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

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Status

Table 1: Gauge visits during the summer 2023 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
7/7/2023	10; 107; 106; 104; 110	Doug, Becca	DD, MN, CV, ECC	Minivan
7/10/2023	3; 11; 109; 4	Doug, Brooks, Becca	DD, MN, CV, ECC	4wd
7/14/2023	303s, 306, 308	Doug	DD, MN, CV, ECC	Minivan
7/17/2023	101, 102, 103, 100T, 108*A	Doug, Becca, Troy	DD, MN, CV, ECC	Minivan
7/21/2023	305, 309, 310	Doug, Drew	DD, MN, CV, ECC	4wd
7/24/2023	105, 111, 112, 311	Doug, Becca	DD, MN, CV, ECC	Minivan
7/28/2023	301, 302, 300	Doug, Jackson	DD, MN, CV, ECC	Minivan
7/31/2023	304, 307s	Doug, Drew, Becca	DD, MN, CV, CA, ECC	4wd
8/4/2023	2; 5; 8; 108	Doug	DD, MN, CV, ECC	Minivan

*A Driveway to Utah Mountain under construction

Gauge visitation in support of the Duke Great Smoky Mountain Rain Gauge Network (GSMRGN) during the summer 2023 campaign occurred over nine days spanning a period of five weeks in July - August 2023. The primary purpose of the visits in the summer 2023 was [1] to perform downloads of gauge tip observations since the previous gauge visits in the spring 2023, [2] to complete rain gauge and data logger maintenance tasks, [3] to clear vegetation and tree limbs and, [4] to clean the electronic contact between the data logger lead wires and the tipping bucket (rain gauge) switch using a chemical solvent from a spray can. Five technicians and one volunteer (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 **<u>every</u>** 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) electrical contact cleaning [ECC 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 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 and other growing vegetation during the summer season within a five-foot radius of the gauge using clippers or weeding by hand. Task (4) was completed successfully at **<u>all</u>** rain gauge locations as the weather was unusually cooperative during the days of visits to the more remote gauges (14, 21, 28, and 31 July). Specialized tasks were (a) the completion of calibration trials at g #307s and #304 since rain prevented their completion during the spring 2022 visit, (b) the replacement of four "C" batteries in the motion-activated video camera at g #302, (c) the reinstatement of the 'old' data logger at g #302 (the battery had not been properly installed in fall 2022), and (d) the installation

of a new motion-activated video camera at g #304 (a bear destroyed the old camera). A video of a bear NOT destroying a video camera is found here…

https://www.atms.unca.edu/dmiller/bear01_2022.AVI

The primary challenge continues to be the poor performance of the ML1 software 'TA' setting in some of the older loggers, which seems to have a poor time adjustment algorithm, forcing TA to be shut "off" until the next gauge visit (g #005 and #107). The other challenge is the premature battery voltage drainage in the newer ML1-420 logger at g #300. Rainfall observations in July 2023 were lost at g #111 apparently due to an insect cocoon between the tipping bucket and switch mechanism, preventing the bucket from tipping. This was observed to happen in autumn 2016 during prolonged periods of little rain, giving an opportunity for cocoon- or web-building insects to install a structure of substantial thickness and strength to prevent movement of the bucket. Two new data loggers were ordered in summer 2023 which will be used to replace the older loggers whose 'TA' function seems to be faulty during the autumn 2023 gauge visit campaign.

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/1S8flfHlCSbQuCOUSHXp2ay9S4XHioyWi/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 March 2023 – June 2023 as observed at KAVL are highlighted in yellow in **Appendix A**. Rainfall over the four-month period was only above normal in April 2023, otherwise the monthly amounts were below normal.

Plans for the autumn months of 2023

Table 2: Planned gauge visits during the autumn 2023 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
?? Oct 2023	3; 11; 10, 4	Doug + 1 technician	DD, MN, CV, BR
?? Oct 2023	107, 109, 104, 108	Doug + 1 technician	DD, MN, CV, BR
?? Oct 2023	110, 105, 111, 112	Doug + 1 technician	DD, MN, CV, BR
?? Oct 2023	304, 307s	Doug + 2 technicians	DD, MN, CV, BR
?? Oct 2023	101, 102, 103, 100T	Doug + 1 technician	DD, MN, CV, BR
?? Nov 2023	303s, 306, 308	Doug + 2 technicians	DD, MN, CV, BR
?? Nov 2023	305, 309, 310	Doug + 2 technicians	DD, MN, CV, BR
?? Nov 2023	311;	Doug + 1 technician	DD, MN, CV, BR
?? Nov 2023	2; 5; 8; 106	Doug + 1 technician	DD, MN, CV, BR
?? Nov 2023	301, 302, 300	Doug + 2 technicians	DD, MN, CV, BR

Gauge visitation in support of the Duke GSMRGN during the autumn 2023 will occur over at least ten days spanning October and November 2023. The primary purpose of the visits will be to download precipitation observations that were made since the previous gauge visits in July and August 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], clear vegetation (and tree branches) from overhanging gauges [CV in Table 2], and replace ALL logger lithium batteries in anticipation of the cold wintry weather that provides challenging conditions to the smooth operation of lithium batteries. 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 notes made in the field journal during the visit.

The technician roster during the 2022-2023 academic year consisted of Jackson Coley, Kaitlyn Duckett, Drew Griffith, Nick Kleis, Sara Michelson, Wayne Morley, Zachary Moss, 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 fall 2023 semester. Field technicians Drew Griffith and Nick Kleis graduated in May 2023 and Wayne Morley will graduate in December 2023.

Table 3: The Duke Great Smoky Mountain Rain Gauge Network is currently (valid as of 7 August 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	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

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

                                   STATION:   ASHEVILLE NC
                                   MONTH:     MARCH
                                   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  71  37  54   9  11   0 0.00  0.0    0  4.3 16 180   M    M   1       23 190
 2  61  53  57  12   8   0 0.39  0.0    0  5.6 23 330   M    M   9 13    29 340
 3  65  52  59  14   6   0 0.46  0.0    0 12.0 36 180   M    M   8 13    48 180
 4  60  44  52   6  13   0 0.00  0.0    0 12.1 25 330   M    M   0       31 330
 5  63  33  48   2  17   0 0.00  0.0    0  3.1 13 150   M    M   0       19 150
 6  72  34  53   7  12   0 0.00  0.0    0  4.1 16 190   M    M   0       22 220
 7  69  45  57  11   8   0 0.00  0.0    0 11.8 28 320   M    M   2       39 340
 8  61  40  51   5  14   0 0.00  0.0    0  7.6 20 340   M    M   1       27 330
 9  62  34  48   1  17   0    T  0.0    0  4.6 14 180   M    M   5       19 180
10  64  37  51   4  14   0 0.00  0.0    0 10.6 22 340   M    M   5       33 350
11  55  33  44  -3  21   0 0.01  0.0    0  9.6 22 340   M    M   2       27 340
12  43  34  39  -8  26   0 0.50  0.0    0  6.1 14 150   M    M  10 1     19 160
13  46  30  38 -10  27   0 0.00  0.0    0 14.0 30 330   M    M   7 1     36 340
14  39  28  34 -14  31   0 0.00  0.0    0 15.5 28 320   M    M   4       37 340
15  52  26  39  -9  26   0 0.00  0.0    0 11.5 26 330   M    M   0       33 330
16  65  23  44  -4  21   0 0.00  0.0    0  6.3 21 190   M    M   0       26 200
17  57  38  48   0  17   0 0.03  0.0    0 11.8 26 340   M    M   8       36 330
18  48  31  40  -9  25   0 0.00  0.0    0 13.8 24 330   M    M   2       33 340
19  38  23  31 -18  34   0 0.00  0.0    0 14.2 26 330   M    M   1       33 320
20  51  22  37 -12  28   0 0.00  0.0    0  6.0 17 340   M    M   0       24 340
21  57  24  41  -9  24   0 0.00  0.0    0  4.6 16 160   M    M   1       23 160
22  54  41  48  -2  17   0 0.28  0.0    0  3.0 12 180   M    M  10 1     15 190
23  77  42  60  10   5   0 0.00  0.0    0  5.8 20 190   M    M   2       24 180
24  81  46  64  14   1   0 0.00  0.0    0  7.2 21 190   M    M   0       29 170
25  76  54  65  14   0   0 0.23  0.0    0  9.0 28 180   M    M   4 1     46 220
26  72  50  61  10   4   0 0.01  0.0    0  4.8 12 130   M    M   4       16 160
27  76  55  66  15   0   1 0.01  0.0    0  8.7 23 320   M    M   3       26 320
28  67  45  56   4   9   0    T  0.0    0  9.3 24 320   M    M   4       31 320
29  62  36  49  -3  16   0 0.00  0.0    0  7.3 21 330   M    M   1       27 330
30  66  29  48  -4  17   0 0.00  0.0    0  4.7 15 150   M    M   0 2     20 160
31  65  43  54   2  11   0 0.00  0.0    0  7.4 20 210   M    M   5       27 210
================================================================================
SM 1895 1162      480   1 1.92  0.0  256.4            M        99
================================================================================
AV 61.1 37.5                        8.3 FASTST  M    M   3    MAX(MPH)
                             MISC ---->   36 180              48 180
================================================================================
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7

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


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

AVERAGE MONTHLY: 49.3   TOTAL FOR MONTH:  1.92   1 = FOG OR MIST
DPTR FM NORMAL:  0.9    DPTR FM NORMAL:   -1.88  2 = FOG REDUCING VISIBILITY
HIGHEST:   81 ON 24     GRTST 24HR  0.51 ON 11-12    TO 1/4 MILE OR LESS
LOWEST:    22 ON 20                              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:   9
MAX 90 OR ABOVE:  0     0.10 INCH OR MORE:   5
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.  480     CLEAR  (SCALE 0-3)  18
DPTR FM NORMAL   -35    PTCLDY (SCALE 4-7)  10
TOTAL FM JUL 1  3258    CLOUDY (SCALE 8-10)  3
DPTR FM NORMAL  -238

[CDD (BASE 65) ]
TOTAL THIS MO.    1
DPTR FM NORMAL    0     [PRESSURE DATA]
TOTAL FM JAN 1    1     HIGHEST SLP 30.45 ON 21
DPTR FM NORMAL    0     LOWEST  SLP 29.30 ON  3

[REMARKS]
#FINAL-03-23#


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

                                    STATION:   ASHEVILLE NC
                                    MONTH:     APRIL
                                    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  48  63  10   2   0 0.29  0.0      0 14.0 32 270    M    M   4 13      45 290
 2  70  38  54   1  11   0 0.00  0.0      0  8.4 24 330    M    M   0         32 320
 3  58  41  50  -3  15   0 0.01  0.0      0  3.4 17 220    M    M   5         25 200
 4  80  41  61   7   4   0 0.00  0.0      0  5.3 18 170    M    M   1         24 140
 5  80  60  70  16   0   5 0.00  0.0      0  7.7 24 190    M    M   4         33 210
 6  78  64  71  17   0   6   T   0.0      0  3.1 18 310    M    M   5         22 320
 7  67  45  56   2   9   0 1.61  0.0      0  6.4 21 340    M    M  10 13      25 340
 8  45  38  42 -13  23   0 1.05  0.0      0  2.7 10  10    M    M  10 1       15  20
 9  61  37  49  -6  16   0 0.00  0.0      0  3.5 12  30    M    M   3         18  50
10  63  31  47  -8  18   0 0.00  0.0      0  2.5 12 160    M    M   0         17 170
11  72  33  53  -3  12   0 0.00  0.0      0  3.2 14 340    M    M   0         19 250
12  77  37  57   1   8   0 0.00  0.0      0  2.5 14 340    M    M   0         19 340
13  75  40  58   2   7   0 0.02  0.0      0  4.6 21 180    M    M   4 1       25 180
14  68  54  61   4   4   0 0.24  0.0      0  4.2 14 240    M    M   9 13      20 140
15  74  53  64   7   1   0 0.00  0.0      0  4.0 15 340    M    M   5 1       20 330
16  76  52  64   7   1   0 0.03  0.0      0  8.4 22 200    M    M   5         29 330
17  70  41  56  -2   9   0 0.00  0.0      0 10.5 26 310    M    M   1         35 310
18  77  39  58   0   7   0 0.00  0.0      0  5.7 22 320    M    M   0         31 330
19  81  44  63   5   2   0 0.00  0.0      0  3.7 16 170    M    M   0         25 210
20  81  46  64   6   1   0 0.00  0.0      0  5.1 18 190    M    M   0         25 190
21  77  47  62   3   3   0 0.00  0.0      0  7.6 21 170    M    M   1         26 150
22  65  43  54  -5  11   0 0.59  0.0      0  8.3 26 330    M    M   4 13      34 320
23  62  37  50  -9  15   0 0.00  0.0      0  6.5 20 330    M    M   4 1       22 330
24  61  42  52  -8  13   0 0.00  0.0      0  9.3 18 340    M    M   2         23 330
25  62  36  49 -11  16   0   T   0.0      0  3.9 10 160    M    M   3         16 140
26  55  47  51  -9  14   0 0.15  0.0      0  0.7  6 210    M    M  10 1        8 240
27  57  50  54  -6  11   0 1.28  0.0      0  2.0  8 220    M    M  10 1       13 140
28  74  54  64   4   1   0 0.21  0.0      0  3.3 20 200    M    M   8 18      24 220
29  74  50  62   1   3   0 0.02  0.0      0  5.1 16 150    M    M   2 12      21 160
30  70  43  57  -4   8   0 0.29  0.0      0  9.4 29 310    M    M   8 1       42 320
================================================================================
SM 2088 1331      245  11  5.79  0.0    165.0              M        118
================================================================================
AV 69.6 44.4                              5.5 FASTST   M    M   4    MAX(MPH)
                            MISC ---->      32 270                   45 290
================================================================================
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:     APRIL
                                 YEAR:      2023
                                 LATITUDE:  35 25 N
                                 LONGITUDE: 82 33 W


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

AVERAGE MONTHLY: 57.0    TOTAL FOR MONTH:   5.79  1 = FOG OR MIST
DPTR FM NORMAL:   0.0    DPTR FM NORMAL:    1.62  2 = FOG REDUCING VISIBILITY
HIGHEST:    81 ON 20,19  GRTST 24HR  1.71 ON  7- 8    TO 1/4 MILE OR LESS
LOWEST:     31 ON 10                           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:  0      0.10 INCH OR MORE:   9
MIN 32 OR BELOW:  1      0.50 INCH OR MORE:   4

                                  9
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MIN  0 OR BELOW:   0    1.00 INCH OR MORE:    3

[HDD (BASE 65) ]
TOTAL THIS MO.   245    CLEAR   (SCALE 0-3)  13
DPTR FM NORMAL    -9    PTCLDY (SCALE 4-7)   12
TOTAL FM JUL 1  3503    CLOUDY (SCALE 8-10)   5
DPTR FM NORMAL  -244

[CDD (BASE 65) ]
TOTAL THIS MO.    11
DPTR FM NORMAL    -3    [PRESSURE DATA]
TOTAL FM JAN 1    12    HIGHEST SLP 30.48 ON 10
DPTR FM NORMAL    -3    LOWEST  SLP 29.36 ON 30

[REMARKS]
#FINAL-04-23#


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

                                 STATION:   ASHEVILLE NC
                                 MONTH:     MAY
                                 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

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=================================================================================
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  63  39  51 -10  14    0 0.00   0.0     0 10.5 24 310  M    M    3        34 260
 2  66  49  58  -4   7    0 0.00   0.0     0 12.3 24 330  M    M    3        33 320
 3  63  43  53  -9  12    0 0.00   0.0     0 13.6 30 330  M    M    1        43 330
 4  69  36  53  -9  12    0 0.00   0.0     0  6.6 18 340  M    M    0        25 350
 5  70  41  56  -6   9    0 0.00   0.0     0  4.6 17 170  M    M    0        20 180
 6  72  51  62   0   3    0 0.00   0.0     0  4.4 14 190  M    M    3        18 220
 7  79  48  64   1   1    0 0.37   0.0     0  2.7 29 330  M    M    4 13     45 320
 8  79  59  69   6   0    4 0.02   0.0     0  5.2 16 300  M    M    5        21 310
 9  81  55  68   5   0    3 0.12   0.0     0  6.6 21 340  M    M    1 13     26 330
10  75  57  66   3   0    1 0.00   0.0     0  4.3 15 150  M    M    3        20 160
11  77  55  66   2   0    1 0.00   0.0     0  5.1 15 140  M    M    3        20 160
12  77  57  67   3   0    2 0.00   0.0     0  5.8 16 190  M    M    6  3     21 200
13  81  61  71   7   0    6 0.00   0.0     0  3.8 17 340  M    M    4  1     22 340
14  83  60  72   8   0    7 0.13   0.0     0  5.2 16 170  M    M    4 13     20 150
15  70  64  67   3   0    2 0.06   0.0     0  4.1 10 160  M    M   10  1     14 140
16  83  61  72   7   0    7 0.30   0.0     0  4.9 25 350  M    M    5 13     32 350
17  76  58  67   2   0    2 0.00   0.0     0  9.4 21 330  M    M    3        28 340
18  66  53  60  -5   5    0    T   0.0     0  3.5  9  90  M    M    8        16 120
19  71  53  62  -3   3    0 0.00   0.0     0  3.9 13 160  M    M    8        19 170
20  74  61  68   2   0    3 0.02   0.0     0  5.8 13 340  M    M    8        17 350
21  79  59  69   3   0    4 0.00   0.0     0  6.0 16 340  M    M    5        22  20
22  74  55  65  -1   0    0 0.00   0.0     0  2.5 12 150  M    M    2        19 150
23  73  53  63  -3   2    0 0.00   0.0     0  2.7 12 140  M    M    3        16 100
24  76  52  64  -3   1    0 0.00   0.0     0  3.1 15 340  M    M    1        20 340
25  77  50  64  -3   1    0 0.00   0.0     0  3.6 14 340  M    M    1        20 170
26  73  55  64  -3   1    0 0.00   0.0     0  3.0 12 130  M    M    4        18 130
27  66  51  59  -8   6    0 0.77   0.0     0  4.3 12  10  M    M    4  1     21 360
28  61  50  56 -12   9    0 1.37   0.0     0  8.5 16 340  M    M    9  1     20 350
29  76  52  64  -4   1    0 0.27   0.0     0  7.8 20 340  M    M    8  1     26 340
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30  73  57  65   -3    0    0 0.15  0.0     0  2.9  9 160    M    M   9 12    14 120
31  74  60  67   -1    0    2 0.00  0.0     0  3.9 14 160    M    M   9  1    18 140
================================================================================
SM 2277 1655        87  44  3.58  0.0   170.6          M      137
================================================================================
AV 73.5 53.4                           5.5 FASTST   M    M   4    MAX(MPH)
                          MISC ---->      30 330                   45 320
================================================================================
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:     MAY
                                 YEAR:      2023
                                 LATITUDE:  35 25 N
                                 LONGITUDE: 82 33 W


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

AVERAGE MONTHLY: 63.4   TOTAL FOR MONTH:   3.58   1 = FOG OR MIST
DPTR FM NORMAL:  -1.4   DPTR FM NORMAL:   -0.55   2 = FOG REDUCING VISIBILITY
HIGHEST:    83 ON 16,14 GRTST 24HR  2.14 ON 27-28     TO 1/4 MILE OR LESS
LOWEST:     36 ON  4                                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:  11
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   8
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.    87    CLEAR  (SCALE 0-3)  13
DPTR FM NORMAL     3    PTCLDY (SCALE 4-7)  14
TOTAL FM JUL 1  3590    CLOUDY (SCALE 8-10)  4
DPTR FM NORMAL  -243

[CDD (BASE 65) ]
TOTAL THIS MO.    44
DPTR FM NORMAL   -32    [PRESSURE DATA]
TOTAL FM JAN 1    56    HIGHEST SLP 30.27 ON  6
DPTR FM NORMAL   -35    LOWEST  SLP 29.54 ON  1

[REMARKS]
#FINAL-05-23#


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


                                 STATION:   ASHEVILLE NC
                                 MONTH:     JUNE
                                 YEAR:      2023
                                 LATITUDE:  35 25 N
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                                 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  58  68  -1   0   3  0.00    0.0    0  2.1 10 330   M    M   6          14 330
 2  83  57  70   1   0   5  0.00    0.0    0  3.5 14 320   M    M   3 1        17 340
 3  85  54  70   1   0   5  0.02    0.0    0  4.4 15 340   M    M   2          22 340
 4  76  59  68  -1   0   3  0.00    0.0    0  3.9 13 160   M    M   6          17 160
 5  82  61  72   2   0   7  0.00    0.0    0  5.8 16 330   M    M   6 1        24 340
 6  82  60  71   1   0   6  0.00    0.0    0  6.4 20 330   M    M   2 12       28 330
 7  72  52  62  -8   3   0     T    0.0    0  7.7 20 340   M    M   4 1        24 340
 8  74  54  64  -6   1   0  0.00    0.0    0  8.3 22 330   M    M   3          31 330
 9  77  46  62  -8   3   0  0.00    0.0    0  4.6 17 340   M    M   0 1        25 340
10  79  47  63  -8   2   0  0.00    0.0    0  3.4 14 220   M    M   0 1        18 220
11  74  54  64  -7   1   0  0.17    0.0    0  5.3 13 160   M    M   6 1        16 150
12  77  60  69  -2   0   4  0.13    0.0    0  8.5 23 340   M    M   4 1        30 330
13  76  52  64  -7   1   0  0.00    0.0    0  5.1 18 330   M    M   1          25 330
14  80  50  65  -7   0   0  0.00    0.0    0  2.7 17 150   M    M   3          24 160
15  81  57  69  -3   0   4  0.06    0.0    0  3.7 14 170   M    M   2 3        17 330
16  85  57  71  -1   0   6     T    0.0    0  7.4 20 340   M    M   2 1        27 330
17  81  59  70  -2   0   5  0.00    0.0    0  7.8 17 330   M    M   0 8        22 320
18  80  55  68  -4   0   3  0.00    0.0    0  3.6 12 140   M    M   1 1        18 170
19  73  65  69  -4   0   4  0.10    0.0    0  4.5 13 180   M    M   8 18       16 160
20  78  65  72  -1   0   7  0.37    0.0    0  5.2 12 130   M    M   8 13       19  90
21  67  60  64  -9   1   0  0.53    0.0    0  2.9  9  50   M    M  10 1        17  50
22  68  59  64  -9   1   0  0.23    0.0    0  3.0  8 170   M    M  10 1        11 200
23  77  62  70  -3   0   5  0.01    0.0    0  3.7 18 330   M    M   8 18       22 340
24  79  63  71  -3   0   6     T    0.0    0  6.9 17 330   M    M   5          23 330
25  85  57  71  -3   0   6     T    0.0    0  2.8 17 340   M    M   2 3        26 330
26  87  61  74   0   0   9  0.21    0.0    0  6.4 28 340   M    M   2 13       41 330
27  82  62  72  -2   0   7  0.00    0.0    0  5.5 16 340   M    M   4          23 320
28  85  59  72  -2   0   7  0.00    0.0    0  5.6 16 350   M    M   0 18       22 340
29  85  62  74   0   0   9  0.00    0.0    0  3.5 14 330   M    M   2 18       18 340
30  86  64  75   1   0  10  0.09    0.0    0  5.5 16 340   M    M   2 18       20 340
================================================================================
SM 2374 1731        13 121  1.92    0.0       149.7           M       112
================================================================================
AV 79.1 57.7                                  5.0 FASTST  M    M   4    MAX(MPH)
                                     MISC ---->   28 340                41 330
================================================================================
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:     JUNE
                              YEAR:      2023
                              LATITUDE:  35 25 N
                              LONGITUDE: 82 33 W


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

AVERAGE MONTHLY: 68.4    TOTAL FOR MONTH:  1.92    1 = FOG OR MIST
DPTR FM NORMAL:  -3.4    DPTR FM NORMAL:   -2.87   2 = FOG REDUCING VISIBILITY
HIGHEST:   87 ON 26      GRTST 24HR  0.81 ON 20-21     TO 1/4 MILE OR LESS
LOWEST:    46 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
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                    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:   11
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:    7
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:    1
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:    0

[HDD (BASE 65) ]
TOTAL THIS MO.    13    CLEAR  (SCALE 0-3)  17
DPTR FM NORMAL     5    PTCLDY (SCALE 4-7)  11
TOTAL FM JUL 1  3603    CLOUDY (SCALE 8-10)  2
DPTR FM NORMAL  -235

[CDD (BASE 65) ]
TOTAL THIS MO.   121
DPTR FM NORMAL   -91    [PRESSURE DATA]
TOTAL FM JAN 1   177    HIGHEST SLP 30.13 ON 30
DPTR FM NORMAL  -126    LOWEST  SLP 29.68 ON 12

[REMARKS]
#FINAL-06-23#


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