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Status

Table 1: Gauge visits during the autumn 2023 campaign. Comments: DD=gauge data download, MN=general gauge maintenance (cleaning, re-level), CA= rain gauge calibration, CV= vegetation clearing, and BR = data logger battery replacement. Red font indicates rain gauge data loggers requiring replacement.

Date	Gauges Visited	Technicians	Comments
10 Oct 2023	3; 11; 106	Doug, Jacob	DD, MN, CV, BR
13 Oct 2023	100T, 111, 112, 311	Doug, Sara	DD, MN, CV, BR
14 Oct 2023	304, 307	Doug, Jacob	DD, MN, CV, BR
20 Oct 2023*A	101, 102, 103, 108	Doug, Josh	DD, MN, CV, BR
21 Oct 2023	305, 309, 310	Doug, Wayne, Jackson, Josh	DD, MN, CV, BR
22 Oct 2023	101, 102, 103, 108	Doug	DD, MN, CV, BR
27 Oct 2023	107, 109, 104, 106	Doug, Sara, Kaitlyn	DD, MN, CV, BR
28 Oct 2023	301, 302, 300	Doug, Jackson, Josh	DD, MN, CV, BR
3 Nov 2023	105, 110, 4	Doug, Wayne	DD, MN, CV, BR
4 Nov 2023	303s, 306, 308	Doug, Kaitlyn	DD, MN, CV, BR
9 Nov 2023	2; 5; 8; 10; 106	Doug	DD, MN, CV, BR

*A: gauge visits postponed due to anticipated rainfall along the Cataloochee Divide

Gauge visitation in support of the Duke Great Smoky Mountain Rain Gauge Network (GSMRGN) during the autumn 2023 occurred over ten days spanning a period of five weeks in October - November 2023. The primary purpose of the visits in the autumn 2023 was [1] to perform downloads of gauge tip observations since the previous gauge visits in the summer 2023, [2] to complete maintenance tasks, [3] to clear vegetation and tree limbs, [4] to replace ALL data logger lithium batteries in anticipation of cold winter weather, when lithium batteries respond with a drop in operating voltage, and [5] to replace faulty data loggers at two sites (red font in Table 1). Seven 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) to clear vegetation and tree limbs [CV in Table 1] and, (4) to replace ALL data logger lithium batteries [BR in Table 1] in anticipation of cold winter weather, when lithium batteries respond with a drop in operating voltage. A specialized task was the replacement of older generation data loggers [task (5)] at gauges #107 (Lookout Point), and #300 (Camel Hump Knob). 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 screen capture 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. Older ML1-FL and newer 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 unleveled, and fixing or replacing the gauge mesh if it had been damaged. Task (3) consisted of cutting briars, tree branches, rhododendron, and mountain laurel within a five foot radius of the gauge using clippers or a saw. Task (4) was completed successfully in every data logger at each of the rain gauge locations. The data logger at one gauge (g #311, Big Creek) will need to be replaced in 2024 if the TA adjustments fail to improve between the fall 2023 visit and future visits.

The rain gauge and base of g #010 was found leaning (presumably caused by a bear) during the visit on 9 November 2023. It is difficult to discern when the bear encounter occurred as the recent drought means very few tips have occurred in September and October 2023. Gauge tips occurring on 30 October 2023 at g #010 agree with those observed at a nearby gauge (g #002, Lickstone Bald), so the bear encounter most likely occurred after then. The gauge and base were releveled using rocks and the gauge base nut/bolt leveling system. The time adjust (TA) at one location having an ML1 logger was set to "off" [g #311] during the most recent visits. It is hoped the "TA" setting of the logger will self-correct its time lag during the spring 2024 visit, otherwise it will be replaced by a newer ML1A-FL data logger. Examination of observed rainfall at g #005 (Deep Gap) shows a significant under-reporting of tips (and rainfall) compared to those at a nearby gauge (g #002, Lickstone Bald) in September and October 2023. The mesh coverings of g #005 are damaged and the internal unit more susceptible to invasion by insects and spiders. The drought of fall 2023 allowed enough tipping bucket "idle time" for the creation of insect and/or spider webs that interfered with the free mechanical operation of the tipping buckets. This phenomenon was observed at multiple rain gauges during the severe drought of fall 2016.

Weather during the rain gauge visit campaign in fall 2023 was nearly ideal (due to yet another autumnal drought observed in the region [one was also in place during fall 2022]) and caused only a single postponement of the ten originally-scheduled visits. We continue to inquire with Mr. Edwin Warren, of Duke Power, on the possibility of gaining access to weather station observations taken near the Mount Sterling fire tower, next to g #310 (~5,800 feet ASL). The newer ML1A-FL loggers record an internal temperature estimate that can be used as a proxy for discerning tips due to rain compared to those due to melting snow.

Details of every gauge visit along with precipitation raw and CSV files can be found via Google Drive https://drive.google.com/file/d/1HftVIBwqEtw7ZQq0rZ1Ch3sGvxiZUd56/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 July – September 2023 observed at KAVL are highlighted in yellow in **Appendix A**. Of particular relevance is the worsening of drought conditions during July – September 2023, with a rain accumulation of 4.50" below-normal observed at KAVL over the period.

Plans for the spring months of 2024

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

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

Gauge visitation in support of the Duke GSMRGN during the spring 2024 will occur over at least thirteen days spanning March through mid-May 2024. The primary purpose of the visits will be to download precipitation observations that were made since the previous gauge visits in October - November 2023 [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], calibrate every rain gauge [most recent calibration was in spring 2023, CA in Table 2], and clear vegetation (and tree branches) from overhanging gauges [CV in Table 2]. Calibrations are scheduled at **ALL** rain gauge locations during the spring season due to the increased availability of daylight hours (over autumn) and to a seasonal (March, April, May) minimum in precipitation observed in the Pigeon River Basin (WaF, February 2018).

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 notes made in the field journal during the visit.

The current technician roster during the 2023-2024 academic year consists of Jackson Coley, Kaitlyn Duckett, Sara Michaelson, Wayne Morley, Brooks Rogow, 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 spring 2024. Wayne Morley will be graduating in December 2023.

Table 3: The Duke Great Smoky Mountain Rain Gauge Network is currently (valid as of 10 November 2023) 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	35º23.7’ N	82º54.9’ 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

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CXUS52 KGSP 010817
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

                                                STATION:   ASHEVILLE NC
                                                MONTH:     JULY
                                                YEAR:      2023
                                                LATITUDE:   35 25 N
                                                LONGITUDE:  82 33 W
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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	90	65	78	4	0	13	T	0.0	0	5.0	22	330	M	M	1	3	29	330
2	89	65	77	2	0	12	0.02	0.0	0	4.6	18	170	M	M	2	3	22	170
3	89	68	79	4	0	14	T	0.0	0	4.3	16	300	M	M	2	3	20	300
4	84	67	76	1	0	11	0.30	0.0	0	4.6	15	10	M	M	3	13	22	30
5	83	67	75	0	0	10	T	0.0	0	4.5	12	330	M	M	7	13	17	340
6	88	67	78	3	0	13	T	0.0	0	5.3	15	330	M	M	4	13	20	340
7	88	67	78	3	0	13	0.00	0.0	0	6.3	17	310	M	M	1	3	23	330
8	90	66	78	3	0	13	0.00	0.0	0	4.5	13	210	M	M	1	3	16	220
9	86	68	77	2	0	12	0.05	0.0	0	8.5	20	340	M	M	4	1	25	340
10	86	66	76	1	0	11	0.03	0.0	0	7.2	16	320	M	M	4		26	330
11	85	60	73	-2	0	8	0.00	0.0	0	4.6	12	170	M	M	2		16	140
12	88	63	76	1	0	11	0.00	0.0	0	3.6	13	210	M	M	0		18	180
13	89	63	76	1	0	11	0.06	0.0	0	3.6	16	170	M	M	1	3	22	170
14	89	69	79	4	0	14	T	0.0	0	3.4	12	190	M	M	5	13	20	320
15	90	70	80	5	0	15	0.15	0.0	0	4.5	18	240	M	M	6	138	24	250
16	87	70	79	4	0	14	0.00	0.0	0	8.1	17	330	M	M	2		25	330
17	87	62	75	0	0	10	0.00	0.0	0	3.9	15	330	M	M	0	18	22	330
18	89	62	76	1	0	11	1.61	0.0	0	3.8	35	310	M	M	1	1238	43	300
19	83	66	75	0	0	10	0.09	0.0	0	4.4	18	320	M	M	4	123	23	330
20	72	65	69	-6	0	4	0.30	0.0	0	3.1	12	330	M	M	5	13	17	350
21	88	65	77	2	0	12	0.00	0.0	0	6.0	16	350	M	M	3		24	330
22	84	67	76	1	0	11	0.01	0.0	0	5.8	18	330	M	M	6		28	340
23	84	64	74	-1	0	9	0.73	0.0	0	4.2	24	330	M	M	7	13	30	330
24	86	64	75	0	0	10	0.00	0.0	0	4.2	12	330	M	M	2	1	21	330
25	87	61	74	-1	0	9	0.00	0.0	0	3.2	12	170	M	M	0	3	14	180
26	88	63	76	1	0	11	0.00	0.0	0	2.3	12	170	M	M	0	3	17	180
27	92	65	79	4	0	14	0.00	0.0	0	2.6	10	200	M	M	0	3	14	190
28	91	68	80	5	0	15	0.02	0.0	0	3.4	17	160	M	M	1	13	24	160
29	89	68	79	4	0	14	0.19	0.0	0	7.4	25	330	M	M	2	3	33	320
30	84	68	76	1	0	11	T	0.0	0	8.0	17	330	M	M	3		24	330
31	86	66	76	1	0	11	0.00	0.0	0	7.2	16	340	M	M	2		23	330
SM	2691	2035			0	357	3.56	0.0		152.1			M		81			

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================================================================================
AV 86.8 65.6                                4.9 FASTST   M    M   3    MAX(MPH)
                                 MISC ---->    35 310                  43 300
================================================================================
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:     JULY
                                          YEAR:      2023
                                          LATITUDE:   35 25 N
                                          LONGITUDE:  82 33 W

[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 76.2   TOTAL FOR MONTH:   3.56    1 = FOG OR MIST
DPTR FM NORMAL:   1.1   DPTR FM NORMAL:   -1.11    2 = FOG REDUCING VISIBILITY
HIGHEST:    92 ON 27    GRTST 24HR  1.70 ON 18-19     TO 1/4 MILE OR LESS
LOWEST:     60 ON 11                               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
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:  13
MAX 90 OR ABOVE:   5    0.10 INCH OR MORE:   6
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   2
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   1

[HDD (BASE 65) ]
TOTAL THIS MO.     0    CLEAR  (SCALE 0-3)  21
DPTR FM NORMAL     0    PTCLDY (SCALE 4-7)  10
TOTAL FM JUL 1     0    CLOUDY (SCALE 8-10)  0
DPTR FM NORMAL     0

[CDD (BASE 65) ]
TOTAL THIS MO.   357
DPTR FM NORMAL    44    [PRESSURE DATA]
TOTAL FM JAN 1   534    HIGHEST SLP 30.19 ON 26
DPTR FM NORMAL   -82    LOWEST  SLP 29.79 ON  9

[REMARKS]
#FINAL-07-23#
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000
CXUS52 KGSP 010817
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: AUGUST
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	85	63	74	-1	0	9	T	0.0	0	3.1	9	160	M	M	4		14	140
2	79	68	74	-1	0	9	T	0.0	0	4.2	14	200	M	M	8		18	200
3	75	68	72	-3	0	7	0.36	0.0	0	4.3	12	170	M	M	10	1	14	160
4	84	66	75	0	0	10	0.00	0.0	0	7.4	20	340	M	M	4	8	24	340
5	87	62	75	0	0	10	0.00	0.0	0	3.9	12	170	M	M	1		14	160
6	86	68	77	2	0	12	T	0.0	0	3.8	17	180	M	M	2	3	22	190
7	92	68	80	5	0	15	0.10	0.0	0	3.5	24	320	M	M	4	13	33	320
8	80	63	72	-3	0	7	0.00	0.0	0	6.2	20	330	M	M	4		24	340
9	83	61	72	-3	0	7	0.01	0.0	0	4.2	14	330	M	M	2		18	320
10	84	66	75	0	0	10	0.45	0.0	0	5.4	16	320	M	M	5	13	22	340
11	80	61	71	-4	0	6	0.05	0.0	0	1.4	10	340	M	M	4	13	13	360
12	88	66	77	3	0	12	0.23	0.0	0	3.6	25	160	M	M	5	1238	38	180
13	88	65	77	3	0	12	0.00	0.0	0	7.1	13	330	M	M	3	1	23	330
14	90	68	79	5	0	14	T	0.0	0	3.2	24	340	M	M	3	3	35	330
15	87	68	78	4	0	13	0.23	0.0	0	6.7	20	330	M	M	2	13	25	320
16	85	63	74	0	0	9	0.00	0.0	0	6.1	15	330	M	M	3		22	330
17	83	61	72	-2	0	7	0.00	0.0	0	2.8	12	180	M	M	4	1	17	330
18	83	62	73	-1	0	8	0.00	0.0	0	7.3	16	340	M	M	1		23	330
19	82	56	69	-5	0	4	0.00	0.0	0	3.8	12	180	M	M	0		14	180
20	87	59	73	-1	0	8	0.00	0.0	0	3.0	12	160	M	M	0	1	15	170
21	91	65	78	4	0	13	0.00	0.0	0	5.7	16	340	M	M	0		28	330
22	91	67	79	5	0	14	0.00	0.0	0	8.4	21	340	M	M	0	1	28	340
23	86	68	77	3	0	12	0.00	0.0	0	3.3	12	170	M	M	2		15	160
24	89	64	77	4	0	12	0.00	0.0	0	5.4	21	330	M	M	0		29	330
25	94	68	81	8	0	16	0.00	0.0	0	4.7	17	320	M	M	1		22	330
26	92	70	81	8	0	16	0.00	0.0	0	7.7	20	340	M	M	0		26	340
27	88	67	78	5	0	13	1.06	0.0	0	2.8	38	230	M	M	3	13	48	230
28	83	69	76	3	0	11	0.76	0.0	0	2.4	15	200	M	M	7	13	20	200
29	79	68	74	1	0	9	0.80	0.0	0	3.0	10	160	M	M	7	13	13	150
30	78	67	73	1	0	8	0.08	0.0	0	7.6	17	330	M	M	7	1	22	330
31	84	63	74	2	0	9	0.00	0.0	0	5.2	13	340	M	M	3		18	340
SM	2643	2018			0	322	4.13	0.0		147.2			M		99			
AV	85.3	65.1								4.7	FASTST		M	M	3		MAX(MPH)	
									MISC ---->		38	230					48	230

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: AUGUST
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 75.2
DPTR FM NORMAL: 1.2
HIGHEST: 94 ON 25
LOWEST: 56 ON 19

[PRECIPITATION DATA]

TOTAL FOR MONTH: 4.13
DPTR FM NORMAL: -0.91
GRTST 24HR 1.56 ON 28-29

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 6
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 11
0.10 INCH OR MORE: 8
0.50 INCH OR MORE: 3
1.00 INCH OR MORE: 1

[HDD (BASE 65)]

TOTAL THIS MO. 0
DPTR FM NORMAL 0
TOTAL FM JUL 1 0
DPTR FM NORMAL 0

CLEAR (SCALE 0-3) 17
PTCLDY (SCALE 4-7) 13
CLOUDY (SCALE 8-10) 1

[CDD (BASE 65)]

TOTAL THIS MO. 322
DPTR FM NORMAL 43
TOTAL FM JAN 1 856
DPTR FM NORMAL -39

[PRESSURE DATA]

HIGHEST SLP 30.21 ON 20
LOWEST SLP 29.70 ON 30

[REMARKS]
#FINAL-08-23#

000
CXUS52 KGSP 010817
CF6AVL
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
MONTH: SEPTEMBER
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	78	61	70	-2	0	5	0.00	0.0	0	3.4	10	160	M	M	2	12	15	170
2	82	59	71	-1	0	6	0.00	0.0	0	2.9	10	160	M	M	4	12	17	160
3	86	58	72	0	0	7	0.00	0.0	0	2.6	18	330	M	M	1	12	24	330
4	88	60	74	3	0	9	0.00	0.0	0	2.6	9	320	M	M	1	1	16	350
5	90	63	77	6	0	12	0.00	0.0	0	3.8	13	340	M	M	0		17	340
6	89	68	79	8	0	14	0.00	0.0	0	5.8	15	340	M	M	1	1	24	340
7	86	64	75	4	0	10	0.05	0.0	0	3.5	18	180	M	M	2	13	24	160
8	82	61	72	2	0	7	0.00	0.0	0	3.1	13	160	M	M	4	1	16	160
9	81	63	72	2	0	7	T	0.0	0	3.0	14	160	M	M	6	1238	22	160
10	80	63	72	2	0	7	0.89	0.0	0	2.2	20	330	M	M	6	13	24	340
11	82	60	71	1	0	6	T	0.0	0	3.5	17	330	M	M	6	123	26	330
12	82	61	72	2	0	7	0.23	0.0	0	2.2	21	10	M	M	6	123	30	350
13	79	64	72	3	0	7	0.00	0.0	0	7.5	16	330	M	M	8	1	21	340
14	78	64	71	2	0	6	0.00	0.0	0	4.6	10	140	M	M	8		15	330
15	76	61	69	0	0	4	0.00	0.0	0	3.6	13	150	M	M	6		15	160
16	77	59	68	0	0	3	T	0.0	0	5.0	14	180	M	M	7	1	17	210
17	74	58	66	-2	0	1	0.46	0.0	0	6.8	16	330	M	M	7	1	21	330
18	75	54	65	-3	0	0	0.00	0.0	0	7.8	20	330	M	M	2		26	330
19	74	50	62	-6	3	0	0.00	0.0	0	3.2	12	160	M	M	5	12	19	170
20	75	51	63	-4	2	0	0.00	0.0	0	2.6	10	190	M	M	2		14	190
21	77	51	64	-3	1	0	0.00	0.0	0	2.2	9	140	M	M	4	1	15	140
22	79	53	66	0	0	1	0.00	0.0	0	2.8	13	330	M	M	3	1	20	340
23	76	53	65	-1	0	0	0.00	0.0	0	9.0	23	330	M	M	1		31	330
24	80	59	70	4	0	5	0.00	0.0	0	6.3	17	340	M	M	2		20	340
25	79	58	69	3	0	4	0.00	0.0	0	3.6	14	330	M	M	2		20	340
26	77	60	69	4	0	4	0.00	0.0	0	4.0	12	170	M	M	7		16	160
27	68	59	64	-1	1	0	0.00	0.0	0	3.8	10	150	M	M	10	1	14	160
28	79	57	68	4	0	3	0.03	0.0	0	4.4	15	170	M	M	7		21	340
29	80	57	69	5	0	4	0.00	0.0	0	4.6	16	330	M	M	5	1	22	340
30	82	52	67	3	0	2	0.00	0.0	0	2.3	9	320	M	M	3		14	320
SM	2391	1761				7	141	1.66	0.0	122.7			M		128			
AV	79.7	58.7								4.1	FASTST		M	M	4	MAX(MPH)		
									MISC ---->		23	330				31	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: SEPTEMBER
YEAR: 2023
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 69.2
DPTR FM NORMAL: 0.9
HIGHEST: 90 ON 5
LOWEST: 50 ON 19

[PRECIPITATION DATA]

TOTAL FOR MONTH: 1.66
DPTR FM NORMAL: -2.47
GRTST 24HR 0.89 ON 9-10

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 1
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 5
0.10 INCH OR MORE: 3
0.50 INCH OR MORE: 1
1.00 INCH OR MORE: 0

[HDD (BASE 65)]

TOTAL THIS MO. 7
DPTR FM NORMAL -27
TOTAL FM JUL 1 7
DPTR FM NORMAL -25

CLEAR (SCALE 0-3) 12
PTCLDY (SCALE 4-7) 16
CLOUDY (SCALE 8-10) 2

[CDD (BASE 65)]

TOTAL THIS MO. 141
DPTR FM NORMAL 8
TOTAL FM JAN 1 997
DPTR FM NORMAL -31

[PRESSURE DATA]

HIGHEST SLP 30.28 ON 2
LOWEST SLP 29.81 ON 7

[REMARKS]
#FINAL-09-23#