

NATIONAL CLIMATIC DATA CENTER

**BULLETIN
BOARD
SYSTEM**



USER'S MANUAL

Version 1.3

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Environmental Satellite, Data, and Information Service
National Climatic Data Center
August 1998





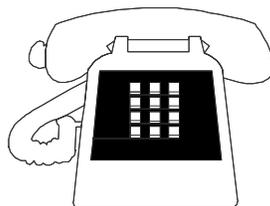
NCDC BULLETIN BOARD SYSTEM

The National Climatic Data Center (NCDC) Bulletin Board System (BBS) uses "PC Board" software as its primary operating system and can be accessed 24 hours a day by most commercial modems. Data are periodically ftp'd into the system from the NCDC archives. Direct access to NCDC computers is not available. The purpose of the NCDC BBS is to supply individuals, educational facilities, and commercial interests access to summarized NCDC data that would be of use to the largest number of users.

QUESTIONS/COMMENTS:

Ordering/Information:
Technical Aid:
Fax:
Internet:

(704) 271-4800 ext 178
(704) 271-4619
(704) 271-2876
orders@ncdc.noaa.gov



(A) General Information.

(1) Protocol Types.

The NCDC BBS is accessible from virtually any modem; however, customers must use one of the following protocol types:

ASCII
XMODEM/CHECKSUM
XMODEM/CRC
1K-XMODEM
*YMODEM BATCH
*ZMODEM BATCH
*BIMODEM BATCH

The BBS instructs customers to select a protocol type during their first call. However, the type of protocol may be changed at any time during any call by selecting 'T' from the "Utilities" section of the Main Menu. Because of the large number of modem software vendors, the NCDC cannot guarantee connectivity nor compatibility between the BBS and the customer's modem software. Please attempt to download sample products before subscribing.

* **NOTE:** If customers wish to download more than one file:

- (1) BATCH type protocols allow customers to select up to 30 files with one execution of the download command.
- (2) XMODEM and ASCII protocols only allow one download (one unique file) per setting.

(2) Modem specifications for accessing the BBS.

Telephone: (704) 271-4286
Baud rate: 1200 Minimum and 33.6 Maximum
Parity: No
Data bits: 8
Stop bits: 1
Echo: Y or N

(3) Using graphics.

The BBS has graphic menus that the customer can utilize (if their system supports graphics). Graphic will display the colored, graphic menus and information screens - as opposed to text. It is best to set the page length to 20 by selecting the "P" option from the main menu. The default is 23.

(4) Initial Log-On Procedures.

- (1) Immediately after connecting, the question: "Does your computer support graphics?" is asked?
- (2) The welcome logo appears.

- (3) Several Questions are asked:
 - (a) What is your first name?*
 - (b) What is your last name?*
 - (c) Would you like to register? (Registration is REQUIRED to download current files and to subscribe to the BBS!)
 - (d) Enter your Password. (Choose your own.)(Passwords can be viewed by System Operator (SYSOP).)
 - (e) Reenter the same Password. (Keep the word/code in a safe place as you will need it later for subsequent logins.)
 - (f) What city and state are you calling from? (Example: Asheville NC)
 - (g) Enter your voice phone number. (Please follow format using no parentheses. Use same telephone number in subscribing to the BBS.)
 - (h) Select a default download protocol for your use. "Batch" protocols allow selection and downloading of multiple files in one session.
- (4) Check for any messages.
- (5) The Main Menu appears.
- (6) Use the "P" command to set your page to "20".

*Use the same name in subscribing to the BBS and the subsequent logon's. (Registered Name)

(5) Subsequent Sessions.

- (1) Immediately after connecting, the question: "Does your computer support graphics?" is asked?
- (2) The welcome logo appears.
- (3) The following questions are asked:
 - (a) What is your first name? (same as the initial login.)
 - (b) What is your last name? (same as the initial login.)
 - (c) Enter your Password. (same as the initial login.)
- (4) Check for any messages.
- (5) The Main Menu appears.

(6) Log-Off Procedure and Daily Time-Limit.

At the command line prompt (?), select "G" to log-off. Time-limit accounting for this session will end promptly.

The NCDC BBS limits users to one hour (60 minutes) of access time per 24-hour day for paid subscribers. The NCDC BBS limits non-paid users to 30 minutes of access time per 24-hour day. There is no limit on the number of bytes that can be downloaded, so the user can download files until the daily time limit is exceeded. No time is deducted from the time limit in downloading "free" files.

(7) Special Features.

The NCDC BBS allows several options, each with various functions, which can be selected from the Main Menu. The functions are accessed by typing the highlighted letters at the beginning of menu selections. For example, "F" is used to find a file name.

Of special interest are the Help functions (labeled H) under the menu sections "Files" and "Miscellaneous," and messages which can be left for the systems operator (SYSOP) (labeled C) under the "Mail" section. NCDC does not employ a full-time systems operator specifically for the BBS.

(B) File Downloading Instructions.

(1) The Three-Step process.

Accessing data from the NCDC BBS involves three distinct steps:

- (1) Searching for a filename(s) (**Z** function)
- (2) Flagging desired file(s) (**F** function)
- (3) Downloading file(s) (**D** function)

Instructions for each step are listed below. More information on each is available in the BBS "Help" files and under option 'B' in the "Files" section of the main menu. Not all options listed in the Help information are available for customer use.

(a) Searching for Filename(s): The Z Function.

- (1) From the Main Menu, select "F" (Find a file) to search for files.
- (2) The product menu list appears and it provides the format that must be used to access file names for each. The format is structured in the following sequence: (1) the letter "**Z**" (which prompts the BBS to perform a search): (2) followed by either a city name, date sequence, or an alphabetical sequence and (3) ends with a number (which designates the file area in which products are located). (See column heading "Use This Format" on the BBS.) For example, to find the file names of the Printable "Local Climatological Data" for Chicago, the command would be: Z Chicago 1.
- (3) After entering a Z command, a list of all filenames and additional information for the selected product and city will appear. This list has several columns which are sequentially from left to right: (1) Filename (as used for flagging for download); (2) File size (bytes); (3) Date of last update; and (4) File Description (Abridged name of product, date, city, etc). A flashing asterisk (*) beside description, indicates new or updated files since a customer's previous login.

(b) Flagging Desired File(s): The F Function.

To flag a file for download, type "F", hit the space bar, and then type the desired filename followed by 'return.' Example: F FILENAME.EXT. A notice of the name of the flagged file is displayed. If a batch download protocol was selected (when registering), you may now search for or flag another file by following instructions beginning with item number (1) above. If no additional files are needed (or you selected a single file download protocol), proceed to step (5) (Downloading Files).

(c) Downloading File(s): The D Function.

To download the flagged files, select option "D" from the product menu. Answer 'Y' to the next prompt to download the flagged files. Options are then provided: A: Abort (do not download); E: Edit list of flagged files; G: Sign off (disconnect after download); L: list flagged files; P: Change protocol; Enter: Continue with download. If a download is requested, a prompt requests the user to start the download by issuing whatever command their software requires. For example, some popular software programs require pressing the "PGDN" key to allow selection of the protocol and file destination.

***Note:** For several products, file documentation will need to be downloaded separately. (One file per product.) Please refer to "Product Documentation" on page 8.

Note about Command Line Options:

After either step 3 or 4 above, at the "?" prompt, command line options are presented which allow other functions to be invoked:

<R><return>	Re-displays the products menu
<return>	Returns to the Main Menu

Flagged files REMAIN flagged if either option is invoked. Any of the other functions ("Z", "F", or "D") can also be invoked at the prompt. Selecting the "G" option will terminate your Bulletin Board session.

(2) Multiple File Downloading.

If a batch download protocol is selected when registering, up to 15 files can be flagged and will be downloaded consecutively with a single execution of the download command. At the "?" prompt, any options from the Command line can be entered. Files from several different file areas from the Product Menu list can be downloaded consecutively using one download command.

(3) File Transfer Rates.

If a 2400 baud modem is used, it requires approximately three minutes of telephone connection time to transfer a single Printable "Local Climatological Data" file (one station, one month of data). This rate varies with the traffic volume being carried on the BBS and local telephone lines. Other products require more or less time, depending upon the file size. In all cases, users incur long-distance charges from their own long distance carrier (where applicable).

(C) NCDC Bulletin Board Products.

There are several different products available on the Bulletin Board, each having unique file name(s). Listed in Table 1 below are the product names as they appear in the BBS. A list of available stations, applicable to file area number 1, 2, 3, 5, 6, and 7 listed below in Table 1, can be obtained by accessing the "Files" option on the BBS Main Menu and selecting "B" General Information. Detailed downloading instructions are also provided in this area. Areas denoted with the pound sign (#) contain free files which can be downloaded by anyone. Other areas contain files which require payment of the subscription fee before they can be downloaded.

Free Files	File Area Name	File Area Number
	(i) Printable Local Climatological Data	1
#	(ii) Station Narratives	2
#	(iii) Sample	3
#	(iv) Product Documentation	4
	(v) Preliminary Monthly Summary (HDD/CDD/TMP/PCP)	5
	(vi) ASOS Unedited Summary of the Day NWS Form F6	6
#	(vii) Printable ASOS Local Climatological Data	7 (Doc Pg 14)

#Areas containing "free" files.

These products are described in the following pages. The product names appear in boldface italics, surrounded by asterisks (*). A brief description of each product is given, followed by:

- (1) the file size
- (2) the file naming convention that must be used to identify, access, and download data
- (3) update schedules
- (4) retention schedules (for files which are partially purged periodically)

Printed samples of most files are then exhibited. (To maximize customer access time, the NCDC BBS does not allow browsing of data files while signed onto the system. Files must be downloaded first before they can be viewed.)

"Local Climatological Data" Reports

The National Climatic Data Center publishes "Local Climatological Data" (LCD), a monthly climatic data summary for major u.s. cities. These summaries contain such data as daily temperature, precipitation, heating and cooling degree day data, hourly precipitation data, and abridged hourly surface weather observations for every third hour (every hour for ASOS stations). The monthly data are available in the following formats:

Printable Local Climatological Data (NOT AVAILABLE AFTER ASOS)
 Printable ASOS Local Climatological Data

(i) ***Printable Local Climatological Data*** (File Area 1)

132 column ASCII format. The printable LCD contains exactly the same data as the printed version. The order of elements in the pub are not the same as the printed version which is mailed to customers. Not available after station is ASOS.

***Note:** This report will "wrap-around" on 80 column printers. To prevent wrapping, customers must use condensed print, utilize the DOS mode command, or have a 132 column printer.

File Size: 36k per city per month
 File Identification Format: z <city> 1 (Ex: z Asheville 1)
 Update Schedule: once a day

HOURLY PRECIPITATION TABLE																										
A.M. HOUR (L.S.T.) ENDING AT													P.M. HOUR (L.S.T.) ENDING AT													
DT	1	2	3	4	5	6	7	8	9	10	11	12	DT	1	2	3	4	5	6	7	8	9	10	11	12	DT
1	M												1													1
2	M												2													2
3	M												3													3
4	M												4													4
5	M												5													5
6	M												6													6
7	M						.01						7													7
8	M												8													8
9	M								T				9	T	.26	.08	T							.01	.18	9
10	M	.10	.01	T	.01	T							10	.12	.01	T		.01	.03	.07	.04	.02	.02	.01	10	
11	M												11			T	T	.02							11	
12	M	T											12												12	
13	M												13												13	

Printable Local Climatological Data (Hourly Precipitation Data)

MAXIMUM SHORT DURATION PRECIPITATION												
TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIP. (INCHES)	.28	.41	.43	.43	.44	.44	.44	.48	.58	.65	.73	.86
ENDED: DATE	24	24	24	24	24	24	24	10	24	24	24	24
ENDED: TIME (LST)	302	305	307	307	313	313	313	43	1131	1130	1144	1130

**Printable Local Climatological Data
(Maximum Short Duration Precipitation)**

SUMMARY BY HOURS									
HOURS L.S.T	AVERAGES						RESULTANT WIND		
	SKY COVER (TENTH)	STATION PRESSURE (INCHES)	TEMPERATURE			REL HUMIDITY %	WIND SPEED (MPH)	DIRECTION	SPEED (MPH)
			AIR TEMP F Degree	WET BULB F Degree	DEW POINT F Degree				
01	5	27.845	59	57	54	85	4.4	30	0.3
04	5	27.840	57	55	53	89	4.5	29	0.7
07	6	27.880	58	56	54	89	4.5	32	1.4
10	5	27.880	69	61	55	64	7.7	35	1.5
13	6	27.850	75	62	54	52	7.5	05	0.9
16	6	27.820	75	63	55	53	10.2	23	1.6
19	6	27.820	71	61	55	59	8.9	22	2.4
22	5	27.860	63	59	56	77	5.0	26	0.8

BLANK ENTRIES OR ZEROS MAY DENOTE MISSING OR UNREPORTED DATA...

Printable Local Climatological Data (Summary by Hours)

UNEDITED LOCAL CLIMATOLOGICAL DATA FOR SEPTEMBER 1997										ASHEVILLE, NC				ASHEVILLE REGIONAL AIRPORT									
LATITUDE 3526		LONGITUDE 8233		ELEVATION (GROUND) 2140																			
TIME ZONE EASTERN		ISSN 01983709		WBAN 03812																			
DAILY SUMMARY TABLE																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	84	63	74	5	66	68	0	9	FG MIFG BCFG HZ	0.0	0	0.00	27.95	30.18	0.2	157	2.2	17	150	13	150	1	
2	85	64	75*	6	66	67	0	10	TS FG+ FG BCFG HZ	0.0	0	0.00	27.95	30.19	0.7	308	2.5	18	290	15	280	2	
3	79	59	69	0	62	65	0	4	FG+ FG BCFG HZ	0.0	0	0.00	27.81	30.04	7.5	334	8.2	23	320	18	320	3	
4	76	48	62	-7	43	52	3	0		0.0	0	0.00	27.87	30.13	6.5	337	8.0	22	320	17	320	4	
5	77	41*	59*	-10	47	53	6	0	HZ	0.0	0	0.00	27.94	30.21	1.4	190	2.7	11	170	10	170	5	
6	80	47	64	-5	53	57	1	0	FG+ FG	0.0	0	0.00	27.94	30.19	0.4	215	2.3	16	330	13	340	6	

Printable Local Climatological Data (Daily Summary)

(ii) ***Station Narratives*** (Derived from LCD Annual Narratives) # (File Area 2)

This 80 column printable narrative contains general information about the location of each station, overall climatology, and a synopsis of expected weather for each area. It is the same as that printed in the Annual Summary of the LCD.

File Size: 4k per city per month
File Identification Format: z <city> 2 (Ex: z Asheville 2)
Update Schedule: As needed

Free files.

The city of Asheville is located on both banks of the French Board River, near the center of the French Board Basin. Upstream from Asheville, the valley runs south for 18 miles and then curves toward the south-southwest. Downstream from the city, the valley is oriented toward the north-northwest. Two miles upstream from the principal section of Asheville, the Swannanoa River joins the French Broad from the east. The entire valley is known as the Asheville Plateau, having an average elevation near 2,200 feet above sea level, and is flanked by mountain ridges to the east and west, whose peaks range from 2,000 to 4,400 feet above the valley floor. At the Carolina-Tennessee border, about 25 miles north-northwest of Asheville, a relatively high ridge of mountains blocks the northern end of the valley. Thirty miles south, the Blue Ridge Mountains form an escarpment, having a general elevation of about 2,700 feet above sea level. The tallest peaks near Asheville are Mt. Mitchell, 6,684 feet above sea level, 20 miles northeast of the city, and Big Pisgah Mountain, 5,721 feet above sea level, 16 miles to the southwest.

Station Narrative

(iii) ***Samples* #** (**Files Area 3**)

Sample files and brief descriptions of the paid product are available. The sample files are separated into individual file names for each product.

File Area	Product Name
1	Printable Local Climatological Data
5	Preliminary Monthly Summary (HDD/CDD/TMP/PCP)
6	ASOS Unedited Summary of the Day NWS Form F6
7	Printable ASOS Local Climatological Data

File Size:	Variable
File Identification Format:	z SMP 3
Update Schedule:	As needed

Free File

(iv) ***Product Documentation* # (File Area 4)**

Product documentation has been developed for several of the data files listed below. This documentation provides formats and further interpretation and clarification of the data. Without using these files, the data are often difficult or impossible to understand. A separate file has been developed for selected products. It is suggested that the documentation file for each product you will be using be downloaded and printed for future use. The same format will be used for all files with the same product name. In addition, a file containing a Subscription/Renewal order form for the Bulletin Board Service is included.

File Size:	Variable
File Identification Format:	z DOC 4
Update Schedule:	As needed

Product documentation is available for the following data files:

- (1) Printable Local Climatological Data **(Before ASOS)**
- (2) Printable ASOS Local Climatological Data (See Page 14)
- (3) ASOS F6 Unedited LCD
- (4) BBS Subscription/Renewal Order Form

Free files.

Documentation for Printable ASOS Local Climatological Data File Area 7 ONLY

ASOS UNEDITED LOCAL CLIMATOLOGICAL DATA

NUMERICAL CODES LISTING FOR DAILY TABLE

NUMERICAL COLUMN	TERMINOLOGY
1	DATE
TEMPERATURE:	(DEGREES FAHRENHEIT)
2	MAXIMUM
3	MINIMUM
4	AVERAGE
5	DEPARTURE FROM NORMAL
6	AVERAGE DEW POINT
7	AVERAGE WET BULB
DEGREE DAYS:	BASE 65 F
8	HEATING (SEASON BEGINS WITH JULY)
9	COOLING (SEASON BEGINS WITH JANUARY)
SIGNIFICANT WEATHER TYPES:	WEATHER PHENOMENA
10	+FC TORNADO/WATERSPOUT FC FUNNEL CLOUD TS THUNDERSTORM GR HAIL RA RAIN DZ DRIZZLE SN SNOW SG SNOW GRAINS GS SMALL HAIL &/OR SNOW PELLETS PE ICE PELLETS IC CRYSTALS FG+ HEAVY FOG (FG & LE.25 MILES) FG FOG BR MIST UP UNKNOWN PRECIPITATION HZ HAZE FU SMOKE VA VOLCANIC ASH DU WIDESPREAD DUST DS DUSTSTORM PO SAND/DUST WHIRLS SA SAND SS SANDSTORM PY SPRAY SQ SQUALL DR LOW DRIFTING SH SHOWER FZ FREEZING MI SHALLOW PR PARTIAL BC PATCHES BL BLOWING VC VICINITY - LIGHT + HEAVY "NO SIGN" MODERATE
SNOW/ICE:	INCHES
11	SNOW/ICE (ON GROUND)(0600 LST)
12	WATER EQUIVALENT (1200 LST)
PRECIPITATION:	INCHES (24-HR PERIOD ENDING AT INDICATED LOCAL STANDARD TIME, SNOW DEPTHS OF 2 OR MORE INCHES)
13	SNOWFALL (INCHES AND TENTHS)(2400 LST)
14	WATER EQUIVALENT(INCHES & HUNDREDTHS(2400 LST)
PRESSURE:	INCHES OF HG
15	AVERAGE STATION PRESSURE
16	AVERAGE SEA LEVEL PRESSURE

WIND:	SPEED IN MILES PER HOUR DIRECTION TO TENS OF DEGREES
17	RESULTANT WIND SPEED
18	RESULTANT DIRECTION - (WHOLE DEGREES)
19	AVERAGE SPEED
20	MAXIMUM: 5 SECOND SPEED
21	5 SECOND DIRECTION
22	2 MINUTE SPEED
23	2 MINUTE DIRECTION
24	DATE

NUMERICAL CODES LISTING FOR DAILY TABLE

NOTES:
RESULTANT WIND IS THE VECTOR SUM OF WIND SPEEDS AND DIRECTIONS DIVIDED BY THE NUMBER OF OBSERVATIONS.
COLS 20-21 AND 22-23: MAXIMUM AVERAGED WIND SPEEDS OF 5-SECOND AND 2-MINUTES DURATIONS, RESPECTIVELY.
NOTES:
* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.
T TRACE AMOUNT.
+ ALSO ON EARLIER DATES.
HEAVY FOG: VISIBILITY 1/4 MILE OR LESS.
BLANK ENTRIES OR ZEROS MAY DENOTE MISSING OR UNREPORTED DATA.

NUMERICAL CODES LISTING FOR MONTHLY AVERAGES TABLE

NUMERICAL COLUMN	TERMINOLOGY
25	AVERAGE MONTHLY MAXIMUM TEMPERATURE (DEGREES F)
26	MONTHLY MAXIMUM TEMPERATURE DEPARTURE FROM NORMAL (DEGREES F)
27	AVERAGE MONTHLY MINIMUM TEMPERATURE (DEGREES F)
28	MONTHLY MINIMUM TEMPERATURE DEPARTURE FROM NORMAL (DEGREES F)
29	MONTHLY AVERAGE TEMPERATURE (DEGREES F)
30	MONTHLY AVERAGE TEMPERATURE DEPARTURE FROM NORMAL (DEGREES F)
31	MONTHLY AVERAGE DEW POINT (DEGREES F)
32	MONTHLY AVERAGE WET BULB (DEGREES F)
33	MONTHLY AVERAGE HDD
34	MONTHLY AVERAGE CDD
35	MONTHLY TOTAL HDD
36	MONTHLY HDD DEPARTURE FROM NORMAL
37	SEASON TO DATE TOTAL HDD
38	SEASON TO DATE DEPARTURE FROM NORMAL HDD
39	MONTHLY TOTAL CDD
40	MONTHLY CDD DEPARTURE FROM NORMAL
41	SEASON TO DATE TOTAL CDD
42	SEASON TO DATE DEPARTURE FROM NORMAL CDD
43	TOTAL MONTHLY SNOW/ICE WATER EQUIVALENT (INCHES)
44	TOTAL MONTHLY SNOWFALL (INCHES)
45	GREATEST MONTHLY 24HR SNOWFALL (INCHES)
46	DATE OF GREATEST MONTHLY 24HR SNOWFALL

NUMERICAL COLUMN	TERMINOLOGY
47	GREATEST MONTHLY 24HR SNOW DEPTH (INCHES)
48	DATE OF GREATEST MONTHLY 24HR SNOW DEPTH
49	TOTAL MONTHLY PRECIPITATION (INCHES)
50	MONTHLY PRECIPITATION DEPARTURE FROM NORMAL (INCHES)
51	GREATEST 24HR PRECIPITATION (INCHES)
52	DATE OF GREATEST 24HR PRECIPITATION
53	MONTHLY AVERAGE STATION PRESSURE (INCHES HG)
54	MONTHLY AVERAGE SEA LEVEL PRESSURE (INCHES HG)
55	MONTHLY RESULTANT WIND SPEED (MPH)
56	MONTHLY RESULTANT WIND DIRECTION (TENS OF DEGREES)
57	MONTHLY AVERAGE WIND SPEED (MPH)
58	MONTHLY MAXIMUM SEA LEVEL PRESSURE (INCHES OF HG)
59	DATE OF MONTHLY MAXIMUM SEA LEVEL PRESSURE
60	TIME OF MONTHLY MAXIMUM SEA LEVEL PRESSURE
61	MONTHLY MINIMUM SEA LEVEL PRESSURE (INCHES OF HG)
62	DATE OF MONTHLY MINIMUM SEA LEVEL PRESSURE
63	TIME OF MONTHLY MINIMUM SEA LEVEL PRESSURE
64	NUMBER OF DAYS WITH MAXIMUM TEMPERATURE \geq 90 F
65	NUMBER OF DAYS WITH MAXIMUM TEMPERATURE \leq 32 F
66	NUMBER OF DAYS WITH MINIMUM TEMPERATURE \leq 32 F
67	NUMBER OF DAYS WITH MINIMUM TEMPERATURE \leq 0 F
68	NUMBER OF DAYS WITH PRECIPITATION \geq .01 INCH
69	NUMBER OF DAYS WITH PRECIPITATION \geq .10 INCH
70	NUMBER OF DAYS WITH SNOWFALL \geq 1.0 INCH
71	NUMBER OF DAYS WITH THUNDERSTORMS
72	NUMBER OF DAYS WITH HEAVY FOG

HOURLY PRECIPITATION TABLE

WATER EQUIVALENT IN INCHES
T = TRACE PRECIPITATION AMOUNT

** THE SUM OF THE HOURLY TOTALS IS GIVEN WHEN IT DIFFERS FROM THE DAILY TOTAL. NWS DOES NOT EDIT ASOS HOURLY VALUES BUT MAY EDIT DAILY AND MONTHLY TOTALS. HOURLY, DAILY, AND MONTHLY TOTALS ARE PRINTED AS REPORTED BY THE ASOS SITE.

** NCDC DERIVES THE MONTHLY SHORT DURATION PRECIPITATION FROM 1 MINUTE ASOS DATA. THE MONTHLY SHORT DURATION PRECIPITATION DATA ARE NOT PRINTED WHEN INCONSISTENT WITH ASOS HOURLY TOTALS.

NUMERICAL CODES LISTING FOR HOURLY OBSERVATIONS

NUMERICAL COLUMN	TERMINOLOGY
1	DATE
2	TIME IN LST (LOCAL STANDARD TIME)
3	STATION TYPE: A02 = UNATTENDED A02A = ATTENDED (OBSERVER PRESENT)
4	ASOS MAINTENANCE INDICATOR (INDICATES ASOS EQUIPMENT IS EXPERIENCING MAINTENANCE AS A RESULT OF INTERNAL QUALITY ASSURANCE CHECKS. ONE OR MORE ELEMENTS MAY BE MISSING OR REPLACED BY MANUAL INTERVENTION.)
5	SKY CONDITIONS: SKY CONDITIONS BELOW 12,000 FEET AGL (ABOVE GROUND LEVEL) SKY CONDITIONS CONTRACTIONS ARE FOR EACH LAYER IN ASCENDING ORDER. NUMBERS FOLLOWING CONTRACTIONS ARE BASE HEIGHT IN HUNDREDS OF FEET ABOVE GROUND LEVEL (AGL). CLR: CLEAR BELOW 12,000 FT FEW: > 0/8 - 2/8 SKY COVER SCT SCATTERED: 3/8 - 4/8 SKY COVER BKN BROKEN: 5/8 - 7/8 SKY COVER OVC OVERCAST: 8/8 SKY COVER VVXXX INDICATES INDEFINITE CEILING WITH THE VERTICAL VISIBILITY (XXX) LISTED IN HUNDREDS OF FEET. WHEN CLOUDS ARE COMPOSED OF TOWERING CUMULUS OR CUMULONIMBUS, TCU OR CB (RESPECTIVELY) FOLLOW CLOUD HEIGHT.
6	VISIBILITY: REPORTED IN STATUTE MILES AND FRACTIONS FROM < 1/4 THROUGH 10+
7	(SEE DAILY TABLE #10 FOR EXPLANATION OF WEATHER TYPES)
8	DRY BULB TEMPERATURE (DEGREES F)
9	DEW POINT TEMPERATURE (DEGREES F)
10	WET BULB TEMPERATURE (DEGREES F)
11	RELATIVE HUMIDITY (PERCENT)
12	WIND SPEED (KNOTS)
13	WIND DIRECTION (TENS OF DEGREES FROM TRUE NORTH) VRB = VARIABLE WITH SPEED EQUAL TO OR LESS THAN 6 KNOTS
14	WIND CHARACTERISTIC GUSTS (KTS)
15	VALUE FOR WIND CHARACTER (WHOLE UNITS)
16	STATION PRESSURE (INCHES IN HUNDREDTHS)
17	PRESSURE TENDENCY
18	SEA LEVEL PRESSURE TENTHS OF HECTOPASCALS (MILLIBARS). SHOWN AS LAST 3 DIGITS ONLY WITHOUT DECIMAL POINT (eg.,013 = 1001.3 MB)
19	REPORT TYPE: AA - METAR (AVIATION ROUTINE WEATHER REPORT) - HOURLY SP - METAR SPECIAL REPORT
20	PRECIPITATION TOTALS (INCHES AND HUNDREDTHS) 1) HOURLY TOTALS IF COLUMN 19 IS "AA" (HOURLY METAR REPORT). 2) CUMULATIVE AMOUNT SINCE THE LAST HOURLY METAR REPORT IF COLUMN 19 IS "SP" (METAR SPECIAL REPORT).

WIND CHILL EQUIVALENT TEMPERATURE (SIPLE & PASSEL, 1945)											
	WIND VELOCITY (MPH)										
	4	5	10	15	20	25	30	35	40	45	
	45	45	43	34	29	26	23	21	20	19	18
	40	40	37	26	23	19	16	13	12	11	10
T>	35	35	32	22	16	12	8	6	4	3	2
E>	30	30	27	16	9	4	1	-2	-4	-5	-6
M>	25	25	22	10	2	-3	-7	-10	-12	-13	-14
P>	20	20	16	3	-5	-10	-15	-18	-20	-21	-22
E>	15	15	11	-3	-11	-17	-22	-25	-27	-29	-30
R>	10	10	6	-9	-18	-24	-29	-33	-35	-37	-38
A>	5	5	0	-15	-25	-31	-36	-41	-43	-45	-46
T>	0	0	-5	-22	-31	-39	-44	-49	-52	-53	-54
U>	-5	-5	-10	-27	-38	-46	-51	-56	-58	-60	-62
R>	-10	-10	-15	-34	-45	-53	-59	-64	-67	-69	-70
E>	-15	-15	-21	-40	-51	-60	-66	-71	-74	-76	-78
	-20	-20	-26	-46	-58	-67	-74	-79	-82	-84	-85
	-25	-25	-31	-52	-65	-74	-81	-86	-89	-92	-93
	-30	-30	-36	-58	-72	-81	-88	-93	-97	-100	-102

TEMPERATURE - HUMIDITY INDEX (STEADMAN, 1979)												
	RELATIVE HUMIDITY (PERCENT)											
	0	10	20	30	40	50	60	70	80	90	100	
T >	120	107	116	130	148							
E >	115	103	111	120	135	151						
M >	110	99	105	112	123	137	150					
P >	105	95	100	105	113	123	135	149				
E >	100	91	95	99	104	110	120	132	144			
R >	95	87	90	93	96	101	107	114	124	136		
A >	90	83	85	87	90	93	96	100	106	113	122	
T >	85	78	80	82	84	86	88	90	93	97	102	108
U >	80	73	75	77	78	79	81	82	85	86	88	91
R >	75	69	70	72	73	74	75	76	77	78	79	80
E >	70	64	65	66	67	68	69	70	70	71	71	72

(v) ***Preliminary Monthly Summary (HDD/CDD/TMP/PCP)* (File Area 5)**

Preliminary monthly summarized data for approximately 300 u.s. locations are provided in a single file. Data for each location include the heating and cooling degree day totals, departures from normal, and seasonal totals to date; average monthly maximum, minimum, and mean temperatures, and departure of the means from normal, and precipitation totals and departures from normal.

File Size: 36k
 File Identification Format: z <MMM> 5 (Ex: z FEB 5)
 Update Schedule: By 18th of Following Month

AUG 97													
LOCATION	STATE	AVG TMP	MAX TMP	MIN TMP	TEMP DEP	HDD	CDD	HDD DEP	CDD DEP	HDD -DATE	CDD -DATE	PRE-CIP	PREC DEP
ST. GEORGE ISLAND	AK	50.0	53	46	.0	459	0	M	M	M	M	M	0.00
KODIAK	AK	57.5	64	50	2.3	228	0	-76	0	M	M	4.03	-1.12
ANNETTE	AK	62.1	67	56	3.5	106	24	-98	18	M	M	5.61	-.54
KLAWOCK	AK	.0			M	0	0	0	0	M	M	0.00	0.00
KETCHIKAN	AK	61.6	67	55	3.2	116	16	-98	7	M	M	10.79	0.88
SKAGWAY	AK	58.8	66	50	.0	185	1	M	M	M	M	0.82	0.00
SITKA	AK	59.7	64	54	2.7	153	0	-95	0	M	M	6.45	-.13
ST. PAUL ISLAND	AK	49.7	52	46	2.0	464	0	-72	0	M	M	3.29	0.54
SELDOVIA	AK	55.5	62	48	.0	288	0	M	M	M	M	0.00	0.00
SEWARD	AK	57.1	63	50	.0	240	0	M	M	M	M	6.96	0.00
MCGRATH	AK	57.7	83	32	3.4	232	16	M	10	307	77	2.49	0.02
YAKUTAT	AK	57.0	75	38	3.8	239	0	M	0	512	0	14.92	3.38
BARROW	AK	42.0	61	30	4.0	707	0	M	0	1448	0	2.64	1.68
BETHEL	AK	56.0	78	42	3.1	271	1	M	1	457	9	2.50	-0.41
COLD BAY	AK	55.2	67	38	3.7	296	0	M	0	652	0	6.32	3.08
FAIRBANKS	AK	58.7	82	34	1.9	204	15	-63	2	244	117	1.70	-0.26
KING SALMON	AK	57.4	78	34	3.4	230	2	M	2	387	6	3.65	0.52
KOTZEBUE	AK	53.6	68	39	1.5	347	0	-60	-7	677	0	3.23	1.45
JUNEAU	AK	58.8	74	47	3.8	183	0	-27	0	386	6	3.93	-1.39
UNALAKLEET	AK	M	78	33	M	M	M	M	M	M	M	3.06	0.02
MOBILE/BROOKLEY	AL	81.4	90	72	.0	0	483	M	M	M	M	1.50	0.00
DECATUR	AL	77.3	87	66	.0	0	371	M	M	M	M	0.00	0.00
EVERGREEN	AL	79.3	90	68	M	0	451	0	M	M	M	0.94	0.94
HUNTSVILLE MADISN AP	AL	76.7	86	66	-1.6	0	367	0	-45	M	M	4.51	1.04

Preliminary Monthly Summary Data (State)

(vii) ***Printable ASOS Local Climatological Data* (File Area 7)**

Beginning in 1993, as part of a modernization effort by the National Weather Service, additional data are being measured at stations using the new Automated Surface Observing System (ASOS). A new format for such stations has been developed and is known as the "ASOS Local Climatological Data." A major difference between this publication and the standard LCD is that the abridged surface weather observations are listed for every hour. As more stations are converted to ASOS, the number of ASOS LCD's will increase, and the number of standard LCD's will decline.

File Size: 120k per city per month
File Identification Format: z <city> 7 (Ex: z Asheville 7)
Update Schedule: once a day

```
UNEDITED LOCAL CLIMATOLOGICAL DATA FOR SEPTEMBER 1997
ASHEVILLE, NC
ASHEVILLE REGIONAL AIRPORT
LATITUDE 3526      LONGITUDE 8233      ELEVATION (GROUND) 2140
TIME ZONE EASTERN      ISSN 01983709      WBAN 03812

                                DAILY SUMMARY TABLE
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
1  84  63  74  5  66  68  0  9  FG MIFG BCFG HZ  0.0  0  0.00 27.95 30.18 0.2 157 2.2 17 150 13 150 1
2  85  64  75* 6  66  67  0 10  TS FG+ FG BCFG HZ  0.0  0  0.00 27.95 30.19 0.7 308 2.5 18 290 15 280 2
3  79  59  69  0  62  65  0  4  FG+ FG BCFG HZ  0.0  0  0.00 27.81 30.04 7.5 334 8.2 23 320 18 320 3
4  76  48  62  -7  43  52  3  0  0.0  0  0.00 27.87 30.13 6.5 337 8.0 22 320 17 320 4
5  77  41* 59* -10  47  53  6  0  HZ  0.0  0  0.00 27.94 30.21 1.4 190 2.7 11 170 10 170 5
6  80  47  64  -5  53  57  1  0  FG+ FG  0.0  0  0.00 27.94 30.19 0.4 215 2.3 16 330 13 340 6
7  82  52  67  -2  55  60  0  2  FG HZ  0.0  0  0.00 27.85 30.09 1.3 348 3.1 18 030 13 320 7
8  82  55  69  1  57  61  0  4  FG HZ  0.0  0  0.00 27.75 29.97 0.4 280 1.5 11 190 9 190 8
9  74  60  67  -1  62  63  0  2  TS TSRA RA FG HZ  0.0  0  0.53 27.66 29.89 1.1 149 1.6 26 150 16 150 9
10 72  58  65  -3  60  61  0  0  TS TSRA RA FG HZ  0.0  0  0.80 27.62 29.86 0.6 320 2.4 21 320 18 310 10
```

Printable ASOS Local Climatological Data (Daily Summary Data)

MAXIMUM SHORT DURATION PRECIPITATION													
TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180	
PRECIP. (INCHES)	.28	.41	.43	.43	.44	.44	.44	.48	.58	.65	.73	.86	
ENDED: DATE	24	24	24	24	24	24	24	10	24	24	24	24	
ENDED: TIME (LST)	302	305	307	307	313	313	313	43	1131	1130	1144	1130	

**Printable ASOS Local Climatological Data
(Maximum Short Duration Precipitation)**

HOURLY OBSERVATIONS TABLE - PAGE 01																			
SEPTEMBER1997																			
ASHEVILLE, NC																			
ASHEVILLE REGIONAL AIRPORT																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
01 0014 AO20	FEW003	SCT025	BKN120		9SM							0 KT 000		0					SP
01 0054 AO20	FEW003	SCT120			10SM	MIFG	64.9	64.0	64.4	97	0 KT 000		0	27.95	6	202	AA		
01 0154 AO20	FEW003	SCT085			8SM	MIFG	64.0	64.0	64.0	100	0 KT 000		0	27.95		201	AA		
01 0254 AO20	FEW003				5SM	BCFG	64.0	63.0	63.3	96	0 KT 000		0	27.94		202	AA		
01 0310 AO20	CLR				2 1/2SM	BCFG					0 KT 000		0						SP
01 0354 AO20	FEW003				5SM	BCFG	64.0	63.0	63.3	96	4 KT 310		0	27.95	3	206	AA		
01 0454 AO20	FEW003				5SM	BR	64.0	63.0	63.3	96	0 KT 000		0	27.96		207	AA		
01 0554 AO20	FEW003	BKN100			3SM	BR	64.0	63.0	63.3	96	0 KT 000		0	27.98		214	AA		
01 0654 AO20	BKN110				4SM	BR	66.0	64.0	64.8	93	0 KT 000		0	27.99	3	220	AA		
01 0712 AO20	SCT003	BKN110			4SM	BR					0 KT 000		0						SP
01 0721 AO20	BKN003	BKN110			4SM	BR					0 KT 000		0						SP
01 0747 AO20	FEW003	SCT110			4SM	BR					0 KT 000		0						SP
01 0754 AO20	FEW003	BKN110			5SM	BR	68.0	66.0	66.7	93	0 KT 000		0	28.00		223	AA		
01 0854 AO20	CLR				6SM	HZ	71.1	66.0	67.8	84	0 KT 000		0	28.00		227	AA		
01 0954 AO20	CLR				7SM		75.0	66.9	69.6	76	0 KT 000		0	28.02	3	232	AA		
01 1054 AO21	CLR				6SM	HZ	78.1	68.0	71.2	71	0 KT 000		0	28.01		227	AA		
01 1154 AO21	CLR				6SM	HZ	81.0	64.9	70.3	58	5 KT VRB		0	28.00		223	AA		
01 1254 AO21	CLR				7SM		82.9	64.0	70.3	53	4 KT 140		0	28.00	8	220	AA		
01 1354 AO21	CLR				6SM	HZ	82.9	66.0	71.6	57	7 KT 150		0	27.98		214	AA		
01 1454 AO21	SCT042				7SM		84.0	66.0	71.8	55	6 KT 180		0	27.98		212	AA		
01 1554 AO21	FEW044	SCT110			6SM	HZ	78.1	68.0	71.2	71	6 KT VRB		0	27.97	6	214	AA		
01 1654 AO21	CLR				5SM	HZ	79.0	69.1	72.3	72	3 KT VRB		0	27.97		211	AA		
01 1754 AO21	FEW080				5SM	HZ	77.0	70.0	72.1	79	7 KT 320		0	27.97		213	AA		

Printable ASOS Local Climatological Data (Hourly Precipitation Data)

(D) Subscription Information

Users of the NCDC'S Bulletin Board System may access and download any BBS product by paying a subscription fee of \$100.00 per year plus an \$11.00 service and handling charge (\$111.00 total). The number of times a customer accesses the BBS is unlimited; however, access time to the system is limited to an aggregate total of one hour for EACH 24-hour period (365 hours total). The annual fee is based upon 365 consecutive days of service from the date of account activation. To subscribe, customers must first register.

(1) Registering / Becoming Familiar with the BBS

Using a modem, call the NCDC Bulletin Board System at (704) 271-4286. To register, please follow instructions and answer all questions. Registration is **REQUIRED** to access and/or download any files. (Please refer to "Initial Log-on Procedures" on Page 3 of the BBS User's Manual.) No payment is required to register and registering does NOT obligate to pay any funds, other than your long-distance carrier fees.

***NOTE: CUSTOMERS SHOULD USE SOMETHING YOU WILL REMEMBER IN THE FOLLOWING: (1) NAME, (2) CITY/STATE, (3) VOICE TELEPHONE NUMBER AND (4) PASSWORD UNDER WHICH THEY REGISTER. SUBSCRIPTION ORDERS REQUIRE A MATCH OF NAME, CITY/STATE, AND TELEPHONE NUMBER. TO DOWNLOAD SUBSCRIPTION FILES IN FUTURE SESSIONS, NAME AND PASSWORD MUST MATCH EXACTLY.**

After registering, become familiar with the BBS procedures by downloading one of the free sample files using the instructions in the User's Manual (Refer to "The Three-Step Process" on Page 5), or by accessing the "Files option on the BBS Main Menu and selecting "B" General Information. (Downloading free files does not deduct from the one-hour daily access time to the BBS allotted per customer.)

In all cases, users incur long-distance charges from their own long-distance carriers (where applicable).

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Subscription accounts are NON-TRANSFERABLE AND/OR NON-REFUNDABLE.
NCDC MUST RECEIVE PREPAYMENT BEFORE PROCESSING YOUR ORDER.
Master Card / Visa / American Express accepted.

- (1) Register with the Bulletin Board. **REQUIRED!** (See above.)
NO payment is required to register, but you must register before you pay! Please download one of the free files before you proceed with payment.
- (2) Pay the \$111.00 for an annual subscription by:
 - (a) Completing the order form at the back of this brochure and mailing it with your check or money order **or**
 - (b) Faxing the order form with completed credit card information and expiration date to (704) 271-4876 **or**
 - (c) Calling (704) 271-4258 or (704) 271-4800 ext 178 to subscribe over the phone using a credit card **or**
 - (d) Using your modem, access the "Product Documentation" File Area on the Bulletin Board System, download "BBS Subscription / Renewal Order Form," and print it. Complete the form, and either mail it to NCDC with a check or Fax it to NCDC with completed credit card information.

(3) Beginning Your Subscription / Renewals

(1) A paid subscription order will be entered into the Bulletin Board System within three working days **AFTER** NCDC receives payment. (An internal security level is altered by the SYSOP to allow access to designated files.) During subsequent logins, customers will need to enter: (1) their name and (2) password **EXACTLY** as they entered when registering. No additional passwords will be needed to download any products, and paying customers will be provided access to all files on the BBS.

(c) NCDC will **NOT** mail an expiration notice! Customers will be notified of an upcoming expiration by accessing the BBS! Forty-five days prior to the date of expiration, customers accessing the BBS will receive a message that their subscription is about to expire. To renew, customers need to follow the payment procedure outlined for initial payment above. Customers do **NOT** need to re-register. After expiration, non-paying customers will continue to receive an expiration notice when the **BBS** is accessed, but access to non-free files will be denied until payment is received.

ALL ORDERS MUST BE PAID IN ADVANCE
MASTER CARD/VISA/AMEX ACCEPTED.
MAKE PAYMENT TO: "COMMERCE/NOAA/NCDC" IN U.S. FUNDS
MUST BE DRAWN ON A U.S. BANK OR U.S. AFFILIATED OR FOREIGN BANK.
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

National Climatic Data Center
151 Patton Ave, Room 120
Asheville, NC 28801-5001
704-271-4800
TELEX: 6502643731
FAX: 704-271-4876

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In all cases, users incur long-distance charges from their own long-distance carriers (where applicable).

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 - (a) Completing the order form at the back of this brochure and mailing it with your check or money order **or**
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(3) Beginning Your Subscription / Renewals

(1) A paid subscription order will be entered into the Bulletin Board System within three working days **AFTER** NCDC receives payment. (An internal security level is altered by NCDC personnel to allow access to designated files.) During subsequent logins, customers will need to enter: (1) their name and (2) password **EXACTLY** as they entered when registering. No additional passwords will be needed to download any products, and paying customers will be provided access to ANY public files on the BBS.

(c) NCDC will **NOT** mail an expiration notice! Customers will be notified of an upcoming expiration by accessing the BBS! Anytime within forty-five days prior to the date of expiration, customers accessing the BBS will receive a message that their subscription is about to expire. To renew, customers need to follow the payment procedure outlined for initial payment above. Customers do **NOT** need to re-register. After expiration, non-paying customers will continue to receive the expiration notice if the **BBS** is accessed, but access to subscription files will be denied until payment is received.

Subscriptions are only available on an annual basis at a price of \$111.00 per year. The initial subscription will begin within 3 days of receipt of payment. Registration on the Bulletin Board System is REQUIRED before the subscription can be implemented.

Long distance charges are at customer's expense!

In order to upgrade the security level of an account, and allow access to subscription files, the **REGISTERED NAME**, city and state, and the customer's **VOICE** telephone number as were registered on the BBS are required:

REGISTERED NAME ON THE BBS CITY / STATE CUSTOMER'S VOICE DATE REGISTERED
 _____ TELEPHONE NUMBER (Optional)
 _____ () _____

Please check one: New Subscription Renewal

Please check here if a copy of the NCDC Bulletin Board System Manual is desired.

BBS Fee	\$100.00
Service and Handling	\$11.00
Total Charge:	\$111.00

NCDC MUST RECEIVE PREPAYMENT BEFORE PROCESSING YOUR ORDER. Checks or money orders should be made payable in U.S. funds only to "COMMERCE/NOAA/NCDC" and mailed to:

National Climatic Data Center	Telephone (orders):	(704) 271-4800 ext 178
ATTN: Bulletin Board System (CSB)	Technical Advisor:	(704) 271-4619
151 Patton Ave, Room 120	Fax:	(704) 271-4876
Asheville, NC 28801-5001	TDD:	(704) 271-4010

Internet: orders@ncdc.noaa.gov **Bulletin Board Telephone (704) 271-4286**

COMPANY/PERSON: _____ CARD NO: _____

ATTENTION: _____ VISA/AMEX/MC: _____ EXP DATE: _____

ADDRESS: _____ CARDHOLDER NAME: _____

_____ CARDHOLDER SIGNATURE: _____

CITY: _____ STATE: _____ TELEPHONE # () - _____

ZIP + 4: _____

For U.S. Government Agency Orders:

For other U.S. Government:

NOAA Organizations:

TASK NUMBER: _____

PURCHASE ORDER NUMBER: _____

ORGANIZATION CODE: _____

AREA LOCATION CODE: _____
 (Confirming P.O. Mailed to NCDC is required)