. to 1:55 a.m. Heavy frost this a.m. Dense fog set in from the east at about 4:15 a.m., disappearing by 5:00 a.m. Solar halo 20 degrees, 2:00 p.m. and 3:00 p.m. Heavy dew from 9:30 p.m. to 5:20 a.m. of 20 th . Westerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
20	Solar halo/lunar halo/yellow	Solar halo and lunar halo, of about 20 degrees radii, each visible from 3:10 p.m. to 4:00 p.m. and 7:30 p.m. to 9:45 p.m. respectively. Lunar halo reappeared at 10:15 p.m. continuing over midnight to 1:30 a.m. Southwest winds, fair weather, higher temperature, lower barometer. Obscured. Fair weather (1/4 yellow) sunset, verified.
21	Dew/lunar halo/solar halo/lightning/dew	Light dew from 1:30 a.m. to about 2:30 a.m. Lunar halos, of about 20 degrees radii, visible from 1:00 p.m. to 3:20 p.m. Lightning observed in northern horizon from 8:30 p.m. to about 10:00 p.m. Lt. dew from 9:10 p.m. to 10:00 p.m. Fair weather, southeasterly winds, lower barometer and temperature. Obscured. Fair weather sunset. Not verified.
22	Dew/rain lt.	Heavy deposition of dew from 2:00 a.m. to 5:00 a.m. Lt. rain at intervals, from 10:50 a.m. to 2:37 p.m. Fair weather, variable, northwesterly winds, lower temperature and barometer. No aurora. Fair weather sunset. Verified.
23	Frost/battery	Heavy frost this a.m. Battery properly attended to "smoky" weather, northwesterly winds, higher barometer lower temperature. No aurora. Fair weather sunset. Verified.
24	Frost	Heavy frost this a.m. Generally dear weather, northwesterly winds, higher barometer, lower temperature, no aurora. Fair weather sunset, verified.
25	Frost/solar halo	Heavy frost this a.m. Solar halo of about 20

		degrees radii, visible from 2:00 p.m. to about 3:40 p.m. Variable southerly winds, fair weather, lower bar., higher temperature. Obscured. Foul weather sunset. Verified.
26	Lunar halo/rain lt.	Lunar halo, of about 20 degrees radii, visible from 3:55 a.m. to 5:20 a.m. Lt. rain set in at 10:10 a.m. continuing throughout the evening past midnight. Westerly winds, rainy weather, lower barometer, slightly higher temperature. Obscured. Foul weather sunset, verified.
27	Rain lt.	The rain of 26 th ended 11:27 a.m. began again at 5:36 p.m. continuing without interval, past midnight. Variable northerly winds, rainy weather, higher barometer, lower temperature. Obscured. Foul weather sunset. Verified.
28	Rain lt.	The rain of 26 th ended at 9:43 a.m. Light rain from 6:20 p.m. to 9:55 p.m. Steady northerly winds cloudy weather, slightly higher barometer and temperature. Obscured. Foul weather sunset. Verified.
29	Rain lt.	Light rain began at 1:09 p.m., ending at 1:54 p.m., began again at 2:37 p.m., continuing past midnight. Extremely low barometer, higher temperature, variable northeasterly winds, and cloudy weather. Obscured. Foul weather sunset. Verified.
30	Rain lt./battery	The rain of 29 th ended at 11:46 a.m., began again at 11:57 a.m. and continued at intervals, until 8:50 p.m. Battery properly attended to. Northwest winds, cloudy weather low followed by rapidly rising barometer, lower temperature. Obscured. Foul weather sunset. Verified.
31	Zodiacal lt. (p.m.)	Faint zodiacal light visible from 8:20 p.m. to 9:00 p.m. NW winds fair weather, lower temperature, higher barometer. No aurora. Fair weather (1/4 yellow) sunset, verified.

River

High water – 9 ft. 11 in. – Oct 31

Low water – 0 ft. 11 in. – Oct. 1, 9th, 10th

Monthly range – 9 ft 0 inches

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	19	16	3
Foul	12	9	3
Doubtful	-	-	-

Condition of Instruments

Name	Number	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum	116	Serviceable
Thermometer, maximum	440	Serviceable
Thermometer, minimum	110	Serviceable
Thermometer, minimum	180	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	698	Serviceable
Thermometer, hygrometer	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage & reservoir	-	Serviceable
River-guage	-	Worn at low water

Property

All property on station, excepting 1 water bucket, 37 map frames, 3 bulletin boards, 1 sponge cup, 1 porcelain cup, 2 oiling cans, 1 thermometer tester (tin), 1 broom, 1 camel-hair brush, 1 fire shovel, 1 lye pot, 1 type stands and 1 inking stone, remains in good condition the river = guage near low=water mark is worn considerably.

Transmitted Nov. 3, 1880

L. N. Jesunoksky, Sergt. Sig. Corps, U.S.A.

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: October, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Oct. 30 th	7 a.m.	29.325	73	29.212	Oct. 30 th	7 a.m.	29.310	73	29.222	
	8 a.m.	29.339	72	29.228		8 a.m.	29.324	72	29.238	
	9 a.m.	29.340	72	29.229		9 a.m.	29.325	72	29.239	
	10 a.m.	29.345	71	29.237		10 a.m.	29.330	71	29.247	
	11 a.m.	29.354	71	29.246		11 a.m.	29.339	71	29.256	
	12 N	29.354	71	29.246		12 N	29.339	71	29.256	
	1 p.m.	29.351	73	29.238		1 p.m.	29.336	73	29.248	
	2 p.m.	29.351	73	29.238		2 p.m.	29.336	73	29.248	
	3 p.m.	29.362	72	29.251		3 p.m.	29.347	72	29.261	
	4 p.m.	29.388	73	29.274		4 p.m.	29.373	73	29.284	
Oct. 31 st	7 a.m.	29.702	68	29.600	Oct. 31 st	7 a.m.	29.687	68	29.610	
	8 a.m.	29.730	68	29.628		8 a.m.	29.715	68	29.638	
	9 a.m.	29.731	68	29.629		9 a.m.	29.716	68	29.639	
	10 a.m.	29.741	71	29.631		10 a.m.	29.726	71	29.641	
	11	29.755	69	29.650		11	29.74	69	29.660	

	a.m.					a.m.	0			
	12 N	29.740	69	29.635		12 N	29.725	69	29.645	
	1 p.m.	29.715	69	29.610		1 p.m.	29.700	69	29.620	
	2 p.m.	29.692	65	29.598		2 p.m.	29.677	65	29.608	
	3 p.m.	29.706	71	29.596		3 p.m.	29.691	71	29.606	
	4 p.m.	29.708	70	29.601		4 p.m.	29.693	70	29.611	
Sum.....588.577						Sum.....588.777				Difference <u>.01000</u>
Mean Observation.....29.42885						Mean Observation.....29.43885				

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made-on the last two 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.

Contents of Journal for November, 1880

Auroras	
Batteries	6, 13, 20, 27
Bars. Compared	29, 30
Bars. Cleaned	
Civilian employed	
Crops	
Dews	11
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Fog	1, 2, 5
Frosts, light	9, 12, 16
Frost, heavy	1, 2, 7, 8, 19, 21
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Leave of absense	

November, 1880

1	Frost/Ice/Zodiacal light (a.m.) /fog	Extremely heavy frost, between 1:00 a.m. and 5:00 a.m. Ice reported to have formed. Bright zodiacal light visible from 2:35 a.m. to 5:30 a.m. altitude about 60 degrees. Light fog set in at 5:50 a.m. increasing in density at 7:00 a.m., and disappearing by 9:15 a.m. Southeasterly winds, “smoky” weather, higher barometer, lower temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
2	Frost/fog/solar halos/rain lt.	Very heavy frost from 12:35 a.m. to about 5:00 a.m. Light fog set in at 1:50 a.m. increasing in density at 2:15 a.m., and disappearing at 9:25 a.m. Solar halo, of about 20 degrees radii from 1:10 p.m. to about 2:10 p.m. Light rain from 7:40 p.m. to 9:30 p.m. Southerly winds, cloudy weather lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
3	Rain lt.	Lt. rain began at 11:56 p.m. continuing over midnight. Steady southeasterly winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
4	Rain lt./lightning/zodiacal light (p.m.)/rain lt.	The rain of 3 rd ended at 6:00 a.m. Lightning in horizon between north and southwest, from 5:55 p.m. to 7:30 p.m. Faint zodiacal light from 6:10 to 6:25 p.m. afterwards becoming obscured. Lt. rain from 10:56 p.m. to 11:40 p.m. Variable southerly winds, cloudy weather, lower barometer, higher temperature.

		Obscured. Foul weather sunset, verified.
5	Rain lt. /fog	Light rain set in at 12:59 a.m. ending at 4:50 a.m. Light fog began to form at 5:00 a.m., increasing in density at about 5:40 a.m. and disappearing at 8:25 a.m. followed by a light smoke. Lt. rain, again, at intervals, from 10:46 a.m. to 11:10 p.m. Cloudy weather, northwesterly winds, steadily rising barometer in a.m. but rapidly falling in p.m. lower temperature. Obscured. Foul weather sunset. Verified.
6	Rain lt./battery/snow-first of season/hail	Light rain began at 12:27 a.m., falling at times, quite heavily and ending at 2:39 p.m. Battery properly attended to. Light snow, (first of season) from 6:05 p.m. to 6:10 p.m. Light hail, from 8:30 p.m. to 8:36 p.m. immediately followed by clearing weather. Cloudy weather, westerly winds, falling followed by rapidly rising barometer, decidedly lower temperature. No aurora. Foul weather sunset. Verified.
7	Frost/ice/zodiacal light (a.m.)/yellow	Heavy frost formed between 12:30 a.m. and 5:30 a.m. Thin ice observed this a.m. Bright zodiacal light from 2:45 a.m. to 5:30 a.m.; altitude 80 degrees, at 5:15 a.m., also time of greatest brilliancy. Clear weather, southeasterly winds, higher barometer, and temperature. No aurora. Fair weather (1/8 yellow) sunset, verified.
8	Frost/zodiacal light (a.m.)/yellow	Heavy frost between 12:30 a.m. and 5:30 a.m. Extremely-bright zodiacal light visible from 2:20 a.m. to 5:32 a.m.; altitude, 3 degrees to about 6 degrees past zenith, at 5:22 a.m.; also time of greatest brilliancy. Steady southeast winds throughout the day, with clear weather, lower barometer and higher temperature. No aurora. Fair weather (2/4 yellow) sunset, verified.
9	Frost/zodiacal light (a.m.)/solar halo/lunar halo/lightning/rain lt.	Light frost between 1:00 a.m. and 5:00 a.m. Extremely bright zodiacal light from 2:40 a.m. to 5:34 a.m.; altitude, about 10 degrees past zenith, at about 5:23 a.m. (personal equation) also time of greatest brilliancy. Solar halo, of about 22 ½ degrees radii, visible from 3:50 p.m. to 4:57 p.m. (time of sunset.) Lunar halo, of perfect formation, about 20 degrees radii, from 6:22 p.m. to 7:30 p.m. Lightning

		observed, at intervals, from 8:10 p.m. to past mid. Light rain from 8:55 p.m. to 9:07 p.m. Fair weather, southeast winds, steadily falling barometer to 3:00 p.m. followed by rapidly falling barometer, higher temperature. Obscured. Foul weather sunset. Verified.
10	Hvy Rain/Thunderstorm	Heavy rain from 12:25 a.m. to 5:05 a.m., accompanied by incessant lightning and terrific thunder (the lightning continuous from 9 th) the former ending at 3:10 a.m. and latter at about 5:30 a.m. Fresh to brisk and variable southeast winds between 1:00 a.m. and 2:00 a.m. Rapidly falling barometer between 1:00 a.m. and 2:00 a.m.; and rapidly rising barometer in afternoon and evening, fair weather, higher temperature. No aurora. Fair weather sunset. Verified.
11	Zodiacal light (a.m.)/dew	Zodiacal light quite bright this a.m. Heavy dew this a.m. Rapidly rising barometer, lower temperature. No aurora. Fair weather sunset, verified.
12	Zodiacal light (a.m.)/frost lt.	Bright zodiacal light visible from 2:25 a.m. to about 5:30 a.m.; altitude, 80 degrees at about 5:05 a.m., also time of greatest brilliancy. Light frost this a.m. Northeasterly winds fair weather, decided by higher barometer, lower temperature. Obscured. Fair weather sunset, not verified.
13	Snow (unusual large flakes)/snow-rain lt./battery	Light snow set in at 7:50 a.m., changing into rain at 8:30 a.m., the rain turning into snow at 11:13 a.m. (the snow=flakes being of unusual size, varying from 1 to 2 ½ inches in diameter) – and ending at 4:24 p.m. Lt. rain again from 6:25 p.m. to 7:05 a.m. Battery attended to variable northerly winds, cloudy weather, higher barometer, extremely low temperature. Obscured. Foul weather sunset. Verified.
14	Solar halo	Solar halo, of about 20 degrees radii, visible from about 12:50 p.m. to 2:45 p.m. Cloudy weather, northwest winds, lower barometer, slightly higher temperature. Obscured. Fair weather sunset. Verified.
15	Snow lt. – sky 2/4 covered	Light snow set in at 3:16 a.m. (with sky two-fourths covered, ¼ cirro=cumuli and ¼ cumuli,) ending at 7:28 a.m. Westerly winds, lower barometer, higher temperature, cloudy weather, obscured. Fair weather sunset,

		verified.
16	Frost. Lt.	Light frost this a.m. Cloudy weather, northwest winds, higher barometer, and temperature. Obscured. Fair weather sunset. Verified.
17	Snow lt.–rain-hail	Very light snow began falling at 4:50 p.m. continuing until 5:55 p.m. when it changed to a lt. rain followed at 6:55 p.m. by hail, which continued over midnight. Variable northwesterly winds throughout the day, cloudy weather, decidedly higher barometer, extremely low temperature. Obscured. Foul weather sunset. Verified.
18	Hail=snow	The hail of 17 th ended at 1:50 a.m., followed by light snow, ending at 5:45 a.m. Fair weather, variable northwesterly winds, decidedly higher barometer, and extremely low temperature. No aurora. Fair weather sunset. Verified.
19	Heavy frost/ice	Heaviest frost of season this a.m. Ice from 1 to 3 inches thick on ponds in and around the city. Northwesterly winds, fair weather, lower barometer higher temperature obscured. Foul weather sunset. Not verified.
20	Battery/yellow	Battery attended to northwesterly winds, clear weather, higher barometer and temperature. No aurora. Fair weather (1/8 yellow) sunset, verified.
21	Frost hvy	Heavy frost this a.m. Variable northerly winds, cloudy weather, higher barometer, decidedly lower temperature. Obscured. Fair weather sunset. Verified.
22	Zodiacal light (p.m.)	Faint zodiacal light from 7:00 p.m. to 8:25 p.m. Variable northerly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset. Verified.
23	Zodiacal light (p.m.)	Zodiacal light quite bright from 7:10 p.m. to 8:30 p.m. Variable northeasterly winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset. Verified.
24	Lunar halo	Lunar halo, of about 22 ½ radii, visible from 1:40 a.m. to 2:50 a.m. Variable southeast winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
25	Rain lt.	Light rain set in at 1:51 a.m., ending at 2:18 p.m.; began again at 6:35 p.m. and ending at

		9:43 p.m. Variable northerly winds, rainy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
26	Rain lt./lightning	Lt. rain set in at 2:23 a.m. (accompanied by blinding and incessant lightning from 3:50 a.m. to 5:30 a.m.) ending at 2:18 p.m. Light rain set in again at 10:40 p.m. continuing over midnight to 2:25 a.m. of 27 th . Variable northwesterly winds, cloudy weather higher barometer, slightly lower temperature. Obscured. Foul weather sunset, verified.
27	Battery/rain lt.	Battery properly attended to. Light rain began at 2:32 p.m. continuing, throughout the afternoon and evening, over midnight. Steady easterly winds cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
28	Rain lt.	The rain of 27 th continued throughout the morning and afternoon until 5:50, recommenced at 9:20 p.m. continuing over midnight until 3:55 a.m. of 29 th . Obscured. Foul weather sunset. Verified.
29		Variable northwesterly winds, generally cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
30	Hail-rain lt./ Lightning/thunder	Hail and rain at intervals from 4:47 a.m. to 5:40 a.m. Heavy rain from 2:28 p.m. to 2:47 a.m. of Dec. 1 st . Blinding lightning and heavy thunder from 2:57 p.m. to 3:03 p.m. Struck new McKendree Church Spire; no damage. Southeast winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.

The River

High water – 12 ft 7 in., Nov. 11

Low water – 2 ft., 10 in., Nov. 27

Monthly range – 9 ft., 9 in.

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	14	13	1
Foul	16	15	1
Doubtful	-	-	-

Condition of Instruments

Name	No.	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, Aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, Maximum	116	Serviceable
Thermometer, extra	440	Serviceable
Thermometer, minimum	110	Serviceable
Thermometer, minimum	180	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	42	Serviceable
Thermometer, hygrometer	698	Serviceable
Thermometer, hygrometer	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain guage & reservoir	-	Serviceable
River=guage	-	Worn at low=water

Property

The following property is condemnable: 1 water bucket, 3 map frames, 3 bulletin boards, 1 sponge cup, 1 porcelain cup, 2 oiling cans, 1 thermometer tester, (tin) 2 broom, 1 camel hair brush, 1 fire shovel, 1 lyepot, 1 tpe stand and 1 inking stone, the other property remains in good condition.

The river gauge is work near low=water mark.

Respectfully submitted. Transmitted, L. N. Jesunofsky, Dec. 3, 1880, Sergt. Sig. Corps. U.S.A

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: November, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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. 29 th	7 a.m.	29.826	60	29.745	Nov. 29 th	7 a.m.	29.816	60	29.760	
	8 a.m.	29.874	59	29.795		8 a.m.	29.864	59	29.811	
	9 a.m.	29.886	61	29.802		9 a.m.	29.875	61	29.816	
	10 a.m.	29.908	61	29.824		10 a.m.	29.897	61	29.838	
	11 a.m.	29.917	62	29.830		11 a.m.	29.906	62	29.844	
	12 N	29.900	62	29.813		12 N	29.889	62	29.827	
	1 p.m.	29.893	61	29.809		1 p.m.	29.882	61	29.823	
	2 p.m.	29.899	64	29.807		2 p.m.	29.888	64	29.821	
	3 p.m.	29.899	62	29.812		3 p.m.	29.888	62	29.826	
	4 p.m.	29.895	61	29.811		4 p.m.	29.885	61	29.826	
Nov. 30 th	7 a.m.	29.795	59	29.717	Nov. 30 th	7 a.m.	29.785	59	29.731	
	8 a.m.	29.761	57	29.688		8 a.m.	29.751	57	29.703	
	9 a.m.	29.741	56	29.671		9 a.m.	29.731	56	29.686	
	10 a.m.	29.725	56	29.655		10 a.m.	29.715	56	29.670	
	11	29.640	61	29.557		11	29.63	61	29.572	

	a.m.					a.m.	0			
	12 N	29.625	63	29.536		12 N	29.615	63	29.552	
	1 p.m.	29.595	71	29.486		1 p.m.	29.585	71	29.501	
	2 p.m.	29.565	66	29.469		2 p.m.	29.555	66	29.484	
	3 p.m.	29.522	71	29.413		3 p.m.	29.519	71	29.435	
	4 p.m.	29.499	69	29.395		4 p.m.	29.489	69	29.410	
Sum.....593.635						Sum.....593.936				Difference <u>.01505</u>
Mean Observation.....29.68175						Mean Observation.....29.69680				

L.N. Jesunofsky, Sergeant Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of Journal for Dec/1880

Contents	Dates
Auroras	
Batteries	4, 11, 18, 25
Bars. Compared	30, 31
Bars. Cleaned	
Civilian Employed	
Crops	
Dew	
Drought	
Fog	13, 17, 18
Frosts, light	3, 6, 12, 15
Frosts, killing	11, 31
Hailstorms	22, 23
Instruments replaced	
Lightening (separately)	4
Lunar halos	9, 12
Lunar Coronae	9, 10
Navigation	
Polar Bands	
Rains, light	3, 12, 14, 15, 16, 17, 18, 19, 21, 23, 25
Rains, heavy	4, 5
Rain=bow	

River gauge	
Snows	19, 21, 23, 24, 25, 26, 28, 29
Solar halos	2, 3, 5
Solar coronae	
Station inspected	
Therms tested	31
Thr=storms and ltng	5
Thunder (separately)	
Zodiacal light	2, 3, 6, 7, 8, 9, 11, 13, 30, 31
Leave of absense	

December, 1880

1	Yellow	Westerly winds, fair weather, higher barometer and temperature. Obscured. Fair weather (1/4 yellow) sunset, verified.
2	Solar halo/zodiacal light (p.m.)	Solar halo of a about 22 ½ degrees radii, visible from 10:15 a.m. to 12:45 p.m. Zodiacal light quite bright the p.m. Steady northerly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
3	Zodiacal light (a.m.)/frost lt./solar halo/rain lt.	Zodiacal light quite bright this a.m. Light frost this a.m. Solar of about 22 ½ degrees radii, visible from 10:35 a.m. to 2:21 p.m. Light rain set in at 6:12 p.m. continuing over midnight to 12:10 a.m. of 4 th . Easterly winds fair weather, higher temperature, lower barometer. Obscured. Foul weather sunset. Verified.
4	Battery/rain hvy/lightning	Battery attended to heavy rain at intervals from 6:03 a.m. to 8:20 p.m. Lightning observed from 8:10 p.m. to past midnight. Variable southeast winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
5	Rain-lightning-thunder/hvy rain thunderstorm/solar halo/green	Heavy rain set in at 1:14 a.m., with fresh to brisk and high southerly winds; the lightning of 4 th continuing in intensity, accompanied by heavy thunder from 1:25 a.m. to 4:00 a.m. – lightning ceased at 4:50 a.m. – with wind veering suddenly from south to west, at 4:41 a.m. (time of lowest barometer – corrected 29.542 inches, and apparently the passage of storm = centre) followed by a deluge of rain, which lasted until 4:55 a.m., when it gradually decreased, ending at 7:10 a.m. Solar halo, of 22 ½ degrees radii, visible from 10:21 a.m. to 11:15 a.m. Northwesterly winds, fair

		weather, higher barometer, lower temperature. No aurora. Fair weather (1/4 green) sunset, verified.
6	Frost lt./Zodiacal light (a.m.)	Light frost this a.m. Zodiacal light quite bright this a.m. Northwesterly winds, clear weather, higher barometer and decidedly lower temperature. No aurora. Fair weather sunset. Verified.
7	Zodiacal light (a.m.)	Zodiacal light extremely bright this a.m. Southerly winds, fair weather, higher barometer, lower temperature. Obscured. Fair weather sunset. Verified.
8	Zodiacal light	Zodiacal light very bright this a.m. Northwest winds, higher barometer and temperature fair weather. No aurora. Fair weather sunset. Verified.
9	Zodiacal light (a.m.)/lunar coronas/lunar halo/yellow	Zodiacal light quite bright this a.m. Lunar coronas of perfect formation, visible from 6:20 to 6:40 p.m. Lunar halo, of about 22 ½ degrees radii, visible from 6:50 p.m. to 8:25 p.m. Northerly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset (1/8 yellow). Verified.
10	Lunar Coronae/yellow	Lunar coronae all colors visible, from 7:10 p.m. to about 8:33 p.m. Steady northerly winds, smoky weather, lower barometer, higher temperature. No aurora. Fair weather (2/4 yellow) sunset. Verified.
11	Frost hvy/zodiacal light/battery	Heavy frost this a.m. Zodiacal light quite bright this a.m. Battery attended to. Southeasterly winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
12	Rain lt./lunar halos/frost lt. p.m.	Lt. rain, at intervals, from 12:08 a.m. to 10:52 a.m. Lunar halo, of about 20 degrees radii, visible from 8:50 p.m. to 9:35 p.m. Light frost began forming at 10:39 p.m. continuing over midn't. Southerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset. Verified.
13	Zodiacal light/fog	Zodiacal light quite bright from 3:30 a.m. to 4:00 a.m. Light fog settled over lowlands at about 4:00 a.m. and disappeared at 5:40 a.m. Southerly winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset, not verified.
14	Rain lt./yellow	Light rain from 6:43 a.m. to 7:48 a.m. Northwest winds, fair weather, higher barometer and temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
15	Frost lt./rain lt.	Lt. frost this a.m. Light rain at intervals from 11:46 a.m. to 3:35 p.m.; began again at 7:42 p.m., continuing over midnight. Easterly winds, cloudy weather, lower barometer and temperature.

		Obscured. Foul weather sunset. Verified.
16	Rain lt.	The rain of 15 th ended at 10:36 a.m.; recommenced at 2:38 p.m., continuing with but slight intervals over midnight until 12:42 a.m. of 17 th . Northeasterly winds, cloudy weather lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
17	Rain lt./fog	Light rain from 4:45 a.m. to 5:53 a.m., and from 7:10 p.m. to 3:50 a.m. of 18 th . Light fog set in at 3:30 a.m. continuing throughout the day past midnight, until 2:15 a.m. of 18 th . Steady easterly winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
18	Fog/battery/rain lt.	Lt. fog from 10:00 a.m. to 4:00 p.m. Battery carefully attended to light from 4:10 p.m. to 9:18 p.m. Northwest winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset. Verified.
19	Rain lt./snow	Light rain from 12:58 p.m. to 2:12 p.m. followed by a light snow, which continued throughout the evening past midnight until a.m. of 20 th . Variable northeasterly winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset. Verified.
20		Variable northwest winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
21	Rain lt./snow	Lt. rain and snow at intervals during day. Northwest winds, generally cloudy weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
22	Hail	Lt. hail began at 11:59 p.m. continuing over midnight. Steady northeast winds, generally cloudy weather, higher barometer and temperature. Obscured. Fair weather sunset. Verified.
23	Hail lt.-rain/snow lt.	The hail of 22 nd changed to rain at 12:20 a.m. and ended at 12:27 a.m. Light snow from 9:22 a.m. to 12:11 p.m. and light rain from 9:50 p.m. to 10:12 p.m. Steady easterly winds, generally cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Not verified.
24	Snow lt.	Light snow from 2:10 a.m. to 2:45 a.m. Light snow began at 11:40 p.m., continuing past midnight. Northeasterly winds, generally cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.

25	Lt. Snow. Rain	The snow of 24 th changed to snow and rain at intervals, from 4:10 a.m. to 1:00 p.m. Northwest winds, cloudy weather, lower barometer and temp. Obscured. Fair weather sunset, verified.
26	Snow lt.	Lt. snow from 8:45 a.m. to 9:06 a.m. Northerly winds, generally cloudy weather, higher barometer, lower temperature. Fair weather sunset, verified. Obscured.
27	No entry	See addendum below.
28	Snow lt.	Light snow from 2:37 p.m. to past midnight. Northwest winds, cloudy weather, lower barometer, and extremely low temperature. Obscured. Foul weather sunset, verified.
29	Snow lt.	The snow of 28 th ended at 7:06 a.m. Northwest winds, fair weather, higher barometer, extremely low temperature. No aurora. Fair weather sunset. Verified.
30	Zodiacal light a.m. and p.m.	Zodiacal light extremely bright this a.m. and p.m. Southwest winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
31	Frost hy./zodiacal light/fog/thers. tests	Heavy frost this a.m. Zodiacal light extremely bright this a.m. Light fog set in at about 4:00 a.m., increasing, in density at 6:05 a.m. and clearing at 9:07 a.m. Northwest winds, clear weather, lower barometer, higher temperature. Thermometer tests made to=day; all instruments read alike, excepting the minimum No. 110, which reads 31 degrees. No aurora. Fair weather sunset. Verified.

The River

High water, 27 ft., 1 in., Dec 6

Low water, 8 ft., 0 inches, Dec. 16

Monthly Range – 19 ft., 1 inch

Sunsets

Character	Number of	Verified	Not Verified
Fair	18	18	0
Foul	13	10	3
Doubtful	-	-	-

*Rain or snow allowed predictions

Condition of Instruments

Name	No.	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, Min. ex.	180	Serviceable
Thermometer, Hygrom. Std.	42	Serviceable
Thermometer. Hygrom. Std.	42	Serviceable
Thermometer, Hygrom. Ex.	698	Serviceable
Thermometer, Hygrom. Ex.	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage & reservoir	-	Serviceable
River-guage	-	Worn at low-water

Addendum

Addendum: 27th – NW winds, cloudy weather, lower barometer and temperature. Obscured. Fair weather sunset – verified.

Property

All property on station is in good order, excepting 1 water bucket, 3 map frames, 3 bulletin boards, sponge cup, 1 porcelain cup, 2 oiling cans, 1 ther. (tin) tester, 2 brooms, 1 camel hair brush, 1 fire shovel, 1 lye pot, 1 type stand and 1 inking stone and 1 dark lantern.

Respectfully submitted,

L.N. Jesunofsky

Sergt. Sig. Corps, U.S.A.

Transmitted Jan. 3, 1881

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: December, 1880										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Dec. 30 th	7 a.m.	29.894	64	29.802	Dec. 30 th	7 a.m.	29.889	64	29.819	
	8 a.m.	29.907	64	29.815		8 a.m.	29.898	64	29.831	
	9 a.m.	29.932	65	29.837		9 a.m.	29.922	65	29.852	
	10 a.m.	29.946	65	29.851		10 a.m.	29.936	65	29.866	
	11 a.m.	29.918	65	29.823		11 a.m.	29.909	65	29.839	
	12 N	29.894	67	29.794		12 N	29.885	67	29.810	
	1 p.m.	29.839	63	29.770		1 p.m.	29.848	63	29.784	
	2 p.m.	29.856	66	29.759		2 p.m.	29.845	66	29.773	
	3 p.m.	29.835	64	29.763		3 p.m.	29.845	64	29.778	
	4 p.m.	29.847	66	29.750		4 p.m.	29.836	66	29.764	
Dec. 31	7 a.m.	29.919	65	29.824	Dec. 31	7 a.m.	29.909	65	29.839	
	8 a.m.	29.907	65	29.812		8 a.m.	29.896	65	29.826	
	9 a.m.	29.903	64	29.811		9 a.m.	29.892	64	29.825	
	10 a.m.	29.917	63	29.827		10 a.m.	29.906	63	29.841	
	11	29.930	59	29.851		11	29.92	59	29.866	

	a.m.					a.m.	0			
	12 N	29.885	58	29.809		12 N	29.87 4	58	29.823	
	1 p.m.	29.880	65	29.785		1 p.m.	29.87 0	65	29.801	
	2 p.m.	29.868	69	29.763		2 p.m.	29.85 9	69	29.779	
	3 p.m.	29.859	65	29.765		3 p.m.	29.84 8	65	29.779	
	4 p.m.	29.855	62	29.769		4 p.m.	29.84 5	62	29.784	
Sum.....595,980					Sum.....596,279					Difference <u>.01495</u>
Mean Observation.....29,79900					Mean Observation.....29.81395					

L.N. Jesunofsky

Sergeant, Signal Service, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of Journal for January 1881

Contents	Dates
Auroras	
Batteries	1, 8, 15, 22, 19
Bars. Compared	30, 31
Crops	
Dew	
Fog	3, 4, 5, 12, 16, 17, 18, 19, 20, 26, 29, 31 (12)
Frosts, light	1, 8, 24, 25, 28
Frost, killing	2, 12
Hailstorms	13
Lightning (separately)	
Lunar halos	7, 8, 14
Lunar Coronae	12, 13
Navigation	
Polar Bands	
Rainbows	
Rains, light	3, 4, 5, 6, 13, 15, 17, 18, 19, 20, 21
Rains, heavy	31

Snows	6, 9, 13, 14, 21, 22, 23, 26
Solar Halos	7, 12
Solar Coronae	
Thr-storms, and ltng	
Thunder (separately)	
Zodiacal light	8, 25, 26, 27, 28 (5)

January, 1881

1	Frost/Battery	Light frost this a.m. Battery thoroughly renovated. Southeast winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Not verified.
2	Frost/yellow	Heavy frost this a.m. as also at 9:40 p.m. over midnight to about 2:20 a.m. of 3 rd . Southeast winds, clear weather, higher barometer and temperature. No aurora. Fair weather (1/4 yellow) sunset. Verified.
3	Fog/rain	Dense fog from about 6:00 a.m. to 10:45 a.m. Light rain began at 10:10 p.m. continuing past midnight. Northeast winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
4	Rain/fog	The rain of 3 rd continued, with but slight intervals throughout the morning and afternoon, until 8:15 p.m. Light fog this p.m. Northwest winds, rainy weather, lower barometer and temperature. Obscured. Foul weather sunset. Verified.
5	Rain/fog	Light rain began at 12:35 a.m. continuing with but slight intervals, throughout the day, past midnight to 3:00 a.m. of 6 th . Light fog throughout the day northwest winds, rainy weather, lower bar., higher temperature. Obscured. Foul weather sunset. Verified.
6	Rain-snow	Light rain and snow at intervals, from 12:52 p.m. to 11:30 p.m. Southerly winds cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset. Verified.
7	Solar halo/lunar halo	Solar halo, of about 22 radii from 10:25 p.m. to 12:00 midday. A perfect lunar halo from 9:40 p.m. to 11:00 p.m. Northerly winds, fair weather, decidedly higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
8	Zodiacal light (a.m.)/battery/lunar halo/frost	Zodiacal light partially visible this a.m. Battery attended to. Lunar halo from 7:55 p.m. to 9:00 p.m. Northeast winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset,

		verified.
9	Snow	Lt. snow began at 1:58 p.m. continuing lightly until about 4:40 p.m., after which time it began falling quite heavily, continuing over midnight to 5:58 a.m. of 10 th . Northwest winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset. Verified.
10		Variable northerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
11		Steady westerly winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
12	Frost/fog	Heavy frost this a.m. Light fog set in at about 1:00 a.m., increasing in density at 1:50 a.m., and clearing by 4:00 a.m. Solar halo, of 20 degrees, from 2 p.m. to 3:10 p.m. Numerous Lunar Coronas, perfect types, from 10:45 p.m. to 11:40 p.m. Southerly winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
13	Rain-hail-snow-Great, fall in temperature	Fresh to brisk southerly winds, with rapidly falling barometer to 3:10 p.m., followed by rain at 4:50 p.m., and winds veering to westerly at 7:10 p.m., the barometer remaining stationary to 9:03 p.m., when winds veered from West to Northwest, followed by rapidly rising barometer, rapidly falling temperature, (11 deg. In 14 min., 52 degrees at 9:03 p.m. and 41 degrees at 9:17 p.m.) the Rain continuing to 11:29 p.m. After which hail began falling and continuing over midnight to 12:02 a.m. of 14 th , followed by a heavy snow which ended at 9:48 a.m. of 14 th . Foul weather sunset, obscured. Verified.
14	Snow/lunar halo	Light snow, at intervals, from 11:32 a.m., to 9:15 p.m. Well-defined lunar halo, 20 degrees from 10:50 p.m. to 12:30 a.m. of 15 th . Variable northwest winds, cloudy weather, decidedly higher barometer, extremely-low temperature. Obscured. Foul weather sunset, verified.
15	Lunar coronas/battery/rain	Numerous lunar coronas, all colors visible, from 1:45 a.m. to 5:20 a.m. Battery attended to. Light rain began at 10:40 p.m. continuing over midnight to 3:00 a.m. of 16 th . Variable southerly winds, generally cloudy weather lower barometer, higher temperature. Obscured. Foul weather sunset, not verified.
16	Fog	Lt. fog set in at about 12:30 a.m., continuing throughout the morning and afternoon and

		increasing in density at 6:30 p.m., attaining its maximum density at about 7:45 p.m. then decreasing but continuing past midnight. Southeast winds, generally cloudy weather, higher barometer and temperature. Obscured. Fair weather sunset. Verified.
17	Fog/rain	The fog of 16 th continued throughout the day to about 8:30 p.m. Lt. rain began at 6:15 p.m. continuing over midnight. Northeast winds generally cloudy weather, higher barometer, generally lower temperature. Obscured. Foul weather sunset. Verified.
18	Rain/fog	The rain of 17 th ended at 11:23 a.m.: began again at 2:35 p.m.; continuing throughout the afternoon and evening past midnight. Light fog set in at about 1:00 p.m. continuing over midnight. Northeast winds, generally rainy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
19	Rain-fog	The rain of 18 th , accompanied by the dense fog of same date, continued throughout the entire day, with steadily falling barometer, steady northwest winds, and stationary temperature. Obscured. Foul weather sunset, verified.
20	Rain-fog	The rain of 18 th continued, with but slight intervals throughout the day, accompanied by the fog of 18 th , the former ending at 10:50 p.m. and latter disappearing at 2:12 p.m. Rapidly falling barometer after midnight observation of 19 th to 3:15 p.m. (the exact time of passage of storm-centre clouds and wind at that time from SW original reading of barometer, at 3:15 p.m., 28.918 corrected 29.325; at 3:55 p.m. rising rapidly, original reading 28.946, corrected 29.363. A remarkable fall in barometer of .309 between the 11:00 p.m. and 2:00 p.m. observations. Obscured. Foul weather sunset, verified.
21	Rain/snow	Light rain began at 12:35 a.m., followed by light snow at 4:43 a.m. and ending at 8:03 a.m. Light snow again from 4:30 p.m. to 11:45 p.m. Variable westerly winds, cloudy weather, steadily rising barometer throughout the day and lower temperature. Obscured. Foul weather sunset. Verified.
22	Snow/battery/doubt	Very light snow throughout the day. Battery properly attended to westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Doubtful weather sunset.
23	Snow	Light snow at intervals, from 7:10 a.m. to 11:27 a.m.

		Westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset. Verified.
24	Frost	Lt. frost this a.m. Northwest winds, cloudy weather, higher barometer, slightly higher temperature. Obscured. Fair weather sunset. Verified.
25	Zodiacal light (p.m.)/frost	Zodiacal light quite bright this p.m. Light frost this p.m. Westerly winds, fair weather. High barometer and temperature. No aurora. Fair weather (1/8 yellow) sunset, verified.
26	Fog/snow/zodiacal light p.m.	Heavy fog this a.m. Lt. snow from 1:42 p.m. to 1:55 p.m. Zodiacal light quite bright this p.m. Variable northwest winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
27	Zodiacal light (a.m. – p.m.)	Zodiacal light quite bright this a.m. and p.m. Northwesterly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset. Verified.
28	Zodiacal light (a.m. – p.m.)/frost	Zodiacal light quite bright this a.m. and p.m. Light frost this a.m. and p.m. Northerly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
29	Battery/fog	Battery attended to. Light fog during day. Southeast winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, not verified.
30		Southerly winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
31	Fog/rain	Dense fog from 7:45 a.m. to 11:50 a.m. Steadily falling barometer and slowly rising temperature throughout the day, fresh southerly winds, and heavy rains from 1:28 p.m. to 5:55 a.m. of Feb. 1, 1881. Obscured. Foul weather sunset, verified.

The River

High water – 31 ft 10 in. on Jan. 23

Low water – 6 ft, 4 in. on 6th

Monthly range 25 ft 6 in.

Sunsets

Character	Number of	Verified	Not Verified
Fair	13	13	0
Foul	17	14	3
Doubtful	1	-	-

Condition of Instruments

Name	No.	Condition
Barometer, standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, hygrometer standard	42	Serviceable
Thermometer, hygrometer standard	42	Serviceable
Thermometer, hygrometer, extra	698	Serviceable
Thermometer, hygrometer extra	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer self register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage and reservoir	-	Serviceable
River-guage	-	Worn at low water

Property

The following property is unserviceable; 1 water bucket, 3 map frames, 3 bltn b'ds; 1 spge cup, 1 porcln cup; 2 oil'g cans, 1 tin tester, 3 brooms, 1 camel hair brush, 1 fire shov'l, 1 lye pot, 1 tpe stand, 1 ink stone, 1 dark lantern; electrotypes, "A.J. Myer" 3 "farm's bull'tn", Letter Head; 3 "published by co-op'n" "& c" 2 synopsis, and 2 ½ ft. brash ruling.

Respectfully submitted

L.N. Jesunofsky, Sergt. Sig. Corps

U.S.A.

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: January, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Jan. 30 th	7 a.m.	29.680	62	29.594	Jan. 30 th	7 a.m.	29.666	62	29.605	
	8 a.m.	29.686	60	29.605		8 a.m.	29.672	60	29.616	
	9 a.m.	29.693	64	29.602		9 a.m.	29.679	64	29.613	
	10 a.m.	29.705	66	29.608		10 a.m.	29.691	66	29.619	
	11 a.m.	29.695	66	29.597		11 a.m.	29.681	66	29.609	
	12 N	29.660	66	29.563		12 N	29.646	66	29.574	
	1 p.m.	29.650	66	29.553		1 p.m.	29.636	66	29.564	
	2 p.m.	29.636	63	29.547		2 p.m.	29.622	63	29.558	
	3 p.m.	29.638	63	29.549		3 p.m.	29.624	63	29.560	
	4 p.m.	29.629	63	29.540		4 p.m.	29.615	63	29.551	
Jan. 31 st	7 a.m.	29.539	62	29.454	Jan. 31 st	7 a.m.	29.524	62	29.464	
	8 a.m.	29.547	60	29.467		8 a.m.	29.533	60	29.478	
	9 a.m.	29.542	60	29.462		9 a.m.	29.528	60	29.473	
	10	29.535	60	29.455		10	29.52	60	29.466	

	a.m.					a.m.	1			
	11 a.m.	29.525	61	29.442		11 a.m.	29.51 1	61	29.453	
	12 N	29.520	66	29.424		12 N	29.50 6	66	29.435	
	1 p.m.	29.481	64	29.390		1 p.m.	29.46 8	64	29.402	
	2 p.m.	29.466	63	29.378		2 p.m.	29.45 2	63	29.389	
	3 p.m.	29.442	63	29.354		3 p.m.	29.42 8	63	29.365	
	4 p.m.	29.440	63	29.352		4 p.m.	29.42 6	63	29.363	
Sum.....589.937					Sum.....590.157					Difference <u>.01100</u>
Mean Observation.....29.49685					Mean Observation.....29.50785					

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of February, 1881

Contents	Dates
Auroras	
Batteries	5, 12, 19, 26
Bars. Compared	27, 28
Crops	
Dew	25, 26
Fog	18, 22
Frosts, light	16, 17, 24
Frosts, killing	15, 21
Hailstorms	
Lightning (separately)	
Lunar halo	4, 10, 17, 18
Lunar coronae	14
Navigation	
Polar bands	
Rainbows	9, 11

Rains, light	6, 7, 8, 9, 11, 15, 19, 26, 27
Rains, heavy	18
Snows	12, 13, 19, 20, 21, 28
Solar halos	
Station Inspected	
Solar coronae	
Thr=stms and ltng	
Thunder (separately)	
Zod'l light	

February, 1881

1		Northwest winds, generally cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, not verified.
2		Northeast winds, generally cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset – verified.
3	Clouds/yellow	Fine cumulus clouds this p.m. Northerly winds, fair weather, lower barometer, higher temperature. Obscured. Fair weather (1/8 yellow) sunset – verified.
4	Clouds/Lunar Halo/Yellow/Battery	Finely-shaped cirrus clouds, of the horse-tail and cat-tail variety, observed from 1:00 p.m. to 3:00 p.m. Lunar halo 22 degrees, 6:45 p.m. to 7:10 p.m. Northeasterly winds, generally clear weather higher barometer, lower temperature. No aurora. Fair weather (1/8 yellow) sunset – verified. Battery attended.
5	Lunar Halo	Lunar halo, 20 degrees, 6:40 p.m. to 7:20 p.m. Easterly winds, cloudy weather, lower barometer, higher temp. Foul weather sunset, not verified. Obscured.
6	Rain	Light rain in afternoon; began again at 11:58 p.m., continuing over midnight. Variable southeasterly winds, generally cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
7	Rain	The rain of 6 th continued with but slight intervals throughout the day over midnight. Southeast winds, generally rainy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
8	Rain	The rain of 7 th ended at 11:05 a.m. Southeast winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset,

		verified.
9	Rain/rain-bow	Heavy showers, at intervals, from 1:14 a.m. to 11:17 p.m. Rain-bow, all colors, visible at intervals from 2:24 p.m. to 2:35 p.m. Southeast winds, generally rainy weather, rapidly falling followed by rapidly rising barometer, higher temperature. Obscured. Foul weather sunset, Verified.
10	Lunar Halo	Lunar halo, of about 20 degrees radii, from 6:50 p.m. to 11:20 p.m. Southwest winds, fair weather, higher barometer, lower temperature. Obscured. Fair weather sunset – not verified.
11	Rain/rainbow	Light rain began at 12:14 a.m. continuing, with but slight intervals, until 8:09 p.m. A very bright rain-bow, visible from 3:26 p.m. to 3:30 p.m. Rapidly falling followed by rapidly rising barometer, variable southeast winds, cloudy weather, lower temperature. Obscured. Foul weather sunset. Verified.
12	Snow/Battery	Light snow began at 12:35 .m. continuing throughout the day over midnight. Battery attended to. Variable westerly winds, “snowy” weather, steadily rising barometer in a.m. but rapidly rising in p.m. decidedly by lower temperature. Obscured. Foul weather sunset, verified.
13	Snow	The snow of 12 th ended at 2:55 p.m. Steadily rising barometer throughout the day, with variable westerly winds, cloudy weather and lower temperature. Obscured. Fair weather sunset, verified.
14	Lunar Coronas	Numerous lunar coronas observed from 2:00 a.m. to 2:30 a.m. Easterly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
15	Frost/rain	Heavy frost this a.m. Lt. rain began at 11:34 p.m. continuing over midnight to 1:45 a.m. of 16 th . Southwest winds, fair weather, lower barometer higher temperature. Obscured. Foul weather sunset – not verified.
16	Frost/yellow	Lt. frost between 4:00 a.m. and 6:00 a.m. Northwest winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
17	Frost/lunar halo	Lt. frost this a.m. Lunar halo, 20 degrees, from 9:20 p.m. to 12:10 a.m. of 18 th . Southeast winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.

18	Lunar halo/rain-fog	Lunar halo of 20 degrees, from 2:00 a.m. to 2:50 a.m. Very heavy rains from 5:45 a.m. to 9:57 p.m. with light fog. Southerly winds, rapidly falling barometer, and higher temperature, followed by rapidly rising barometer, and colder westerly winds, obscured. Foul weather sunset. Verified.
19	Battery/rain/snow	Battery attended to. Lt. rain from 5:10 a.m. to 6:38 a.m. and lt. snow from 7:30 a.m. to 8:56 a.m. Northwest winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
20	Snow	Light snow set in at 9:35 p.m. continuing over midnight. Westerly winds, cloudy weather, lower barometer, slightly higher temperature. Obscured. Foul weather sunset, verified.
21	Snow/frost/yellow	The snow of 20 th ended at 1:30 a.m. Heavy frost began forming at 7:30 p.m. continuing over to the 22 nd . Northwest winds, fair weather, higher barometer and temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
22	Fog/Green	Light fog observed over River at 1:15 a.m., spreading over city by 3:50 a.m. and disappearing by 7:00 a.m. Southwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather (1/8 vert) sunset, verified.
23		Variable northwest winds, clear weather, higher barometer, decidedly lower temperature. No aurora. Fair weather sunset, verified.
24	Frost	Light frost this a.m. Southeasterly winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, Verified.
25	Dew	Heavy deposition of dew this a.m. Southeast winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
26	Dew/battery/rain	Heavy deposition of dew this a.m. Battery properly attended to light "sprinkles" of rain from 2:27 p.m. to 5:00 p.m. Steadily falling barometer, variable southerly winds, cloudy weather, higher temperature. Obscured. Foul weather sunset. Verified.
27	Rain	Light rain, at intervals, from 12:31 a.m. to 5:05 p.m. Rapidly falling barometer to 2:00 p.m. followed by rapidly rising barometer. Southeast winds, cloudy weather, lower temperature. Obscured. Fair weather sunset, not verified.
28	Snow	Light snow from 5:40 a.m. to 10:40 a.m. Variable

		westerly winds throughout the day fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
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Sunsets

Character	Number of	Verified	Not Verified
Fair	15	13	2
Foul	13	10	3
Doubtful	-	-	-

Condition of Instruments

Name	No.	Condition
Barometer Standard	163	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	246	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, max. extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, heavy standard	42	Serviceable
Thermometer, heavy standard	42	Serviceable
Thermometer, heavy extra	698	Serviceable
Thermometer, heavy extra	699	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemoscope	-	Serviceable
Rain guage (gauge) & reservoir	-	Serviceable
River-guage	-	Worn at low water

Property

The following property is unserviceable: 1 water bucket, 3 map frames, 3 Bltn Boards, 1 sponge cup, 1 porcelain cup, 2 oiling cans, 1 tin tester, 3 (or 2) brooms, 1 camel hair brush, 1 fire shovel, 1 lye pot, 1 type stand, 1 ink stone, 1 dark lantern, 1 spittoon; electrotypes, 1 "A.J. Myer", 3 farmer's bulletins, 1 letter head, 3 "published by co=operation" etc., 2 synopsis, and 2 ½ ft brass ruling The other property remains in good condition.

Jan 1, 1880 – Sept. 30, 1881

Respectfully Submitted

L.N. Jesunofsky

Sergt. Sig. Corps, U.S.A.

Transmitted, Mar. 2nd, 1881

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: February, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Feb. 27 th	7 a.m.	29.140	74	29.024	Feb. 27 th	7 a.m.	29.126	74	29.035	
	8 a.m.	29.147	71	29.039		8 a.m.	29.133	71	29.050	
	9 a.m.	29.170	70	29.065		9 a.m.	29.156	70	29.076	
	10 a.m.	29.140	69	29.037		10 a.m.	29.126	69	29.048	
	11 a.m.	29.135	70	29.030		11 a.m.	29.120	70	29.040	
	12 N.	29.130	71	29.022		12 p.m.	29.116	71	29.034	
	1 p.m.	29.129	70	29.024		1 p.m.	29.114	70	29.034	
	2 p.m.	29.128	66	29.033		2 p.m.	29.113	66	29.044	
	3 p.m.	29.137	65	29.045		3 p.m.	29.122	65	29.055	
	4 p.m.	29.182	62	29.098		4 p.m.	29.169	62	29.110	

Feb. 28 th	7 a.m.	29.450	65	29.357	Feb. 28 th	7 a.m.	29.436	65	29.368		
	8 a.m.	29.471	70	29.365		8 a.m.	29.457	70	29.376		
	9 a.m.	29.483	66	29.387		9 a.m.	29.469	66	29.398		
	10 a.m.	29.486	63	29.398		10 a.m.	29.472	63	29.409		
	11 a.m.	29.497	64	29.405		11 a.m.	29.482	64	29.415		
	12 N.	29.504	65	29.411		12 N.	29.491	65	29.423		
	1 p.m.	29.500	64	29.408		1 p.m.	29.487	64	29.420		
	2 p.m.	29.493	62	29.408		2 p.m.	29.479	62	29.419		
	3 p.m.	29.509	69	29.405		3 p.m.	29.495	69	29.416		
	4 p.m.	29.503	67	29.404		4 p.m.	29.489	67	29.415		
Sum.....584.365				Sum.....584.585							
Mean Observation.....29.21825				Mean Observation.....29.22925				Difference <u>.07100</u>			

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of Journal – March 1881

Contents	Dates
Auroras	
Batteries	5, 17, 12, 19, 26
Bar. Compared	30, 31
Bars. Cleaned	15
Crops	
Dew	24
Fog	
Frosts, light	1, 10, 11, 27, 28
Frosts, killing	6, 23

Hailstorms	11
Lightning (separately)	2
Lunar halos	6, 13, 14
Lunar Coronae	13, 14
Navigation	
Polar Bands	
Rainbows	
Rains, light	3, 7, 8, 11, 12, 16, 18, 19, 21, 24, 26, 29, 30,
Rains, heavy	25
Snows	4, 5, 21, 30
Solar halos	7, 11, 14, 21
Station Inspected	14, 15, 16, 17
Solar Coronae	
Thermoms tested	17, 30
Thr=storms and ltng	11
Thunder (separately)	25
Zod'l light	24, 27

March, 1881

1	Frost	Light frost this a.m. Westerly winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
2	Lightning	Lightning observed in northern and western horizon from 9:30 p.m. to 3:00 a.m. of 30. Southeast winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
3	Rain	Light rain, hail and snow at intervals from 3:21 a.m. to 5:40 p.m. Variable westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, not verified.
4	Snow	Light snow from 6:19 a.m. to 2:27 p.m. Variable westerly winds, cloudy weather, lower barometer and temperature. Obscured. Fair weather sunset, verified.
5	Snow/battery	Light snow, at intervals from 1:50 a.m. to 3:49 p.m. Battery properly attended to variable westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
6	Frost/frost/lunar halo/yellow	Hvy frost this a.m. Light frost (at intervals) from 8:10 p.m. to 4:30 a.m. of 7 th . Lunar halo. 22 ½ degrees radii, from 9:40 p.m. to 10:35 p.m. Westerly winds, fair weather, higher

		barometer and temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
7	Solar halo/rain	Solar halo, 20 degrees radii, 11:00 a.m. to 3:30 p.m. Light rain set in at 10:49 p.m. continuing over midnight. Steady easterly winds, cloudy weather, steadily falling barometer, higher temperature. Obscured. Foul weather sunset, verified.
8	Rain	The rain of 7 th ended at 8:11 a.m. Westerly winds, cloudy weather, lower barometer, slightly higher temperature. Obscured. Fair weather sunset. Verified.
9		Westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
10	Frost	Light frost this a.m. Easterly winds, "hazy" weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
11	Frost/rain/hail/lightning/thunder	Light frost this a.m. Steadily falling barometer throughout the day, with light rain and hail from 4:36 p.m. to 4:45 p.m. accompanied by blinding lightning and light thunder. Rain set in steadily at 6:30 p.m., continuing over midnight.
12	Rain/Battery	The rain of 11 th ended at 4:30 a.m. Battery attended to southwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset. Verified.
13	Lunar coronas/Lunar halos	Well-defined lunar coronas, 9:50 p.m. to 11:05 p.m. Lunar halo 22 ½ degrees radii, 11:05 p.m. to 4:00 a.m. of 14 th . Northwest winds, generally clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset. Verified.
14	Lunar coronas/lunar halos/Solar Halos/Lt. J.S. Powell	Numerous lunar coronas, perfect types, all colors, visible, at intervals and changing respectively to Lunar Halos, and Coronas and Halos simultaneously from 1:35 a.m. to 4:10 a.m. Solar halo, of perfect formation and about 22 ½ degrees radii, visible from 9:00 a.m. to 4:00 p.m. Lieut. J.S. Powell arrived today for inspection of station. Lunar halo, of 22 ½ degrees radii, from 7:00 p.m. to 1:50 a.m. of 15 th northeast winds, cloudy weather, higher barometer and temperature. Obscured. Foul weather sunset. Verified.

15	Rain/Barometers	Light rain from 6:42 a.m. to 7:25 a.m. southeast winds, cloudy weather, barometers No. 163 & 1753 cleaned to day by Lt. Powell. Lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
16	Rain	Light rain began at 1:18 a.m. continuing, with but slight intervals throughout the day, over midnight. Southeasterly winds, rainy weather, lower barometer higher temperature. Obscured. Foul weather sunset, verified.
17	Rain/Inspection of Station	The rain of 16 th ended at 9:16 a.m. Station inspected by Lieut. J. S. Powell on March 15, 16, and 17, 1881. Station Barometer No. 163 and extra Barometer No. 1753 cleaned Mar. 15, 1881.

Barometer/Comparisons

Inspector's Barometer	No. 477	29.4262
Station Barometer (cov. For 9.0 + .003)	163	29.4218
Extra sta. Barometer	1753	29.4326
Inspector's Barometer	No. 477	29.4546
Extra Sta. Barometer (+.007)	24	29.4518
Aneroid	13	29.4360

Dimensions of Room – Instrument Shelter

Dimensions of Room	19 x 73 ft
Dimensions of Instrument Shelter	6 ft 7in high; 2 ft 2 in. wide; 1 ft 10 ½ in. deep; outer lattice work from inner, 4 ¾ in.
Elevation of Instruments	Elevation of Instruments – anemometer, 53.8 ft; Barometer, 33.42 ft; Hygrometer, 34.6 ft; Rain-guage, 49.5 ft; standard thermometer 34.15 ft; Maximum Thermometer 35.6 ft; minimum 35.95; wind vane 68.8 ft

Thermometer Tests – Result of Thermometer Tests:

Instrument	No.	0	0	0	0	0	0
Lt. Powell's Stand'd	543	32.0	44.5	106.0	92.5	76.5	61.0
Station, Stand'd	2890	32.0	44.5	107.0	93.0	77.3	61.5
Station Ex.	3261	32.2	44.6	107.0	92.9	77.2	61.5
Station Max. Std.	116	32.0	44.7	106.0	92.5	76.5	61.0

Station ex. Max. std.	440	32.0	44.8	106.2	92.5	76.5	61.0
Station, min. std.	110	31.8	43.9	104.9	91.7	75.8	61.0
Station ex. Min. std.	180	31.4	44.4	105.5	92.5	76.5	60.5
Station Dry-b std.	699	32.8	45.1	106.0	93.0	78.0	62.5
Station Wet-b, std.	698	32.2	45.2	105.5	92.5	77.0	61.5
Station ex. Dry-b std.	42	31.7	44.6	105.5	92.5	77.0	61.5
Station ex. Wetb.	42	32.0	44.8	105.5	92.5	77.7	61.5

Lt. Powell – Lieut. Powell completed inspection of station this p.m. Northwest winds, cloudy weather higher barometer, lower temperature. Obscured. Foul weather sunset, verified.

18	Rain	Light rain from 4:45 a.m. to 8:23 a.m.; began again at 4:43 p.m., continuing over midnight. Northeast winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
19	Rain/battery	The rain of 18 th ended at 1:05 a.m.; began again at 5:10 a.m. and continuing (at intervals) to 10:35 p.m. Fresh to brisk and variable southwest winds, lower barometer and temperature. Battery attended to. Obscured. Foul weather sunset, not verified.
20		Southwest winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, not verified.
21	Solar halo/Rain-snow	Solar halo 22 ½ degrees, 2:00 p.m. to 2:40. Light rain set in at 3:05 p.m. changing to snow at 9:25 p.m. the latter continuing over midnight to 12:45 a.m. of 22 nd . Westerly winds, cloudy weather, lower barometer and temperature, obscured. Foul weather sunset, verified.
22		Westerly winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset. Verified.
23	Frost/yellow	Heavy frost this a.m. Southwesterly winds, generally clear weather, lower barometer, higher temperature. No aurora. Fair weather (1/4 yellow) sunset, verified.
24	Dew/Zodiacal light 1 p.m./Rain	Lt. dew this a.m. Faint zodiacal light this p.m. Light rain from 10:35 p.m. to 10:40 p.m. Westerly winds, clear weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
25	Lightning/rain/thunderstorm	Lightning first observed at 7:05 p.m. followed by

		light rain at 7:45 p.m. which at times, fell quite heavily and continued over midnight. The thunder beginning at 8:10 p.m. and ending at about 11:20 p.m. and lightning continuing over midnight to 12:30 a.m. of 26 th . Extremely high followed by rapidly falling temperature, lower barometer, cloudy weather and southwest winds. Obscured. Foul weather sunset, verified.
26	Rain/battery	The rain of 25 th ended 4:20 a.m. Battery properly attended to. Fair weather, northwesterly winds, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
27	Frost/zodiacal light	Lt. frost this a.m. Zodiacal light quite bright this p.m. Northwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
28	Frost	Light frost this a.m. Southeast winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, obscured.
29	Rain	Light rain began at 3:55 a.m., turning into snow at 1:59 p.m., with a light fall of hail from 2:36 p.m. to 2:37 p.m. and continuing over midnight. Slowly falling followed by rapidly rising barometer, rapidly falling temperature, and fresh to brisk NW winds. Obscured. Foul weather sunset, verified.
30	Snow	The snow of 29 th ended at 12:35 a.m.; began again at 10:58 a.m., continuing throughout the afternoon and evening to 11:40 p.m. Westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
31	Thermometer tests	Thermometer tests made today with the following results.

Instrument	Number	Reading
Station Standard	2890	32.0 degrees
Station Extra	3261	32.0
Station Hygrometer Dry-b Standard	699	33.0
Station ex. Hygrometer dry-b standard	42	31.7
Station wet-b standard	698	32.4
Station extra Hygrometer wet-b standard	42	32.0
Station Maximum standard	116	32.0
Station Extra Maximum standard	440	32.0
Station Minimum Standard	110	31.1
Station Extra Minimum Standard	180	31.8

Rain-Snow	Light rain began at 8:30 p.m., turning to snow at 8:50 p.m. ending at 11:27 p.m. Variable westerly winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
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River

High Water	18 ft 5 inches	March 22 nd & 23 rd
Low Water	8 ft 0 inches	March 11 th and 12 th
Range	10 ft 5 inches	

Sunsets

Character	Number of	Verified	Not Verified
Fair	15	13	2
Foul	16	14	2
Doubtful	0	-	-

Condition of Instruments

Instrument	No.	Condition
Barometer Standard	163	Serviceable
Barometer extra	1753	Serviceable
Barometer Aneroid	13	Serviceable
Barometer Extra	246	Serviceable
Thermometer Standard	2890	Serviceable
Thermometer Extra	3261	Serviceable
Thermometer Maximum Standard	116	Serviceable
Thermometer Maximum Extra	440	Serviceable
Thermometer Minimum Standard	110	Serviceable
Thermometer Minimum extra	180	Serviceable
Thermometer Heavy DB standard	699	Serviceable
Thermometer W.B. Standard	698	Serviceable
Thermometer Dry-B Extra	42	Serviceable
Thermometer Web-B Extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer Self Register for	30	Serviceable
Anemoscope	-	Serviceable
Rain-guage reservoir	-	Serviceable
River-guage	-	Paint? Off at extreme low water

Property	<p>The following-named property is unserviceable: 1 water bucket, 3 map frames, 3 bltn bds, 1 sponge cup, 1 porcelain cup, 2 oil'g cans; 1 tin tester, 2 brooms, 1 camel hair brush, 1 fire shovel, 1 lye pol, 1 type stand, 1 ink stone, dark lantern, 1 spittoon, electros, 2 "F.B's", 1 letter head, 3 published by coop, "&C 2" synopsis" &c, 2 ½ ft Brass Ruling, 1 fire poker, 123 ft office wire, 1 feather duster and 1 cipher hand hook. The balance of property remains in good condition.</p> <p style="text-align: right;">Respectfully submitted L.N. Jesunofsky Sergt. Sig. Corps. U.S.A.</p> <p style="text-align: right;">Transmitted April 2, 1881</p>
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(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: March, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Mar 30	7 a.m.	29.374	68	29.274	Mar. 30	7 a.m.	29.357	68	29.282	
	8 a.m.	29.364	68	29.264		8 a.m.	29.346	68	29.271	
	9 a.m.	29.352	68	29.252		9 a.m.	29.335	68	29.260	
	10 a.m.	29.348	69	29.245		10 a.m.	29.330	69	29.252	
	11 a.m.	29.359	69	29.256		11 a.m.	29.340	69	29.262	
	12 N	29.355	69	29.252		12 N	29.338	69	29.260	
	1 p.m.	29.348	68	29.248		1 p.m.	29.330	68	29.255	
	2	29.346	68	29.246		2	29.32	68	29.253	

	p.m.					p.m.	8				
	3 p.m.	29.375	75	29.257		3 p.m.	29.358	75	29.265		
	4 p.m.	29.378	69	29.274		4 p.m.	29.360	69	29.282		
Mar. 31	7 a.m.	29.388	64	29.297	Mar. 31	7 a.m.	29.372	64	29.307		
	8 a.m.	29.390	66	29.294		8 a.m.	29.374	66	29.304		
	9 a.m.	29.390	66	29.294		9 a.m.	29.374	66	29.304		
	10 a.m.	29.384	66	29.288		10 a.m.	29.367	66	29.297		
	11 a.m.	29.362	69	29.259		11 a.m.	29.345	69	29.267		
	12 N	29.380	78	29.253		12 N	29.363	78	29.262		
	1 p.m.	29.320	67	29.222		1 p.m.	29.305	67	29.232		
	2 p.m.	29.312	66	29.217		2 p.m.	29.296	66	29.226		
	3 p.m.	29.295	62	29.211		3 p.m.	29.278	62	29.219		
	4 p.m.	29.286	61	29.205		4 p.m.	29.270	61	29.214		
Sum.....585.108				Sum.....585.274				Difference <u>.00830</u>			
Mean Observation.....29.25540				Mean Observation.....29.26370							

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of Journal for April 1881

Contents	Dates
Auroras	
Batteries	2, 9, 16, 23, 30
Bars. Compared	29, 30
Bars cleaned	

Birds	12
Crops	1
Dew	16, 17, 20, 23, 27, 28
Dry-bulb thermometer	1
Fog	10, 18, 19
Frosts, light	14
Frosts, killing	5
Hailstorms	13
Instruments replaced	1
Lightning (separately)	21, 25
Lunar halos	6, 11, 14
Lunar coronae	11, 20
Navigation	
Polar Bands	
Rainbows	
Rains light	4, 7, 8, 9, 13, 19, 21, 22, 23, 24, 25, 26, 28, 29
Rains heavy	12, 18
River gauge	
Snows	4
Solar halos	10, 11, 14, 17, 20, 29
Station Inspected	
Solar Coronae	6, 10, 11, 20
Thers Tested	
Thr-strms and Ltng	7, 12, 21, 22, 28, 29
Thunder (separately)	
Zodiacal light	17, 20, 21, 23, 25, 27, 28, 29, 30

April, 1881

1	Barometer #246	Barometer no. 246 substituted for barometer No. 163 today per letter O.C.S.O, Mar 22, 1881. Use of dry-bulb thermometer discontinued per General Orders #10 (O.C.S.O.) Mar. 11, 1881. The cold weather of past two days slightly injuring vegetation. Northwest winds, cloudy weather, rapidly rising barometer, throughout the day and decidedly lower temperature. Obscured. Fair weather sunset, verified.
2	Battery	Battery renovated. High followed by steadily falling barometer, slowly rising temperature, westerly winds, and fair weather. Obscured. Fair weather sunset, verified.
3		Westerly winds, cloudy weather, lower barometer, higher temperature. Foul weather sunset. Obscured. Verified.
4	Rain/Snow	Light rain began at 1:17 a.m. turning to snow at

		2:44 a.m. The latter continuing with but slight intervals to 5:08 p.m. Variable westerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
5	Frosts	Heavy frost this a.m. Westerly winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, not verified.
6	Solar halo/lunar halo	Well-defined solar halo, about 20 degrees radii, from 1:50 p.m. to 2:40 p.m. Lunar halo, about 20 degrees radii, from 9:10 p.m. to 9:35 p.m. Northwest winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset. Verified.
7	Rain/Lightning/Thunderstorm	Light rain at intervals from 5:34 a.m. to 10:05 a.m. Rain began again at 2:20 p.m., ending at 3:42 p.m. with blinding lightning and heavy thunder from 2:15 p.m. to 11:10 p.m. and very Heavy Rains from 4:48 p.m. to 2:57 a.m. of 8 th , accompanied by fresh to brisk SE winds from 9:50 p.m. to 12:30 a.m. of 8 th . Variable easterly winds, cloudy weather, higher temperature. Obscured. Foul weather sunset, verified.
8	Rain	Light rain at intervals, throughout the day, continuing over midnight, with westerly winds, lower temperature and rapidly rising barometer. Obscured. Foul weather sunset, verified.
9	Rain/Battery	The rain of 8 th ended at 5:20 a.m. Battery attended to. Steadily rising barometer throughout the day, higher temperature, westerly winds, and fair weather, obscured. Fair weather sunset, verified.
10	Solar corona/solar halo/fog	Solar corona visible from 1:30 p.m. to 2:30 p.m. Solar halo, about 20 degrees radii, from 2:05 p.m. to about 3:15 p.m. Light fog this p.m. Westerly winds, fair weather, higher barometer, and temperature. Obscured. Foul weather sunset, verified.
11	Solar halo/Solar Corona/Lunar Corona/Lunar Halo	Solar halo, 20 degrees from 2:10 p.m. to 3:15 p.m. Solar Corona (very bright) from 3:16 p.m. to 3:45 p.m. Lunar corona, all colors visible, from 7:25 p.m. to 7:50 p.m. Lunar Halo 20 degrees, visible, at intervals, from 8:00 p.m. to 11:00 p.m. Rapidly falling barometer, rapidly rising temperature, cloudy weather and southeast winds. Obscured. Foul weather

		sunset, Verified.
12	Rain/lightning/thunder /swallows	Heavy rain from 12:58 a.m. to 5:43 a.m. accompanied by incessant lightning (of almost all varieties) and unusually heavy thunder, actually jarring buildings to their foundations. Light rains again from 12:50 p.m. to 3:45 p.m.; setting in steadily at 9:47 p.m. and continuing over midnight with southerly shifting to colder westerly winds at 11:13 p.m. Chimney swallows were seen for the first time this season today. Very low and fluctuating barometer, southerly winds and higher temperature throughout the day. Obscured. Foul weather sunset, verified.
13	Rain/hail/rain	The rain of 12 th ended at 9:40 a.m. Lt hail from 9:47 to 9:49 p.m. and lt. rain from 9:49 to 9:54 p.m. Northwest winds, cloudy weather lower barometer and higher temperature. Obscured. Fair weather sunset, verified.
14	Frost/solar halo/lunar halo	Light frost this a.m. Solar halo, 20 degrees, from 3:10 p.m. to 4:00 p.m. Lunar halo 20 degrees from 8:20 p.m. to about 9:30 p.m. Clear weather, northwest winds, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
15		Westerly winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
16	Dew/battery	Lt. dew this a.m. Battery attended to westerly winds, clear weather, higher barometer, and temperature. No aurora. Fair weather sunset, verified.
17	Dew/solar halo/zodiacal light	Heavy dew this a.m. Solar Halo 20 degrees, from 3:30 p.m. to about 4:00 p.m. Zodiacal lt. very bright this p.m. Variable southerly winds, fair weather, lower barometer, decidedly higher temperature. Obscured. Foul weather sunset, verified.
18	Rain/dense fog	Heavy rains at intervals from 9:45 a.m. to 4:49 p.m.; began again at 11:23 p.m., continuing over midnight. Very dense fog set in at 8:43 p.m., continuing over midnight. Southerly winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
19	Rain/fog	The rain of 18 th ended at 4:35 a.m. The fog of 18 th disappeared at 10:30 a.m. Steady S.E. winds, fair weather, higher barometer and

		temperature. No aurora. Fair weather sunset. Verified.
20	Lunar corona/dew/solar halos/solar coronas/zodiacal light	Lunar coronae, of finest type, from 2:05 a.m. to 4:45 a.m., (break of day). Heavy dew between 1 and 2 a.m. Solar halos, of about 20 degrees radii, visible at intervals from 10:25 a.m. to 1:00 p.m. Zodiacal light very bright this p.m. Northerly winds, fair weather, higher barometer, and temperature. Obscured. Fair weather sunset, verified.
21	Ltng/zodiacal light/lightning thunder/rain	Lightning observed in the southern, western, and northwestern horizon from 2:15 a.m. to 4:40 a.m. Zodiacal light partially visible this p.m. Lightning observed at 8:10 p.m. and thunder at 11:24 p.m. followed by light rain at 11:54 p.m., all continuing over midnight. Southeast winds, fair weather, nearly stationary barometer, slightly higher temperature. Obscured. Foul weather sunset, verified.
22	Thunder/lightning/rain Thunderstorm	The thunder and lightning of 21 st continued in intensity until 5:30 a.m. The rain of 21 st ended at 7:20 a.m. Northeasterly winds, cloudy weather, higher barometer, decidedly lower temperature. Obscured. Fair weather sunset. Verified.
23	Dew/Battery/Zodiacal Light/Rain	Very heavy dew this a.m. Battery properly attended to. Zodiacal light partially visible from 7:10 p.m. to 7:40 p.m. Lt. rain from 7:46 p.m. to 10:33 p.m. Southeasterly winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
24	Rain	Light rain at intervals from 11:27 a.m. to 5:50 p.m. Lower barometer and temperature southeast winds, throughout the day and cloudy weather. Obscured. Foul weather sunset, verified.
25	Rain/zodiacal light/lightning	Light rain at intervals from 12:20 a.m. to 11:20 a.m. Zodiacal light very bright this p.m. Heat lightning observed in northern horizon from 8:00 p.m. to 11:50 p.m. Lower barometer, higher temperature, southwest winds throughout the day and cloudy weather. No aurora. Foul weather sunset, verified.
26	Rain	Light rain from 8:06 a.m. to 2:11 p.m. Lower temperature, higher barometer, southwest winds, cloudy weather, obscured. Foul. Not Verified.

27	Dew/zodiacal light	Hvy dew this a.m. Faint zodiacal light this a.m. Zodiacal light very bright this p.m. Southwest winds, generally clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
28	Zodiacal light/dew/lightning/ rain/thunder/barometer	Faint zodiacal light this a.m. Heavy dew this a.m. Lightning first observed in northern horizon at 7:10 p.m. followed by rain at 10:03 p.m. and thunder at 10:20 p.m. accompanied by fresh and brisk winds from 10:15 p.m. to 12:30 a.m. of 29 th the rain lightning and thunder continuing over midnight. An extraordinary rise of .07 inch in barometer from 9:00 p.m. to 10:21 p.m. Prevailing southerly winds, fair weather decidedly higher temperature and higher barometer throughout the day. Obscured. Foul weather sunset. Verified.
29	Rain/Thunderstorm/solar halo/zodiacal light	The rain of 28 th ended at 1:28 a.m. and lightning and thunder at 3:00 a.m. Solar halo, 22 degrees 1:50-2:10 p.m. Zodiacal light extremely bright this p.m. Variable northerly winds, fair weather, higher barometer and lower temperature. No aurora. Fair weather sunset, verified.
30	Battery/zodiacal light	Battery properly attended to zodiacal light extremely bright this p.m. Northeast winds, fair weather, nearly stationary barometer, higher temperature. No aurora, fair weather sunset, verified.

The River

High water	31.8	Apr. 16 th
Low water	12.1	Apr. 25 th
Monthly range	19.7	

Sunsets

Character	Number of	Verified	Not Verified
Fair	14	14	0
Foul	16	14	2
Doubtful	-	-	-

Condition of Instruments

Instrument	Official No.	Condition
Barometer, standard	246	Serviceable
Barometer, Extra	1753	Serviceable
Barometer, Extra	163	Serviceable
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet-b standard	698	Serviceable
Thermometer, wet-b extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register for	f233	Serviceable
Anemoscope	-	Serviceable
Rain Guage & Reservoir	-	Serviceable
River guage	-	Serviceable
*Substituted for #163 per L.R., 48, Mar. 22, 1881. Taken up as extras, G.O. #10, O.C.S.O., Mar. 11, 1881. S. received O.C.S.O., Apr. 15, 1881.		

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: April, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
Apr	7	29.781	72	29.672	Apr.	7	29.776	72	29.688	

29	a.m.				29	a.m.					
	8 a.m.	29.798	72	29.689		8 a.m.	29.793	72	29.705		
	9 a.m.	29.812	72	29.703		9 a.m.	29.807	72	29.719		
	10 a.m.	29.828	72	29.719		10 a.m.	29.822	72	29.734		
	11 a.m.	29.833	72	29.724		11 a.m.	29.828	72	29.740		
	12N	29.811	73	29.700		12N	29.806	73	29.716		
	1 p.m.	29.799	74	29.685		1 p.m.	29.793	74	29.700		
	2 p.m.	29.784	74	29.670		2 p.m.	29.779	74	29.686		
	3 p.m.	29.789	75	29.672		3 p.m.	29.784	75	29.688		
	4 p.m.	29.787	74	29.673		4 p.m.	29.781	74	29.688		
Apr. 30	7 a.m.	29.802	69	29.701	Apr. 30	7 a.m.	29.797	69	29.717		
	8 a.m.	29.809	71	29.703		8 a.m.	29.804	71	29.719		
	9 a.m.	29.823	71	29.717		9 a.m.	29.817	71	29.732		
	10 a.m.	29.826	72	29.717		10 a.m.	29.820	72	29.732		
	11 a.m.	29.826	72	29.717		11 a.m.	29.820	72	29.732		
	12N	29.819	72	29.710		12N	29.814	72	29.726		
	1 p.m.	29.813	74	29.699		1 p.m.	29.808	74	29.715		
	2 p.m.	29.810	74	29.696		2 p.m.	29.804	74	29.711		
	3 p.m.	29.778	74	29.664		3 p.m.	29.772	74	29.679		
	4 p.m.	29.772	74	29.658		4 p.m.	29.766	74	29.673		
Sum.....593.889				Sum.....594.200				Difference <u>.01555</u>			
Mean Observation.....29.69445				Mean Observation.....29.71000							

Note – The comparative observations will be made on the last two 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.

Property	<p>The following described property is unfit for use. One water bucket, 3 map frames, 3 bulletin boards, 1 sponge cup, 1 porcelain cup, 2 oiling cans, 1 tin tester, 2 brooms, 1 camel hair brush, 1 fire shovel, 1 lye pot, 1 type? Stand, 1 ink stone, 1 dark lantern, 1 spittoon; electrotypes, 1 letter head, 3 “pub. By co-op” &c; 2 “synopsis” &c, 2 ½ feet brass ruling, 1 fire poker, 123 feet office wire, 1 feather duster, and 1 cipher hand book.</p> <p style="text-align: center;">All other property remains in good condition.</p> <p style="text-align: right;">Respectfully Submitted L.N. Jesunofsky Sergt. Sig. Corps, U.S.A. Transmitted, May 2nd, 1881</p>
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Contents of Journal for May 1881

Contents	Dates
Auroras	
Batteries	7, 14, 21, 28
Bars. Compared	30, 31
Bars cleaned	
Crops	
Dew	6, 7, 12, 13, 14, 16, 17, 18, 19, 21, 26, 27, 28, 30
Fog	6, 7, 8, 26, 29
Frosts, light	
Frosts, killing	
Hailstorms	
Instruments replaced	
Lightning (separately)	2, 8, 23, 29, 31
Lunar halos	5
Lunar coronae	
Navigation	
Polar Bands	
Rainbows	4
Rains light	1, 2, 4, 6, 7, 8, 9, 21, 22, 23, 25, 29, 30
Rains heavy	3, 5, 24
River gauge	

Snows	
Solar halos	5, 24
Station Inspected	
Solar Coronae	
Thers Tested	1
Thr-strms and Ltng	1, 3, 4, 5, 7, 8, 9, 22
Thunder (separately)	2
Zodiacal light	15, 16, 17, 18, 19, 20, 26, 27, 28
Max Ther. Reading 2:21 p.m.	1

May, 1881

1	Dew/Thermometer/Max. Thermometer/lightning-thunder-rain	Light dew this a.m. Began recording all theremometric observations decimally, today, per instructions G.O., No. 17, O.C.S.O. April 6, 1881. Began sending readings of the maximum thermometer at 2:21 p.m., today, per G.O. No. 21, O.C.S.O., April 21, 1881. Lightning and thunder from 4:35 p.m. over midnight, with rain from 4:38 p.m. to 11:11 p.m. Northeast winds, fair weather, lower barometer and higher temperature obscured. Foul weather sunset, verified.
2	Rain/lightning/thunder	Light showers at intervals from 4:29 a.m. to 7:52 a.m. and from 11:06 p.m. to 11:13 p.m. Fierce lightning throughout the evening, with light thunder. Variable southern winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
3	Rain/lightning/thunder	Heavy showers at intervals from 12:12 a.m. to 6:00 a.m., accompanied by blinding lightning and heavy thunder, which ended at about 5 a.m. Northeast winds, fair weather, lower barometer and temperature. No aurora. Fair weather sunset, not verified.
4	Rain/lightning/thunder/rainbow	Light rain from 6:58 a.m. to 7:23 a.m. and from 2:37 p.m. to 4:47 p.m.; accompanied by a rainbow from 4:37 p.m. to 4:59 p.m., and lightning and thunder from 2:34 p.m. to about 11:00 p.m. Light rain set in again at 8:58 p.m. continuing over midnight. Easterly winds, cloudy weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
5	Rain/solar halo/rain/lightning Thunder/lunar halo	The Rain of 4 th ended at 3:25 a.m., began again at 6:12 a.m. ending at 6:47 a.m. Solar halo, 20 degrees radii 2:20 p.m. & 2:45 p.m. Hvy rain from 4:20 p.m. to 8:30 p.m., accompanied by incessany lightning and

		heavy thunder, the latter ending at 5:10 p.m. and former at about 8:50 p.m. Lunar halo, 20 degrees, 9:05 p.m. to 9:38 p.m. Southerly winds, generally cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
6	Dew/rain/fog	Heavy dew this a.m. Lt. rain from 1:41 p.m. to 2:23 p.m. Lt. fog set in at 10:05 p.m. continuing over midnight. Southwesterly winds, fair weather, lower barometer, higher temperature. Obscured. Fair weather sunset, verified.
7	Fog/battery/lightning/thunder /rain/dew	The light fog of 6 th increased in density at 3:10 a.m. continuing so until about 7:10 a.m., when it gradually dissipated, disappearing entirely by 8:05 a.m. Battery properly attended to lightning and thunder from 4:57 p.m. to about 5:30 p.m. Light rains at intervals from 5:06 p.m. to 6:40 p.m. Very heavy dew this p.m. Southeast winds, fair weather, lower barometer, higher temperature. No aurora. Foul weather sunset, verified.
8	Fog/lightning/rain/thunder Lightning/rain	Light fog formed over river and low lands at about 12:30 a.m., increasing in density & spreading over city at 4:05 a.m. and disappearing entirely by 6:50 a.m. Lightning observed in Western and southwestern horizon from 1:00 a.m. to 4:00 a.m. Light rains, at intervals, from 11:47 a.m. to 12:16 a.m. Thunder and lightning throughout the afternoon and night. Light rain again from 10:11 p.m. to 11:43 p.m. accompanied by fresh and brisk southerly winds. Prevailing southeast winds, fair weather, higher barometer and temperature. Obscured. Foul weather sunset, verified.
9	Rain/thunderstorms/lightning/ thunder	Light rain, at intervals from 1:18 a.m. to 4:41 a.m. and heavy rain from 2:56 p.m. to 9:07 p.m., accompanied by lightning throughout the entire day. Variable southerly winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
10		Variable southerly winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
11		Variable southerly winds, generally clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
12	Dew	Heavy dew this a.m. Northwest winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, not verified.
13	Dew	Light dew this a.m. Steady westerly winds, lower

		barometer, higher temperature. Fair weather. No aurora. Fair weather sunset, verified.
14	Dew/battery	Light dew this a.m. Battery properly attended to. Westerly winds throughout the day, fair weather, lower barometer, and stationary temperature. No aurora. Fair weather sunset, verified.
15	Zodiacal light	Zodiacal light quite bright to 8:00 p.m. Westerly winds, clear weather, lower barometer and temperature. No aurora. Fair weather sunset, verified.
16	Dew/zodiacal light	Light dew this a.m. Zodiacal light very bright to 8:40 p.m. Northerly winds, generally clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
17	Dew/zodiacal light	Heavy dew this a.m. Zodiacal light very bright to 9:30 p.m. Northerly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
18	Dew/zodiacal light	Light dew this a.m. Zodiacal light very bright this p.m. Northerly winds, clear weather higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
19	Dew/zodiacal light	Hvy dew this a.m. Zodiacal light quite bright this p.m. Northeast winds, fair weather, lower barometer and higher temperature. No aurora. Fair weather sunset, verified.
20	Zodiacal light	Zodiacal light very bright this p.m. Northwest winds, fair weather, lower barometer, higher temperature. No aurora. Foul weather sunset, not verified.
21	Dew/battery/rain	Light dew this a.m. Battery properly attended to. Light rain from 5:32 p.m. to 5:55 p.m.; began again at 9:21 p.m.; continuing over midnight. Northwest winds, cloudy weather higher barometer, and temperature. Obscured. Foul weather sunset, verified.
22	Rain/lightning/thunder	The rain of 21 st ended at 1:10 a.m. Light rain from 1:59 p.m. to 2:37 p.m. accompanied by lightning and thunder, which ended at about 10:45 p.m. Light rain began again at 6:25 p.m. falling at times quite heavily and continuing over midnight. Variable southeasterly winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
23	Rain/lightning	The rain of 22 nd ended at 3:35 a.m. Light rain again at intervals, from 5:34 a.m. to 11:12 a.m. and from 8:55 p.m. to 11:15 p.m. accompanied by faint lightning from 7:30 p.m. to about 10:00 p.m. Easterly winds, cloudy weather, higher barometer and temperature.

		Obscured. Foul weather sunset, verified.
24	Rain/solar halo/rain	Very heavy rains from 9:58 a.m. to 1:25 p.m. Solar halo 20 degrees from 2:00 to 3p.m. Lt rain again from 11:05 p.m. to over midnight. Easterly winds, cloudy weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.
25	Rain	The rain of 24 th ended at 2:25 a.m. Light rain at station but very heavy showers 800 yards north and south of station, from 5:25 p.m. to 7:03 p.m. East winds, cloudy weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
26	Dense fog/zodiacal light	Heavy dew to 3:50 a.m. Dense fog set in at 3:50 a.m. disappearing by 8:40 a.m. Zodiacal light very bright this p.m. Southeast winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
27	Dew/zodiacal light	Heavy dew this a.m. Zodiacal light very bright this p.m. Northerly winds, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
28	Dew/battery/zodiacal light	Light dew this a.m. Battery properly attended to, zodiacal light quite bright this p.m. Southeast winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
29	Fog/rain/lightning	Lt. fog from 4:45 to 6:30 a.m. Light rain from 7:07 to 7:15 p.m. Lightning observed in the northern and western horizon from 11:00 p.m. to 3:50 a.m. of 30 th . Southeast winds, fair weather, lower barometer and temperature. Obscured. Fair weather sunset, verified.
30	Dew/rain	Lt. dew this a.m. Lt. rain from 2:50 to 2:53 p.m. Southeast winds, fair weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
31	Lightning	Lightning in western and northwestern horizon from 8:00 p.m. to 10:50 p.m. Southerly winds, fair weather, higher barometer, lower temperature. Obscured. Foul weather sunset, verified.

River

High water	16.1 ft	7th
Low water	3.9 ft	31 st
Monthly range	12.4 ft	

Summary of Sunsets

Character	No. of	Verified	Not Verified
Fair	16	15	1
Foul	15	12	3
Doubtful	0	-	-

Condition of Instruments

Instrument	No. of	Condition
Barometer, standard	246	Serviceable
Barometer, Extra	1753	Serviceable
Barometer, Extra	163	Serviceable
Barometer Aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet-b standard	698	Serviceable
Thermometer, wet-b extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register for	233	Serviceable
Anemoscope	-	Serviceable
Rain-guage & reservoir	-	Serviceable
River-guage	-	Serviceable

Property

The following = described property is unfit for use: one water bucket, 3 map frames, 3 bulletin boards, 1 sponge cup, 1 porcelain cup, 2 oiling cans, 1 tin tester, 2 brooms, 1 camel hair, brush, 1 fire shovel, 1 lye pot, 1 type stand, 1 ink stone, 1 dark lantern, 1 spittoon, electrotypes- 1 letter head 3 "Puby? Co. = operation" & 2 "Synopsis," 2 ½ ft. Brass ruling, 1 fire poker, 123 ft. Office wire. 1 feather duster and 1 cipher hand = book.

The remaining property is in good condition.

Respectfully submitted,

L.N. Jesunofsky

Sergt. Sig. Corps

U.S.A.

Transmitted – Nashville, TN, June 2, 1881

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: May, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
May 30	7 a.m.	29.440	76.4	29.322	May 30	7 a.m.	29.435	76.4	29.338	
	8 a.m.	29.500	79.4	29.374		8 a.m.	29.494	79.4	29.389	
	9 a.m.	29.484	80.7	29.353		9 a.m.	29.479	80.7	29.369	
	10 a.m.	29.462	82.0	29.328		10 a.m.	29.456	82.0	29.343	
	11 a.m.	29.456	82.5	29.322		11 a.m.	29.451	82.5	29.338	
	12 N	29.450	83.7	29.311		12 N	29.444	83.7	29.326	
	1 p.m.	29.445	84.9	29.303		1 p.m.	29.440	84.9	29.319	
	2 p.m.	29.420	86.0	29.276		2 p.m.	29.414	86.0	29.291	
	3 p.m.	29.410	86.1	29.266		3 p.m.	29.404	86.1	29.281	
	4 p.m.	29.394	85.5	29.252		4 p.m.	29.389	85.5	29.268	

May 31	7 a.m.	29.475	75.7	29.357	May 31	7 a.m.	29.471	75.7	29.374		
	8 a.m.	29.499	77.6	29.376		8 a.m.	29.494	77.6	29.392		
	9 a.m.	29.506	81.1	29.375		9 a.m.	29.502	81.1	29.392		
	10 a.m.	29.501	82.0	29.367		10 a.m.	29.496	82.0	29.383		
	11 a.m.	29.496	82.3	29.362		11 a.m.	29.491	82.3	29.378		
	12 N	29.478	83.4	29.342		12 N	29.473	83.4	29.358		
	1 p.m.	29.460	83.5	29.324		1 p.m.	29.454	83.5	29.339		
	2 p.m.	29.439	84.5	29.300		2 p.m.	29.434	84.5	29.316		
	3 p.m.	29.425	85.1	29.283		3 p.m.	29.421	85.1	29.300		
	4 p.m.	29.410	85.7	29.266		4 p.m.	29.405	85.7	29.282		
Sum.....586.459				Sum.....586.776				Difference			
Mean Observation.....29.32295				Mean Observation.....29.33880				<u>.01585</u>			

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents for June, 1881

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Zodiacal Light	14, 15, 16, 17, 18, 19, 22, 23, 24, 27, 28, 29
Min. Ther. Omitted from 7 a.m. Report	1
Monthly constants, began using	1

June, 1881

1	Min. Ther./Monthly constants/Actual Bar./Light and heavy rain	Began the omission of minimum cipher word from regular a.m. report. Began using monthly constants for the reduction of barometric readings to sea-level. Began the omission of actual-barometer cipher word from all telegraphic reports. Light rain at intervals, from 5:01 a.m. to 1:47 p.m., and heavy rain from 3:17 p.m. to about 4:10 p.m. gradually decreasing but continuing on to 11:45 p.m. Southeast winds, cloudy weather, lower barometer, and temperature. Obscured. Foul weather sunset, verified.
2	Dew/lightning/light rain	Light dew between 8:00 p.m. & 9:00 p.m. Lightning from about 8:00 p.m. over midnight to 3:00 a.m. of 3 rd . Light rain began at 10:15 p.m. continuing over midnight to 12:30 a.m. of 3 rd . Northwest winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.

3		Northwesterly winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather (1/4 yellow) sunset – verified.
4	Battery/dew	Battery properly attended to heavy dew from 9:30 p.m. to about 4:00 a.m. of 5 th . Northwest winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
5	Fog/lightning	Light fog observed over lowlands, at about 4:00 a.m., spreading over city by 4:20 a.m., and disappearing at 5:30 a.m. Lightning in northern and eastern horizon from 8:30 p.m. to 3:50 a.m. of 6 th . Northwest winds, fair weather, lower barometer, higher temperature. Obscured. Fair weather sunset, verified.
6	Lightning/thunder/light rain	Lightning and thunder from 5:50 p.m. to about 6:30 p.m.; with a light sprinkle (rain-drops unusually large) from 5:57 p.m. to 5:58 p.m., but heavy showers 1 mile to the southeastward and eastward of station, from about 5:20 p.m. to 6:45 p.m. Variable southwesterly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, not verified.
7	Thunderstorms/light rain/lunar coronae/lunar halo	Fierce lightning and heavy thunder at 5:04 p.m., the former continuing over midnight and the latter ending at about 8:00 p.m. Light showers from 6:19 p.m. to 6:46 p.m. Lunar coronae from 8:45 p.m. to 9:15 p.m. Lunar halo, of about 20 degrees, from 9:15 p.m. to about 10:00 p.m. Southwesterly winds, cloudy weather, higher barometer, lower temperature. Obscured. Fair weather sunset, verified.
8	Lightning/thunderstorm/ Heavy rain/high winds	The lightning of 7 th ended at about 3:50 a.m. Very heavy showers, at intervals, from 7:43 p.m. to 1:35 a.m. of 9 th , with fresh to brisk and high westerly and southwesterly winds, (maximum 39 miles) from 7:40 p.m. to 7:50 p.m. accompanied by violent and terrific lightning generally of fork and chain variety (flashes extending from horizon to horizon and but comparatively light thunder, both ceasing at 4:00 a.m. of 8 th . Southwesterly winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
9	Dew	Light dew this p.m. Northwest winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
10	Lunar halo	Lunar halo, 20 degrees, 12:30-1:30 a.m. Northeast winds, clear weather, higher barometer, lower

		temperature. No aurora. Fair weather sunset, verified.
11	Lunar halo/dew/battery/lunar halo/lunar eclipse	Lunar halo, 20 degrees, 1:40 a.m. – 3:00 a.m. Heavy deposition of dew between 3:30 and 4:30 a.m. Battery properly attended to. Lunar halo, 20 degrees, 8:10 p.m. – 11:25 p.m. Lunar eclipse from 11:46 p.m. to 2:54 a.m. of 12 th . Southeast winds, fair weather, stationary barometer, higher temperature. No aurora. Fair weather sunset, verified.
12	Dew/lunar corona	Heavy deposition of dew this a.m. Lunar coronae, of finest type, 8:25 p.m. – 8:45 p.m. Southerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
13	Dew/lightning/lunar halo	Lt. dew this a.m. Fierce lightning in extreme N. and E. horizon at 7:50 p.m. continuing over midnight. Lunar halo, 20 degrees, 10:35 p.m. to 12:45 a.m. of 14 th . Southerly winds, fair weather, lower barometer, higher temperature. Obscured. Fair weather sunset, not verified.
14	Thunderstorm/heavy rain/lunar Coronae/zodiacal light/dew/fog	The intense lightning of 13 th continued nearly the entire morning, followed by a heavy shower from 8:41 a.m. to 10:02 a.m. with unusually = heavy thunder, ceasing about 10:40 a.m. Fully-developed lunar corona 12:45 a.m. – 1:10 a.m. Zodiacal light very bright this p.m. Very heavy deposition of dew this p.m. from 8:05 to 9:20. Light fog formed over low-lands and river at 9:20 p.m. increasing in density at 11:00 p.m., continuing over midnight. Southeast winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
15	Fog/lunar coronae/great rise In Bar./zodiacal light/dew	The fog of 14 th spread over the entire city by 12:25 a.m. and disappearing at 6:45 a.m. Lunar corona, all colors visible from 1:20 a.m. to 1:40 a.m. At 6:45 a.m. the wind veered from N to SE remaining so to about 6:50 after which it veered to the NW, followed immediately by an extraordinary rise in barometer (a difference of .058 in between the 6:21 a.m., and 7:00 a.m. observations) with a light rain 200 yds west of station from 6:45 a.m. to 6:47 a.m., also accompanied by brisk and high winds the same distance from station. Zodiacal light extremely bright this p.m. An unusually – heavy deposition of dew this p.m. Northerly winds, fair weather, higher barometer

		and temperature. No aurora. Fair weather sunset, verified.
16	Fog/zodiacal light	Dense fog, 3:15 a.m. – 5:55 a.m. Zodiacal light extremely bright this p.m. Southwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset – ¼ yellow. Verified.
17	Dew/zodiacal light/lightning	Light dew this a.m. Faint zodiacal light this p.m. Lightning in horizon from SE by S to NE from 7:40 p.m. to 3:30 a.m. of 18 th . Northwest winds, fair weather, lower barometer, higher temperature. Observed. Foul weather sunset. Verified.
18	Lunar halo/battery/thunderstorm/ Heavy rain/gale/zodiacal light/rain	Lunar halo, 22 degrees, 12:45 -4:00 a.m. Battery properly attended to light rain from 10:28 a.m. to 10:44 a.m. accompanied by thunder and lightning from 10:25 a.m. to 11:00 a.m., and very heavy rain from 4:13 p.m. to 5:26 p.m. with fresh to brisk high and gales of westerly winds, - 45 miles, variable – from 4:13 p.m. to 4:26 p.m. accompanied by fierce lightning and thunder from 3:50 p.m. to past <i>illegible</i> . Zodiacal light partly visible this p.m. Another very heavy shower from 11:20 p.m. to 11:29 p.m. The gale did considerable damage in and around the city, blowing down signs, unroofing houses, destroying Church steeples and uprooting trees. Easterly winds lower barometer and temperature, fair weather, obscured. Foul weather sunset, verified.
19	Thunderstorm/light rain/zodiacal Light	The thunder and lightning of 18 th continued in intensity, with light showers, at intervals, from 12:16 a.m. to 2:42 a.m. and both of former ceasing about 3:00 a.m. Zodiacal light quite bright this p.m. Southerly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
20	Dew/thunderstorm/heavy rain/rain	Heavy dew this a.m. Lightning and thunder first observed at 6:55 p.m. continuing throughout the evening past midnight, accompanied by a very heavy shower from 8:59 p.m. to 9:19 p.m. Light rain again at 11:36, continuing over midnight. Westerly winds, fair weather, lower barometer and higher temperature. Obscured. Foul weather sunset, verified.
21	Lightning and thunder/light rain/thunderstorm/heavy rain/high Winds/thunderstorm	The lightning and thunder of 20 th ceased at about 4:10 a.m. The rain of 20 th ended at 3:13 a.m. Light shower from 2:20 p.m. to 2:24 p.m., and a heavy shower from 3:12 p.m. to 5:04 p.m. accompanied by fierce lightning and thunder from 2:50 p.m. to

		5:00 p.m. and fresh to brisk and high westerly winds, maximum velocity 35 miles.) Another heavy shower began at 9:25 p.m. gradually decreasing at 10:00 p.m. and continuing over midnight, accompanied by lightning and thunder, the thunder ceasing at 10:45 p.m. and lightning at 11:30 p.m. Westerly winds, fair weather, lower barometer, and temperature. Obscured. Foul weather sunset, verified.
22	Light rain/zodiacal light	The rain of 21 st ended at 1:05 a.m. Zodiacal light extremely bright this p.m. Northerly winds throughout the day, fair weather lower barometer, higher temp. No aurora. Fair weather sunset. Verified.
23	Comet/dew/solar halo/zodiacal light	A very large comet observed at 2:48 a.m. its first appearance in this latitude. Light dew this a.m. Solar halo, 22 degrees (well-defined, 2:00 p.m. – 2:40 p.m.). Zodiacal light slightly visible this p.m. (pm). Northeasterly winds, fair weather, higher barometer, and temperature. Obscured. Fair weather sunset. Verified.
24	Dew/shooting stars/solar halo/zodiacal light	Hvy dew this a.m. Numerous small shooting stars observed this a.m. Solar halo, well-defined 2:55 p.m. – 3:10 p.m. – 22 degrees radii. Zodiacal light extremely bright this p.m. Northeast winds, fair weather, higher barometer and temperature. No aurora. Foul weather sunset, not verified.
25	Dew/battery/lightning/fog Solar halo/lightning	Very hvy dew this a.m. Battery properly attended to, lightning observed in southeastern horizon from 1:20 a.m. to 4:15 a.m. becoming invisible on account of fog. Very dense fog set in from the northwest at 4:15 a.m. and clearing at 5:40 a.m. Solar halo 22 degrees well-defined, 1:40 p.m. – 6:00 p.m. Lightning in southeastern horizon from 7:45 p.m. over midnight. Westerly winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, not verified.
26	Lightning/solar halo/lt. rain/lightning	The lightning of 25 th ceased at 4:00 a.m. Solar halo, 22 degrees, 3:03 – 3:45 p.m. Lt. shower from 6:19 p.m. to 6:30 p.m. Lightning in western and southwestern horizon from 7:40 p.m. to past midnight. Northwest winds, cloudy weather, lower barometer, higher temperature. Obscured. Fair weather sunset, not verified.
27	Lightning/light rain/heavy rain /zodiacal light/lightning	The lightning of 26 th ended at 4:00 a.m. Light rain at intervals from 2:14 a.m. to 7:17 a.m. Very heavy shower from 3:35 p.m. to 4:14 p.m. Zodiacal light

		partially visible this p.m. Lightning in northern horizon from 8:00 p.m. to 9:30 p.m. Westerly winds, cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, not verified.
28	Lightning/zodiacal light	Lightning in northern and western horizon from 1:30 a.m. to 3:00 a.m. Zodiacal light extremely bright this p.m. Variable southwest winds fair weather lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
29	Dew/barometer comparison/zodiacal Light/lightning	Light dew this a.m. Barometer comparisons made today. Zodiacal light exceedingly bright this p.m. Incessant lightning in northern, eastern & southeastern horizon from 8:00 p.m. to 4:00 a.m. of 30 th . Southwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, not verified.
30	Dew/bar. Comparisons/thunderstorm/lightning & heavy rain/rainbow/thermometer tests	Hvy dew this a.m. Barometer comparisons made today. Light rain from 9:58 a.m. to 12:27 p.m., and heavy rain from 4:28 p.m. to 9:43 p.m., accompanied by thunder and lightning from 4:20 p.m. to 9:00 p.m. Large rainbow and supernumerary from 7:17 p.m. to 7:28 p.m. (8 minutes after sunset), disappearing from horizon upward. Thermometer tests made today with following results:

Instrument	No.	Reading
Station Standard	2890	32.0 degrees
Extra, standard	3261	32.0 degrees
Extra, standard	699	32.5 degrees
Extra, standard	42	31.7 degrees
Station, wet-bulb	698	32.4 degrees
Extra, wet-bulb	42	32.0 degrees
Station Maximum	116	32.0 degrees
Extra, maximum	440	32.0 degrees
Station, minimum	110	31.1 degrees
Extra, minimum	180	31.8 degrees

Westerly winds, fair weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.

The River

High Water	14.8	13 th
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Low Water	3.1	8 th
Monthly Range	11.7	

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	19	15	4
Foul	11	8	3
Doubtful	-	-	-

Condition of Instruments

Instrument	No. of	Condition
Barometer, standard	246	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	163	Serviceable
Barometer, extra	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet-b standard	698	Serviceable
Thermometer, wet-b extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register for	233	Serviceable
Anemoscope	-	Serviceable
Rain-guage & reservoir	-	Serviceable
River-guage	-	Serviceable

Property

The property as ordered to be condemned by authority O.C.S.O. June 6, 1881 was entirely destroyed.

The balance of property on station remains in good condition.

Respectfully submitted

L.N. Jesunofsky

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: June, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
June 29	7 a.m.	29.615	86.3	29.471	June 29	7 a.m.	29.611	86.3	29.488	
	8 a.m.	29.675	89.3	29.522		8 a.m.	29.670	89.3	29.538	
	9 a.m.	29.651	90.2	29.495		9 a.m.	29.645	90.2	29.510	
	10 a.m.	29.635	90.8	29.476		10 a.m.	29.630	90.8	29.492	
	11 a.m.	29.628	91.5	29.469		11 a.m.	29.622	91.5	29.485	
	12 N	29.620	92.0	29.460		12 N	29.615	92.0	29.476	
	1 p.m.	29.610	93.2	29.447		1 p.m.	29.605	93.2	29.463	
	2 p.m.	29.596	94.4	29.431		2 p.m.	29.591	94.4	29.447	
	3 p.m.	29.586	94.9	29.418		3 p.m.	29.580	94.9	29.433	
	4 p.m.	29.560	95.0	29.392		4 p.m.	29.555	95.0	29.408	
June 30	7 a.m.	29.580	86.8	29.433	June 30	7 a.m.	29.574	86.8	29.448	
	8 a.m.	29.800	91.3	29.442		8 a.m.	29.595	91.3	29.458	

	9 a.m.	29.598	89.6	29.443		9 a.m.	29.59 2	89.6	29.458		
	10 a.m.	29.593	90.0	29.438		10 a.m.	29.58 8	90.0	29.454		
	11 a.m.	29.586	91.1	29.428		11 a.m.	29.58 0	91.1	29.443		
	12 N	29.579	90.7	29.421		12 N	29.57 4	90.7	29.437		
	1 p.m.	29.550	91.7	29.390		1 p.m.	29.54 5	91.7	29.406		
	2 p.m.	29.534	93.6	29.369		2 p.m.	29.52 9	93.6	29.385		
	3 p.m.	29.519	93.8	29.359		3 p.m.	29.51 5	93.8	29.371		
	4 p.m.	29.516	94.8	29.348		4 p.m.	29.51 1	94.8	29.364		
Sum.....588.647				Sum.....588.964				Difference <u>.01585</u>			
Mean Observation.....29.43235				Mean Observation.....29.44820							

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents for July, 1881

Contents	Dates
Auroras	
Aneroid Bar.	22
Batteries	2, 9, 16, 23, 30
Bars compared	30, 31
Bars cleaned	
Crops	12, 14, 24, 26, 29, 31
Clouds observed in tenth	1,
Dew	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 19, 20, 21, 24, 25, 30, 31
Drought	12, 14, 24, 26, 29, 31
Fog	4, 6, 7, 8, 9, 10, 11, 12, 14, 16, 19, 20, 21
Frosts, light	
Frosts, killing	

Hailstorms	22
Instruments replaced	
Lightning (separately)	11, 13, 21
Lunar halos	11, 14
Lunar coronae	11
Local observation, discontinuance of	1
Navigation	
Polar bands	
Rain-bows	
Rains, light	1, 12, 14, 15, 22
Rains, heavy	17
River gauge	
River obs, changed in time	1
Snows	
Solar halos	
Solar coronae	26
Station Inspected	
Therms. Tested	
Thr-storms and lightning	12, 14, 15, 17, 22
Thunder (separately)	
Zodiacal light	16, 18, 20, 21, 22, 23, 25, 27, 28, 29, 30, 31
Tel. obs. For daily means	1
Humidity, words omission from te. Repts	1

July, 1881

1	Local obs./daily means/humidity/clouds/ River obs./ Lt. rain/haze	Local observations discontinued to-day, and five only to be made, daily, hereafter, as follows: 7:00 a.m., 11:00 a.m., 3:00 p.m., 7:00 p.m., and 11:00 p.m. Washington mean-time (per G.O., #10, O.C.S.O., Mar. 11, 1881). The sum of the 3 telegraphic observations divided by 3 to be used as the daily means for barometer, thermometer, dew-point and humidity (per G.O., #36, O.C.S.O., June 4, '81). Began the omission of humidity word from telegraphic reports by substituting the dew point word therefor (paragraph v., G.O., #21, O.C.S.O., April 1, '81). Began observing clouds by 10ths and reporting them by 4ths, today. (Per G.O., #16, O.C.S.O., April 5, 1881.) Began taking river observations at 1:21 p.m., (2:00 p.m. Washington mean time) today. Circular – O.C.S.O., June 2, 1881. Lt. rain from 4:28 a.m. to 8:18 a.m. Very dense haze followed the clearing weather at 3:30 p.m. Northerly winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
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2	Dew/battery	Heavy dew this a.m. Battery renovated to-day. Easterly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
3	Dew	Hvy dew this a.m. Generally clear weather, easterly winds, higher temperature and barometer. No aurora. Fair weather sunset, verified.
4	Dew/fog	Hvy dew this a.m. Slight fog in eastern portion of city and over river from 3:30 a.m. to 5:50 a.m. Northerly winds, clear weather, lower barometer, higher temperature. No aurora. Fair $\frac{1}{4}$ yellow weather, sunset verified.
5	Dew	Very heavy dew this a.m. Clear weather, northwest winds, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
6	Dew/fog	Very heavy dew this a.m. Light fog observed over lowlands and eastern portion of city from 3:00 a.m. to 5:30 a.m., which spread over city at about 6:45 a.m. and disappearing entirely by 8:25 a.m. NW winds, clear weather, lower barometer higher temperature, no aurora, fair weather sunset, verified.
7	Dew/fog	Very heavy dew this a.m. Dense fog formed over lowlands and eastern part of city at 2:00 a.m., spreading over the entire city by 6:00 a.m., and disappearing at 7:48 a.m. Westerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
8	Dew/fog	Very heavy dew this a.m. Dense fog formed over lowlands and eastern part of city at 12:30 a.m. and spreading over entire city at 5:30 a.m. disappearing by 7:25 a.m. Westerly winds, lower barometer, higher temperature, clear weather. No aurora. Fair weather sunset. Verified.
9	Dew/fog/battery	Light dew this a.m. Dense fog 12:30 – 8:37 a.m. Battery properly attended to westerly winds, clear weather, higher barometer and temperature.
10	Dew/fog	Light dew this a.m. Light fog over low-lands and eastern part of city from 2:00 a.m. to 6:00 a.m. NE winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
11	Dew/fog/lunar halo/lunar coroneae/lightning	Very light dew this a.m. Dense fog set in over SE & western portion of city at 4:00 a.m., spreading over entire city by 5:55 a.m. and disappearing at 8:05 a.m. Lunar Halo, 22 degrees, 8:25 – 9:00 p. Lunar coroneae, 9:10 / 10:30 p.m. Light in SE horizon from 8:51 p.m. to 9:30 p.m. NW winds, clear weather, lower barometer and temperature. No aurora. Fair weather sunset, verified.
12	Dew/haze/fog/drought	Very light dew this a.m. Dense haze set in at 1:00 a.m.

	/crops	Light fog from 4:30 to 7:50 a.m. Reports from all sections of the state say that crops, generally, are suffering fearfully – corn is wilting, shrubbery in park and gardens drying up, as well as spring and wells. Farmers predict that if rain is not had within a weeks time, the entire corn and cotton crops will be a complete failure. No rain since 1 st inst. Thunder and lightning at 2:12 p.m. with threatening sky, followed by a light shower at 2:30 p.m., ending at 3:30 p.m. the lightning and thunder continuing to about 9:30 p.m. accompanied by a heavy shower from 9:02 to 9:49 p.m. Westerly winds, fair weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
13	Lightning	Lightning in S & SW horizon. 8:00-11:30 p.m. Westerly winds, fair weather higher barometer, lower temperature. No aurora. Fair weather sunset, not verified.
14	Dew/fog/thunderstorm/ Lt. rain/sunstroke/visit from farmers-drought- crops/Lunar halo	Light dew this a.m. Dense fog 5:30-7:35 a.m. Light showers at intervals from 12:45 p.m. to 8:17 p.m. accompanied by lightning and thunder, from 4:30 p.m. to 9:00 p.m. One case of sunstroke reported today – only one in Nashville so far, this year. The observer received a visit from several farmers today who have extensive crops 10 miles out of town. They seem rather downcast over this drought. They state that ALL CROPS are suffering greatly for want of rain and that if none is had soon, 2/3 of their crops will be a failure. Reports from Middle and West Tennessee are to the same effect. Lunar halo 22 degrees, 9:50-10:30 p.m. Westerly winds, fair weather, higher barometer, and temperature. Obscured. Foul weather sunset, verified.
15	Lt. rain/thunderstorm	Light rain from 6:29 a.m. to 6:40 a.m. Thunder-storm about 1 ½ miles north of town from 3:00 p.m. to about 3:50 p.m. Light rain from 4:05 p.m. to 4:37 p.m., accompanied by lightning and thunder from 3:00 p.m. to 5:00 p.m. Westerly winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
16	Dew/fog/battery/cloud- formation/zodiacal light	Heavy dew this a.m. Light fog 5:30-7:17 a.m. Battery properly attended to. A remarkable phenomena occurred between 6:55 p.m. and 8:00 p.m. in the shape of cloud-formation. The burning of a grain elevator, 50 x 300 ft., in the southern portion of city created such intense heat that five remarkably-fine cumulus clouds formed directly over the fire at an estimated elevation of 600 ft. Zodiacal light quite bright this p.m. Westerly winds clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset. Not

		verified.
17	Thunderstorm/heavy rain	Thunder first heard at 3:28 p.m., lightning seen at 4:00 p.m., next followed by a very heavy shower, from 5:33 to 6:18 p.m. the lightning and thunder becoming more intense at 5:20 p.m. and continuing so to about 6:25 p.m. after which the thunder ceased but lightning continuing throughout the evening past midnight to about 2:00 a.m. of 18 th . Westerly winds, fair weather, higher barometer and temperature. Obscured. Fair weather sunset, verified.
18	Zodiacal light	Zodiacal light quite bright this p.m. Northerly winds, fair weather, lower barometer, and temperature. No aurora. Fair weather sunset, verified.
19	Dew/fog	Heavy dew this a.m. Dense fog set in over eastern and northeastern portion of city at 4:30 a.m., spreading over entire city at 5:50 a.m. and cleared at 9:20 a.m. Northeast winds, clear weathre, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
20	Dew/fog/zodiacal light	Very heavy deposition of dew this a.m. Dense fog formed over NE and eastern section of city at 2:00 a.m., spreading over entire city at 5:30 a.m. and disappearing at 9:05 a.m. Zodiacal light quite bright this p.m. Southwest winds, fair weather, lower barometer, higher temperature. No aurora. Fair (1/8 green) weather sunset, verified.
21	Dew/fog/zodiacal light/lightning	Light dew this a.m. Light fog over eastern and northeastern portion of city from 2:00 a.m. to 5:30 a.m. Zodiacal light quite bright this p.m. Lightning in eastern horizon from 8:30 p.m. to 3:00 a.m. 22 nd . Westerly winds, clear weather higher barometer and temperature. No aurora. Fair weather sunset, not verified.
22	Thunderstorm/light rain/hail/aneroid barometer/lightning/Zodiacal light	Light shower from 2:02 p.m. to 3:05 p.m., accompanied by thunder and lightning from 2:01 p.m. to 3:45 p.m. and a great fall in temperature. Hail, of unusual size fell 500 yrds westward of station. By authority of letter dated O.C.S.O., July 19, 1881, the observer loaned the Signal Service Aneroid Bar. #13 to Mr. A. Dahlgren. Lightning in southern horizon from 8:00 p.m. to 2:00 a.m. of 23 rd zodiacal light quite bright this p.m. Northwest winds, fair weather lower barometer and temperature. No aurora. Fair weather sunset, verified.
23	Battery/zodiacal light	Battery properly attended to. Zodiacal light quite bright this p.m. Northerly winds, higher barometer, lower temperature, fair weather. No aurora. Fair weather sunset, verified.
24	Dew/drought/crops	Light dew this a.m. Farmers say that the entire corn crop

		is a complete failure, in everything else there are only half crops. In many parts of the state not enough rain has fallen in a month to settle dust. Northerly winds, fair weather, lower barometer, higher temperature. No aurora. Foul weather sunset, not verified.
25	Dew/Zodiacal Light/Haze	Very light dew this a.m. Zodiacal light quite bright this p.m. Light haze throughout the day. Northwest winds, slightly lower barometer, higher temperature, clear. No aurora. Fair weather sunset, verified.
26	Solar coronae/drought	Solar coronae, of unusual brilliancy and size – all colors visible – 15 degrees radii!! 2:14=2:32 p.m. Farmers in West Tennessee report that no rain has fallen since the 30 th & 31 st of July. Northwest winds; fair weather, higher barometer, lower temperature. Obscured. Fair weather sunset – verified.
27	Zodiacal light	Zodiacal light quite bright this p.m. Variable northerly winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
28	Zodiacal light	Zodiacal light quite bright this p.m. Northerly winds, clear weather higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
29	Drought/crops/haze/ Zodiacal light	Reports from Dilday's Landing on Cumberland River, concerning the Drought, are as follows: "The crops in this vicinity are ruining for rain. In some places corn is drying up, wells gone dry, and people as well as stock are really suffering for water. Some are hauling drinking water for miles. The like has never been known before. About 6 miles from here on the Cumberland River, rain has not been needed this summer. Dense haze throughout the day, zodiacal light slightly visible this p.m. Northeast winds, "hazy" weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
30	Dew/comparatives/ Battery/zodiacal light/haze	Very light dew this a.m. Comparative readings made today. Battery properly attended to. Zodiacal light slightly visible this p.m. Light & dense haze throughout the day. Northwest winds, "clear" weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
31	Dew/comparatives/ Droughts/crops/ Nashville/Zodiacal light/ Haze	Very light dew this a.m. Comparative readings made today at Shady Hill, in West Tennessee, on the Tennessee River there is serious suffering for want of Rain; cotton is dwarfed, grass dry and dead; corn twisting and shrivelling; the Earth "baked" and "powdered" to six Indies(?) of dust on the roadways at Scotts Hill some 8 or 10 miles westward, there has been sufficient rain as far. In country surrounding Nashville,

		things are literally drying up. Only 0.86 of an inch of Rain this month!! At Tullahoma in S.S.E. part of state vegetation is pretty well scorched up. In the cedar and limestone regions of Bedford, Marshall and Rutherford, everything in the line of vegetation is suffering, springs and wells are beginning to fail. Zodiacal light slightly visible this p.m. Very dense haze throughout the day. Northerly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
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The River

High water	13 ft. 10 inches	On 6 th
Low water	1 ft. 6 inches	23 rd & 24 th
Monthly Range	12 ft. 4 inches	

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	28	25	3
Foul	3	2	1
Doubtful	-	-	-

Condition of Instruments

Name	Official Number	Condition
Barometer, standard	246	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	163	Leaking badly; chambers skin in cistern worn
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet standard	698	Serviceable
Thermometer, wet, extra	42	Serviceable
Anemometer	52	Serviceable

Anemometer	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register, for	233	Serviceable
Anemoscope	-	Serviceable
Rain-gauge and reservoir	-	Serviceable
River-gauge	-	Worn at average low water

All property on station is in fair condition.

Respectfully submitted,

L.N. Jesunofsky

Sergt. Sig. Corps,

U.S.A.

Transmitted: Aug. 1, 1881

Nashville, Tenn.

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: July, 1881										
Station Barometer No. 163					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .003					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.	
July 30	7 a.m.	29.699	74.6	29.583	July 30	7 a.m.	29.694	74.6	29.599	
	8 a.m.	29.740	80.0	29.610		8 a.m.	29.735	80.0	29.626	
	9 a.m.	29.743	83.2	29.606		9 a.m.	29.737	83.2	29.621	
	10 a.m.	29.737	83.5	29.600		10 a.m.	29.732	83.5	29.616	

	11 a.m.	29.734	84.6	29.591		11 a.m.	29.72 9	84.6	29.607		
	12 N	29.729	86.3	29.584		12 N	29.72 4	86.3	29.600		
	1 p.m.	29.724	87.2	29.576		1 p.m.	29.71 8	87.2	29.591		
	2 p.m.	29.706	88.4	29.555		2 p.m.	29.70 1	88.4	29.571		
	3 p.m.	29.690	89.6	29.534		3 p.m.	29.68 5	89.6	29.550		
	4 p.m.	29.687	89.9	29.531		4 p.m.	29.68 2	89.9	29.547		
July 31	7 a.m.	29.755	76.5	29.636	July 31	7 a.m.	29.75 0	76.5	29.652		
	8 a.m.	29.768	79.3	29.641		8 a.m.	29.76 4	79.3	29.658		
	9 a.m.	29.781	84.0	29.640		9 a.m.	29.77 6	84.0	29.656		
	10 a.m.	29.778	85.3	29.635		10 a.m.	29.77 3	85.3	29.651		
	11 a.m.	29.766	87.0	29.617		11 a.m.	29.76 0	87.0	29.632		
	12 N	29.750	88.8	29.597		12 N	29.74 5	88.8	29.613		
	1 p.m.	29.739	89.3	29.586		1 p.m.	29.73 4	89.3	29.602		
	2 p.m.	29.723	91.4	29.564		2 p.m.	29.71 8	91.4	29.580		
	3 p.m.	29.705	91.9	29.544		3 p.m.	29.70 0	91.9	29.560		
	4 p.m.	29.690	92.3	29.529		4 p.m.	29.68 5	92.3	29.545		
Sum.....591.759				Sum.....592.077				Difference - <u>.01590</u>			
Mean Observation.....29.58795				Mean Observation.....29.60385							

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

Contents of Journal for August 1881

Contents	Dates
Auroras	
Batteries	
Bars compared	30, 31
Bars cleaned	
Crops	2, 26
Dew	2, 6, 9, 12, 16, 17, 18, 23, 25, 26, 27, 30
Drought	2, 26
Fog	8, 9, 20
Frosts, light	
Frosts, killing	
Hailstorms	
Instruments replaced	
Lightning (separately)	14, 25, 31
Lunar halos	11, 14
Lunar Coronae	9, 10, 13
Navigation	
Polar Bands	
Rainbows	28
Rains light	3, 4, 5, 7, 13, 14, 18, 19, 20, 25, 28, 29, 31
Rains heavy	
River gauge	29
Snows	
Solar halos	10, 27
Solar coronae	
Station Inspected	
Therms tested	
Thr-storms and lightning	7, 13, 18, 19
Thunder (separately)	31
Zodiacal light	1, 14, 15, 16, 17, 22, 24, 25, 26, 27

August, 1881

1	Haze/zodiacal light	Very dense haze throughout the day. Zodiacal light slightly visible this p.m. Southeast winds, fair weather, higher temperature, lower barometer. No aurora. Fair weather sunset, verified.
2	Dew/haze/crops	The atmosphere is actually in such a dry state that dew will not form upon anything, with a cloudless sky. Very dense haze throughout the day. The outlook of the corn crop, now, is rather dismal. The stalks are as dry as if they had been cut and stacked; many of the

		farmers are cutting theirs down. The grass, everywhere, is drying; cattle have no pasturage now at all, where but one month ago, the farmer was all smiles over the prospective fruits of his labors, he now feels disheartened over his losses. Were it not for the high temperature, one could call this month October, instead of Aug., for foliage and the like presents the appearance of Autumn. Peaches are one-half their usual
3	Rain	A light shower fell at Columbia, in southern part of state, yesterday. It is said that this is the only rain that they have had in that section for two months past. Southeast winds, fair weather, higher barometer and temperature. Obscured. Fair weather sunset, verified.
4	Light rain/yellow	Very light rains, at intervals from 10:51 a.m. to 12:42 p.m. Southeast winds, fair weather, higher barometer, lower temperature. No aurora. Fair (2/10 yellow) weather sunset, verified.
5	Light rain	Very light rains, at intervals, from 2:50 p.m. to 4:41 p.m. Southeast winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
6	Dew/battery	Light dew this a.m. Battery properly attended to southeast winds, fair weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
7	Thunderstorm/light rain/temperature	Light rains, at intervals, from 12:39 a.m. to 5:50 a.m., but very heavy showers, at intervals, from 6:18 a.m. to 9:58 a.m., accompanied by lightning and thunder at 6:50 a.m. and both ceasing by 10:30 a.m. Lightning, with distant, and a continuous rolling of, thunder from 3:32 p.m., to 8:00 p.m. accompanied by heavy showers from 4:05 p.m. to 7:30 p.m. A very rapid fall of temperature between 6:21 a.m. and 10:21 a.m. Southeast winds, fair weather, lower barometer and temperature. No aurora. Foul weather sunset, verified.
8	Fog	Light fog set in at 1:15 a.m. increasing in density at 3:40 a.m., and dissipating at 11:08 a.m. Northwest winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
9	Dew/lunar coronas/fog/	Very heavy dew this a.m. Numerous lunar

	Lunar Coronae	coronas, from 2:30 a.m. to 3:40 a.m. Light fog set in at 4:00 a.m. spreading over city at 4:30 a.m. and disappearing at 7:00 a.m. Lunar coronae, from 9:15 to 10:30 p.m. Westerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
10	Solar halo/lunar coronas	Solar halo, 20 degrees, 2:00-3:30 p.m. Numerous Lunar coronas, 7:50-11:00 p.m. Westerly winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset. Verified fair.
11	Lunar Halo	Lunar halo, 20 degrees, 2:40-3:00 a.m. Easterly winds, clear weather, higher barometer, lower barometer, no aurora. Fair weather sunset, verified.
12	Dew/haze	Light dew this a.m. Dense haze throughout the day. Easterly winds, "hazy" weather, higher barometer and decidedly higher temperature. No aurora. Fair weather sunset, not verified.
13	Barometer, thunderstorm, lt. rain, battery/lunar coronas	Rapid fall in bar. From 1:45 p.m. to 2:30 p.m. Thunder and lightning from 2:45 p.m. to 10:47 p.m. with light showers at intervals from 3:45 p.m. to 8:22 p.m. Battery properly attended to. Lunar coronae, 11:30-11:45 p.m. Southwest winds, fair weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
14	Lunar halo/lt. rain/zodiacal light/lightning	Lunar halo, 20 degrees, 12:10-3:00 a.m. Light rain from 7:30 to 8:37 a.m. Zodiacal light extremely bright this p.m. Lightning in northern horizon from 7:50 to 9:35 p.m. Northerly winds, fair weather, higher barometer, lower temperature. No aurora. Fair weather sunset, verified.
15	Zodiacal light/yellow	Zodiacal light extremely bright this p.m. Northeast winds, clear weather, higher barometer, decidedly lower temperature. No aurora. Fair (2/10 yellow) weather sunset, verified.
16	Dew/zodiacal light	Hvy dew this a.m. Zodiacal light slightly visible this p.m. Northerly winds, clear weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
17	Dew/zodiacal light	Light dew this a.m. Zodiacal light slightly visible this p.m. Northwest winds, clear weather, lower barometer, higher temperature. No

		aurora. Fair weather sunset, verified.
18	Dew/thunderstorm/lt. rain	A very light deposition of dew this a.m. Lightning first observed at 6:58 p.m., gradually increasing in brilliancy and accompanied by thunder at 9:00 p.m., with light showers, at intervals from 10:18 p.m. to 1:20 a.m. of 19 th the thunder and lightning continuing over midnight to 2:00 a.m. of 19 th . Southwest winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
19	Thunderstorm/lt. rain	Lightning and thunder from 1:50 p.m. to 4:30 p.m. accompanied by a light shower from 3:01 p.m. to 3:50 p.m. Southwest winds, cloudy weather lower barometer and temperature obscured. Fair weather sunset, verified.
20	Fog/Battery/lt. rain	Light fog set in at 1:00 a.m. increasing in density at 2:40 a.m., decreasing at about 7:40 a.m. and disappearing at 8:25 a.m. Battery properly attended to. Very light rain at intervals, from 12:13 p.m. to 12:26 p.m., and from 6:56 p.m. to 7:03 p.m. Westerly winds, fair weather, higher barometer and temperature. Obscured. Foul weather sunset, not verified.
21		Westerly winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset, verified.
22	Zodiacal light	Zodiacal light extremely bright this p.m. Northeasterly winds, clear weather, higher barometer, lower temperature, no aurora. Fair weather sunset, verified.
23	Dew	Heavy dew this a.m. NE winds, clear weather, higher barometer, lower temperature, fair weather sunset, no aurora. Verified.
24	Zodiacal light	Zodiacal light extremely bright this p.m. Southeast winds, fair weather, higher barometer, and temperature. No aurora. Fair weather sunset, verified.
25	Dew/lightning/lt. rain/zodiacal light	Light dew this a.m. Lightning in SE horizon from 2:00 a.m. to 4:30 a.m. Light shower from 1:18 p.m. to 1:32 p.m. Zodiacal light extremely bright this p.m. Southeast winds, clear weather, higher barometer, lower temperature. No aurora. Fair weather sunset. Verified.
26	Dew/Pvt. L.M. Prindell/crops	Light dew this a.m. Orders received today

	/Zodiacal light	directing Private L.M. Prindell to proceed to Stevenson, Ala. And Calhoun, Griffin, and West Point, Ga. To establish "Cotton Belt Stations," and to return to this station after the completion of his duties. Reports from all over the state are to the effect that the corn crop is a failure; cotton is dwarfed and cracking open. In many places springs and wells have gone dry. Zodiacal light extremely bright this p.m. Easterly winds, clear weather, lower barometer, higher temperature, no aurora, fair weather sunset, verified.
27	Dew/zodiacal light/battery/solar halo	Lt. dew this a.m. Zodiacal light quite bright this p.m. Battery properly attended to. Solar halo, 20 degrees radii, 10:00-11:10 a.m. Easterly winds, fair weather, lower barometer and temperature. No aurora. Fair weather sunset – verified.
28	Rain/rainbow	Light rain from 5:52 to 5:55 p.m. Rain-bow and supernumerary from 5:58 to 6:04 p.m. Fresh to brisk easterly winds, decidedly lower barometer, decidedly higher temperature. Obscured. Foul weather sunset.
29	River gauge/lt. rain	River gauge repaired today and 4.5 ft new planking put on. Light rains at intervals, from 1:31 a.m. to 4:14 p.m. Low followed by rapidly rising barometer, fresh to brisk and variable southeasterly winds, slightly lower temperature. No aurora. Fair weather sunset, verified.
30	Dew/barometer	Heavy dew this a.m. Barometer – comparisons made to day. Southeast winds, fair weather, higher barometer and temperature. No aurora. Fair weather sunset. Verified.
31	Lightning/Barometer/Lt. rain/Lightning and thunder	Lightning in N&W horizon from 12:10 to 3:00 a.m. Bar. Comparisons made today. Light rain from 11:13 a.m. to 11:18 a.m. Lightning and thunder from 10:15 p.m. to 11:00 p.m. Easterly winds, cloudy weather, lower barometer, and temperature. Obscured. Foul weather sunset. Verified.

The River

High water	2 ft. 8 inches	Aug. 8, 1881
Low water	0 ft, 7 inches	Aug. 18, 19, 31, 1881
Monthly Range	2 ft. 1 inch	

Summary of Sunsets

Character	No. of	Verified	Not Verified
Fair	24	23	1
Foul	7	6	1
Doubtful	-	-	-

Condition of Instruments

Name	Official No.	Condition
Barometer, standard	246	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	163	Leaking badly; chamors skin in cistern work
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet-b, standard	698	Serviceable
Thermometer, wet-b, extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer, standard	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register for	233	Serviceable
Anemoscope	-	Serviceable
Rain-gauge & reservoir	-	Serviceable
River gauge	-	repaired

All property on station is in fair condition.

Respectfully submitted,

L.N. Jesunofsky

Sergt. Sig. Corps,

U.S.A.

Transmitted: Sept. 1, 1881

(Form 33.)										
MONTHLY COMPARATIVE READINGS.										
BAROMETERS.										
Station: Nashville, TN Month: August, 1881										
Station Barometer No. 246					Extra Barometer No. 1753					REMARKS.
Correction for Instrumental Error. + .007					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.	
Aug. 30	7 a.m.	29.799	81.4	29.664	Aug. 30	7 a.m.	29.795	81.4	29.682	
	8 a.m.	29.829	86.8	29.681		8 a.m.	29.825	86.8	29.698	
	9 a.m.	29.827	87.6	29.677		9 a.m.	29.822	87.6	29.693	
	10 a.m.	29.826	88.0	29.675		10 a.m.	29.821	88.0	29.691	
	11 a.m.	29.816	88.9	29.662		11 a.m.	29.812	88.9	29.679	
	12 N	29.804	90.6	29.645		12 N	29.799	90.6	29.661	
	1 p.m.	29.799	91.8	29.638		1 p.m.	29.795	91.8	29.655	
	2 p.m.	29.773	92.8	29.609		2 p.m.	29.768	92.8	29.625	
	3 p.m.	29.745	93.0	29.581		3 p.m.	29.741	93.0	29.598	
	4 p.m.	29.734	93.3	29.570		4 p.m.	29.729	93.3	29.586	
Aug. 31	7 a.m.	29.794	81.9	29.659	Aug. 31	7 a.m.	29.789	81.9	29.675	
	8 a.m.	29.814	85.3	29.671		8 a.m.	29.810	85.3	29.688	
	9	29.816	87.7	29.665		9	29.81	87.7	29.681	

	a.m.					a.m.	1				
	10 a.m.	29.822	87.4	29.673		10 a.m.	29.81 8	87.4	29.690		
	11 a.m.	29.812	87.2	29.663		11 a.m.	29.80 7	87.2	29.679		
	12 N	29.800	85.4	29.657		12 N	29.79 5	85.4	29.673		
	1 p.m.	29.791	84.4	29.651		1 p.m.	29.78 6	84.4	29.667		
	2 p.m.	29.750	85.9	29.605		2 p.m.	29.74 5	85.9	29.621		
	3 p.m.	29.739	86.6	29.591		3 p.m.	29.73 4	86.6	29.607		
	4 p.m.	29.705	86.8	29.557		4 p.m.	29.70 0	86.8	29.573		
Sum.....592.795				Sum.....593.122				Difference <u>.01635</u>			
Mean Observation.....29.63975				Mean Observation.....29.65610							

L.N. Jesunofsky

Sergeant, Signal Corps, U.S. Army

Note – The comparative observations will be made on the last two 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.

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Rainfall at Murfreesboro , Tenn	17

September, 1881

1	Heavy rain/dew	Light rain from 2:36 a.m. to 5:10 a.m. and heavy rains at intervals, from 7:20 a.m. to 3:14 p.m. Very heavy deposition of dew this p.m. SE winds, fair weather, lower barometer and temperature. No aurora. Fair weather sunset, verified.
2	Fog/thunderstorms/lt. rain/solar halo	Light fog set in at 2:00 a.m., spreading over city at 5:00 a.m. and disappearing at 8:32 a.m. Lightning and thunder form(?) 5:42 p.m. to 8:00 p.m. accompanied by light rain from 6:04 p.m. to 8:50 p.m. Lunar halo, 20 degrees, 9:05 -10:45 p.m. Westerly winds, fair weather, lower barometer, higher temperature. Obscured. Foul weather sunset, verified.
3	Lightning and thunder/fog.lt. rain/battery	Lightning in N. horizon, from 1:00 a.m. to daylight, distant thunder in N. from 3:30 a.m. to 5:00 a.m. Dense fog set in at 3:20 a.m. and disappearing at 9:05 a.m. Light rain from 9:18 a.m. to 9:45 a.m. Battery properly attended to. Northwest winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
4	Dew/fog/drought/etc.	Hvy dew this a.m. Dense fog set in at 5:30 a.m. clearing at 8:15 a.m. Mr. H. H. Clayton, Jr., reports from Murfreesboro, "Although in some places in the vicinity there have been showers, there has been no rain in Murfreesboro since the 25 th of June last; that is only enough to

		nearly settle the dust.” Southeast winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
5	Zodiacal light/dew	Zodiacal light extremely bright this a.m. Light dew this a.m. Southerly winds, clear weather, higher barometer, extremely higher temp. No aurora. Fair weather sunset, verified.
6	Zodiacal light/dew	Zodiacal light extremely bright this a.m. Light dew this a.m. Southeast winds clear weather lower barometer and temperature. No aurora. Fair weather sunset, verified.
7	Dense haze/navigation	A very dense haze throughout the day, partially obscuring the sun and moon. The river is exceedingly low; navigation is entirely suspended. Southerly winds, hazy weather, stationary barometer, lower temperature. No aurora. Fair weather sunset, verified.
8	Dew/dense haze	Heavy deposition of dew between 1:45 a.m. and 4:10 a.m. The dense haze of yesterday almost totally obscured the moon this a.m.; its brilliancy, at times, was not as great as its eclipse of June 11, 1881. Easterly winds, fair weather, lower bar. And temp. Obscured. Fair weather sunset, verified.

9	Drought, etc.	Northeast winds, fair weather, lower barometer, higher temperature. Subjoined is a reliable article, clipped from the <i>Daily American</i> , on conditions of crops through the state (article on drought). No aurora. Fair weather sunset, verified.
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The Daily American

FRIDAY, SEPT. 9, 1881.

THE DROUGHT.

Its Effect On the Crops Throughout the State.

Reports to Commissioner Hawkins from Fifty-four Counties,

All Telling the Same Story of Disaster.

The following information in regard to the crops, and the effect of the drought, is summarized from reports received since the 1st inst. by Commissioner Hawkins of the Bureau of Agriculture, Statistics, Mines and Immigration, from his correspondents in the counties named, and may be relied upon as giving a correct statement of the crop situation in the State:

OVERTON COUNTY.

The drought still continues here. With the exception of a shower of rain about the 13th of July, which was pretty general throughout our county, it has been a continued drought for the last two months. Farmers are much discouraged and are beginning to practice the strictest economy. New corn is now being engaged in the field at \$1 per bushel.

The estimated condition of the crops are: Corn, 45; cotton, 70; tobacco, 75; peas, 85; millet, 70; sorghum, 65; sweet potatoes, 85; Irish potatoes, 100; apples, 90; peaches, 110; pears, 90; grapes, 98; garden produce, 90; melons, 60; dairy produce, 75.

MONTGOMERY COUNTY.

Estimated condition of the crop: Corn, 40; tobacco, 50; peas, 65; millet, 50; sorghum, 75; sweet potatoes, 50; Irish potatoes, 25; apples, 25; peaches, 75; pears, 80; grapes, 80; garden produce, 65; melons, 100; dairy produce, 75.

HARDEMAN COUNTY.

No rain has fallen from July 1 to the middle of August, and in some parts of the county but little then. The rain of two or three weeks ago helped late corn considerably, but it is thought it will hardly average half a crop. Estimated condition: Corn, 45; cotton, 35; tobacco, 50; peas, 65; sorghum, 75; sweet potatoes, 50; Irish potatoes—early, 100, late, 35; apples, 75; peaches, 75; pears, 75; grapes, 100; garden produce, 50; melons, 75; dairy produce, 75.

STEWART COUNTY.

The drought has continued in the greater portion of Stewart county since the last of June, except a few favored localities, and in these localities, about one-tenth of the county, the crops will be above 80 per cent. of an ordinary crop. The balance of the county will not exceed 25 per cent. of an average. Early potatoes were not so badly damaged, but the late ones are all worthless. We have had a few local showers within the last week, but not sufficient to benefit the tobacco. With a short wheat crop, no late hay, no garden vegetables, and stock suffering for water and pasture, the outlook is gloomy in the extreme. I estimate that one-third of the people will produce enough to get through the coming season comfortably, one-third half enough, and the balance nothing.

We have three furnaces and the Government is improving the river. This will help, but wages have been reduced and they are crowded with hands seeking employment, and the consequence is that if every man who desires employment can get it it will afford his family a scanty supply, as all sorts of provisions are high and scarce, and farmers are not able to pay very high wages to laborers. Estimated condition: Corn, 30; tobacco, 30; peanuts, 35; millet, 5; sorghum, 25; sweet potatoes, 25; Irish potatoes, 25; apples, 20; peaches, 50; pears, 25; grapes, 80; garden produce, 10; melons, 20; dairy produce, 50.

scarce, and farmers are not able to pay very high wages to laborers. Estimated condition: Corn, 30; tobacco, 30; peanuts, 35; millet, 5; sorghum, 25; sweet potatoes, 25; Irish potatoes, 25; apples, 20; peaches, 50; pears, 25; grapes, 80; garden produce, 10; melons, 20; dairy produce, 50.

CARROLL COUNTY.

The weather still hot and dry. Few have sowed turnips. Stock water scarce. Pastures dried up. Stock falling off. Estimated condition: Corn, 66%; cotton, 50; tobacco, 50; peas, 60; peanuts, 40; millet, 40; sorghum, 50; sweet potatoes, 40; Irish potatoes, 40; apples, 40; peaches, 75; pears, 60; grapes, 60; garden produce, 60; melons, 75; dairy produce, 50.

WARREN COUNTY.

No rain here, except a few partial showers for nine weeks. On good land the early planted corn will probably reach half a crop. On much of the land one-half a crop will not be made. I have lived in this county 32 years and have never seen the crops so badly hurt by the drought. Pastures are dry and cattle are lowing about the homesteads for feed. There is not moisture enough in the earth to bring turnip seed up. Wheat straw, hay and all kinds offered are in demand.

Estimated condition: Corn, 40; cotton, 65; tobacco, 50; peas, 50; millet, 40; sorghum, 40; sweet potatoes, 50; Irish potatoes, 65; apples, 25; peaches, 60; pears, 40; grapes, 75; garden products, 75; melons, 40; dairy produce, 60.

KNOX COUNTY.

In some portions of the county it has been very dry.

Estimated condition: Corn, 115; cotton, 100; tobacco, 100; peas, 125; peanuts, 130; millet, 120; sorghum, 100; sweet potatoes, 120; Irish potatoes, 115; apples, 110; peaches, 155; pears, 115; grapes, 100; garden produce, 100; melons, 100; dairy produce, 100.

CLAIBORNE COUNTY.

We have no manufactories in this county other than water grist mills and saw mills and one or two carding mills for wool. We have much better crops than any adjoining county except Lee county, Va., which has a good crop.

Estimated condition: Corn, 75; cotton, 4; tobacco, 4; peas, 4; peanuts, 4; millet, 60; sorghum, 75; sweet potatoes, 50; Irish potatoes, 80; apples, 50; peaches, 100; pears, 100; grapes, 100; garden produce, 75; melons, 100; dairy produce, 100.

BREA COUNTY.

The corn crop is the poorest ever known in this section. No rain since July 1, except a few local showers. The excessive rains in April retarded the planting, and all late planting, especially on upland, will make almost nothing. Everything is dried up, except in the neighborhood where they have had local showers. As a rule we have been feeding all our stock for three or four weeks—pastures dried up. Late Irish and sweet potatoes, unless it rains soon, will make almost nothing. I have never seen so poor a crop in fifty years.

Estimated condition: Corn, 37; tobacco, 35; peas, 40; millet, 40; sorghum, 33; sweet potatoes, 25; Irish potatoes, 10; apples, 75; peaches, 60; pears, 70; grapes, 90; garden produce, 50; melons, 30; dairy produce, 50.

HAYWOOD COUNTY.

Our last rain of any consequence whatever, was on the 28th of June. Every living green thing has been dried to a crisp. Our water supply in many sections becoming scarce, stock, in many instances, have suffered. But the scarcity of water does not compare with the scarcity of pasture. The scene in the hilly and old settled portion of the county east of Brownsville, is truly pitiable. The cotton crop is such a poor one that on many fields it will take 20 acres to make a 500 pound bale. The corn crop, especially that planted after April 25, is sickening to behold. That planted early and well worked will make from 4 to 6 barrels per acre, according to the land. Our clover and grass fields are literally burned up. Crab grass on the best land is coming forward and a good rain would give fine pastures before frost. Aug. 20 in some localities we had a good shower—enough to bring upturnip seed; in others barely enough to lay the dust for two days. All have given up the present crop as nopelessly lost. The cotton is opening rapidly. The bolls are small and very inferior, having short lint. Many are opening no larger than a partridge egg. The crop will all be gathered by Nov. 1. We are preparing largely to plant wheat and rye.

rains soon, will make almost nothing. I have never seen so poor a crop in fifty years.

Estimated condition: Corn, 37; tobacco, 35; peas, 40; millet, 40; sorghum, 33; sweet potatoes, 25; Irish potatoes, 10; apples, 75; peaches, 60; pears, 70; grapes, 90; garden produce, 50; melons, 30; dairy produce, 50.

HAYWOOD COUNTY.

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Estimated condition: Corn, 65; cotton, 50; peas, 65; millet, 75; sorghum, 70; sweet potatoes, 65; Irish potatoes, 100; apples, 45; peaches, 75; pears, 75; grapes, 120; garden produce, 50; melons, 70; dairy produce, 50.

BEAUNE COUNTY.

Estimated condition: Corn, 60; tobacco, 75; peas, 75; millet, 75; sorghum, 50; sweet potatoes, 80; Irish potatoes, 70; apples, 20; peaches, 120; pears, 50; grapes, 80; garden produce, 90; melons, 90; dairy produce, 100.

MORGAN COUNTY.

No rain since the 13th instant. Wine will be made in abundance. Crops of all kinds have been cut short by the drought. Pastures are drying up.

Estimated condition: Corn, 50; tobacco, 50; sorghum, 40; sweet potatoes, 60; Irish potatoes, 75; apples, 100; peaches, 110; pears, 75; grapes, 110; garden produce, 40; melons, 30; dairy produce, 50.

HAMBLETON COUNTY.

All crops which had not thoroughly matured by the 15th of August, have suffered seriously. The peach crop is being more closely saved and dried than ever before, so that, with a very full crop, our people will realize more money out of that crop than out of any other, and more than was ever realized out of that crop. There are, in this county, thousands of acres which will yield eight full crops of peaches in ten years. General attention is being drawn to this matter. Hundreds of acres will be set in peaches this year.

Estimated condition: Corn, 90; tobacco, 75; peas, 100; millet, 110; sorghum, 100; sweet potatoes, 80; Irish potatoes, 50; apples, 50; peaches, 150; pears, 110; grapes, 120; garden produce, 90; melons, 100; dairy produce, 100.

ROANE COUNTY.

The incessant dry weather of eight or ten weeks has effectually blighted the brilliant prospects of early summer. Crops that then promised a big yield will now hardly justify the labor of handling. We are evidently approaching a season when the most commendable and exemplary economy cannot prevent the common heard from writhing beneath the pressing throes of absolute want.

Estimated condition: Corn, 50; cotton, 50; tobacco, 60; peas, 45; peanuts, 70; millet, 85; sorghum, 50; sweet potatoes, 85; Irish potatoes, 65; apples, 100; peaches, 150; pears, 100; grapes, 100; garden produce, 75; melons, 80; dairy produce, 100.

BRADLEY COUNTY.

We have had some light rains lately but they were not sufficient to wet the ground. Therefore there has been but little plowing done for wheat and oats. If it don't rain soon the pea and sweet potato crops will be almost failures. There was but little millet sown compared with previous years.

Estimated condition: Corn, 50; cotton, 65; tobacco, 90; peas, 40; peanuts, 75; millet, 80; sorghum, 50; sweet potatoes, 50; Irish potatoes, (early), 100; late, a failure; apples, 50; peaches, a failure;

We are evidently approaching a season when the most commendable and economical economy cannot prevent the common heard from writhing beneath the pressing throes of absolute want.

Estimated condition: Corn, 50; cotton, 50; tobacco, 60; peas, 45; peanuts, 70; millet, 85; sorghum, 50; sweet potatoes, 85; Irish potatoes, 65; apples, 100; peaches, 150; pears, 100; grapes, 100; garden produce, 75; melons, 90; dairy produce, 100.

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Estimated condition: Corn, 50; cotton, 65; tobacco, 90; peas, 40; peanuts, 75; millet, 80; sorghum, 50; sweet potatoes, 50; Irish potatoes, (early), 100; late, a failure; apples, 50; peaches, a failure; grapes, 90; garden produce, 85; melons, 85; dairy produce, 90.

WAYNE COUNTY.

The unprecedented dry weather has almost ruined our prospects for crops. The ground has not been wet in ten weeks and is still dry, no season for sowing seeds of any kind.

Estimated condition: Corn, 60; cotton, 70; tobacco, 60; peas, 50; peanuts, 70; millet, 80; sorghum, 50; sweet potatoes, 60; Irish potatoes, 70; apples, 65; peaches, 50; pears, 50; grapes, 50; garden produce, 40; melons, 40; dairy produce, 80.

CAMPELL COUNTY.

We have had a few showers this month, but not enough to produce more than half a crop of corn. Cotton is not worthy of notice; neither are peanuts, so little being cultivated.

Estimated condition: corn, 50; tobacco, 80; peas, 30; millet, 75; sorghum, 90; sweet potatoes, 50; Irish potatoes, 50; apples, 75; peaches, 50; pears, 75; grapes, 80; garden produce, 50; melons, 50; dairy produce, 85.

GILES COUNTY.

We have had no general rain yet; some pretty good showers in some portions of the county. Late corn is a complete failure. Early corn was better than was expected. Except in a few localities, where showers have been more frequent, pastures have dried up. Stock is looking very well, considering the dryness of the pastures. Cotton is nearly all open and picking out progressing rapidly.

Estimated condition: Corn, 33½; cotton, 40; peas, 25; sweet potatoes, 50; Irish potatoes, 75; apples, 25; peaches, 25; pears, 50; grapes, 75; garden produce, 50; melons, 31½.

CHEATHAM COUNTY.

The drought has lasted from June 30 to Sept. 2. The bottoms will make nearly an average crop and the uplands hardly anything. We have been shipping every year many thousand bushels of corn, and by keeping all we have made I think we will have enough to do us.

Estimated condition: Corn, 40; tobacco, 40; peas, 20; millet, 20; sorghum, 20; sweet potatoes, 25; Irish potatoes, 60; apples, 30; peaches, 100; garden produce, none; melons, none; dairy produce, 40.

HANCOCK COUNTY.

The weather for the largest portion of the month has been most favorable. Rains have fallen at regular intervals, which has made glad the hearts of our people.

Estimated condition: Corn, 100; sorghum, 100; sweet potatoes, 105; Irish potatoes, 110; apples, 60; peaches, 115; garden produce, 65; melons, 75; dairy produce, 80.

PERRY COUNTY.

Estimated condition: Corn, 70; cotton, 100; tobacco, 100; peas, 70; peanuts, 50; millet, 50; sorghum, 100; sweet potatoes, 90; Irish potatoes, 100; apples, 25; peaches, 50; pears, 25; grapes, 100; garden produce, 70; melons, 70; dairy produce, 100.

M'INN COUNTY.

Estimated condition: Corn, 70; cotton, 70; peas, 40; peanuts, 85; millet, 50; sorghum, 60; sweet potatoes, 60; Irish potatoes—early, 100; late, 25; apples, 25; peaches, 10; grapes, 100; garden produce, 75; melons, 100.

GIBSON COUNTY.

A more hopeful feeling with regard to crops now prevails. The corn crop will exceed that of any previous year. Cotton is maturing earlier than usual—in fact, prematurely, on account of the hot, dry weather. The bolls are small, with short nappy lint from bottom to top. The in-

crossed average of corn will more than compensate for the total failure on poor lands. I have been a resident of Gibson county forty years. During the past month I have traveled over a considerable portion of the county, heard much complaint of dry weather. I noticed many fields, and while some were literally burned up there were many others not few and far between, that will compare favorably with any ever produced in the county. There will be a surplus raised in the county. The apple crop might be reported as an entire failure. What fruit there is, is hard and knotty and of poor quality.

Estimated condition: Corn, 80; cotton, 75; tobacco, 60; peas, 90; peanuts, 90; millet, 85; sorghum, 85; sweet potatoes, 75; Irish potatoes, 100; apples, 25; peaches, 50; pears, 50; grapes, 90; garden products, 75; melons, 80; dairy, 80.

SHELBY COUNTY.

The last general rain was on June 30. In July and August we had a few local showers but the severe and disastrous drought still continues, adding injury to the cotton and other crops each day.

Estimated condition: Corn, 66½; cotton, 50; tobacco, 50; peas, 33; peanuts, 50; millet, 33; sorghum, 75; sweet potatoes, 33; Irish potatoes, 20; apples, 50; peaches, 33; pears, 50; grapes, 90; garden produce, 50; melons, 50; dairy produce, 75.

BLEDSOE COUNTY.

The remarkable dry spell has cut off all crops.

Estimated condition: Corn, 50; peas, 50; sorghum, 50; sweet potatoes, 50; Irish potatoes, 40; peaches, 75; grapes, 70; garden produce, 65; melons, 50; dairy produce, 75.

CANNON COUNTY.

Estimated condition: Corn, 33½; millet, 100; sorghum, 50; sweet potatoes, 50; Irish potatoes, 75; apples, 0; peaches, 80; garden produce, 50; melons, 30; dairy produce, 50.

POLK COUNTY.

Owing to the extreme dry weather ever since July 1, growing crops of all kinds have been seriously damaged, with still no indications of rain.

Estimated condition: Corn, 40; cotton, 33; tobacco, 50; peas, 10; millet, 20; sorghum, 50; sweet potatoes, 25; Irish potatoes, 20; apples, 10; peaches, 5; grapes, 10; garden produce, 0; melons, 25; dairy produce, 25.

M'NAIRY COUNTY.

We have not been able to get a stand of turnips up to date, Sept. 7. Some have sown three or four times and intend to sow again when it rains. Estimated condition: Corn, 75; cotton, 60; millet, 50; sorghum, 75; sweet potatoes, 75; Irish potatoes, 100; apples, 50; peaches, 75; pears, 75; grapes, 75; garden produce, 75; melons, 75; dairy produce, 100.

MONROE COUNTY.

It has been a remarkably dry summer from July 1 to Sept. 1, and still remaining dry. The farmers are apprehensive of suffering during the coming winter.

LAKE COUNTY.

The driest August even seen; light rains on the 7th, 13th and 29th. The community feel much hurt at the short condition of the general crops.

Corn, 50; cotton, 66; peas, 50; millet, 75; sorghum, 50; sweet potatoes, 50; Irish potatoes, 75; apples, 25; peaches, 25; pears, 25; grapes, 25; garden produce, 75; melons, 50; dairy produce, 75.

LOUDON COUNTY.

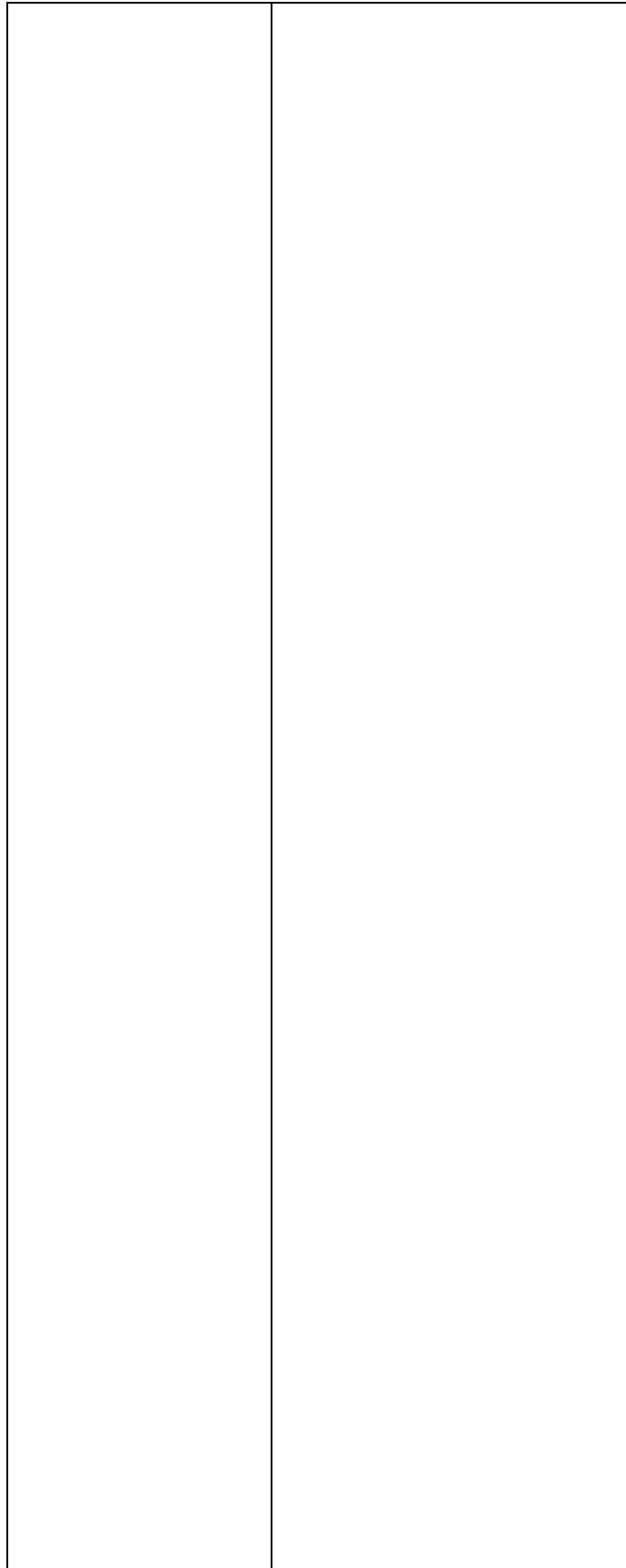
Corn, 40; tobacco, 75; peas, 50; peanuts, 50; millet, 40; sorghum, 60; sweet potatoes, 50; Irish potatoes, 30; apples, 60; peaches, 75; pears, 50. We have had two little showers of rain which renewed the growing vegetation.

JEFFERSON COUNTY.

We have had no general rain since July 1. While a few local showers have kept vegetation from perishing in some parts of the county, there are other sections which have had no rain for six or eight weeks. The corn crop is irretrievably damaged. Late-sown millet and turnips have had no chance at all. Garden produce is scant. "Hog and hominy" will assert their rights on the table of the average farmer this winter. Comparatively few acres have been broken for wheat and seeding will be made later than usual. Anticipating the good wheat yield which generally follows a season of drought, we look more hopefully forward to achieve results that will counterbalance the disastrous consequences of the past year's cropping.

Estimated condition: Corn, 70; tobacco, 75; peas, 75; peanuts, 75; millet, 60; sorghum, 60; sweet potatoes, 75; Irish potatoes,

		<p>ing vegetation.</p> <p>JEFFERSON COUNTY.</p> <p>We have had no general rain since July 1. While a few local showers have kept vegetation from perishing in some parts of the county, there are other sections which have had no rain for six or eight weeks. The corn crop is irretrievably damaged. Late-sown millet and turnips have had no chance at all. Garden produce is scant. "Hog and hominy" will assert their rights on the table of the average farmer this winter. Comparatively few acres have been broken for wheat and seeding will be made later than usual. Anticipating the good wheat yield which generally follows a season of drought, we look more hopefully forward to achieve results that will counterbalance the disastrous consequences of the past year's cropping.</p> <p>Estimated condition: Corn, 70; tobacco, 75; peas, 75; peanuts, 75; millet, 60; sorghum 60; sweet potatoes, 75; Irish potatoes, 50; apples, 65; peaches, 90; pears, 90; grapes, 90; garden produce, 50; melons, 40; dairy produce, 60.</p>
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PRODUCE, &c.

COFFEE COUNTY.
 The intense hot weather has done more damage to crops than the lack of rain. On four different days we have had rain to the amount of 1 1/4 inches, but it seemed to do but little good. The farmers have sown largely of turnips and small grain.
 Estimated condition: Corn, 40; tobacco, 75; peas, 50; millet, 50; sorghum, 50; sweet potatoes, 75; Irish potatoes, 50; apples, 10; peaches, 20; pears, 5; grapes, 50; garden produce, 50; melons, 10; dairy produce, 50.

DECATUR COUNTY.
 We had a rain Aug. 20, but it availed but little. No turnips have been sown. This is the dryest time since 1854, and the crop is no better than that year, if it is as good.
 Estimated condition: Corn, 50; cotton, 33 1/2; millet, 50; sorghum, 50; Irish potatoes, 75; apples, 50; peaches, 75; garden produce, 50; melons, 50; dairy produce, 75.

LINCOLN COUNTY.
 All crops have been out short. Some portions of the county have had more rain than others. Pastures, generally, are dried up. It will require good management and rigid economy, with even our best farmers, to carry successfully all their stock through the winter. The drought, so far, is perhaps not equal in severity to the one of 1854, but exceeds the drought of 1874.
 Estimated condition: Corn, 50; cotton, 65; tobacco, 70; peas, 70; peanuts, 75; millet, 75; sorghum, 75; sweet potatoes, 75; Irish potatoes, 75; apples, 40; peaches, 40; pears, 50; grapes, 70; garden produce, 70; melons, 50; dairy produce, 50.

DAVIDSON COUNTY.
 Early corn half a crop; late corn nothing; turnips sown, but doing no good; millet did not pay for seed and labor but few peas sown; but little sorghum planted but doing well; sweet potato vines look well, potatoes small; second crop of Irish potatoes beginning to come up; apples, peaches, pears, grapes, garden produce dried up; melons small and scarce; dairy produce decreasing for want of grass; water getting scarce.

BENTON COUNTY.
 Estimated condition: Corn, 50; cotton, 50; tobacco, 25; peas, 25; millet, 50; sweet potatoes, 60; peanuts, 25; Irish potatoes, 75; apples, 40; peaches, 50; peas, 50; grapes, 50; garden produce, 75; dairy produce, 100.

VAN BUREN COUNTY.
 We have had no rain in eight weeks.
 Estimated condition: Corn, 50; cotton, 50; tobacco, 50; peas, 50; peanuts, 25; millet, 25; sorghum, 25; sweet potatoes, 25; Irish potatoes, 75; apples, 50; peaches, 75; pears, 50; grapes, 50; garden produce, 50; melons, 25; dairy produce, 75.

ROBERTSON COUNTY.
 The drought has blighted the crops. Notwithstanding there was a larger interval between rains in 1854 and 1860, yet the crops in 1881 will fall behind 1854, which was the poorest crop year.
 Estimated condition: Corn, 33; tobacco, 40; peas, 25; millet, 50; sweet potatoes, 50; Irish potatoes, 50; apples, 30; peaches, 100; pears, 30; grapes, 80; garden produce, 40; melons, 50; dairy produce, 50.

DIXON COUNTY.
 We are almost burned up. Farmers are cutting their corn to feed stock. "Hard times" are confidently expected in this section.
 Estimated condition: Corn, 50; cotton, 70; tobacco, 50; peas, 60; peanuts, 50; millet, 50; sorghum, 60; sweet potatoes, 80; Irish potatoes, 60; apples, 60; peaches, 70; pears, 60; grapes, 60; garden produce, 80; melons, 80; dairy produce, 100.

HUMPHREYS COUNTY.
 Our corn crop at best cannot reach over one third of a crop. Grasses and forests are drying up. It will soon be necessary to feed our cattle. Our gardens are completely blighted, not offering a single variety of vegetable. Early Irish potatoes, mostly consumed. The late planting of the latter are an entire failure. Sweet potatoes amount to nothing. No turnips yet sown. There will not be more than one-fifth of a peanut crop. Put it down as a certainty that our farmers will have the hardest tussel to get through that they ever have had.
 Estimated condition: Corn, 33 1/2; peanuts, 20; millet, 25; sorghum, 20; sweet potatoes, 10; Irish potatoes, 50; apples, 25; peaches, 25; pears, 25; grapes, 30; melons, 10; dairy produce, 20.

OBION COUNTY.
 Showers only sufficient to lay the dust. The late corn is almost a failure, reducing

peaches, 20; pears, 20; grapes, 50; melons, 10; dairy produce, 20.

OBION COUNTY.

Showers only sufficient to lay the dust. The late corn is almost a failure, reducing the average so much that it will hardly reach 70; ears are very poorly filled. The few peas that were planted are good. Health of the people continues good, and they are working hard in the lumber and timber business. It is estimated that the people of this county are taking from timber resources about four hundred dollars per day.

The county has 38 steam saw-mills, with others going up. Besides the railroad ties being gotten out, numbers of companies are hauling and putting into the rivers poplar, gum and ash logs, to be floated down on the first rise.

Estimated condition: Corn, 70; cotton, 65; tobacco, 60; peas, 100; peanuts, but few raised; millet, scarcely any raised; sorghum, 90; sweet potatoes, 75; Irish potatoes, 90, no late ones; apples, 75; peaches, 75; pears, 70; grapes, 50; garden produce, 75; dried up; melons, 80; dairy produce, 90.

SMITH COUNTY.

Except light local showers, still dry, yet the corn crop has developed beyond the expectation of the most hopeful. Owing to there being much bottom lands, the corn per cent. will reach 50. Our farmers are putting up shock fodder, saving swamp hay, etc., and with proper economy we may pass on to the development of another crop without much loss of life of stock or material suffering by the people.

Estimated condition: Corn, 50; cotton, 60; tobacco, 50; millet, 50; sorghum, 60; sweet potatoes, 60; Irish potatoes, 40; apples, 50; peaches, 60; peas, 25; garden produce, 50; melons, 60; dairy produce, 55.

MURPHY COUNTY.

the corn per cent. will reach 50. Our farmers are putting up shock fodder, saving swamp hay, etc., and with proper economy we may pass on to the development of another crop without much loss of life of stock or material suffering by the people.

Estimated condition: Corn, 50; cotton, 60; tobacco, 50; millet, 50; sorghum, 60; sweet potatoes, 60; Irish potatoes, 40; apples, 50; peaches, 60; peas, 25; garden produce, 50; melons, 60; dairy produce, 55.

HARDIN COUNTY.

Hot and dry; turnips doing no good. Prospects ahead blue enough. Probably corn enough made in the county for home consumption, but none for shipment. Estimated condition: Corn, 50; cotton, 60; millet, 50; sweet potatoes, 60; Irish potatoes, 60; apples, 25; peaches, 20; garden produce, 50; melons, 75.

WASHINGTON COUNTY.

Pastures dried up. Estimated condition: Corn, 75; tobacco, 80; peas, 80; millet, 75; sorghum, 75; sweet potatoes, 80; Irish potatoes, 75; apples, 60; peaches, 125; pears, 60; grapes, 100; garden produce, 70; melons, 90; dairy produce, 90.

FENTRESS COUNTY.

Little or no rain since July 1. Corn, 40; millet, 30; sweet potatoes, 50; Irish potatoes, 50; apples, 50; peaches, 70; pears, 50; grapes, 70; garden produce, 25; melons, 25; dairy produce, 40; mast, 40.

CUMBERLAND COUNTY.

All crops will be short, although there was a larger acreage than last year. Early corn and potatoes will be average, having received the early rains.

Estimated condition: Corn, 95; tobacco, 90; sorghum, 85; sweet potatoes, 90; Irish potatoes, 95; apples, 100; peaches, 110; peas, 110; grapes, 110; garden produce, 90; melons, 90.

UNICOI COUNTY.

Estimated condition: Corn, 75; tobacco, 65; millet, 100; sorghum, 100; sweet potatoes, 100; Irish potatoes, 80; apples, 25; peaches, 78; garden produce, 90; melons, 90; dairy produce, 75.

ANDERSON COUNTY.

The growing season just nearing a close has been remarkable in many respects. We have had a fair supply of rain, had it come mildly, but usually it has fallen in torrents, baking and washing the land fearfully. I think no longer period than two weeks at a time without rain. Our people will make enough for home supply, but there is no doubt of shortage of crops all around. Hogs for fattening are short; about three-fourths of an usual average will be fattened. But little plowing done for wheat, though perhaps the usual acreage will be put in.

Estimated condition: Corn, 66%; tobacco, 90; peas, 75; peanuts, 85; millet, 90; sorghum, 80; sweet potatoes, 80; Irish potatoes, 60; apples, 50; peaches, 110; pears, 80; grapes, 70; garden produce, 55; melons, 90; dairy, 100.

HICKMAN COUNTY.

Corn crop better than it was thought possible. Much complaint of high price of meal and the difficulty of obtaining it for bread. A large area of wheat, rye and barley will be sown if the seed can be obtained this fall. Other crops almost an entire failure. In some parts of the county there will hardly be anything raised. Estimated condition: Corn, 80; cotton, 50; tobacco, 50; peas, 50; peanuts, 40; millet, 100, (early); sorghum, 60; sweet potatoes, 50; Irish potatoes, 70; apples, 60; peaches, 60; pears, 60; grapes, 60; garden produce, 60; melons, 60; dairy produce, -.

HOUSTON COUNTY.

Estimated condition: Corn, 40; tobacco, 25; millet, 25; sorghum, 25; sweet potatoes, 25; Irish potatoes, (late) 25; apples, 25; peaches, 25; pears, 25; grapes, 25; garden produce, 20; melons, 25; dairy produce, 25.

SCOTT COUNTY.

Drought very severe. Corn will be little over half a crop. Irish potatoes stand the dry spell first rate, and will be an average crop. Melons made a better stand and got good start before the drought commenced. Estimated condition: Corn, 60; tobacco, 75; peas, 75; millet, 100; sorghum, 70; sweet potatoes, 90; Irish potatoes, 100; apples, 110; peaches, 120; pears, 110; grapes, 100; garden produce, 75; melons, 125; dairy produce, 100.

WILLIAMSON COUNTY.

Estimated condition: Corn, 33%; cotton, 40; tobacco, 25; sorghum, 75; Irish potatoes, 75; apples, 25; peaches, 20; pears, 25; grapes, 25; melons, 25; dairy produce dried up.

90; dairy produce, 70.

ANDERSON COUNTY.

The growing season just nearing a close has been remarkable in many respects. We have had a fair supply of rain, had it come mildly, but usually it has fallen in torrents, baking and washing the land fearfully. I think no longer period than two weeks at a time without rain. Our people will make enough for home supply, but there is no doubt of shortage of crops all around. Hogs for fattening are short; about three-fourths of an usual average will be fattened. But little plowing done for wheat, though perhaps the usual acreage will be paid in.

Estimated condition: Corn, 60%; tobacco, 90; peas, 75; peanuts, 85; millet, 90; sorghum, 80; sweet potatoes, 80; Irish potatoes, 60; apples, 50; peaches, 110; pears, 80; grapes, 70; garden produce, 50; melons, 90; dairy, 100.

HICKMAN COUNTY.

Corn crop better than it was thought possible. Much complaint of high price of meal and the difficulty of obtaining it for bread. A large area of wheat, rye and barley will be sown if the seed can be obtained this fall. Other crops almost an entire failure. In some parts of the county there will hardly be anything raised. Estimated condition: Corn, 80; cotton, 50; tobacco, 50; peas, 50; peanuts, 40; millet, 100 (early); sorghum, 60; sweet potatoes, 50; Irish potatoes, 70; apples, 60; peaches, 60; pears, 60; grapes, 60; garden produce, 60; melons, 60; dairy produce, —.

HOUSTON COUNTY.

Estimated condition: Corn, 40; tobacco, 25; millet, 25; sorghum, 25; sweet potatoes, 25; Irish potatoes, (late) 25; apples, 25; peaches, 25; pears, 25; grapes, 25; garden produce, 20; melons, 25; dairy produce, 25.

SCOTT COUNTY.

Drought very severe. Corn will be little over half a crop. Irish potatoes stand the dry spell first rate, and will be an average crop. Melons made a better stand and got good start before the drought commenced.

Estimated condition: Corn, 60; tobacco, 75; peas, 75; millet, 100; sorghum, 70; sweet potatoes, 90; Irish potatoes, 100; apples, 110; peaches, 120; pears, 110; grapes, 100; garden produce, 75; melons, 125; dairy produce, 100.

WILLIAMSON COUNTY.

Estimated condition: Corn, 33%; cotton, 40; tobacco, 25; sorghum, 75; Irish potatoes, 75; apples, 25; peaches, 20; pears, 25; grapes, 25; melons, 25; dairy produce dried up.

LEWIS COUNTY.

Partial rains in some portions of the county, and in some none. There will be suffering in the county before spring with the stock and the very poor people.

Estimated condition: Corn, 50; cotton, 25; peanuts, 50; sorghum, 50; Irish potatoes, 100; apples, 25; peaches, 50; pears, 50; garden produce, 50; melons, 50; dairy produce, 50.

STATE OF THE WEATHER.

Signal Service Observations, Nashville, Tenn., Sept. 8, 1881.

Time.	Bar ^m dir.	Th ^r	Dew Point	Wind.		Rain- fall.	Weather
				Dir ⁿ	Vel ^y		
6:21 a. m.	30.191	71	63	S	1	.00	Hazy
10:21 a. m.	30.185	88	61	SE	4	.00	Fair
2:21 p. m.	30.087	83	65	E	4	.00	Fair
6:21 p. m.	30.079	87	64	NW	4	.00	Cloudy
10:21 p. m.	30.094	83	63	E	—	.00	Cloudy

Mean barometer... 30.124 Mean humidity..... 52.73
 Mean thermometer... 82°.00 Max. temperature.... 94°
 Mean dew point... 66°.43 Min. temperature.... 67°
 *Velocity in miles per hour.

War Department, Signal Service, U. S. A.—Meteorological Record, Sept. 8, 1881, 2:21 p. m. Observations taken at the same moment of time at all Stations.

Places.	Bar ^m eter.	Th ^r	Dew Point	Wind.	Rain fall.	Weather
Bismarck...	29.92	69	...	SE	.00	Clear
Chicago.....	30.14	87	...	SW	.00	Fair
Calro.....	30.08	63	...	Calm	.00	Cloudy
Cincinnati..	30.11	80	...	W	.00	Fair
Dubuque...	30.13	71	...	S	.00	Clear
Omaha	30.09	76	...	NW	.00	Fair
Pittsburg...	30.07	89	...	W	.00	Fair
St. Louis....	30.63	63	...	SW	—	Fair

10:21 P. M.

Brownsville.....00	Clear
Chatiano/ea	30.12	75	...	64	.00	Clear
Galveston...	30.06	83	...	SE	.00	Clear
Little Rock	30.10	80	...	60	.00	Fair
Louisville...	30.03	81	...	65	.00	Cloudy
Memphis...	30.12	77	...	69	.00	Cloudy
Shreveport...	30.11	75	...	72	.24	Tracing
Vicksburg...	30.11	84	...	65	—	Fair

—Rain immeasurable.

RIVER NEWS.

Daily Report of Stage of Water, with Changes in the 24 hours, ending 1:21 p. m., Sept. 8, Washington mean-time.

Stations.	ab've low water			Changes.			Stations.	ab've low water			Changes.		
	ft	in	ft	Rise	Fall	ft		in	ft	Rise	Fall	ft	in
Cairo.....	5	4					0	Nashville	5				0
Chatta'ga	3						2	N. Or'ns					
Cincin'ati	2						1	Pittsburg	†	11			1
Little R'k	†	2					2	Shrevep'†	†	12			
Louisville	2	3					0	St. Louis	8	11			1
Memphis.	3	2					0	Vicksb'rg					

*Below high water of 1874. †Below bench mark.
 L. N. JESUNOFSKY, Sergt. Sig. Corps, U. S. A.

The river is falling, with 5 inches on the gauge.

10	Lunar halo/battery	Lunar halo, 20 degrees, 2:-4:00 a.m. Battery properly attended to. Southwest winds, fair weather, lower barometer, and temperature. Obscured. Foul weather sunset, verified
11	Rain (light)/zodiacal light/very heavy dew	Light rain at intervals from 1:20 a.m. to 7:26 a.m. Zodiacal light extremely bright this p.m. An unexceptionally heavy deposition of dew from 9:00 p.m. to 5:00 a.m. of 12 th . Northwest winds, fair weather, higher barometer and extremely-low temperature. Fair weather sunset, no aurora. Verified.
12	Very heavy dew/fog/ Zodiacal light	The very heavy dew of last night and this a.m. was something remarkable. The long spell of hot weather terminating with the weather of yesterday, and which was followed by a very low temperature, caused such an abundance of dew, as to make it almost “appreciable.” The observer is confident that there was .017 of an inch of water or more formed. Small streamlets were seen flowing on the roof, looking as if a moderate shower had taken place. Dense fog formed over lowlands in northern and southeastern part of city at about 1:00 a.m., spreading over entire city by 5:30 a.m. and dissipating at 7:10 a.m. Zodiacal light extremely bright this p.m. Northerly winds, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
13	Aurora (of great brilliancy)/Dew, fog, solar halos	The observer has the pleasure of recording the first Aurora seen since this has been a Station of Observation: This brilliant display began at 3:22 a.m., with a small arc or segment, the estimate altitude of which was 8 degrees, and azenith (?) from 3:50 degrees, past N to 15 degrees E, composed of colors varying from a bright reddish-brown tint to one of a light slate color, further (?) overcapped by a low of very pale straw color, blended on its upper edges with a sort of whitish light. This arc appeared brighter and brighter up to 3:46 a.m., when suddenly it disappeared leaving in its position a light green tint, from which small, bright white beams were seen to shoot; these beams neither appeared to increase nor diminish up to 3:57 a.m.; but at 3:59 a.m., that portion of the heavens appeared as a light red and small, narrow streams shooting there from; this

		<p>continued dormant up to 4:15 a.m., after which the beams shot upward in almost countless numbers. Each seemed to outvie its "electric" neighbor as to which could shoot up the highest and drop the quickest. This was the maximum brilliancy and occurred exactly at 4:15 a.m. The beams were all composed of a bright light, and from 3 degrees to 7 degrees in width the most noticeable being the one of 7 degrees, which shot up as quick as "lightning" itself, through Ursa Major, to 35 degrees; remaining so until the entire display began decreasing in brilliancy (4:40 a.m.) Following this there was nothing worthy note, only that the Aurora became lost in the Goddess of day, "herself" at 5:10 a.m. By actual count, there were 80 beams distinctly visible the others could not be counted, owing to their closeness and diminutiveness. A marked feature of this display is, that the beams did not appear to move right or left, but all shot upward with <i>illegible</i> energy. No difference could be noticed between the ascent and descent of the beams. Another feature of the display is still noticeable. During the maximum brilliancy, -4:15 = 4:40 a.m. – several prominently waves (not beams) of white light were seen. These moved upward. At no other period of the display were these seen, though they were carefully looked for. It may be interesting here to state that the greatest portion and the maximum brilliancy, of the Aurora occurred on the eastern side of the north point. To summarize: Time of display 3:22 a.m. to daybreak, Maximum brilliancy , 4:15 a.m. = 4:40 a.m.; minimum brilliancy 3:46 = 4:15 a.m. Limit of display – azinith 345 degrees past N, to 25 degrees E; altitiude , 35 degrees. Beautiful cirrus clouds were observed, but none near the display. The display would have been 50% brighter had not the moon been shining.</p> <p>Light dew this a.m. Light fog from 5:30 a.m. to 8:33 a.m. 2 solar halos, of about 20 degrees visible from 10:00 a.m. to 11:10 a.m. and from 2:00 p.m. to about 3:30 p.m. Easterly winds, cloudy weather lower barometer, higher</p>
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		temperature. Obscured in p.m. Fair weather sunset. Not verified.
14	Lunar halos/thunderstorms/lt. rain/drought etc.	<p>Lunar halo, 20 degrees, 12:40-4:10 a.m. Steadily-falling barometer throughout the day, with light rain from 3:03 p.m. to past midnight, accompanied by lightning and thunder from 3:04 p.m. to about 3:15 p.m. Reports from Wartrace on the continued dry weather are as follows: "the continued dry weather has made the ground so hard as to almost altogether suspend the turning of stubble and clover land preparatory to sowing wheat. A few energetic farmers are still continuing to plow, but it is under great difficulties. This is very unfortunate for the farmers, as they were all in the motion of putting in large wheat crops. As it is, wheat sowing will be greatly retarded, and unless it rains, soon much of the stubble and clover land will not be prepared in time for wheat." From Castalian Springs, the reports are, indeed, gloomy: "no rain, except a few light showers since the 1st day of July. Crops of corn are lighter than they were in 1854. Many fields will not make one barrel per acre. A few that were planted will not make anything. Those who planted early and cultivated their corn well, will make half an average yield of last year. The grass is all gone, and many have begun to feed their stock. Water is scarcer than it was in 1854. Springs are dry here now that afforded water plentifully in 1854. The clover is believed to be all killed by the drought. Usually everybody in this vicinity, before this time put their hogs up to fatten. This year, farmers have not given their hogs full feed. [It is hoped that the general storm now prevailing will be beneficial to the agriculturists – Observer]." Steady easterly winds, cloudy weather, lower temperature. Obscured. Foul weather sunset, verified.</p>
15	Heavy rains	<p>The rain of 14th began falling heavily at about 2:00 a.m. , continuing so throughout the morning and afternoon to 2:10 p.m., after which it decreased and ended at 6:54 p.m. with rapidly-falling barometer throughout the morning and afternoon to 3:00, after which it began rising rapidly. Four and 50 hundredths inches rain since yesterday, at 3:03 p.m. It is</p>

		believed that the severe and disastrous drought of nearly two months duration has come to an end. Southeast winds, generally rainy weather, extremely low temperature. Obscured. Foul weather sunset, verified.
16	Dew/zodiacal light/yellow	Heavy deposition of dew this a.m. and p.m. Zodiacal light quite bright this p.m. Southwest winds, clear weather, higher barometer and lower temperature. No aurora. Fair (2/10 yellow) weather sunset, verified.
17	Fog/rain-fall at Murfreesboro, TN./zodiacal light/battery/dew	Light fog formed over lowlands in eastern portion of city at 1:00 a.m., spreading over entire city by 4:40 a.m., and disappearing at 9:43 a.m. Mr. H.H. Clayton, Jr., from Murfreesboro, reports that over 5 inches of rain fell during the storm of 14 th and 15 th . Zodiacal light extremely bright this p.m. Battery properly attended to. Heavy dew this p.m. Northerly winds, clear weather, higher barometer, and slightly lower temperature. No aurora. Fair weather sunset, verified.
18	Frosts/dew	Frosts were reported from Waverly and White Oak 60 miles west of Nashville, yesterday. Light deposition of dew this p.m. Northeast winds, fair weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
19	Zodiacal light/dew	Zodiacal light extremely bright this p.m. Very heavy deposition of dew from 9:00 p.m. to 3:20 a.m. of 20 th . Northwest winds, fair weather, lower barometer, decidedly higher temperature. No aurora. Fair weather sunset, verified.
20	Fog/zodiacal light/dew	Dense fog formed over lowlands, in eastern portion of city at 3:00 a.m. spreading over entire city at 5:00 a.m. and disappearing at 9:50 a.m. Zodiacal light quite bright this p.m. Very heavy dew from 9:20 p.m. to 5:25 a.m. of 21 st . Northwest winds, clear weather, lower barometer, nearly stationary temperature. No aurora. Fair weather sunset. Verified.
21	Fog/zodiacal light/dew	Dense fog formed over eastern portion of city at 3:00 a.m. spreading over entire city at 5:20 a.m. and dissipating at 8:55 a.m. Zodiacal light slightly visible this p.m. Very heavy deposition of dew this p.m. extending over midnight to 5:00 a.m. of 22 nd . Southeast winds, clear

		weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
22	Fog/zodiacal light (a.m. & p.m.)	Light fog set in at about 5:00 a.m. clearing at 7:55 a.m. Zodiacal very bright this a.m. and slightly visible this p.m. Southerly winds, clear weather, higher barometer, and temperature. No aurora. Fair weather sunset, verified.
23	Dew/fog/zodiacal light (a.m. & p.m.)	Heavy dew this a.m. Light fog this a.m. Zodiacal extremely bright this a.m. and slightly visible this p.m. Southerly winds, clear weather higher barometer and temperature. No aurora. Fair weather sunset. Verified.
24	Zodiacal light (a.m. & p.m.)/dew/battery/yellow	Zodiacal light extremely bright this a.m. and slightly visible this p.m. Light dew this a.m. Battery properly attended to. Southerly winds, clear weather, lower barometer, higher temperature. No aurora. Fair (2/10 yellow) weather sunset, verified.
25	Zodiacal light/dew	Zodiacal light extremely bright this a.m. Light dew this a.m. Southerly winds, fair weather, higher barometer, decidedly higher temperature. Obscured. Fair weather sunset, not verified.
26	Light rain/rainbow/lightning	Light rain at intervals from 8:09 a.m. to 6:49 p.m. Rainbow from 3:55 to 4:08 p.m. Lightning in southeast from 7:10 p.m. to 11:30 p.m. Southerly winds cloudy weather, lower barometer and temperature. Obscured. Foul weather sunset, verified.
27	Light rain/lightning	Light rains, at intervals, from 5:16 a.m. to 12:50 p.m. Lightning from 6:25 p.m. over midnight to 3:00 a.m. of 28 th . Southerly winds, cloudy weather, higher barometer and temperature. Obscured. Foul weather sunset, verified.
28	Dew/heavy rain/lightning/fog	Heavy dew this a.m. & p.m. Light rain from 5:31 a.m. to 5:54 a.m. and heavy rain from 6:19 a.m. to 11:16 a.m. Lightning in north and west from 6:50 p.m. to 9:00 p.m. Light fog set in at about 9:30 p.m., becoming quite dense at 10:00 p.m., and continuing over midnight to 8:10 a.m. of 29 th . Southeast winds, fair weather, higher barometer and temperature. Obscured. Fair weather sunset, verified.
29	Zodiacal light/monthly comparisons/repair of extra	Zodiacal light extremely bright this a.m. Monthly barometric comparisons made today.

	Boer, #163	Extra barometer No. 163 (.003) repaired today, and compared with station barometer No. 246 (+.007) in compliance with instructions received from O.C.S.O, Sept. 7. 1881. Variable southeast wins, clear weather, lower barometer, higher temperature. No aurora. Fair weather sunset, verified.
30	Zodiacal light/monthly comparisons/results of monthly barometer comparisons/result of extra bar. Comparisons	Zodiacal light extremely bright this a.m. Monthly barometer comparisons made today, with the following result: Station, No. 246 (com. For instl er. +.007) – 29.56460 Extra, No. 1753 (com for instl. Er. +.028) – 29.58130 Difference – 00.01670 Results of extra Barometer comparisons as directed from O.C.S.O., Sept. 7, 1881: Station, no. 246 (com for instl er., +.007) – 29.56460 Extra No. 163 (com for instl error, +.003) – 29.54720 Difference----00.01740

Thermometer tests and results

All thermometers on station tested today with the following results:

Instrument	Official Number	Reading
Station, standard	2890	32 degrees
Extra	3261	32 degrees
Extra	699	32.5
Extra	42	31.7
Station wet-bulb	698	32.4
Extra	42	32.0
Station, maximum	116	32.0
Extra maximum	440	32.0
Station, minimum	110	31.1
Extra, minimum	180	31.8

Southeast winds, clear weather, lower barometer and temperature. No aurora. Fair weather sunset, verified.

The River

High water	3 ft., 5 inches	Sept. 17, '81
Low water	0 ft. 3 inches	12, 13 & 14 Sept., '81
Monthly Range	3 ft. 2 inches	

Summary of Sunsets

Character	Number of	Verified	Not Verified
Fair	24	22	2
Foul	6	6	0
Doubtful	0	0	0

Condition of Instruments

Name	Official Number	Condition
Barometer, standard	246	Serviceable
Barometer, extra	1753	Serviceable
Barometer, extra	163	Repaired 29 Sept. '81
Barometer, aneroid	13	Serviceable
Thermometer, standard	2890	Serviceable
Thermometer, extra	3261	Serviceable
Thermometer, extra	699	Serviceable
Thermometer, extra	42	Serviceable
Thermometer, maximum standard	116	Serviceable
Thermometer, maximum extra	440	Serviceable
Thermometer, minimum standard	110	Serviceable
Thermometer, minimum extra	180	Serviceable
Thermometer, wet-b, standard	698	Serviceable
Thermometer, wet-b, extra	42	Serviceable
Anemometer	52	Serviceable
Anemometer, standard	154	Serviceable
Anemometer, self-register for	30	Serviceable
Anemometer, self-register for	233	Serviceable
Anemoscope	-	Serviceable
Rain-gauge & reservoir	-	Serviceable
River gauge	-	Serviceable

Property

All property on station is in fair condition.

Respectfully submitted:

L.N. Jesunofsky

Sergt. Sig. Corps

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U.S.A.

Transmitted – Oct. 2, 1881

“Amen”