

Prepared by:
Douglas K. Miller

Undergraduate research students (UNC Asheville):
Meredith Avison, Marlee Burgess, Lyn Comer, Andrew Hill, Alice Monroe, Zachary Moss, Samuel Peterson,
Samantha Wood

Volunteer assistants (other):
Don Elliott (Waynesville Watershed Field Manager)

Index

Status

Plans for the spring months of 2021

Appendix A

Page 2

Page 4

Page 7

Status

Table 1: Gauge visits during the autumn 2020 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	location
3 Oct 2020	304, 307	Doug, Jared*	DD, MN, CV, BR	4wd needed	Balsam Mtn. Ridge Trail
9 Oct 2020	101, 102, 103, 100T	Doug, Meredith, Alice	DD, MN, CV, BR	any vehicle	The Swag, Purchase Knob
10 Oct 2020	305, 309, 310**	Doug, Zach M	DD, MN, CV, BR	4wd needed	Mt. Sterling
16 Oct 2020	305, 309, 310	Doug, Samantha	DD, MN, CV, BR	4wd needed	Mt. Sterling
17 Oct 2020	303s, 306, 308	Doug, Samuel P, Zach M	DD, MN, CV, BR	any vehicle	Mt. Cammerer, Sunup Knob, Cosby Knob
23 Oct 2020	111, 112	Doug, Andrew H, Meredith	DD, MN, CV, BR	any vehicle	Hurricane Ridge, Ore Knob
24 Oct 2020	301, 302, 300	Doug, Lyn, Marlee	DD, MN, CV, BR	any vehicle	Mt. Guyot, Snake Den Ridge, Camel Hump
30 Oct 2020	311, 110, 105, 10	Doug	DD, MN, CV, BR	4wd needed	Big Creek, Hawkins, Hultquist, Beaty Spring Gap
31 Oct 2020	107, 109, 104, 108	Doug, Andrew H, Alice	DD, MN, CV, BR	any vehicle	Lookout Pt, Eaglesnest Ridge, Ski Cat, Utah Mtn
1 Nov 2020	3; 11; 4	Doug, Marlee	DD, MN, CV, BR	any vehicle	Camp Daniel Boone, Richland Balsam
13 Nov 2020	2; 5; 8; 106; 10	Doug	DD, MN, CV, BR	any vehicle	Waynesville Watershed, Pinnacle Ridge, Beaty S. G.

Gauge visitation in support of the Duke Great Smoky Mountain Rain Gauge Network (GSMRGN) during the autumn 2020 campaign occurred over ten days spanning a period of seven weeks in October and November 2020. The primary purpose of the visits in the autumn 2020 was [1] to perform downloads of gauge tip observations since the previous gauge visits in the summer 2020, [2] to complete rain gauge and data logger maintenance tasks, [3] to clear vegetation and limbs from the overhead view of each gauge, and [4] to replace the logger lithium battery inside every rain gauge. Eight students from UNC Asheville and one volunteer (listed on the front page) made the visits and helped the field manager preform the required tasks. 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 or overhanging limbs within a five foot radius of the rain gauge [CV in Table 1], and (4) the replacement of the ML1 or ML1-420 logger lithium battery [BR in Table 1]. The primary specialized tasks were the data logger replacement at gauges #302 (Camel Hump Knob; with a new ML1A-FL logger), #011 (Double Spring Gap; with the old g #010 ML1 logger), and #008 (Double Spring Gap; with an old ML1 logger) and the replacement of the rain gauge switch at g #109 (Eaglesnest Ridge). We have had significant problems with ML1-420 loggers draining the lithium batteries down in a very short period of time. 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 data logger times have been adjusted (using “TA” command) during previous gauge visits to coincide with the EDT given by the GPS locator. Please read the MS Word document containing the field notes to find a more thorough description of these problems. 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, tree limbs, and other dying vegetation during the autumn season within a five foot radius of the gauge using clippers or weeding by hand. One location (g #311) will need tree limbs cleared using the GSMNP arborist, while the tree limbs at g #308 (Cosby Knob) were cleared by the arborist during a 4 November 2020 visit. Task (4) was completed successfully in every data logger at each of the rain gauge locations.

The primary challenge encountered during the gauge visits was poor Time Adjust (TA) settings at several older ML1 logger locations. Upgrading ML1 logger firmware in the spring 2021 will be tested to see if the TA response improves and results in the more accurate keeping of time (at gauges #307 [Balsam Mtn Ridge], #304 [Big Cataloochee Mtn], #107 [Lookout Point], #005 [Deep Gap]). The rain gauge and base of g #010 (Beaty Spring Knob) was found knocked over (presumably by a bear) on 30 October 2020. The tip observations indicated that this likely happened on 3 October 2020. The gauge was righted and adjustments to the logger and gauge level were made. A more 'permanent' securing of the gauge base was made during a return visit on 13 November 2020. The gauge funnel ring at the top of the gauge cover was found ripped off at g #110 (Hawkins Property) on 30 October 2020 and was replaced and attached with duct tape between the ring and primary piece of the gauge cover. The gauge funnel ring at the top of the gauge cover was knocked askew (not off) at g #109 (Eaglesnest Ridge) on 31 October 2020 and was replaced and attached with duct tape between the ring and primary piece of the gauge cover.

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 weather observations will help discern the source of tips in the cool season; rain or melting snow.

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/1T_fFKWnvyEm7kOmhgi0q-PsWG3FWCQYR/view?usp=sharing 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 2020 as observed at KAVL are highlighted in yellow in **Appendix A**. The second half of July 2020 was extraordinarily rainy in the mountains, but showed little impact in the precipitation record at KAVL. Thunderstorm activity in the second half of July 2020 should provide ample rainfall in the records of the Duke GSMRGN observations. August and September 2020 showed at least four inches of above normal rainfall in each month. The remnants of TC Sally pushed through western NC in 16-17 September 2020, while the remnants of TC Beta pushed through western NC in 24-25 September 2020.

Table 2: Planned gauge visits during the spring 2021 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
3/??/2021	3; 11	Doug, one student	DD, MN, CA, CV
3/??/2021	2; 5; 8	Doug, one student	DD, MN, CA, CV
3/??/2021	100T, 105, 104	Doug, one student	DD, MN, CA, CV
3/??/2021	300, 308	Doug, two students	DD, MN, CA, CV
4/??/2021	106, 10	Doug, one student	DD, MN, CA, CV
4/??/2021	304, 307	Doug, two students	DD, MN, CA, CV
4/??/2021	4, 108, 109	Doug, one student	DD, MN, CA, CV
4/??/2021	311, 110	Doug, one student	DD, MN, CA, CV
4/??/2021	111, 112, 107	Doug, one student	DD, MN, CA, CV
5/??/2021	303s, 306	Doug, two students	DD, MN, CA, CV
5/??/2021	101, 102, 103	Doug, two students	DD, MN, CA, CV
5/??/2021	305, 309, 310	Doug, two students	DD, MN, CA, CV
5/??/2021	301, 302	Doug, two students	DD, MN, CA, CV

Gauge visitation in support of the Duke GSMRGN during the spring 2021 will occur over at least thirteen days spanning March through early May 2021. The primary purpose of the visits will be to download precipitation observations that were made since the previous gauge visits in October - November 2020 [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 [last calibration in spring 2020, 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 2020-2021 academic year consists of Meredith Avison, Marlee Burgess, Lyn Comer, Andrew Hill, Alice Monroe, Zachary Moss, Samuel Peterson, Jared Sellers, and Samantha Wood. New undergraduate research students at UNC Asheville will be recruited as field technicians for the Duke GSMRGN project in the spring 2021 as four current field technicians (a.k.a., Mountain Rangers) will be graduating in May 2021.

Table 3: The Duke Great Smoky Mountain Rain Gauge Network is currently (valid as of 18 November 2020) 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
RG307	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

 000
 CXUS52 KGSP 010821
 CF6AVL
 PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: ASHEVILLE NC
 MONTH: JULY
 YEAR: 2020
 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	68	77	4	0	12	T	0.0	0	5.8	16	170	M	M	2	38	22	170		
2	88	68	78	5	0	13	0.00	0.0	0	7.3	15	330	M	M	3	8	22	330		
3	89	65	77	4	0	12	0.01	0.0	0	3.2	14	170	M	M	4	3	17	150		
4	90	67	79	5	0	14	0.00	0.0	0	4.5	15	160	M	M	5	3	22	160		
5	89	67	78	4	0	13	0.00	0.0	0	3.2	13	160	M	M	3	128	18	170		
6	84	65	75	1	0	10	T	0.0	0	4.0	14	160	M	M	4	128	18	110		
7	79	68	74	0	0	9	0.15	0.0	0	2.3	14	170	M	M	8	18	17	180		
8	87	65	76	2	0	11	0.41	0.0	0	3.4	18	10	M	M	4	123	27	110		
9	85	68	77	3	0	12	0.51	0.0	0	3.1	14	30	M	M	4	13	20	10		
10	88	66	77	3	0	12	0.97	0.0	0	1.9	25	290	M	M	4	1238	32	280		
11	84	67	76	2	0	11	0.00	0.0	0	8.3	18	330	M	M	1		27	320		
12	86	60	73	-1	0	8	T	0.0	0	3.9	16	340	M	M	2	3	22	330		
13	87	66	77	3	0	12	0.00	0.0	0	7.4	16	340	M	M	1	8	21	340		
14	90	65	78	4	0	13	0.00	0.0	0	3.6	10	170	M	M	2	8	15	190		
15	90	64	77	3	0	12	0.00	0.0	0	3.7	12	160	M	M	3	18	15	170		
16	90	72	81	7	0	16	0.00	0.0	0	5.8	15	190	M	M	5	18	19	210		
17	91	69	80	6	0	15	0.01	0.0	0	3.1	14	190	M	M	2	138	18	200		
18	93	70	82	8	0	17	0.00	0.0	0	3.8	15	170	M	M	2	138	21	240		
19	92	69	81	7	0	16	T	0.0	0	3.2	14	250	M	M	3	13	19	240		
20	91	69	80	6	0	15	T	0.0	0	3.2	14	290	M	M	2	138	18	290		
21	89	69	79	5	0	14	T	0.0	0	3.2	15	210	M	M	3	1238	20	200		
22	88	65	77	3	0	12	0.01	0.0	0	2.2	14	310	M	M	3	1238	18	310		
23	88	67	78	4	0	13	0.66	0.0	0	3.8	28	340	M	M	3	138	32	340		
24	80	67	74	0	0	9	0.03	0.0	0	3.0	13	340	M	M	6	12	16	330		
25	88	65	77	3	0	12	0.04	0.0	0	3.8	14	300	M	M	5	123	20	260		
26	88	67	78	4	0	13	0.00	0.0	0	5.5	18	200	M	M	4	13	24	200		
27	90	67	79	5	0	14	T	0.0	0	5.8	18	280	M	M	2	3	25	280		
28	88	65	77	3	0	12	0.03	0.0	0	4.2	18	330	M	M	2	3	24	330		
29	89	69	79	5	0	14	T	0.0	0	4.6	16	200	M	M	3	138	21	140		
30	86	70	78	4	0	13	0.01	0.0	0	3.9	20	200	M	M	5	38	23	200		
31	93	68	81	7	0	16	0.12	0.0	0	5.1	23	200	M	M	5	1238	29	200		
SM	2725	2077			0	395	2.96	0.0		129.8			M		105					
AV	87.9	67.0								4.2	FASTST	M	M	3		MAX (MPH)				
										MISC	---->	28	340			#	32	280		

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: 2020
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 77.5 TOTAL FOR MONTH: 2.96 1 = FOG OR MIST
DPTR FM NORMAL: 3.7 DPTR FM NORMAL: -1.35 2 = FOG REDUCING VISIBILITY
HIGHEST: 93 ON 31,18 GRTST 24HR 1.07 ON 9-10 TO 1/4 MILE OR LESS
LOWEST: 60 ON 12 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: 13
MAX 90 OR ABOVE: 10 0.10 INCH OR MORE: 6
MIN 32 OR BELOW: 0 0.50 INCH OR MORE: 3
MIN 0 OR BELOW: 0 1.00 INCH OR MORE: 0

[HDD (BASE 65)]
TOTAL THIS MO. 0 CLEAR (SCALE 0-3) 17
DPTR FM NORMAL 0 PTCLDY (SCALE 4-7) 14
TOTAL FM JUL 1 0 CLOUDY (SCALE 8-10) 0
DPTR FM NORMAL 0

[CDD (BASE 65)]
TOTAL THIS MO. 395
DPTR FM NORMAL 120 [PRESSURE DATA]
TOTAL FM JAN 1 675 HIGHEST SLP 30.23 ON 24
DPTR FM NORMAL 165 LOWEST SLP 29.78 ON 12

[REMARKS]
#FINAL-07-20#

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

STATION: ASHEVILLE NC
MONTH: AUGUST
YEAR: 2020
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

Table with columns: TEMPERATURE IN F, :PCPN:, SNOW:, WIND, :SUNSHINE:, SKY, :PK WND. Rows include hourly data (1-18) and summary statistics (DY MAX MIN AVG DEP HDD CDD WTR SNW DPTH SPD SPD DIR MIN PSBL S-S WX SPD DR).

1	88	69	79	5	0	14	0.00	0.0	0	5.1	18	200	M	M	5	1	25	180
2	87	67	77	3	0	12	0.01	0.0	0	5.4	18	190	M	M	2	3	23	190
3	75	65	70	-4	0	5	0.80	0.0	0	2.2	16	330	M	M	7	13	22	320
4	83	63	73	-1	0	8	0.42	0.0	0	2.8	16	330	M	M	8	13	21	330
5	82	64	73	-1	0	8	2.55	0.0	0	2.8	18	320	M	M	7	123	21	320
6	84	65	75	1	0	10	0.04	0.0	0	2.7	15	340	M	M	7	138	19	130
7	81	67	74	0	0	9	0.14	0.0	0	2.7	13	310	M	M	6	13	16	300
8	88	66	77	3	0	12	T	0.0	0	4.7	15	170	M	M	6	13	19	160
9	88	64	76	2	0	11	0.01	0.0	0	3.1	13	330	M	M	5	128	17	350
10	84	65	75	1	0	10	T	0.0	0	4.5	14	330	M	M	3		18	330
11	86	67	77	3	0	12	0.00	0.0	0	3.5	12	200	M	M	3	138	14	330
12	88	68	78	4	0	13	1.53	0.0	0	3.9	14	310	M	M	4	138	18	320
13	86	67	77	4	0	12	0.03	0.0	0	3.2	12	180	M	M	5	1238	16	20
14	82	68	75	2	0	10	0.22	0.0	0	3.0	13	160	M	M	7	18	15	160
15	79	67	73	0	0	8	0.84	0.0	0	3.8	14	340	M	M	7	13	22	320
16	84	66	75	2	0	10	0.00	0.0	0	7.2	18	330	M	M	2		26	340
17	84	64	74	1	0	9	0.00	0.0	0	5.8	17	340	M	M	1		26	340
18	83	59	71	-2	0	6	0.21	0.0	0	4.1	14	320	M	M	2	138	20	270
19	82	64	73	0	0	8	0.18	0.0	0	5.6	16	300	M	M	6	138	23	290
20	80	63	72	-1	0	7	0.00	0.0	0	2.6	10	160	M	M	7	138	14	160
21	73	66	70	-3	0	5	0.92	0.0	0	2.2	8	120	M	M	9	138	11	20
22	81	65	73	1	0	8	0.09	0.0	0	4.0	14	230	M	M	6	1238	20	150
23	82	65	74	2	0	9	0.06	0.0	0	4.3	14	170	M	M	5	128	19	160
24	83	66	75	3	0	10	0.15	0.0	0	2.8	14	190	M	M	7	1	17	180
25	79	69	74	2	0	9	0.06	0.0	0	4.4	15	200	M	M	6	1	18	210
26	87	67	77	5	0	12	0.00	0.0	0	4.0	10	180	M	M	2	1	14	160
27	88	67	78	6	0	13	0.13	0.0	0	2.3	12	310	M	M	4	128	14	310
28	86	70	78	6	0	13	0.03	0.0	0	5.6	16	210	M	M	2	1	21	190
29	85	70	78	7	0	13	0.13	0.0	0	7.2	22	330	M	M	5	1	27	330
30	85	69	77	6	0	12	0.17	0.0	0	6.8	15	220	M	M	3	13	22	210
31	80	67	74	3	0	9	0.31	0.0	0	3.5	13	210	M	M	7	13	19	210

```

=====
SM 2583 2049          0 307  9.03  0.0    125.8          M          156
=====
AV 83.3 66.1          4.1 FASTST  M    M    5    MAX(MPH)
MISC ---->          22 330          27 330
=====

```

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: AUGUST
YEAR: 2020
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 74.7	TOTAL FOR MONTH: 9.03	1 = FOG OR MIST
DPTR FM NORMAL: 1.8	DPTR FM NORMAL: 4.63	2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
HIGHEST: 88 ON 27,12	GRTST 24HR 2.92 ON 4- 5	3 = THUNDER
LOWEST: 59 ON 18		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
		9 = BLOWING SNOW
		X = TORNADO
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	
MAX 32 OR BELOW: 0	0.01 INCH OR MORE: 23	
MAX 90 OR ABOVE: 0	0.10 INCH OR MORE: 15	
MIN 32 OR BELOW: 0	0.50 INCH OR MORE: 5	

MIN 0 OR BELOW: 0 1.00 INCH OR MORE: 2

[HDD (BASE 65)]
TOTAL THIS MO. 0 CLEAR (SCALE 0-3) 7
DPTR FM NORMAL -2 PTCLDY (SCALE 4-7) 23
TOTAL FM JUL 1 0 CLOUDY (SCALE 8-10) 1
DPTR FM NORMAL 0

[CDD (BASE 65)]
TOTAL THIS MO. 307
DPTR FM NORMAL 60 [PRESSURE DATA]
TOTAL FM JAN 1 982 HIGHEST SLP 30.20 ON 9
DPTR FM NORMAL 225 LOWEST SLP 29.75 ON 29

[REMARKS]
#FINAL-08-20#

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

STATION: ASHEVILLE NC
MONTH: SEPTEMBER
YEAR: 2020
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

Table with columns: TEMPERATURE IN F, PCPN, SNOW, WIND, SUNSHINE, SKY, PK WND. Rows 1-30 showing daily weather data including max/min temps, precipitation, wind speed/direction, and sunshine.

SM 2296 1783 48 149 8.27 0.0 130.3 M 167
=====

AV 76.5 59.4		4.3	FASTST	M	M	6	MAX(MPH)
	MISC ---->	23	320				32 350

=====

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: SEPTEMBER
YEAR: 2020
LATITUDE: 35 25 N
LONGITUDE: 82 33 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 68.0	TOTAL FOR MONTH: 8.27	1 = FOG OR MIST
DPTR FM NORMAL: 1.7	DPTR FM NORMAL: 4.46	2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
HIGHEST: 92 ON 3	GRTST 24HR 2.88 ON 16-17	3 = THUNDER
LOWEST: 43 ON 22		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: 13	X = TORNADO
MAX 90 OR ABOVE: 2	0.10 INCH OR MORE: 10	
MIN 32 OR BELOW: 0	0.50 INCH OR MORE: 5	
MIN 0 OR BELOW: 0	1.00 INCH OR MORE: 3	
[HDD (BASE 65)]		
TOTAL THIS MO. 48	CLEAR (SCALE 0-3) 9	
DPTR FM NORMAL -7	PTCLDY (SCALE 4-7) 15	
TOTAL FM JUL 1 48	CLOUDY (SCALE 8-10) 6	
DPTR FM NORMAL -7		
[CDD (BASE 65)]		
TOTAL THIS MO. 149		
DPTR FM NORMAL 54	[PRESSURE DATA]	
TOTAL FM JAN 1 1131	HIGHEST SLP 30.48 ON 21	
DPTR FM NORMAL 279	LOWEST SLP 29.75 ON 29	

[REMARKS]

#FINAL-09-20#
