

National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 6210 (DSI-6210)

Marine Upper Air

October 1, 2009

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

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1. **Abstract:** The upper Air Observations in this digital data file include stations operated by the National Weather Service, U.S. Navy, and certain South American stations whose data received quality control at the National Climatic Data Center (NCDC). Additional Upper Air Observations from the Global Tel-Communications System (GTS), and the U.S. Air Force are also included in this digital file but are not quality controlled by NCDC.

Although 4555 station IDs are found in the current collection, it's difficult to determine how many of them are true stations since many have very short records. Prime selection factors were marine influence and near sea level heights. The intent was to select data that could be used to supplement ship observations. These data were collected from sources listed below:

- 1) TD-6201 Upper Air Stations 1973 to date.
- 2) NMC upper air stations 1973 to date.
- 3) TD-5600 Marine Area (SHIPS).

The sort is by station, year, month, day, hour for the period 1/73 to 6/93.

2. **Element Names and Definitions:**

The first nine fields constitute the **Header Portion**, and occur at the beginning of each sounding record. The next ten fields of the record contain the **Data Portion**. The **Data Portion** is repeated for each level in the observation. The maximum number of levels is 200.

Header Portion (36 Characters) Fixed Length

Length of sounding record (# of characters)	Marsden Square number	Station ID	Lat	Lat Code	Long	Long Code	Date/Time	Number-Repeat Groups
XXXX	XXX	XXXXXX	XXXX	X	XXXXXX	X	XXXXXXXXXXXX	XXX

Data Portion (36 Characters) repeated Number-Values Times

Lvl-Qlty Indicator	Time	Pressure	Height	Temp	RH	Wind Dir	Wind Speed	Quality Flags	Type of Level
X	XXXX	XXXXXX	XXXXXXXX	XXXX	XXX	XXX	XXX	XXXXXX	X

Field	Record Position	Element Name	Code Definitions and Remarks
001	1-4	Length of sounding record	The number of characters contained in the individual record
002	5-7	Marsden Square	Marsden Square location of station (see ref. Marsden Square).
003	8-12	Station ID	For U.S. controlled and cooperative stations, the WBAN number. For stations received through GTS, the WMO number. This field may contain alphabetic characters for ships and remote sensed observations. Numeric station numbers are right justified and zero filled, while alphanumeric station identifiers

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			are left justified and blank filled. If unknown, this field contains "99999". If the station identification is unknown, both latitude and longitude must be present.
004	13-16	Latitude	The station latitude in degrees and minutes. When unknown, this field contains "9999". Latitude will not normally appear for land stations.
005	17	Latitude Code	Code used to indicate the Northern (N) or Southern (S) latitude.
006	18-22	Longitude	the station longitude in degrees and minutes. When unknown, this field contains "99999". Longitude will not normally appear for land stations.
007	23	Longitude Code	Code used to indicate Longitudes East (E) or West (W).
008	24-33	Date-Time	The schedule time of the observation, as defined by WMO. The format of date/time is YYYYMMDDHH, i.e., year, month, day, and hour. This field may never be unknown.
	24-27	Year	This is the Year of record. Range of values are 1946-current year processed.
	28-29	Month	This is the Month of record. Range of values are 01 to 12.
	30-31	Day	This is the Day of record. Range of values are 01 to 31.
	32-33	Hour	This is the Hour of record. Range of values are 00 to 23. Hour is GMT. Normal scheduled observation times are 00 and 12 GMT. For selected periods and area observations may have been taken at other times, especially 06 and 18 GMT.
009	34-36	Number-Repeat-Groups	This number represents the number of data levels found in the current observation, including edited levels. Range of values are 001-200. Two hundred is the maximum number of levels.
010	37	Level-Quality-Indicator	Denotes the results of any quality controls applied to this level. Range is as follows: 0 = Original values are correct 1 = Original values missing 2 = Original values doubtful, a corrected level follows. 3 = Original values doubtful, uncorrected. 4 = Original values in error, a corrected level follows 5 = original values in error, uncorrected 6 = Corrected level

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			9 = Level not checked A-Z = Indicators supplied by NMC.
011	38-41	Time-Since-Release	The elapsed time since the release of the sounding in minutes and tenths. If the elapsed time is not known, this field contains "9999". Range is 0001 through 9999. Available only for U.S. quality controlled stations beginning Jan 1981.
012	42-46	Pressure-At-Level	Atmospheric pressure at the current level in Kilopascals and hundredths. If unknown, this field contains "99999".
013	47-52	Height-At-Level	Geopotential height of the current level in whole meters. If unknown, this field contains "-99999". Range of values are -99999 through 99999.
014	53-56	Temperature At Level	the free air temperature at the current level in degrees and tenths Celsius. If unknown, this field contains "-999". Range of values -999 through 999.
015	57-59	Relative-Humidity At Level	The relative humidity at the current level is whole percent. If unknown, this field contains "999".
016	60-62	Wind-Direction At-Level	Direction of wind at the current level in whole degrees (nearest five degrees for observations received through GTS). If unknown, this field contains "999"
017	63-65	Wind-Speed-At-Level	Speed of the wind in whole meters per second. If unknown, this field contains "999".
018	66-71	Quality-Flags	This field contains the results of any quality control procedures, identifying each individual element found in error (see table below). Quality Control Flag 0 = Element is correct 1 = Element is doubtful 2 = Element is in error 3 = Replacement value 4 = Assumed or estimated value 9 = Element not checked A-Z Indicators supplied by NMC.
	72	Time-QF	Time Quality Flag
	73	Pressure-QF	Pressure quality flag
	74	Height-QF	Height quality flag
	75	Temperature-QF	Temperature quality flag
	76	Relative-Humidity-QF	Relative Humidity quality flag
	77	Wind-QF	Wind quality flag
019	78	Type-Of-Level	0 = Surface 1 = mandatory 2 = Significant 3 = Generated 4 = Tropopause 5 = Maximum wind

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		9 = Other/unspecified
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3. **Start Date:** 19460101

4. **Stop Date:** 19930630

5. **Coverage:**

- a. Southernmost Latitude: -90.0S
- b. Northernmost Latitude: 90.0N
- c. Westernmost Longitude: -180.0W
- d. Easternmost Longitude: 180.0E

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:**

Archive Branch
 National Climatic Data Center
 151 Patton Avenue
 Asheville, NC 28801

8. **Technical Contact:**

National Climatic Data Center
 151 Patton Avenue
 Asheville, NC 28801

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

10. **Quality Statement:**

U.S. data processed by the NCDC are subjected to extensive quality control procedures. Suspect data are returned to a verifier for manual correction. GTS data are subjected to various degrees of automated quality control by the receiving agency. NCDC accepts the data as correct during the reformatting procedure. Therefore, the user must be prepared to perform his own quality checks on GTS data. (The primary function of NMC and AFGWC is to produce forecasts, not to provide an archive data base.)

11. **Essential Companion Datasets:**

12. **References:**

Marsden Square:
http://www.wmo.ch/pages/prog/gcos/documents/gruanmanuals/WWW_Data_Management/WMO_306_vol%20I.1_en.pdf

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