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Table 1: Gauge visits during the spring 2024 campaign. Comments: DD=gauge data download, MN=general gauge maintenance (cleaning, re-level), CA= rain gauge calibration, CV= vegetation clearing, ECC=electric contact cleaning treatment, and BR = data logger battery replacement.

Date	Gauges Visited	Technicians	Comments	Vehicle
3/14/2024	311; 107	Doug	DD, MN, CV, CA	any vehicle
3/16/2024	100T, 105	Doug	DD, MN, CV, CA	any vehicle
3/24/2024	111, 112	Doug, Lexi	DD, MN, CV, CA	any vehicle
3/29/2024	101, 102, 103	Doug, Thomas, Chris, Clay	DD, MN, CV, CA	any vehicle
3/30/2024	4; 10; 106	Doug, Lexi	DD, MN, CV, CA	any vehicle
4/6/2024*A	305, 309, 310	Doug, Jackson, Jacob	DD, MN, CV, CA	4wd needed
4/7/2024	11; 3	Doug	DD, MN, CV, CA	4wd needed
4/12/2024*B	109, 110	Doug, Jackson	DD, MN, CV, CA	any vehicle
4/13/2024	303s, 306	Doug, Josh, Audrey	DD, MN, CV, CA	4wd needed
4/20/2024	300, 308	Doug, Audrey, Josh	DD, MN, CV, CA	any vehicle
4/26/2024*C	108, 104, 109 [2nd visit]	Doug, Sara	DD, MN, CV, CA	any vehicle
4/27/2024	301, 302	Doug, Josh, Jackson	DD, MN, CV, CA	any vehicle
5/1/2024	108, 104, 109 [3rd visit]	Doug, Jacob	DD, MN, CV, CA	any vehicle
5/8/2024*D	304, 307	Doug, Marlee	DD, MN, CV, CA	4wd needed
5/10/2024	305, 309, 310	Doug, Drew, Bryce	DD, MN, CV, CA	4wd needed
5/13/2024	304, 307	Doug, Marlee	DD, MN, CV, CA	4wd needed
5/17/2024	2; 5; 8	Doug	DD, MN, CV, CA	any vehicle

*A==> snow, ice, and winds make calibration trials impossible, *B==> snow pellets and wind force postponement of calibration trials at g #109, *C==> rainband evolution strengthened through day - no calibration trials possible, *D==> severe T-storms encroached on the GSMNP at noon.

Gauge visitation in support of the Duke Great Smoky Mountain Rain Gauge Network (GSMRGN) during the spring 2024 campaign occurred over fifteen days spanning a period of ten weeks in March - May 2024. The primary purpose of the visits in the spring 2024 was [1] to perform downloads of gauge tip observations since the previous gauge visits in the autumn 2023, [2] to complete rain gauge and data logger maintenance tasks, [3] to clear vegetation and tree limbs and, [4] to calibrate ALL rain gauges since field calibrations were last completed in the spring 2023. Thirteen technicians and volunteers (listed on the front page) made the visits and performed the required work. It is important to note that the volunteers were NOT directly involved in any critical gauge visit tasks but were volunteering primarily to assist with personal safety should someone get injured during a particular series of gauge visits.

The general tasks completed at **every** gauge visit consist of (1) gauge data download from the data loggers [DD in Table 1], (2) general gauge maintenance and ML1 logger condition monitoring [MN in Table 1], (3) clear vegetation within a five foot radius of the rain gauge [CV in Table 1], and, (4) calibration of rain gauges using a single trial of the 50, 100, and 300 mm nozzles [CA in Table 1]. Task (1) merely required a serial port link between the field study laptop and the gauge data logger and consisted of pulling the data (often in files having raw [* .txt] and CSV formats) onto a desktop folder on the laptop, checking for completeness of the data, and

comparing the data logger time and date to the actual GPS time and date (making a screenshot of the time comparison). The standard that has been chosen for this study is to maintain the clocks on Eastern Daylight Time, since most of the “warm” precipitation will be occurring during the season when EDT is in effect. Most ML1-FL and ML1A-FL data logger times have been adjusted (using “TA” command) during previous gauge visits to coincide with the EDT given by the GPS locator. Task (2) required the cleaning of debris from the funnel filter, cleaning the tipping buckets of debris (if necessary), cleaning the gauge drain ports and siphon, re-leveling the gauge if it has come unlevelled, and fixing or replacing the gauge mesh if it had been damaged. Task (3) consisted of cutting briars and other emerging vegetation and/or tree limbs during the spring season within a five foot radius of the gauge using clippers or weeding by hand. Task (4) was completed successfully in every data logger at each of the functional rain gauge locations. The strict weather requirements for conducting field calibration trials required multiple visits at g #109 locations when developing snow pellets, rain, or strong wind conditions made completion of the trials during the initial visit impossible. Unfavorable weather conditions (strong winds, cold temperatures, snow pellets, and/or rain) forced the postponement of four scheduled treks (highlighted in yellow or grey in Table 1) and delayed completion of the spring 2024 gauge visit. All 32 rain gauges of the Duke GSMRGN had a complete record over the winter 2023-2024 season, with all gauges and loggers being fully operational over the four month period between early November 2023 and mid-March 2024. Erosion at some of the gauge sites (e.g., g #004, g #010, g #301, g #308) requires continuous monitoring so the gauges don’t become too unlevel since their installations in 2007-2009. The primary specialized task in spring 2024 was dealing with aging loggers and their replacement. Gauge #311 (Big Creek) was found to have a time adjust (“TA”) setting that made the time get progressively slower with time, rather than showing improvement. The old logger was replaced with a new ML1A-FL logger (#23-005) that should improve the time agreement between the data logger and GPS time. Only a few problematic old loggers remain that will be replaced in summer or autumn 2024 if the TA setting doesn’t improve during future visits. A secondary specialized task was the gradual replacement of the old motion-activated field cameras with newer cameras. Four new field cameras have now been deployed in and near the GSMNP to illuminate the types of animals typical of each location.

Details of every gauge visit along with raw precipitation text and CSV format files are found via Google Drive https://drive.google.com/file/d/1zHjd72MIXU6dPbCIA6bZC6v_jauwp01r/view?usp=drive_link which contains sub-folders for each gauge that consist of the individual data files (often having at least two different formats), pictures taken at the gauge site during the visit, screenshots of the GPS (laptop) and ML1 logger time comparison, and a MS Word document that mirrors the notes made in the field journal during each visit.

Noteworthy precipitation events of October 2023 – February 2024 as observed at KAVL are highlighted in yellow in **Appendix A**. The autumn months (Oct. and Nov.) experienced below-normal amounts, whereas the winter months (Dec. – Jan.) had relatively large above-normal amounts, a significant contribution coming from the 9 January 2024 event that was influenced by an atmospheric river. February 2024 brought the region back to a below-normal amount of accumulated monthly precipitation.

Plans for the summer months of 2024

Table 2: Planned gauge visits during the summer 2024 campaign. DD=gauge data download, MN=general gauge maintenance (cleaning, re-level), CA= rain gauge calibration, CV= vegetation clearing, ECC=electric contact cleaning treatment, and BR = data logger battery replacement.

Date	Gauges Visited	Technicians	Comments
7/??/2024	3; 11; 107; 109	Doug + 1 field technician	DD, MN, CV, ECC
7/??/2024	2; 5; 8; 106; 10	Doug + 1 field technician	DD, MN, CV, ECC
7/??/2024	4; 104, 110, 105	Doug + 1 field technician	DD, MN, CV, ECC
7/??/2024	111, 112, 311	Doug + 1 field technician	DD, MN, CV, ECC
7/??/2024	101, 102, 103, 100T, 108	Doug + 1 field technician	DD, MN, CV, ECC
7/??/2024	303s, 306, 308	Doug + 2 field technicians	DD, MN, CV, ECC
7/??/2024	304, 307	Doug + 2 field technicians	DD, MN, CV, ECC
8/??/2024	305, 309, 310	Doug + 2 field technicians	DD, MN, CV, ECC
8/??/2024	301, 302, 300	Doug + 2 field technicians	DD, MN, CV, ECC

Gauge visitation in support of the Duke GSMRGN during the summer 2024 will occur over at least nine days spanning July and August 2024. The primary purpose of the visits will be to download precipitation observations that were made since the previous gauge visits in March - May 2024 [DD in Table 2], perform maintenance and check if the ML1 logger times have drifted between visits and make the corresponding needed adjustments [MN in Table 2], and clear vegetation (and tree branches) from overhanging gauges [CV in Table 2], and electronic contact cleaning [ECC in Table 2]. Gauge parts and loggers may have to be replaced during some of the visits if less-than-acceptable conditions show no signs of improvement, as noted in the previous section description.

Details of every gauge visit along with each gauge precipitation record will be posted online and shall contain sub-folders for each gauge that consist of the individual data files (often having at least two different formats), pictures taken at the gauge site during the visit, screenshots of the GPS (laptop) and ML1 logger time comparison, and a MS Word document that mirrors the field notes made during each visit.

The technician roster during the 2023-2024 academic year consisted of Jackson Coley, Lexi Dooley, Bryce Glenn, Sara Michelson, Wayne Morley, Audrey Simmons, Jacob Sonney, and Josh Ward. New undergraduate research students at UNC Asheville will be recruited as field technicians for the Duke GSMRGN project in the Fall 2024. Field technicians Jackson Coley and Josh Ward graduated in May 2024 and Wayne Morley graduated in December 2023.

A video near rain gauge #309...

https://www.atms.unca.edu/dmiller/Fantastic_Mr_Fox_lateOCT2023.AVI

Table 3: The Duke Great Smoky Mountain Rain Gauge Network is currently (valid as of 20 May 2024) composed of 32 tipping bucket rain gauges.

Gauge #	Location	Latitude	Longitude	Altitude
RG002	Lickstone Bald	35°25.5' N	82°58.2' W	5680 ft.
RG003	High Top	35°23.0' N	82°54.9' W	5280 ft.
RG004	Lickstone Ridge S	35°22.0' N	82°59.4' W	6305 ft.
RG005	Deep Gap	35°24.5' N	82°57.8' W	4986 ft.
RG008	Double Summer Gap	35°22.9' N	82°58.4' W	5700 ft.
RG010	Beaty Summer Gap	35°27.3' N	82°56.8' W	4849 ft.
RG011	near Deep Gap	35°23.7' N	82°54.9' W	4081 ft.
RG100T	Purchase Knob	35°35.1' N	83°04.3' W	4905 ft.
RG101	The Swag	35°34.5' N	83°05.2' W	4986 ft.
RG102	Hemphill Bald	35°33.8' N	83°06.2' W	5365 ft.
RG103	JR Property	35°33.2' N	83°07.0' W	5539 ft.
RG104	Cat. Ski Area	35°33.2' N	83°05.2' W	5208 ft.
RG105	KH Property	35°38.0' N	83°02.4' W	4412 ft
RG106	Pinnacle Ridge	35°25.9' N	83°01.7' W	3969 ft
RG107	Lookout Point	35°34.0' N	82°54.4' W	4459 ft
RG108	Utah Mountain	35°33.2' N	82°59.3' W	4188 ft
RG109	Eaglesnest Ridge	35°29.7' N	83°02.4' W	4922 ft
RG110	JH Property	35°32.8' N	83°08.8' W	5128 ft
RG111	Hurricane Ridge	35°43.7' N	82°56.8' W	4573 ft
RG112	Ore Knob	35°45.0' N	82°57.8' W	3884 ft
RG300	Camel Hump Knob	35°43.5' N	83°13.0'W	5110 ft
RG301	Mt Guyot	35°42.3'N	83°15.3'W	6570 ft
RG302	Snake Den Ridge	35°43.2'N	83°14.8'W	6104 ft
RG303s	Mt Cammerer	35°45.7'N	83°09.7'W	4887 ft
RG304	Big Cataloochee	35°40.2'N	83°10.9'W	5971 ft

RG305	Mt Sterling 1	35°41.4'N	83°07.9'W	5349 ft
RG306	Sunup Knob	35°44.7'N	83°10.2'W	5039 ft
RG307s	Balsam Mountain	35°39.0'N	83°11.9'W	5327 ft
RG308	Cosby Knob	35°43.8' N	83°10.9'W	4826 ft
RG309	Mt Sterling 2	35°40.9'N	83°09.0'W	5262 ft
RG310	Mt Sterling 3	35°42.1'N	83°07.3'W	5761 ft
RG311	Big Creek	35°45.9'N	83°08.4'W	3398 ft

Appendix A

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - <http://www.ncdc.noaa.gov>.

WFO Monthly/Daily Climate Data

529

CXUS52 KGSP 010817

CF6AVL

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC

MONTH: OCTOBER

YEAR: 2023

LATITUDE: 35 25 N

LONGITUDE: 82 33 W

TEMPERATURE IN F:					:PCPN:			SNOW:		WIND		:SUNSHINE:			SKY		:PK WND			
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18		
										12Z	AVG	MX	2MIN							
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR		
1	80	62	71	8	0	6	0.00	0.0	0	2.3	10	120	M	M	7		15	130		
2	80	53	67	4	0	2	0.00	0.0	0	1.3	8	170	M	M	2	12	13	310		
3	80	51	66	3	0	1	0.00	0.0	0	2.0	10	150	M	M	1		14	170		
4	80	56	68	6	0	3	0.00	0.0	0	1.3	12	200	M	M	3		15	200		
5	74	56	65	3	0	0	T	0.0	0	2.4	13	170	M	M	3	12	17	180		
6	78	57	68	6	0	3	0.21	0.0	0	6.1	21	340	M	M	6	1	36	330		
7	64	43	54	-7	11	0	T	0.0	0	11.6	23	320	M	M	2		30	330		
8	63	38	51	-10	14	0	0.00	0.0	0	6.4	20	340	M	M	0		27	340		
9	63	34	49	-11	16	0	T	0.0	0	5.0	17	210	M	M	5		23	200		
10	75	44	60	0	5	0	0.00	0.0	0	3.2	16	200	M	M	3		23	210		
11	69	46	58	-2	7	0	T	0.0	0	1.8	9	160	M	M	1		20	340		
12	72	51	62	3	3	0	0.33	0.0	0	2.5	12	140	M	M	5	1	15	140		
13	74	48	61	2	4	0	0.01	0.0	0	3.8	14	170	M	M	7	12	19	160		
14	74	54	64	5	1	0	0.05	0.0	0	8.8	30	330	M	M	8	1	38	320		
15	57	47	52	-6	13	0	T	0.0	0	13.4	25	330	M	M	8		37	340		
16	55	44	50	-8	15	0	0.01	0.0	0	9.4	21	330	M	M	8		26	330		
17	59	44	52	-6	13	0	0.00	0.0	0	8.3	18	320	M	M	6		24	330		
18	66	37	52	-5	13	0	0.00	0.0	0	3.5	13	180	M	M	3	12	17	150		
19	67	38	53	-4	12	0	T	0.0	0	4.4	17	210	M	M	4	12	24	190		
20	64	49	57	1	8	0	0.09	0.0	0	9.3	31	310	M	M	5	1	40	310		
21	69	45	57	1	8	0	0.00	0.0	0	9.0	26	320	M	M	0		33	320		
22	67	43	55	-1	10	0	0.00	0.0	0	7.5	17	340	M	M	0		23	360		
23	68	35	52	-3	13	0	0.00	0.0	0	2.6	12	170	M	M	0		15	170		
24	71	35	53	-2	12	0	0.00	0.0	0	2.8	13	140	M	M	0		17	130		
25	75	36	56	1	9	0	0.00	0.0	0	2.2	14	180	M	M	0		17	190		
26	75	47	61	7	4	0	0.00	0.0	0	3.2	14	170	M	M	3		19	170		
27	78	50	64	10	1	0	0.00	0.0	0	2.2	12	160	M	M	2		14	160		
28	81	52	67	13	0	2	0.00	0.0	0	5.0	15	320	M	M	1		22	340		
29	80	50	65	12	0	0	0.00	0.0	0	1.9	12	340	M	M	1	12	16	320		
30	82	48	65	12	0	0	T	0.0	0	7.4	29	340	M	M	4	1	38	330		
31	51	40	46	-6	19	0	0.00	0.0	0	10.4	18	340	M	M	8		27	360		
SM	2191	1433			211	17	0.70	0.0		161.0			M		106					
AV	70.7	46.2								5.2	FASTST		M	M	3		MAX (MPH)			
								MISC	----	>	31	310					40	310		

NOTES:

LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: ASHEVILLE NC
MONTH: OCTOBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 58.5	TOTAL FOR MONTH: 0.70	1 = FOG OR MIST
DPTR FM NORMAL: 0.6	DPTR FM NORMAL: -2.67	2 = FOG REDUCING VISIBILITY
HIGHEST: 82 ON 30	GRTST 24HR 0.33 ON 12-12	TO 1/4 MILE OR LESS
LOWEST: 34 ON 9		3 = THUNDER
	SNOW, ICE PELLETS, HAIL	4 = ICE PELLETS
	TOTAL MONTH: 0.0 INCH	5 = HAIL
	GRTST 24HR 0.0	6 = FREEZING RAIN OR DRIZZLE
	GRTST DEPTH: 0	7 = DUSTSTORM OR SANDSTORM:
		VSBY 1/2 MILE OR LESS
		8 = SMOKE OR HAZE
		9 = BLOWING SNOW
		X = TORNADO
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	
MAX 32 OR BELOW: 0	0.01 INCH OR MORE: 6	
MAX 90 OR ABOVE: 0	0.10 INCH OR MORE: 2	
MIN 32 OR BELOW: 0	0.50 INCH OR MORE: 0	
MIN 0 OR BELOW: 0	1.00 INCH OR MORE: 0	
[HDD (BASE 65)]		
TOTAL THIS MO. 211	CLEAR (SCALE 0-3) 15	
DPTR FM NORMAL -28	PTCLDY (SCALE 4-7) 15	
TOTAL FM JUL 1 218	CLOUDY (SCALE 8-10) 1	
DPTR FM NORMAL -56		
[CDD (BASE 65)]		
TOTAL THIS MO. 17		
DPTR FM NORMAL -2	[PRESSURE DATA]	
TOTAL FM JAN 1 1014	HIGHEST SLP 30.45 ON 25	
DPTR FM NORMAL -33	LOWEST SLP 29.58 ON 20	

[REMARKS]
#FINAL-10-23#

521
CXUS52 KGSP 010917
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: NOVEMBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

TEMPERATURE IN F:	:PCPN:	SNOW:	WIND	:SUNSHINE:	SKY	:PK WND
1 2 3 4 5 6A 6B 7 8 9 10 11 12 13 14 15 16 17 18						
12Z AVG MX 2MIN						
DY MAX MIN AVG DEP HDD CDD WTR SNW DPTH SPD SPD DIR MIN PSBL S-S WX SPD DR						

1	46	28	37	-15	28	0	0.00	0.0	0	14.1	32	330	M	M	2	39	330
2	53	21	37	-15	28	0	0.00	0.0	0	2.0	10	150	M	M	0	16	160
3	62	25	44	-7	21	0	0.00	0.0	0	2.5	14	140	M	M	0	18	140
4	71	26	49	-2	16	0	0.00	0.0	0	2.4	16	340	M	M	0	23	340
5	72	37	55	4	10	0	0.00	0.0	0	5.6	20	320	M	M	0	24	340
6	73	35	54	4	11	0	0.00	0.0	0	3.6	15	170	M	M	0	20	210
7	79	42	61	11	4	0	0.00	0.0	0	3.4	12	350	M	M	0	16	340
8	78	41	60	10	5	0	0.00	0.0	0	3.2	16	170	M	M	0	19	170
9	82	47	65	15	0	0	0.00	0.0	0	6.1	16	330	M	M	1	24	330
10	65	49	57	8	8	0	0.04	0.0	0	6.0	18	340	M	M	8 18	27	340
11	53	47	50	1	15	0	0.11	0.0	0	1.6	7	210	M	M	10 1	9	310
12	61	40	51	2	14	0	0.00	0.0	0	2.9	12	170	M	M	6	14	170
13	68	34	51	3	14	0	0.00	0.0	0	4.8	15	330	M	M	0	24	330
14	65	43	54	6	11	0	0.00	0.0	0	4.8	14	350	M	M	0	19	350
15	57	41	49	1	16	0	0.00	0.0	0	2.3	9	180	M	M	4	12	170
16	68	44	56	8	9	0	0.00	0.0	0	3.7	14	160	M	M	7	20	150
17	64	48	56	9	9	0	T	0.0	0	2.1	8	340	M	M	8	12	340
18	65	47	56	9	9	0	0.00	0.0	0	10.5	26	330	M	M	2	33	330
19	65	36	51	4	14	0	0.00	0.0	0	3.8	10	140	M	M	1	15	350
20	55	43	49	3	16	0	T	0.0	0	4.6	12	150	M	M	10	16	150
21	53	43	48	2	17	0	0.78	0.0	0	8.1	15	160	M	M	10 1	18	180
22	53	42	48	2	17	0	0.00	0.0	0	12.3	25	340	M	M	7	35	340
23	59	39	49	3	16	0	0.00	0.0	0	7.4	21	330	M	M	4	29	330
24	62	37	50	4	15	0	0.00	0.0	0	3.1	12	330	M	M	0	15	320
25	47	33	40	-5	25	0	0.00	0.0	0	2.6	12	170	M	M	3	15	170
26	47	27	37	-8	28	0	T	0.0	0	4.2	17	190	M	M	5 1	23	190
27	45	31	38	-7	27	0	0.00	0.0	0	14.2	24	330	M	M	1 1	33	340
28	43	27	35	-10	30	0	0.00	0.0	0	10.8	25	330	M	M	0	33	330
29	51	18	35	-9	30	0	0.00	0.0	0	2.3	10	320	M	M	0	13	310
30	59	24	42	-2	23	0	0.00	0.0	0	4.2	14	180	M	M	0	19	160

SM 1821 1095	486	0	0.93	0.0	159.2	M	89
AV 60.7 36.5					5.3 FASTST	M	M 3 MAX (MPH)
			MISC ---->		32 330		39 330

NOTES:

LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: ASHEVILLE NC
MONTH: NOVEMBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 48.6	TOTAL FOR MONTH: 0.93	1 = FOG OR MIST
DPTR FM NORMAL: 0.8	DPTR FM NORMAL: -2.79	2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
HIGHEST: 82 ON 9	GRTST 24HR 0.78 ON 21-21	3 = THUNDER
LOWEST: 18 ON 29		4 = ICE PELLETS
	SNOW, ICE PELLETS, HAIL	5 = HAIL
	TOTAL MONTH: 0.0 INCH	6 = FREEZING RAIN OR DRIZZLE
	GRTST 24HR 0.0	7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
	GRTST DEPTH: 0	8 = SMOKE OR HAZE
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	9 = BLOWING SNOW
MAX 32 OR BELOW: 0	0.01 INCH OR MORE: 3	X = TORNADO
MAX 90 OR ABOVE: 0	0.10 INCH OR MORE: 2	
MIN 32 OR BELOW: 9	0.50 INCH OR MORE: 1	

MIN 0 OR BELOW: 0 1.00 INCH OR MORE: 0

[HDD (BASE 65)]
TOTAL THIS MO. 486 CLEAR (SCALE 0-3) 19
DPTR FM NORMAL -31 PTCLDY (SCALE 4-7) 7
TOTAL FM JUL 1 704 CLOUDY (SCALE 8-10) 4
DPTR FM NORMAL -87

[CDD (BASE 65)]
TOTAL THIS MO. 0
DPTR FM NORMAL -1 [PRESSURE DATA]
TOTAL FM JAN 1 1014 HIGHEST SLP 30.53 ON 2
DPTR FM NORMAL -34 LOWEST SLP 29.80 ON 18

[REMARKS]
#FINAL-11-23#

448
CXUS52 KGSP 010917
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: DECEMBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

TEMPERATURE IN F:					:PCPN:		SNOW:		WIND			:SUNSHINE:			SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
12Z										AVG MX 2MIN								
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	57	34	46	2	19	0	0.17	0.0	0	6.0	14	170	M	M	8	1	17	170
2	60	50	55	11	10	0	0.09	0.0	0	4.6	10	180	M	M	8	12	17	200
3	67	47	57	13	8	0	0.07	0.0	0	6.3	22	300	M	M	4	1	29	280
4	62	33	48	5	17	0	0.00	0.0	0	5.2	25	230	M	M	1		36	230
5	56	30	43	0	22	0	T	0.0	0	5.7	16	330	M	M	1		24	330
6	43	31	37	-6	28	0	0.01	0.0	0	11.3	25	330	M	M	6	1	36	330
7	57	25	41	-2	24	0	0.00	0.0	0	2.3	8	200	M	M	0		16	330
8	62	29	46	3	19	0	0.00	0.0	0	3.5	13	190	M	M	0		21	210
9	58	39	49	7	16	0	0.92	0.0	0	3.6	13	170	M	M	9	1	17	170
10	57	36	47	5	18	0	2.34	0.0	0	10.6	28	330	M	M	10	13	43	350
11	42	29	36	-6	29	0	0.00	0.0	0	11.0	25	330	M	M	2		37	330
12	52	23	38	-4	27	0	0.00	0.0	0	2.9	8	330	M	M	0		14	340
13	56	28	42	0	23	0	0.00	0.0	0	7.5	20	330	M	M	0		24	330
14	53	29	41	-1	24	0	0.00	0.0	0	3.3	10	330	M	M	0		12	340
15	57	23	40	-2	25	0	0.00	0.0	0	2.0	10	150	M	M	0		13	170
16	52	25	39	-2	26	0	0.03	0.0	0	2.7	10	180	M	M	6	1	13	180
17	53	41	47	6	18	0	0.15	0.0	0	6.4	20	340	M	M	10	1	27	350
18	54	27	41	0	24	0	T	T	0	15.2	35	330	M	M	3		42	330
19	40	24	32	-9	33	0	0.00	0.0	0	11.2	26	330	M	M	2		35	320
20	54	19	37	-4	28	0	0.00	0.0	0	1.1	9	330	M	M	0		12	340
21	62	23	43	3	22	0	0.00	0.0	0	0.8	8	330	M	M	0		17	330
22	62	31	47	7	18	0	0.00	0.0	0	1.9	12	130	M	M	1		16	130
23	61	30	46	6	19	0	0.00	0.0	0	4.1	16	170	M	M	3		20	190
24	62	31	47	7	18	0	T	0.0	0	3.0	13	160	M	M	3		17	160
25	55	50	53	13	12	0	1.26	0.0	0	7.9	17	140	M	M	10	1	23	140
26	57	51	54	14	11	0	1.42	0.0	0	3.0	10	220	M	M	10	1	15	230
27	61	43	52	12	13	0	T	0.0	0	3.0	12	320	M	M	7	1	19	340

28 53 33 43 3 22 0 0.00 0.0 0 5.7 15 330 M M 2 1 23 340
29 41 31 36 -4 29 0 T 0.0 0 8.7 21 340 M M 5 41 340
30 44 32 38 -1 27 0 0.00 0.0 0 6.9 13 360 M M 8 17 350
31 54 31 43 4 22 0 0.00 0.0 0 5.6 18 340 M M 0 24 340
=====

SM 1704 1008 651 0 6.46 T 173.0 M 119
=====

AV 55.0 32.5 5.6 FASTST M M 4 MAX(MPH)
MISC ----> 35 330 43 350
=====

NOTES:

LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: ASHEVILLE NC
MONTH: DECEMBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 43.7	TOTAL FOR MONTH: 6.46	1 = FOG OR MIST
DPTR FM NORMAL: 2.3	DPTR FM NORMAL: 2.28	2 = FOG REDUCING VISIBILITY
HIGHEST: 67 ON 3	GRTST 24HR 2.90 ON 9-10	TO 1/4 MILE OR LESS
LOWEST: 19 ON 20		3 = THUNDER
	SNOW, ICE PELLETS, HAIL	4 = ICE PELLETS
	TOTAL MONTH: T	5 = HAIL
	GRTST 24HR T ON 18-18	6 = FREEZING RAIN OR DRIZZLE
	GRTST DEPTH: 0	7 = DUSTSTORM OR SANDSTORM:
		VSBY 1/2 MILE OR LESS
		8 = SMOKE OR HAZE
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	9 = BLOWING SNOW
		X = TORNADO
MAX 32 OR BELOW: 0	0.01 INCH OR MORE: 10	
MAX 90 OR ABOVE: 0	0.10 INCH OR MORE: 6	
MIN 32 OR BELOW: 20	0.50 INCH OR MORE: 4	
MIN 0 OR BELOW: 0	1.00 INCH OR MORE: 3	
[HDD (BASE 65)]		
TOTAL THIS MO. 651	CLEAR (SCALE 0-3) 18	
DPTR FM NORMAL -81	PTCLDY (SCALE 4-7) 7	
TOTAL FM JUL 1 1355	CLOUDY (SCALE 8-10) 6	
DPTR FM NORMAL -166		
[CDD (BASE 65)]		
TOTAL THIS MO. 0		
DPTR FM NORMAL 0	[PRESSURE DATA]	
TOTAL FM JAN 1 1014	HIGHEST SLP 30.74 ON 14	
DPTR FM NORMAL -34	LOWEST SLP 29.56 ON 18	

[REMARKS]
#FINAL-12-23#

827
CXUS52 KGSP 010917
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: JANUARY
YEAR: 2024

LATITUDE: 35 25 N
LONGITUDE: 82 33 W

TEMPERATURE IN F:					:PCPN:			SNOW:		WIND			:SUNSHINE:			SKY		:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18		
										12Z	AVG	MX	2MIN							
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR		
1	38	30	34	-5	31	0	0.00	0.0	0	12.4	24	330	M	M	4		33	340		
2	49	31	40	1	25	0	0.00	0.0	0	10.7	23	330	M	M	3		30	320		
3	45	24	35	-4	30	0	0.00	0.0	0	6.1	20	330	M	M	3		23	340		
4	42	28	35	-4	30	0	0.00	0.0	0	12.9	26	330	M	M	3		36	330		
5	43	18	31	-8	34	0	0.00	0.0	0	4.7	15	130	M	M	2		19	130		
6	53	32	43	4	22	0	0.94	0.0	0	4.6	14	210	M	M	8	16	16	190		
7	47	35	41	2	24	0	0.00	0.0	0	10.2	26	310	M	M	4		33	300		
8	46	26	36	-3	29	0	0.01	0.0	0	8.4	17	340	M	M	1		26	330		
9	52	34	43	5	22	0	3.98	0.0	0	9.4	26	200	M	M	9	13	37	210		
10	44	29	37	-1	28	0	T	0.0	0	8.9	23	300	M	M	4		29	260		
11	57	24	41	3	24	0	0.00	0.0	0	0.8	9	330	M	M	0		17	330		
12	44	27	36	-2	29	0	0.80	0.0	0	4.7	17	150	M	M	5	12	26	160		
13	44	28	36	-2	29	0	0.00	0.0	0	6.6	23	300	M	M	2	12	29	300		
14	53	21	37	-1	28	0	0.00	0.0	0	4.7	23	320	M	M	2		30	310		
15	43	32	38	0	27	0	T	0.0	0	5.5	13	340	M	M	8		21	330		
16	40	14	27	-11	38	0	0.03	0.0	0	13.3	31	340	M	M	6		39	360		
17	35	10	23	-15	42	0	0.00	0.0	0	9.5	21	330	M	M	0		26	340		
18	48	16	32	-6	33	0	T	0.0	0	4.5	24	180	M	M	2		30	180		
19	38	19	29	-9	36	0	T	T	0	9.2	23	330	M	M	10		31	330		
20	21	11	16	-22	49	0	T	T	T	13.7	22	330	M	M	2		29	330		
21	40	11	26	-13	39	0	0.00	0.0	0	7.5	26	330	M	M	0		33	330		
22	50	16	33	-6	32	0	0.00	0.0	0	4.6	18	170	M	M	1		24	180		
23	47	35	41	2	24	0	0.10	0.0	0	2.2	8	160	M	M	10	18	9	160		
24	57	43	50	11	15	0	0.19	0.0	0	5.7	10	190	M	M	10	1	14	150		
25	64	56	60	21	5	0	1.50	0.0	0	4.7	14	180	M	M	10	1	22	190		
26	71	53	62	23	3	0	T	0.0	0	5.2	15	330	M	M	5	12	25	340		
27	54	44	49	10	16	0	1.13	0.0	0	4.5	14	170	M	M	8	12	19	210		
28	57	40	49	10	16	0	0.08	0.0	0	11.5	24	330	M	M	7	1	36	330		
29	46	34	40	1	25	0	0.01	T	0	15.3	28	330	M	M	4		37	340		
30	51	25	38	-1	27	0	0.01	0.0	0	5.1	16	140	M	M	3	1	20	140		
31	45	34	40	0	25	0	0.01	0.0	0	11.2	23	320	M	M	6		30	340		
=====																				
SM	1464	880			837	0	8.79	T		238.3			M		142					
=====																				
AV	47.2	28.4								7.7	FASTST		M	M	5		MAX (MPH)			
										MISC	----	>	31	340				39	360	

NOTES:

LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: ASHEVILLE NC
MONTH: JANUARY
YEAR: 2024
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 37.8	TOTAL FOR MONTH: 8.79	1 = FOG OR MIST
DPTR FM NORMAL: -0.9	DPTR FM NORMAL: 4.66	2 = FOG REDUCING VISIBILITY
HIGHEST: 71 ON 26	GRTST 24HR 3.98 ON 9- 9	TO 1/4 MILE OR LESS
LOWEST: 10 ON 17		3 = THUNDER
	SNOW, ICE PELLETS, HAIL	4 = ICE PELLETS

TOTAL MONTH: T 5 = HAIL
GRTST 24HR T ON 19-19 6 = FREEZING RAIN OR DRIZZLE
GRTST DEPTH: T 7 = DUSTSTORM OR SANDSTORM:
VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH] [WEATHER - DAYS WITH]
MAX 32 OR BELOW: 1 0.01 INCH OR MORE: 13
MAX 90 OR ABOVE: 0 0.10 INCH OR MORE: 7
MIN 32 OR BELOW: 21 0.50 INCH OR MORE: 5
MIN 0 OR BELOW: 0 1.00 INCH OR MORE: 3

[HDD (BASE 65)]
TOTAL THIS MO. 837 CLEAR (SCALE 0-3) 13
DPTR FM NORMAL 23 PTCLDY (SCALE 4-7) 12
TOTAL FM JUL 1 2192 CLOUDY (SCALE 8-10) 6
DPTR FM NORMAL -141

[CDD (BASE 65)]
TOTAL THIS MO. 0
DPTR FM NORMAL 0 [PRESSURE DATA]
TOTAL FM JAN 1 0 HIGHEST SLP 30.65 ON 21
DPTR FM NORMAL 0 LOWEST SLP 29.25 ON 9

[REMARKS]
#FINAL-01-24#

023
CXUS52 KGSP 010917
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: FEBRUARY
YEAR: 2024
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

TEMPERATURE IN F:					:PCPN:		SNOW:		WIND			:SUNSHINE:			SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
12Z AVG MX 2MIN																		
DAY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	60	26	43	3	22	0	0.00	0.0	0	5.2	16	330	M	M	0		25	320
2	64	34	49	9	16	0	0.00	0.0	0	6.2	16	340	M	M	0		25	340
3	54	31	43	3	22	0	0.00	0.0	0	2.8	10	140	M	M	1		15	140
4	51	27	39	-1	26	0	0.00	0.0	0	2.5	12	170	M	M	0		21	150
5	63	36	50	10	15	0	0.00	0.0	0	2.1	13	330	M	M	2		17	340
6	61	27	44	4	21	0	0.00	0.0	0	3.9	14	320	M	M	0		21	330
7	60	26	43	2	22	0	0.00	0.0	0	3.1	12	140	M	M	0		17	140
8	58	27	43	2	22	0	0.00	0.0	0	5.1	14	150	M	M	0		21	140
9	58	40	49	8	16	0	0.00	0.0	0	3.2	9	200	M	M	6		15	330
10	72	43	58	17	7	0	0.01	0.0	0	4.9	20	200	M	M	5		32	340
11	61	52	57	16	8	0	0.28	0.0	0	5.2	14	350	M	M	9	1	20	10
12	57	51	54	12	11	0	0.62	0.0	0	6.1	16	130	M	M	10	1	25	130
13	52	37	45	3	20	0	T	0.0	0	13.8	32	330	M	M	2		50	330
14	59	29	44	2	21	0	0.00	0.0	0	5.5	16	330	M	M	0		24	330
15	66	28	47	5	18	0	0.00	0.0	0	4.6	18	250	M	M	0		27	240
16	61	38	50	8	15	0	0.00	0.0	0	5.4	16	180	M	M	1		22	180
17	54	28	41	-1	24	0	T	T	0	13.2	26	330	M	M	4	4	42	360
18	50	25	38	-5	27	0	0.00	0.0	0	10.5	18	330	M	M	0		28	340
19	58	30	44	1	21	0	0.00	0.0	0	5.2	14	350	M	M	0		21	360

20	57	24	41	-2	24	0	0.00	0.0	0	3.2	14	170	M	M	0	24	170	
21	57	26	42	-1	23	0	0.00	0.0	0	4.1	13	180	M	M	0	20	160	
22	65	32	49	5	16	0	0.00	0.0	0	7.1	22	190	M	M	2	30	190	
23	59	46	53	9	12	0	0.11	0.0	0	8.8	28	330	M	M	6	1	39	340
24	52	33	43	-1	22	0	0.01	0.0	0	9.7	28	310	M	M	5	1	40	320
25	59	25	42	-2	23	0	0.00	0.0	0	6.6	26	330	M	M	3		35	320
26	71	36	54	10	11	0	T	0.0	0	5.2	22	200	M	M	3		33	200
27	62	52	57	13	8	0	T	0.0	0	13.2	24	190	M	M	6	1	33	180
28	69	35	52	7	13	0	0.21	0.0	0	16.9	40	320	M	M	5	1	54	330
29	50	30	40	-5	25	0	0.00	0.0	0	9.1	24	340	M	M	0		37	330

SM	1720	974		531	0	1.24	T	192.4		M		70						
AV	59.3	33.6						6.6	FASTST	M	M	2			MAX (MPH)			
							MISC	----	>	40	320				54	330		

NOTES:

LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: ASHEVILLE NC
MONTH: FEBRUARY
YEAR: 2024
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 46.4	TOTAL FOR MONTH: 1.24	1 = FOG OR MIST
DPTR FM NORMAL: 4.3	DPTR FM NORMAL: -2.22	2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
HIGHEST: 72 ON 10	GRTST 24HR 0.62 ON 12-12	3 = THUNDER
LOWEST: 24 ON 20		4 = ICE PELLETS
	SNOW, ICE PELLETS, HAIL	5 = HAIL
	TOTAL MONTH: T	6 = FREEZING RAIN OR DRIZZLE
	GRTST 24HR T ON 17-17	7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
	GRTST DEPTH: 0	8 = SMOKE OR HAZE
		9 = BLOWING SNOW
		X = TORNADO
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	
MAX 32 OR BELOW: 0	0.01 INCH OR MORE: 6	
MAX 90 OR ABOVE: 0	0.10 INCH OR MORE: 4	
MIN 32 OR BELOW: 16	0.50 INCH OR MORE: 1	
MIN 0 OR BELOW: 0	1.00 INCH OR MORE: 0	

[HDD (BASE 65)]	
TOTAL THIS MO. 531	CLEAR (SCALE 0-3) 20
DPTR FM NORMAL -112	PTCLDY (SCALE 4-7) 7
TOTAL FM JUL 1 2723	CLOUDY (SCALE 8-10) 2
DPTR FM NORMAL -294	

[CDD (BASE 65)]	
TOTAL THIS MO. 0	
DPTR FM NORMAL 0	[PRESSURE DATA]
TOTAL FM JAN 1 0	HIGHEST SLP 30.45 ON 29
DPTR FM NORMAL 0	LOWEST SLP 29.41 ON 13

[REMARKS]
#FINAL-02-24#