

Chesley McColl, Nobuki Matsui, and Gilbert Compo
U. of Colorado-CIRES Climate Diagnostics Center
Earth Systems Research Laboratory, Physical Sciences Division
2 August 2011

Abstract

This document describes an extensive collection of sub daily to monthly surface and sea level pressure observations taken over land and ocean from the beginning of barometric observations to the present. The format is designed to allow traceability of observations from their original source archive to the ISPD and to permit direct feedback from data assimilation to the original source archives. A single ISPDB HDF5 file contains thirteen tables and fifteen subgroups/directories.

All unit specifications should be Uunits compliant

I. Common Fields

The following fields are present in every table except dataset index table.

1. **Observation (Station) ID**

Length 13

Character

This field is designated for an identifier that represents a fixed station for land data. It represents a marine call sign or other marine identifier when present.

Missing: 9 x 12

2. **Timestamp**

Length 12

Character

This field describes the year, month, day, hour, and minute of the observation in the form YYYYMMDDHH.

3. **Unique Observation Number Code**

Length 7

Character

Minimum:0000001

Maximum:9999999

A unique number assigned to each observation at the same observation time (year, month, day, hour, minute). Combining with Year, month, day, hour, minute forms a unique ID of each observation. E.g., the second observation in the Data Bank for February 2 1895 1201 GMT has field 9 = 0000002, and a unique observation code of 189502021201000002 . **Table 1 lists current know non-unique ID assignments. By combining these with latitude and longitude they become unique also.

Table 1. Non-unique ID stamps.

There are a total of 14528 Observations in the ISPD2 that have non-unique ids.

Same measurements twice:

18740729[00-23]

18740730[00-23]

18740731[00-23]

And from 1952-2006 some of the Tropical Cyclone Data (UONC=8xxxxxx has non-unique IDs

19520612[12,18] - 20060831[00,06,12,18]

II. Root Group /

Root group contains three groups: data, supplemental data table of original source and it is denoted by “/”.

III. Data Group /Data

Data group/directory contains the following subgroups: assimilation feedback, observations, and spatial temporal location.

Observations Subgroup /Data/Observations

Observations subgroup contains two tables: observation types and observations and original observations subgroup.

Observation Types Table /Data/Observations/ObservationTypes

All values correspond to the observation indicated by the Unique Observation Number Code.

1. Observation ID Type

Integer

This field shows the type of station ID in Unique Observation Number Code.

- | | |
|----|--|
| 1 | WMO |
| 2 | WBAN |
| 3 | Air Force |
| 4 | COOP |
| 5 | Call Signs |
| 6 | Unknown or other – IDs assigned by source |
| 7 | Ship, Ocean Station Vessel (OSV), or ice station call sign |
| 8 | Generic ID (e.g., SHIP, BUOY, RIGG, PLAT) |
| 9 | WMO 5-digit buoy number |
| 10 | Other buoy number (e.g., Argos or national buoy number) |
| 11 | Coastal-Marine Automated Network (C-MAN) ID (US NDBC operated) |
| 12 | Station name or number |
| 13 | Oceanographic platform/cruise number |
| 14 | FISDing vessel pseudo-ID |
| 15 | National ship number |

16 Composite information from early ship data
32 Air Force - WBAN
Missing: -9

2. **NCEP Observation Type Code**

Integer

This field is designated for NCEP observation type code. Numbers above 193 are unique to ISPD.

120 Radiosonde Observation Data

132 Dropsonde Observation

180 Marine Observation Data

181 Station Observation Data

183 Station Observation only reporting sea level pressure

193 Digitized Mea SEA-LEVEL PRESSUREBOGUS

3x0 Synoptic (0,6,12,18UTC) Central Pressure from a tropical cyclone best track dataset

3x1-3x5 Synoptic (0,6,12,18UTC) Central Pressure for a category 1-5 tropical cyclone from a tropical cyclone best track dataset

4x0 Non-synoptic Central Pressure from a tropical cyclone best track dataset

5x0 Bogus Central pressure for a tropical depression derived from tropical cyclone best track wind dataset.

5x1-585 Bogus Central Pressure for a category 1-5 tropical cyclone derived from a tropical cyclone best track wind dataset.

Second digits of the NCEP observation type code for tropical cyclones are designated for the regional codes based on the basin/sub-basins classifications by National Climatic Data Center Global Tropical Cyclone Stewardship.

1. Eastern North Pacific (sub-basin: Central Pacific)

2. Eastern North Pacific

3. North Atlantic

4. North Indian

5. South Indian

6. South Pacific (sub-basin: Eastern Australia)

7. South Pacific

8. West Pacific

9. South Indian (sub-basin: Western Australia)

Missing: -99

3. **International Surface Pressure Data Bank Collection ID**

Length 6

Character

Data Identification assigned for the ISPD

Missing: -99999

Bold indicates planned used.

See complete dataset index in Excel format.

ISPD ID	Name	Description	PERIOD	NISPD Ref	NCAR Ref	Contact
0100	ICOADS Release 2.1	Global Marine Surface Observations	1784-2005	1170	DS540.0	Scott.Woodruff@noaa.gov
0104	ICOADS Release 2.4	Global Marine Surface Observations	1784-2007	1170	DS540.0	Scott.Woodruff@noaa.gov
0105	ICOADS Release 2.5	Global Marine Surface Observations	1784-2007	1170	DS540.0	Scott.Woodruff@noaa.gov
0200	ICOADS Auxiliary Kobe	Global Marine Surface Observations	1889-1943		DS530.0	worley@ucar.edu
0300	ICOADS Auxiliary Whaling	Global Marine Surface Observations	1950-1984		DS.530.0	Worley@ucar.edu
0400	ICOADS Auxiliary Russian	Global Marine Surface Observations	1950-2000		DS.530.0	Worley@ucar.edu
0500	ICOADS Auxiliary Russian	Global Marine Surface Observations	1889-2000		DS.530.0	Worley@ucar.edu
0700	ICOADS Auxiliary Challenger	Global Marine Surface Observations	1872-1876		DS.530.0	Worley@ucar.edu
1000	Federal Climate Complex Integrated Surface Database	Global Land Surface Observations	1901-2008		DS463.3	Neal.Lott@noaa.gov

1002	CDMP SAO/1001 Forms	US Land Surface Observations	1928-1948			Neal.Lott@noaa.gov
1003	Russian Empire Stations	Russian Land Surface Observations	1849-2000	td9290c		Pasha.Groisman@noaa.gov
1004	Air Weather Service TD13	Global Land Surface Observations	1901-1973	td13	DS467.0	worly@ucar.edu
1005	Hadley Center	Individual Stations from Hadley Center	1833- present			Rob.allan@metoffice.gov.uk Gibraltar
1006	CDMP- International	Chile,Mexico,Uruguay	1800s- 1980			Tom.Ross@noaa.gov
1007	READER Antarctic & Southern Hemisphere	20 Stations via British Antarctic Survey	1947-2007			www.antarctica.ac.uk
1010	DATSAV	US Air Force Compilation	1967-1980	Td965	Ds463.0	
1011	KNMI	KNMI stations	1911-2006			Theo.Brandsma@knmi.nl
1012	CMDP Forts	US Army Signal Service and other 19 th Century Voluntary Observations	1841-1893			Karen.Adsager < andsager@sws.uiuc.edu >
2000	NCEP-NCAR BUFR Archive	Global Observations	1948-2003	6148_99	ds090.0	Robert.Kistler@noaa.gov worley@ucar.edu
2001	NCEP Operational BUFR Archive	Global Observations	1928-1948, 2003-2005	6148_99	ds090.0	Jack.Woolen@noaa.gov

3002	WASA Stations Observations Sea Level Pressure	Northern Europe, Greenland	1871-1996	9941_99		Torben Schmith <ts@dmi.dk>
3004	Environmental Canada Pressure Observations	Canadian Stations	1842-2004			Xiaolan.Wang@ec.gc.ca
3005	West African Synoptic observations	11 West African Land Surface	1850-1980			Tom.Peterson@noaa.gov
3006	The Australian Bureau of Meteorology Station Pressure Dataset	50 Australian Land stations	1900-1956			David Jones <D.Jones@bom.gov.au>
3007	Northern Italian Pressure Observations		1878-1940			Maurizo.magueri@unmi.it
3008	Brazil Surface Observations		1951-1980		ds486.0	dattore@ucar.edu
3009	Spanish Hourly Pressure Observations from EMULATE	4 Hourly Spanish Land Stations	1850-2003			Manola.brunet@urv.net
3010	German	DWD Web Archive	1876-2000			www.dwd.de
3011	Austria	Emulate Stations	1872-2002			Rob.allan@metoffice.gov.uk
3012	Switzerland	Emulate Stations	1900-1973			Rob.allan@metoffice.gov.uk
3013	South Africa	South African Weather Service Stations	1850-2003			Andries.kruger@weathersa

3014	Norway	22 Stations	1863-2007			Oyvind.nordli@met.no
3015	Croatia Meteorological and Hydrological Service Land Stations	4 Croatian Land Stations	1858-2005			Lidja Srnec <srnec@cirus.dhz.hr>
3016	Portugal	Portuguese SIGN stations	1860-2006			Maria Antónia Valente <mavalente@fc.ul.pt>
4000	Hong Kong Hourly Pressure Observations	Hong Kong Observatory	1885-1939			H Y Mok <hymok@hko.gov
4001	Jakarta/Batavia Pressure Observations	Dutch Royal Observatory	1866-1944	9963_99	ds490.0	spangler@ucar.edu
4002	Liverpool	Proudman Ocean. Lab stations	1768-1793			Philip Woodworth <plw@pol.ac.uk>
4003	Jersey Channel Island Pressure Observations	4 Channel Island Stations	1864-1913			Frank Le Blancq <eblancq.f@jerseymet.gov
4004	CMDP-USNO	US Naval Observatory at Washington	1841-1913			Tom.ross@noaa.gov
5002	Byrd Antarctic Expeditions Observations	Monthly Weather Review Supplemental No. 41	1929-1930			Gil.Compo@noaa.gov
500x	Antarctic Expedition keyed by Hadley Centre					Rob.Allan@metoffice.gov.u
010000-019999	NCAR Upper Air Stations					Joey Comeaux <joe@ucar
8000	Atlantic/North Eastern Pacific Hurricane Reanalysis	US Hurricane Re-Analysis Dataset	1848-present			Chris.Landsea@noaa.gov

8001	International Best Track Archive for Climate Stewardship (IBTrACS)	National Climatic Data Center	1848-present		
-------------	--	-------------------------------	--------------	--	--

Michael.kruk@noaa.gov

Observations Table /Data/Observations/Observations

1. Observed Sea Level Pressure

Float

The atmospheric sea level pressure observation (hectopascals)

Min: 860.00

Max: 1090.00

Missing: 9999.99

2. Observation Error in the Observed Sea Level Pressure

Float

Observation Error in the observed sea level pressure specified for Twentieth Century Reanalysis Project.

Min: 0.00

Max: 20.00

Missing: -9.99

3. QC flag for the Observed Sea Level Pressure

Integer

The quality flag code for the observed sea level pressure from source was evaluated based on the following criteria and assigned binary values.

(Note the 20CR did not use these QC flags in any decision making)

Missing: 9

The original coding scheme and binary values we assigned are below.

ISD Data Set

ISPD Summary	Original Value	
0	0	Passing gross limits check
0	1	Passed all quality control checks
1	2	Suspect
1	3	Erroneous
1	4	Passed gross limits check, from TD3280 or NISPD ASOS/AWOS
1	5	Passed all quality control checks, from TD3280 or NISPD ASOS/AWOS
0	6	Suspect, from TD3280 or NISPD ASOS/AWOS
0	7	Erroneous, from TD3280 or NISPD ASOS/AWOS
1	9	Passed gross limits check if element is present

ICOADS Data Set

No ICOADS QC flags were used.

Russian Data Set

Russian data set originally had four QC flags. We are using flag 1 and flag 3 to assign

binary values. If an observation data for a given station passes flag 1 test, then flag 3 was evaluated. In this flag 3-evaluation procedure, if blank or N were present, then, the GSCN criterion was applied.

Flag 1: Data measurement flag

ISPD	Original
Summary	Value
0	blank = measured value D = derived value
1	U = suspect

Flag 3: Confidence level/status flag

ISPD	Original
Summary	Value
0	0 = observed data has passed all original system checks
0	blank = unknown
1	B = value failed QC checks
0	C = scale corrected
1	D = derived value
0	E = edited value passed all original checks
0	H = homologous value, rigorously tested
1	I = interpolated value, not verified
1	M = missing value
0	N = not tested but within observed climatological boundaries
1	Q = questionable (actually wrong)
0	R = record-breaking value
1	S = Suspect value (outside climatological boundaries, not verified)
0	T = tested value, manually checked but not perfectly homologous
1	U = value suspect

These flags are a result of GSCN version 1.0 (and next steps) quality control routines and replace “blank” and “N” flags when needed.

1	X - exceeds known world extreme or impossible value
1	O - Outlier .GE. 6 bi-weight standard deviations from the bi-weighted mean values
1	5 - Outlier .GE. 5 bi-weight standard deviations from the bi-weighted mean values
0	4 - Outlier .GE. 4 bi-weight standard deviations from the bi-weighted mean values
0	3 - Outlier .GE. 3 bi-weight standard deviations from the bi-weighted mean values
1	K - Value occurs 10 or more days in a row (0.0 cloudiness characteristics excluded)

4. **Observed Surface Pressure**

Float

The atmospheric surface pressure observation at the indicated elevation (hectopascals)

Min: 400.00

Max: 1090.00

Missing: 9999.99

5. **Observation Error in Observed Surface Pressure**

Float

Observation Error in the observed surface pressure (from NCEP if available otherwise assigned by ISPD)

Min: 0.00

Max: 20.00

Missing: -9.99

6. **QC flag for the Observed Surface Pressure**

Integer

The quality flag code for the observed surface pressure from source was evaluated based on the following criteria and assigned binary values.

(Note the 20CR did not use these QC flags in any decision making)

Missing: 9

The original coding scheme and binary values we assigned are below.

ISD Data Set

ISPD Summary	Original Value	
0	0	Passing gross limits check
0	1	Passed all quality control checks
1	2	Suspect
1	3	Erroneous
1	4	Passed gross limits check, from TD3280 or NISPD ASOS/AWOS
1	5	Passed all quality control checks, from TD3280 or NISPD ASOS/AWOS
0	6	Suspect, from TD3280 or NISPD ASOS/AWOS
0	7	Erroneous, from TD3280 or NISPD ASOS/AWOS
1	9	Passed gross limits check if element is present

Russian Data Set

Russian data set originally had four QC flags. We are using flag 1 and flag 3 to assign binary values. If an observation data for a given station passes flag 1 test, then flag 3 was evaluated. In this flag 3-evaluation procedure, if blank or N were present, then, the GSCN criterion was applied.

Flag 1: Data measurement flag

ISPD	Original
Summary	Value

- 0 blank = measured value
- D = derived value
- 1 U = suspect

Flag 3: Confidence level/status flag

ISPD	Original
Summary	Value

- 0 0 = observed data has passed all original system checks
- 0 blank = unknown
- 1 B = value failed QC checks
- 0 C = scale corrected
- 1 D = derived value
- 0 E = edited value passed all original checks
- 0 H = homologous value, rigorously tested
- 1 I = interpolated value, not verified
- 1 M = missing value
- 0 N = not tested but within observed climatological boundaries
- 1 Q = questionable (actually wrong)
- 0 R = record-breaking value
- 1 S = Suspect value (outside climatological boundaries, not verified)
- 0 T = tested value, manually checked but not perfectly homologous
- 1 U = value suspect

These flags are a result of GSCN version 1.0 (and next steps) quality control routines and replace “blank” and “N” flags when needed.

- 1 X - exceeds known world extreme or impossible value
- 1 O - Outlier **.GE.** 6 bi-weight standard deviations from the bi-weighted mean values
- 1 5 - Outlier **.GE.** 5 bi-weight standard deviations from the bi-weighted mean values
- 0 4 - Outlier **.GE.** 4 bi-weight standard deviations from the bi-weighted mean values
- 0 3 - Outlier **.GE.** 3 bi-weight standard deviations from the bi-weighted mean values
- 1 K - Value occurs 10 or more days in a row (0.0 cloudiness characteristics excluded)

Original Observations Subgroup

/Data/Observations/OriginalObservations

Original Observations subgroup contains original observations table.

Original Observations Table

/Data/Observations/OriginalObservations/OriginalObservations

1. **Original Observed Sea Level Pressure**
Length 9
Character
The original atmospheric sea level pressure in original units indicated in Observed Sea Level Pressure field in the Observations table.
Missing: 999999999
2. **Units of Original Observed Sea Level Pressure**
Length 8
Character
Units of original observed sea level pressure. Should be Uunits compliant.
3. **Original Observed Surface Pressure**
Length 9
Character
The original atmospheric surface pressure in original units indicated in Observed Surface Pressure field in the Observations table.
Missing: 999999999
4. **Units of Original Observed Surface Level Pressure**
Length 8
Character
The original atmospheric surface pressure in original units. Should be Uunits compliant.
Missing: 999999999

Spatial Temporal Location Subgroup /Data/SpatialTemporalLocation

Spatial Temporal Location subgroup contains spatial temporal location table and original spatial temporal location subgroup.

Spatial Temporal Location Table

/Data/SpatialTemporalLocation/SpatialTemporalLocation

1. **Observation ID**
Length 13
Character
Observation ID assigned by the source.
2. **Year**
Integer
Year (GMT) of the observation record
3. **Month**
Integer
Month (GMT) of the observation record
Missing: -9
4. **Day**
Integer
Day (GMT) of the observation record
Missing: -9
5. **Hour**
Integer
Hour (GMT) of the observation record
Missing: -9
6. **Minute**
Integer
Minute (GMT) of the observation record
Missing: -9
7. **Time in Second after 1600**
Integer
Time elapsed in second from 1600 A.D. until the observation timestamp

8. **Time Code**
 Length 3
 Character
 3 digit code describing how the time was determined
 001 From source
 005 converted to GMT using time zones
 007 converted to GMT using longitude
 200 daily average from (11)=n values at X,X,...GMT indicated in field 10.
 300 monthly average from (11) values at Y,Y,...GMT each day, indicated in field 10.

9. **Number of observations used *per day* if the observation is an average**
 Integer
 Range: 01 to 24

10. **Hours of the day in GMT of the observations**
 Variable-length based on field 9.
 Character
 Hours (GMT) of the day of the observations if observation averaged, otherwise redundant with field 5.

11. **Latitude**
 Float
 The latitude coordinate of a geophysical observation (-90.00 – 90.00)
 Min: -90.00
 Max: 90.00

12. **Longitude**
 Float
 The longitude coordinate of a geophysical observation (000.00 – 359.99)
 Min: 0.00
 Max: 359.99

13. **Elevation**
 Integer
 The elevation of a geophysical point observation relative to Mean Sea Level (meters)
 Min: -400
 Max: 8850
 Missing: 9999

Original Spatial Temporal Location Subgroup

/Data/SpatialTemporalLocation/OriginalSpatialTemporalLocation

Original Spatial Temporal Location subgroup contains original temporal location table.

Original Spatial Temporal Location Table
/Data/SpatialTemporalLocation/OriginalSpatialTemporalLocation/OriginalSpatialTemporalLocation

1. **Original latitude**
Length 8
Character
The original latitude in original units indicated in latitude field in the Spatial Temporal Location table.
2. **Original Longitude**
Length 8
Character
The original longitude in original units indicated in longitude field in the Spatial Temporal Location table.
3. **Original Elevation**
Length 6
Character
The original elevation in original units indicated in elevation field in the Spatial Temporal Location table.
4. **Unit of Original Elevation**
Length 8
Character
Units of original elevation. Should be Uunits compliant.

Assimilation Feedback Subgroup /Data/AssimilationFeedback
Assimilation Feedback Subgroup contains Assimilation Feedback table.

Assimilation Feedback Table

/Data/AssimilationFeedback/AssimilationFeedback

1. **Modified Observed Pressure after Vertically Interpolating to Model Surface**

Double

This field is designated for the Observed Pressure with orography adjustment (hectopascals).

Min: 400.00

Max: 1090.00

Missing: 9999.99

2. **Error in Observed Pressure vertically Interpolated to Model Surface**

Float

This field is designated for the Error in the Observed Pressure with orography adjustment.

Min: 0.00

Max: 20.00

Missing: -9.99

3. **Bias**

Float

This field is allocated for difference between observation and first guess averaged over past sixty days.

4. **Status Flag for Observed Surface Pressure**

Unsigned Integer

This field shows which observation was interpolated.

0 interpolation using sea level pressure

1 interpolation using surface pressure

2 no interpolation performed

9 missing

5. **Assimilation indicator**

Unsigned Integer

Missing 9

This field indicates whether the observation was assimilated

0 the observation was not assimilated

1 the observation was assimilated

6. **Usability Check for Reanalysis**

Unsigned Integer

This field is designated for the 20th Century Reanalysis usage check.

Observations passing quality control may still not be assimilated in regions of dense observations.

0 not usable

1 usable

9 missing

Data may not have been used because:

1. It failed gross check.

2. It was thinned.

7. **QC Background check flag indicator**

Unsigned Integer

Missing 9

The field indicates whether the observation failed a check against the ensemble background

0 the observation is within the ensemble spread plus observation error limits

1 the observation is outside of the ensemble spread plus observation error limits

8. **Buddy flag indicator**

Unsigned Integer

Missing 9

The field indicates whether the observation significantly improves the fit of the first guess to the neighboring observations up to distance XXXX away.

0 improves the fit to the neighbors

1 degrades the fit to the neighbors

9. **Quality Control Indicator**

Unsigned Integer

Missing 9

This field indicates whether the observation was rejected.

1 the observation was rejected

0 the observation was accepted

10. **Ensemble Mean First Guess Pressure**

Float

This field is designated for the Ensemble Mean First Guess Pressure at the observation location (hectopascals).

Min: 400.00

Max: 1090.00

Missing: 9999.99

11. **Standard Deviation of Ensemble Guess Pressure**
 Float
 This field is designated for the Standard Deviation of the Ensemble First Guess Pressure at the observation location.
 Min: 0.00
 Max: 20.00
 Missing: -9.99

12. **Ensemble Mean First Guess Pressure minus Modified Observation Pressure**
 Float
 This field is designated for the Ensemble Mean Guess Pressure minus Modified Observation Pressure minus Ensemble at the observation location.
 Min: -99.99
 Max: 100.00
 Missing: 999.99

13. **Ensemble Mean Analysis Pressure**
 Float
 This field is designated for the Ensemble Mean Analysis Pressure at the observation location (hectopascals)..
 Min: 400.00
 Max: 1090.00
 Missing: 9999.99

14. **Standard Deviation of Ensemble Analysis Pressure**
 Float
 This field is designated for the Standard Deviation of the Ensemble Analysis Pressure at the observation location.
 Min: 00.00
 Max: 20.00
 Missing: -9.99
 Rejected by 20CR QC system: 9.9e+31

15. **Ensemble Mean Analysis Pressure minus Modified Observation Pressure**
 This field is designated for the Ensemble Mean Analysis Pressure minus Modified Observation Pressure at the observation location.
 Min: -99.00
 Max: 100.00
 Missing: 999.99
 Rejected by 20CR QC system: 9.95e+15

16. **Elevation of the Model Surface**
 Integer
 The elevation of a geophysical point observation, vertically interpolated to the model surface.

Missing: 9999

IV. Supplemental Data Group /SupplementalData

Supplemental group contains Corrections, Misc, and Tracking subgroups.

Corrections Subgroup /SupplementalData/Corrections

Corrections subgroup contains Corrections and Pressure Instrument tables.

Corrections Table /SupplementalData/Corrections/Corrections

1. **Description of Gravity correction made by source**
Length 30
Character
Description of the method used for the gravity correction made by source
2. **Description of Gravity correction made by ISPD**
Length 30
Character
Description of the method used for the gravity correction made by ISPD
3. **Observed Temperature of the attached thermometer in K**
Length 6
Character
Observed temperature of the attached thermometer in K
4. **Original Temperature of the attached thermometer**
Length 9
Character
The original temperature of the attached thermometer in the original unit
5. **Units of the Original Temperature of the attached thermometer**
Length 9
Character
Units of the original temperature of the attached thermometer
6. **Description of Temperature correction made by source**
Length 30
Character
Description of the method used for the temperature correction made by source
7. **Description of Temperature correction made by ISPD**
Length 30
Character
Description of the method used for the temperature correction made by ISPD

8. **Description of Homogenization correction made by source**
 Length 30
 Character
 Description of the method used for the homogenization correction made by source
9. **Description of Homogenization correction made by ISPD**
 Length 30
 Character
 Description of the method used for the homogenization correction made by ISPD

Pressure Instrument Table

/SupplementalData/Corrections/PressureInstrument

1. **Pressure Instrument Identifier**
 Unsigned Integer
 This field shows a type of instrument used for a given observation from source record or station library table. (Reserved for future use)
 Missing: 99

Misc Subgroup /SupplementalData/Misc

ICOADS Subgroup /SupplementalData/Misc/ICOADS

ICOADS subgroup contains Pressure Bias table.

PressureBias Table /SupplementalData/Misc/ICOADS/PressureBias

1. **Pressure Bias for the marine data**
 Unsigned Integer
 This field indicates questionable sea level pressure data:
 0 questionable sea level pressure: level 0: individual platform
 1 questionable sea level pressure: level 1: deck
 2 questionable sea level pressure: level 2: deck
 (See ICOADS LMR6/LMRFR6 Document Release 2.4 for details)
 Missing: 9

TropicalStorms Subgroup /SupplementalData/Misc/TropicalStorms

TropicalStorms subgroup contains TropicalStorms and Variances table.

Quality Control

/SupplementalData/Misc/TropicalStorms/QualityControl

1. **Wind Quality**

Integer

This field is designated for the quality assessment of the MSW.

0 = OK

1 = Missing

2 = Questionable – Value

3 = Questionable – 6 hour change

2. **Pressure Quality**

Integer

This field is designated for the quality assessment of the MCP.

0 = OK

1 = Missing

2 = Questionable – Value

3 = Questionable – 6 hour change

Storm ID

/SupplementalData/Misc/TropicalStorms/StormID

1. **Storm ID**

Length 13

Character

This field is designated for the original storm identification names in the original NetCDF files, assigned by IBTrACS.

TropicalStorms

/SupplementalData/Misc/TropicalStorms/TropicalStorms

1. **Storm Direction**

Integer

This field is designated for the wind directions (0-359 degrees.)

Missing: -9

2. **Translation Speed in meters/second**

Float

This field is designated for the translation speed in meters/second.

Missing: -0.99

3. **Translation Speed in miles/hour**

Integer

This field is designated for the translation speed in miles/hour.

Missing: -9

4. **Translation Speed in knots**
Integer
This field is designated for the translation speed in knots.
Missing: -9
5. **Wind Speed in meters/second**
Float
This field is designated for the wind speed in meters/second.
Missing: -0.99
6. **Wind Speed in miles/hour**
Integer
This field is designated for the wind speed in miles/hour.
Missing: -99
7. **Wind Speed in knots**
Integer
This field is designated for the wind speed in knots.

For HURDAT data

Maximum sustained (1 minute) surface (10m) wind speed in knots (these are to the nearest 10 knots for 1851 to 1885 and to the nearest 5 kt for 1886 onward).

For Joint Typhoon Warning Center data

Maximum sustained (1 minute average) surface (10m) wind speed in knots.

Missing: -99

Variations

/SupplementalData/Misc/TropicalStorms/Variations

1. **Variance in the position amongst the Tropical Cyclone Centers**
Integer
This field is designated for the variance in the position amongst the tropical cyclone centers.
Missing: -99
2. **Variance in the wind amongst the Tropical Cyclone Centers**
Integer
This field is designated for the variance in the wind amongst the tropical cyclone centers.
Missing: -999
3. **Variance in the pressure amongst the Tropical Cyclone Centers**
Integer
This field is designated for the variance in the pressure amongst the tropical cyclone centers.
Missing: -999

Tracking Subgroup /SupplementalData/Tracking

Tracking subgroup contains Tracking table.

Tracking Table /SupplementalData/Tracking/Tracking

1. Name of ships or stations

Length 30

Character

Name of Ships or Stations from source record or station library table

Missing: -9 x 29

For ICOADS data in IMMA format, ID Indicator and Identification/Call Sign information will be used for this field.

2. Name of station library

Length 3

Character

Name of station library used for station position, if different from source.

000	From Source
001	Joey Comeaux Library
002	TD-13 library
003	NCEP Library 1
004	NCEP Library 2
005	NISPD Global Station List
006	Mode Location for month from source
010	EMULATE

Missing: 999

ICOADS Subgroup /SupplementalData/Tracking/ICOADS

ICOADS subgroup contains Tracking ICOADS table.

Tracking ICOADS Table

/SupplementalData/Tracking/ICOADS/TrackingICOADS

1. **Source ID for Marine Data**¹

Integer

Source Identification for the Marine Data

Missing: -99

The following description came from ICOADS document. See <http://icoads.noaa.gov/e-doc/lmr>.

Table 7 lists current source ID assignments. Each SID may contain a single deck or a mixture of decks, but each SID is generally constrained to a single input format. This helps to identify the format of data stored in the LMR supplemental and error attachments (see sec. 5)

[NOTE: For UK MDB data, e.g., both DCK and SID are required to determine the supplemental format. To accommodate additional SIDs, the true value and coded ranges were increased to 0:254 and 1:255 (see Table 1 for additional information).

Table 7. Source ID assignments.

SID Description

- 1 Atlas
- 2 HSST Pacific
- 3 HSST Indian
- 4 HSST Atlantic
- 5 Old TDF-11 Supplement B
- 6 Old TDF-11 Supplement C
- 7 Monterey Telecommunications
- 8 Ocean Station Vessels (OSV)
- 9 OSV Supplement
- 10 MSQ 486 and 105 Omissions
- 11 National Oceanographic Data Center (NODC) Surface
- 12 NODC Surface Supplement
- 13 "Eltanin"
- 14 Japanese
- 15 South African Whaling
- 16 Australian
- 17 International Maritime Meteorological (IMM) Data
- 18 '70s Decade
- 19 IMM '70s

- 20 OSV Z ('70s)
- 21 Australian ('70s)
- *22 NCDC: 1980-84 Annual Receipts
- 23 '70s Mislocated Data
- 24 Buoy Data
- 25 NCDC: 1980-84 Annual Receipts (delayed data)
- 26 NCDC: 1980-84 Annual Receipts (corrections; 1975)
- 27 NCDC: 1985 Receipts (annual + delayed)
- 28 NCDC: 1985 Receipts (duplicates)
- 29 NCDC: US Nat. Met. Center (NMC, now NCEP) Reconversion (1980-92)
- 30 NCDC: 1980-84 Period of Record
- #31 Corrected Canadian Data
- 32 NCDC: Annual Receipts (starting in 1986)
- 33 NCDC: Annual Receipts (duplicates; starting in 1986)
- 34 NCDC: 1986 Receipts (delayed)
- 35 NCDC: 1987 Receipts (delayed)
- 36 NCDC: 1988 Receipts (delayed)
- 37 NCDC: 1989 Receipts (delayed)
- 38 NCDC: 1990 Receipts (delayed)
- 39 NCDC: 1991 Receipts (delayed)
- 40 NCDC: 1992 Receipts (delayed)
- 41 NCDC: 1993 Receipts (delayed)
- 42 NCDC: 1994 Receipts (delayed)
- 43 NCDC: 1995 Receipts (delayed)
- 44 NCDC: 1996 Receipts (delayed)
- 45 NCDC: 1997 Receipts (delayed)
- 46 International Maritime Met. (IMM) Tape Archive (1982-): ebcidc
- 47 International Maritime Met. (IMM) Tape Archive (1982-): ascii
- 48 NODC/OCL 1994 World Ocean Atlas (WOA94; Mar. 93 NODC archive data)
- 49 NODC/OCL 1994 World Ocean Atlas (WOA94; non-NODC archive)
- 50 US National Data Buoy Center (NDBC) Data
- 51 Russian AARI North Pole (NP) Stations (revised; from EWG CD-ROM)
- 52 Russian AARI North Pole (NP) Stations (earlier; from Polar Science Cntr)
- 53 First GARP Global Experiment (FGGE) Level IIb: Surface Marine Data
- 54 FGGE Level IIb: Oceanographic Data
- 55 FGGE Level IIb: Drifting Buoy Data
- 56 Russian S.O. Makarov Collection
- 57 Russian Marine Meteorological Data Set (MORMET) (rec'd at NCAR)
- #58 French International Maritime Met. (IMM) Uncorrected (1954-88)
- 59 UK IMM Corrections (1982-89)
- 60 French International Maritime Met. (IMM) Corrected (1954-88)
- 61 Canadian Integrated Science Data Management (ISDM; formerly MEDS) Buoys
- 62 ISDM (formerly MEDS) World Ocean Circulation Experiment (WOCE) Buoys
- 63 Canadian ISDM (formerly MEDS) Buoys (July 2005 archive extended Dec. 2008)
- 64 Russian Research Vessel (R/V) Digitization: Marine Surface
- 65 Russian Research Vessel (R/V) Digitization: Marine Actinometric

- 66 Pacific Marine Environmental Lab. (PMEL) TOGA/TAO Buoys
- 67 PMEL (Daily) Equatorial Moorings and Island Stations
- 68 Arctic Drift Stations
- 69 US Maury Collection
- 70 Inter-American Tropical Tuna Comm. (IATTC) Porpoise Obs. Logs
- 71 IATTC Fishing Logs
- 72 IMM Tape Archive from WMO Global Collecting Centre (GCC) (1994 format)
- 73 NCDC Marine Obs. Processing System (MOPS): Pre-MOPS (TD-9973)
- 74 NCDC MOPS: Duplicate File (TD-9974)
- 75 NCDC MOPS: Original Observations (TD-9980)
- 76 NCDC MOPS: Supplementary or Correction Data
- 77 NCDC: US National Cntrs. for Environ. Pred. (NCEP) Reconversion (1994-97)
- 78 NCDC: US-keyed Logbook Data Reconversion (TD-9972; keyed during 1996-97)
- 79 US Air Force Global Weather Central (GWC): DATSAV2 format
- 80 US Navy FNMOC Monterey Telecom: NCAR: Kunia (OPCON) format
- 81 US Navy FNMOC Monterey Telecom: NCAR: NEDN format
- 82 US Navy FNMOC Monterey Telecom: NCAR: Surface Ship (SPOT) format
- 83 US Navy FNMOC Monterey Telecom: NCDC: Surface Ship (SPOT) format (TD-9769)
- 84 US Merchant Marine Collection (1912-46): Full Quality Control (QC)
- 85 US Merchant Marine Collection (1912-46): Partial QC
- 86 Pacific Marine Environ. Lab. (PMEL) TOGA/TAO Buoys: RAM Data
- 87 Pacific Marine Environ. Lab. (PMEL) TOGA/TAO Buoys: SPOT Data
- 88 NODC/OCL 1998 World Ocean Database (WOD98; Mar. 94 NODC archive data)
- 89 NODC/OCL 1998 World Ocean Database (WOD98; non-NODC archive)
- 90 UK Met. Ofc. (MetO) Main Marine Data Bank (MDB): Flatfile 1 (no cardimage)
- 91 MetO MDB: Flatfile 1A (Flatfile plus cardimage data)ls
- 92 MetO MDB: Flatfile 1B (no Flatfile match; data derived from cardimage)
- 93 MetO Historical Metforms (1935-39): Flatfile 1C (data from cardimage)
- 94 MetO GTS Receipts (primarily SHIP code; from MDB format)
- 95 Japanese Kobe Collection Data (IMMT format; 2003 Edition)
- 96 Norwegian Logbook Collection
- 97 Japanese Kobe Collection Data (IMMT format; 1998 Edition)
- 98 US Merchant Marine Collection (1912-46): Full QC (CLICOM system)
- 99 Japanese Kobe Collection Data (IMMT format; 2001 Edition)
- 100 NCEP BUFR GTS: Operational Tanks: Converted from Original Message
- 101 NCEP BUFR GTS: Operational Tanks: Converted from BUFR
- 102 NCEP BUFR GTS: Dumped Data: Converted from Original Message
- 103 NCEP BUFR GTS: Dumped Data: Converted from BUFR
- 110 UK Met. Office VOSclim GTS BUFR Data
- 111 Shipboard Environmental (Data) Acquisition System (SEAS)
- 112 IMM Tape Archive from WMO GCC (IMMT-2 format or IMMT-3 format)
- 113 International Marine (US-keyed ship data)
- 114 NCDC GTS
- 115 Japanese Whaling Ship Data (CDMP digitization)
- 116 Japanese Whaling Ship Data (MIT digitization)

- 117 PMEL TAO/TRITON and PIRATA Research Archive Hourly Average Data
- 118 PMEL TAO/TRITON and PIRATA Research Archive 10-Minute Average Data
- 119 JAMSTEC TRITON Hourly Average Data
- 120 PMEL TAO/TRITON and PIRATA Research Archive Hourly Average SLP Data
- 121 US National Data Buoy Center (NDBC) Data (obtained from NCDC 2005-2007)
- 122 US NDBC data (NODC f291 archive version translated by NCDC 2008)
- (123 unused)
- 124 Climatological Database for the World's Oceans (CLIWOC; Release 2.0)
- 125 US Marine Meteorological Journals Collection (1878-94)
- 126 Royal Navy Ship's Logs 1938-47 (keyed by 2007)
- 127 Antarctic Expeditions: Print./Published (held at Met Office)
- 129 Byrd Antarctic Expedition (keyed by Hollings Scholars)
- 130 Research Vessel (R/V) Data Quality-Evaluated by FSU/COAPS: WOCE ver.3.0
- 131 Research Vessel (R/V) Data Quality-Evaluated by FSU/COAPS: SAMOS
- 132 Research Vessel (R/V) Data Quality-Evaluated by FSU/COAPS: Other
- 133 Climatological Database for the World's Oceans (CLIWOC; Release 2.1)
- 134 Deutscher Wetterdienst (DWD) Marine Meteorological Archive: Compo Subset
- 135 DWD Marine Meteorological Archive: Newly Digitized Data
- 136 DWD Marine Meteorological Archive: HISTOR Data
- 137 NODC/OCL 2005 World Ocean Database (WOD05) updated through 13 Dec. 2007
- 138 ACRE Data: Challenger Expedition
- 139 German Deep Drifter Data (via ISDM; originally from IfM/Univ. Kiel)

 * SID 22 was assigned to "Islas Orcadas" for Release 1, but the data were never translated.

Input for Release 1a but not output.

& Tentative assignment for a source ID not yet obtained or not yet in use.

2. Deck ID for Marine Dataⁱ

Integer

Missing: -99

Deck Identification for the Marine Data

The following description came from ICOADS document. See <http://icoads.noaa.gov/e-doc/lmr>

Table 6a. Deck assignments ("deck" originally referred to a punched card deck). See Tables 6b and 6c for details about deck ranges 201-255, and 876-882 and 883.

Deck	Description
*001	US Navy Fleet Numerical Met. and Oceanography Cntr. (FNMOC) Data
*002-009	US National Cntrs. for Environ. Pred. (NCEP) Real-time Obs.
110	US Navy Marine
116	US Merchant Marine
117	US Navy Hourlies
118	Japanese Ships No. 1 (Kobe Collection Data keyed in 1961)
119	Japanese Ships No. 2 (Kobe Collection Data keyed in 1961)
128	International Marine (US- or foreign-keyed ship data)
143	Pacific Marine Environmental Laboratory (PMEL) Buoys
144	TAO/TRITON and PIRATA Buoys (from PMEL and JAMSTEC)
145	PMEL (Daily) Equatorial Moorings and Island Stations
150	Pacific (US Responsibility) HSST Netherlands Receipts
151	Pacific (US Responsibility) HSST German Receipts
152	Pacific (US Responsibility) HSST UK Receipts
155	Indian (Netherlands Responsibility) HSST
156	Atlantic (German Responsibility) HSST
184	Great Britain Marine (194 extension)
185	USSR Marine IGY
186	USSR Ice Stations
187	Japanese Whaling Fleet
188	Norwegian Antarctic Whaling Factory Ships
189	Netherlands Marine
192	Deutsche Seewarte Marine
193	Netherlands Marine
194	Great Britain Marine
195	US Navy Ships Logs
196	Deutsche Seewarte Marine (192 extension)
197	Danish (and Other) Marine (Polar)
201-255	UK Met. Office (MetO) Main Marine Data Bank (MDB) (see Table 6b)
281	US Navy Monthly Aerological Record (MAR)

#500 Gulf Offshore Weather Observing Network (GOWON) (plat data)
 555 US Navy Fleet Num. Met. and Oceano. Center (FNMOC; Monterey) Telecom.
 666 Tuna Boats
 667 Inter-American Tropical Tuna Commission (IATTC)
 700 UK Met. Office VOSclim GTS BUFR Data
 701 US Maury Collection
 702 Norwegian Logbook Collection
 704 US Marine Meteorological Journals Collection (1878-94)
 705 US Merchant Marine Collection (1912-46) (500 series)
 706 US Merchant Marine Collection (1912-46) (600 series)
 707 US Merchant Marine Collection (1912-46) (700 series)
 714 Canadian Integrated Science Data Mgmt. (ISDM; formerly MEDS) Buoys
 715 German Deep Drifter Data (via ISDM; originally from IfM/Univ. Kiel)
 720 Deutscher Wetterdienst (DWD) Marine Meteorological Archive
 730 Climatological Database for the World's Oceans (CLIWOC)
 731 Russian S.O. Makarov Collection
 732 Russian Marine Met. Data Set (MORMET) (received at NCAR)
 733 Russian AARI North Pole (NP) Stations
 734 Arctic Drift Stations
 735 Russian Research Vessel (R/V) Digitization
 736 Byrd Antarctic Expedition (keyed by Hollings Scholars)
 740 Research Vessel (R/V) Data Quality-Evaluated by FSU/COAPS
 749 First GARP Global Experiment (FGGE) Level IIb
 761 Japanese Whaling Ship Data (CDMP/MIT digitization)
 762 Japanese Kobe Collection Data (keyed after decks 118-119)
 780 NODC/OCL World Ocean Database (WOD) (and formerly Atlas, WOA)
 792 US Natl. Cntrs. for Environ. Pred. (NCEP) BUFR GTS: Ship Data
 793 NCEP BUFR GTS: Buoy Data (transmitted in FM 13 "SHIP" code)
 794 NCEP BUFR GTS: Buoy Data (transmitted in FM 18 "BUOY" code)
 795 NCEP BUFR GTS: Coastal-Marine Automated Network (C-MAN code) Data
 796 NCEP BUFR GTS: Miscellaneous (OSV, plat, and rig) Data
 797 NCEP BUFR GTS: CREX code
 849 First GARP Global Experiment (FGGE)
 850 German FGGE
 874 Shipboard Environmental (Data) Acquisition System (SEAS)
 876-#882 US National Data Buoy Center (NDBC) Data (see Table 6c)
 883 US National Data Buoy Center (NDBC) Data (see Table 6c)
 888 US Air Force Global Weather Central (GWC)
 889 Autodin (US Dept. of Defense Automated Digital Network)
 #890 US National Meteorological Center (NMC, now NCEP) Data (obsolete)
 891 US National Oceanographic Data Center (NODC) Surface Data
 892 US Natl. Cntrs. for Environ. Pred. (NCEP) Ship Data
 893 NCEP Moored Buoy Data
 #894 NCEP Drifting Buoy Data
 #895 NCEP Coastal-Marine Automated Network (C-MAN) Data
 896 NCEP Miscellaneous (OSV, plat, and rig) Data

- 897 "Eltanin"
- 898 Japanese
- 899 South African Whaling
- 900 Australian
- 901 FOSDIC Reconstructions (card images from 16mm film)
- 902 Great Britain Marine (184 extension)
- 926 International Maritime Meteorological (IMM) Data
- 927 International Marine (US- or foreign-keyed ship data)**
- 928 Same as 927 including Ocean Station Vessels (OSV)
- 992 NCDC GTS: Ship Data
- 993 NCDC GTS: Buoy Data (transmitted in FM 13 "SHIP" code)
- 994 NCDC GTS: Buoy Data (transmitted in FM 18 "BUOY" code)
- 995 NCDC GTS: Coastal-Marine Automated Network (C-MAN code) Data
- 996 NCDC GTS: Miscellaneous (OSV, plat, and rig) Data
- 997 NCDC GTS: CREX code
- 999 US Air Force Environ. Technical Applications Center (ETAC)

 * Unofficial deck number for real-time data processing.

& Tentative assignment for a deck not yet obtained or not yet in use.

Input for Release 1a but not output.

** A mixture of US- and foreign-keyed data exists in deck 927 prior to 1980; starting about 1980 deck 927 is believed to contain only US-recruited ships. Country code (C1, field 47) should ordinarily be set for foreign-keyed data.

Table 6b. UK Met. Office (MetO) Main Marine Data Bank (MDB) deck assignments (equivalent to MDB series numbers). Assignments falling in the range 201-255 that do not appear below (e.g., 243-253) are not yet assigned. Approximate time periods are also given from MDB documentation.

Deck	Description	Approx. period
201	All Ships (1930 code)	1850-1920
202	All Ships (1921 code)	1921-1929
203	Selected Ships (1930 code)	1920-1939
204	British Navy (HM) Ships (1930 code)	1930-1948
205	Scottish Fishery Cruisers MARIDS (1930 code)	1946-1956
206	Ocean Weather Stations (OWS) (1930 code)	1947-1949
207	Selected Ships (1930 code)	1945-1948
208	Light Vessels	1949-1956
209	Selected Ships (including some foreign ships)	1951-1956
210	OWS (including Dutch "J")	1950-1956
211	Scottish Fishery Cruisers MARIDS	1956-1961
212	Light Vessels	1956-1961
213	Selected Ships	1956-1961

214	OWS	1956-1961	
215	German Marine*	1860-1938	
216	UK Merchant Ship Logbooks (METFORMS; keyed in 1996)		1935-1939
218	US OWS	1953-	
221	MARIDS and Trawlers	1961-	
222	Light Vessels	1961-	
223	Selected Ships	1961-1981	
224	OWS	1961-1981	
225	Norwegian Format	1953-	
226	OWS (1949 code)	1949-1952	
227	Selected Ships	1949-1953	
229	British Navy (HM) Ships	1961-	
230	International Maritime Met. Punched Card (IMMPC) Data		1960-1981
233	Selected Ships	1982-	
234	OWS	1982-	
235	RIGG, PLAT, Automatic Weather-Observing System (AWS; buoy)		1982-
239	British Navy (HM) Ships	1982-	
241	MetO GTS Receipts (primarily SHIP code; from MDB format)		**
&242	MetO GTS Receipts (SHIP code; raw messages from MetDb)		***
245	Royal Navy Ship's Logs 1938-47 (keyed by 2007)		
246	Antarctic Expeditions: Print./Published (held at Met. Office)		
247	Atmospheric Circ. Reconstructions over the Earth (ACRE) Data		
254	Int. Maritime Met. (IMM) Data (foreign or unknown origin)		
255	Undocumented TDF-11 Decks or MDB Series		

* Believed to be derived from the same original German punched cards as deck 192 (Table 6a).

** 1 Jan 1982-26 Jun 1998 (missing: Apr-Jun 82; Mar, Jun, Sep 85; Sep 88).

Some non-SHIP (e.g., BUOY) data may also be included in earlier years.

& Tentative assignment for a deck not yet obtained or not yet in use.

*** 21 Dec 1996-23 Feb 1998.

Table 6c. Deck assignments for early US National Data Buoy Center (NDBC) data (decks 876-882). Initially, separate deck numbers 876-880 were assigned to indicate hull design, etc.* At a later date, this convention was abandoned, such that decks 882 and 883 were used for all moored buoy data subsequently received by NCDC from NDBC. Approximate (output) time periods are also given: for Release 1b, only deck numbers 876-882 were output; for Release 1a (1980-) only deck number 883 was output.

Deck	Description	Approx. period
876	NDBC Data (High Capability Buoy; HCB)	1972-77
877	NDBC Data (Limited Capability Buoy; LCB)	1973-76

878	NDBC Data (Prototype Environmental Buoy; PEB)	1974-78
879	NDBC Data (5-meter Continental Shelf Buoys)	1974-78
880	NDBC Data (10-meter Continental Shelf Buoys)	1976-78
881	NDBC Data (Offshore Platforms)	1976-77
882	NDBC Data	1978-79

 * Hull design information is based on informal NCDC documentation (NCDC, 1972a and 1972b) and D. Gilhousen (NDBC) personal correspondence (13 Dec. 1995).

3. Platform Type for Marine Data¹

Integer

The Type of Observing Platform for the Marine Data

Missing: -9

The following description came from ICOADS document. See <http://icoads.noaa.gov/e-doc/lmr>.

The type of observing platform:

- 0 = US Navy or "deck" log, or unknown
- 1 = merchant ship or foreign military
- 2 = ocean station vessel--off station or station proximity unknown
- 3 = ocean station vessel--on station
- 4 = lightship
- 5 = ship
- 6 = moored buoy
- 7 = drifting buoy
- 8 = ice buoy [NOTE: currently unused]
- 9 = ice station (manned, including ships overwintering in ice)
- 10 = oceanographic station data (bottle and low-resolution CTD/XCTD data)
- 11 = mechanical/digital/micro bathythermograph (MBT)
- 12 = expendable bathythermograph (XBT)
- 13 = Coastal-Marine Automated Network (C-MAN) (NDBC operated)
- 14 = other coastal/island station
- 15 = fixed ocean platform (plat, rig)
- 16 = tide gauge
- 17 = high-resolution Conductivity-Temp.-Depth (CTD)/Expendable CTD (XCTD)
- 18 = profiling float
- 19 = undulating oceanographic recorder
- 20 = autonomous pinneped bathythermograph
- 21 = glider

[NOTE: PT settings 0-4 are derived from "OSV or Ship Indicator" in NCDC (1968); PT settings 0-1 are very poorly documented and probably should be regarded as equivalent to ship data (PT=5).]

LAND Subgroup /SupplementalData/Tracking/Land

Land subgroup contains Tracking Land table.

Table /SupplementalData/Tracking/Land/TrackingLand

1. Source flag for Land Station Data

Length 1

Character

Missing: 9

The following description came from ISD document. See

<http://www1.ncdc.noaa.gov/pub/data/ish/ish-format-document.pdf>

For ISD observations (ISPD ID 1000), this code corresponds to

GEOPHYSICAL-POINT-OBSERVATION data source flag (positions 28-28 of ISD record). The flag of a GEOPHYSICAL-POINT-OBSERVATION showing the source or combination of sources used in creating the observation. MIN: 1
MAX: Z

DOM: A general domain comprised of values 1-9 and A-E.
1 = DATSAV3 observation, candidate for merge with TD3280
(not yet merged, failed element checks)
2 = TD3280 observation, candidate for merge with DATSAV3
(not yet merged, failed element checks)
3 = DATSAV3/TD3280 merged observation
4 = DATSAV3 observation
5 = TD3280 observation
6 = ASOS/AWOS observation from NISPD
7 = ASOS/AWOS observation merged with DATSAV3
observation A = DATSAV3/TD3240 merged
observation, candidate for merge with TD3280 (not yet merged,
failed element checks)
B = TD3280/TD3240 merged observation, candidate for merge
with DATSAV3 (not yet merged, failed element
checks)
C = DATSAV3/TD3280/TD3240 merged observation
D = DATSAV3/TD3240 merged observation
E = TD3280/TD3240 merged observation
9 = Missing

2. **Report type code**

Length 5

Character

Missing: 99999

For ISD observations (ISPD ID 1000), this code corresponds to

GEOPHYSICAL-REPORT-TYPE code (positions 42-46 of ISD record).

The code that denotes the type of geophysical surface observation

DOM: A specific domain comprised of the characters in the ASCII character set.

FM-12 = SYNOP Report of surface observation from a fixed land station

FM-13 = SHIP Report of surface observation from a sea station

FM-14 = SYNOP MOBIL Report of surface observation from a mobile land station

FM-15 = METAR Aviation routine weather report

FM-16 = SPECI Aviation selected special weather report

FM-18 = BUOY Report of a buoy observation

SAO = Airways report (includes record specials)

AOSP = Airways special report (excluding record specials)

AERO = Aerological report

AUTO = Report from an automatic station

SY-AE = Synoptic and aero merged report

SY-SA = Synoptic and airways merged report

SY-MT = Synoptic and METAR merged report

SY-AU = Synoptic and auto merged report

SA-AU = Airways and auto merged report

S-S-A = Synoptic, airways, and auto merged report

BOGUS = Bogus report

SMARS = Supplementary airways station report

SOD = Summary of day report from U.S. ASOS or AWOS station

3. **Quality Control Indicators for sea level pressure value (sea level pressure field in Observations table) from source**

Length 5

Character

Missing: 99999

For ISD observations (ISPD ID 1000), this code corresponds to

For Russian Empire observations (ISPD 1003) this code corresponds to

4. **Quality Control Indicators for surface pressure value (surface pressure field in Observations table) from source**

Length 5

Character

Missing: 99999

V. Table of Original Sources group /TableOfOriginalSources

Table of Original Sources group contains Dataset Index table

Dataset Index table /TableOfOriginalSources/DatasetIndex

Dataset Index table contains a list of sources for the International Surface Pressure Data Bank Collection ID field in the Observation Types table.

ISPD Format Version

Length 3

Dataset String

Version of ISPD HDF5 format that data adhere to

-i.e. 0.1 for version 0.1

References

Data Documentation for Dataset 9290c, The Synoptic Climatology Network. C. The Former USSR (draft), National Climatic Data Center: version 1.0, February 28, 2005

International Comprehensive Ocean-Atmosphere Data Set (ICOADS): Release 2.5

Long Marine Reports/Fixed-length (LMR6/LMRF6), December 8, 2008

<http://icoads.noaa.gov/e-doc/lmr>

The International Maritime Meteorological Archive (IMMA) Format, Supplement C, March 14, 2007

http://icoads.noaa.gov/e-doc/imma/imma_short.pdf

Federal Climate Complex Data Documentation For Integrated Surface Hourly Data, National Climatic Data Center, June 21, 2004

Original HURDAT format Document, Atlantic Oceanographic and Meteorology Laboratory

http://www.aoml.noaa.gov/hrd/data_sub/hurdat.html

National Climatic Data Center Global Tropical Cyclone Stewardship, Michael C. Kruk, Kenneth Knapp, David Levinson, National Climatic Data Center

<http://ams.confex.com/ams/pdfpapers/138396.pdf>

<http://www.ncdc.noaa.gov/oa/ibtracs/>

1

The documents for the original data we included may become obsolete in the future. Please refer to the links below for the most recent documents.

<http://www.ISPD.noaa.gov/coads/doc.html>