

National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 3909 (DSI-3909)

Local Climatological Data

May 19, 2003

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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1. **Abstract:** Local climatological data summarizes temperature, relative humidity, precipitation, cloudiness, wind speed and direction observations for several hundred cities in the U.S. and its territories. Most monthly publications also contain the 3 hourly weather observations for that month and an hourly summary of precipitation. Annual LCD publications contain a summary of the past calendar year as well as historical averages and extremes.
2. **Element Names and Definitions:**

Monthly Publications

* = Extreme for the month (last occurrence if more than one)
T = Trace precipitation amount
+ = also occurs on the earlier date
FG+ = Heavy fog, visibility .25 miles or less
Blank entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. "00" = calm, "VR" = variable.

Precipitation is for the 24 hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR-SS), midnight to midnight (MN-MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0-2 oktas, Partly Cloudy = 3-6 oktas, Cloudy = 7-8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% humidity. Wet Bulb is the temperature the air would have if cooled at constant pressure by evaporation of moisture into it, to 100% relative humidity.

3-Hourly Observations Notes

Sky cover is the amount of the sky obscured. CLR = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8.

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Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.
 NC = No ceiling detected.
 & = Original observation contained additional weather elements.

Weather Notations

Qualifier	Weather Phenomena		
Descriptor	Precipitation	Obscuration	Other
BC Patches		DZ Drizzle	BR Mist DS Duststorm
BL Blowing		GR Hail	DU Widespread Dust FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets		FG Fog +FC Tornado Waterspout
FZ Freezing	IC Ice Crystals		FU Smoke PO Well Developed Dust/Sand Whirls
MI Shallow	PE Ice Pellets		HZ Haze SQ Squalls
PR Partial	RA Rain		PY Spray SS Sandstorm
SH Shower(s)	SG Snow Grains		SA Sand (GL) Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		
Intensity			
`+' = Heavy ` ` = Moderate `-' = Light			

Annual Publications

Page 1:

The temperature graph shows normal maximum and normal minimum daily temperatures (solid curves) and the actual daily high and low temperatures (vertical bars).

Page 2 and 3:

H/C indicates heating and cooling degree days.

RH indicates relative humidity.

W/O indicates weather and obstructions.

S indicates sunshine.

PR indicates pressure.

Cloudiness on page 3 is the sum of the ceilometer and satellite data not to exceed eight eighths (oktas).

General:

T indicates trace precipitation, an amount greater than zero but less than the lowest reportable value.

+ indicates the value also occurs on earlier dates.

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Blank entries denote missing or unreported data.
 Normals are 30-year averages (1961-1990).
 ASOS indicates Automated Surface Observing System.
 PM indicates the last day of the previous month.
 POR (period of record) begins with the January data month and is the number of years used to compute the mean. Individual months within the POR may be missing.
 When the POR for a normal is less than 30 years, the normal is provisional and is based on the number of years indicated.
 0.* or * indicated the value or mean-days-with is between 0.00 and 0.05.
 Cloudiness for ASOS stations differs from the non-ASOS observation taken by a human observer. ASOS station cloudiness is based on time-averaged ceilometer data for clouds at or below 12,000 feet and on satellite data for clouds above 12,000 feet.
 The number of days with clear, partly cloudy, and cloudy conditions for ASOS stations is the sum of the ceilometer and satellite data for the sunrise to sunset period.
 Clear indicates 0-2 oktas, partly cloudy indicates 3-6 oktas, and cloudy indicates 7 or 8 oktas.
 When at least one of the elements (ceiloeter or satellite) is missing, the daily cloudiness is not computer.
 Wind direction is recorded in tens of degrees (2 digits) clockwise form true north. "00" indicates calm. "36" indicates true north.
 Resultant wind is the vector average of the speed and direction.
 Average temperature is the sum of the mean daily maximum and minimum temperature divided by 2.
 Snowfall data comprise all forms of frozen precipitation, including hail.
 A heating (cooling) degree day is the difference between the average daily temperature and 65° F.
 Dry bulb is the temperature of the ambient air.
 Dew point is the temperature the air must be cooled to achieve 100% relative humidity.
 Wet bulb is the temperature the air would have if the moisture content was increased to 100% relative humidity.

On July 1st, 1996, The National Weather Service began using the "METAR" observation code that was already employed by most other nations of the world. The most noticeable difference in this annual publication will be the change in units from tenths to eights (oktas) for reporting the amount of sky cover.

3. **Start Date:** 19390101

4. **Stop Date:** Ongoing.

5. **Coverage:**

- a. Southernmost Latitude: -15° S. Latitude
- b. Northernmost Latitude: 72° N. Latitude
- c. Westernmost Longitude: -60° E. Longitude
- d. Easternmost Longitude: 130° W. Longitude

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

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Phone: 828-271-4800
FAX: 828-271-4876
E-mail: NCDC.Orders@noaa.gov

7. **Archiving Data Center:**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

8. **Technical Contact:**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

9. **Known Uncorrected Problems:** None.

10. **Quality Statement:**

11. **Essential Companion Datasets:** None.

12. **References:** No information provided with original documentation.

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