

National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 9950 (DSI-9950)

DATSAV2 SURFACE

January 6, 2003

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

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1. **Abstract:** DATSAV2 is the official climatological database for surface observations. The database is composed of worldwide surface weather observations from about 10,000 currently active stations, collected and stored from sources such as the US Air Force's Automated Weather Network (AWN) and the WMO's [Global Telecommunications System](#) (GTS). Most collected observations are decoded at the Air Force Weather Agency (AFWA) formerly known as the Air Force Global Weather Central (AFGWC) at Offutt AFB, Nebraska, and then sent electronically to the [USAF Combat Climatology Center](#) (AFCCC), collocated with NCDC in the Federal Climate Complex in Asheville, NC. AFCCC builds the final database through decode, validation, and quality control software. All data are stored in a single ASCII format. The database is used in climatological applications by numerous DoD and civilian customers.

DATSAV2 refers to the digital tape format in which decoded weather observations are stored. The DATSAV2 format conforms to Federal Information Processing Standards (FIPS). The DATSAV2 database includes data originating from various "codes" such as synoptic, airways, METAR (Meteorological Routine Weather Report), and SMARS (Supplementary Marine Reporting Station), as well as observations from automatic weather stations. The users handbook provides complete documentation for the database and its format.

AFCCC sorts the observations into station-date-time order, validates each station number against the Air Weather Service Master Station Catalog (AWSMSC), runs several quality control programs, and then merges and sorts the data further into monthly and yearly station-ordered files. AFCCC then provides the data to the collocated National Climatic Data Center (NCDC).

2. **Element Names and Definitions:** The DATSAV2 database consists of blocked, variable length records in 8-bit ASCII character format. The maximum length of a data record is 1000 characters, and the maximum block length is 8192 characters. The sequence of the data is: BLOCK STATION - YEAR - MONTH - DAY - HOUR - MINUTE - LATITUDE - LONGITUDE - TYPE REPORT - OBSERVATION TYPE - Mandatory Data - Additional Data.

The 28 mandatory fields in each observation are listed below by field number.

Field M01: Wind Direction
Field M02: Wind Speed
Field M03: Wind Gusts
Field M04: Ceiling
Field M05: Cloud Flag
Field M06: Total Sky Cover
Field M07: Fraction of celestial dome covered by all low clouds present
Field M08: Type of Low Cloud
Field M09: Lowest Cloud Height
Field M10: Type of Middle Cloud
Field M11: Type of High Cloud
Field M12: Visibility
Field M13: Visibility Indicator
Field M14: Present Weather
Field M15: Present Weather Indicator (ww1)
Field M16: Present Weather Indicator (ww2)
Field M17: Present Weather Indicator (ww3)
Field M18: Past Weather
Field M19: Past Weather Indicator (w1)
Field M20: Past Weather Indicator (w2)
Field M21: Temperature

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Field M22: Dew Point
Field M23: Sea Level Pressure (SLP)
Field M24: Pressure Tendency (a)
Field M25: Pressure Change (ppp)
Field M26: Altimeter Setting
Field M27: Station Indicator (unavailable before 19880801)
Field M28: Open Field (8-character field containing all 9s)

See Appendix B of the DATSAV2 Users Handbook for additional information.

Several additional data fields are listed below. Others are listed in the above appendix/reference.

Field AA: Precipitation Data
Field AD: Precip time/duration
Field AG: Bogus Precip Data
Field AJ: Water Equivalent and Hail Data
Field CA: Snow Data
Field EA: Present Weather
Field ED: Runway Data
Field GA: Layer Clouds (may be repeated as necessary)
Field GD: Summation Clouds (may be repeated as necessary)
Field GG: Clouds Below Station (may be repeated as necessary)

3. **Start Date:** 19300101

4. **Stop Date:** Ongoing.

5. **Coverage:** Global coverage.

a. Southernmost Latitude: 90S
b. Northernmost Latitude: 90N
c. Westernmost Longitude: 180W
d. Easternmost Longitude: 180E

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.
Phone: 828-271-4800
FAX: 828-271-4876
E-mail: NCDC.Orders@noaa.gov

7. **Archiving Data Center:**

Air Force Combat Climatology Center (AFCCC)
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001

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

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8. **Technical Contact:**

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

9. **Known Uncorrected Problems:** This data set contains a minimal number of random errors, decode errors, and reporting errors (by station)--less than .1% of observations affected overall. Most errors are corrected or eliminated by quality control software.

10. **Quality Statement:** Data have undergone extensive automated quality control, and additional manual quality control for US Air Force stations. See the reference listed below for additional information on Quality Control.

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

12. **References:**

DATSAV2 Surface USAFETAC Climatic Database Users Handbook No. 4 (USAFETAC/UH-86/004), Dec. 1986, Air Force Weather Technical Library (AFWTL), Air Force Combat Climatology Center (AFCCC) 151 Patton Ave, Asheville, NC 28801.

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