Data format description

Tables below describes a data file format specified in GAW Report no. 188 and this format is used here. The file format consists of a header part and a data part and employs an ASCII encodeing.

Header

Line	Header item	Content
01	TITLE:	Observation title (parameter, temporal representative, etc.)
02	FILE NAME:	File name
03	DATA FORMAT:	Format version of this file that is given by the WDCGG
04	TOTAL LINES:	Number of total lines
05	HEADER LINES:	Number of header lines
06	DATA VERSION:	Data version of measurement data (see Section 5.2). The version is given by the WDCGG, and managed using the date.
07	STATION NAME:	Name of the station where the data were observed
08	STATION CATEGORY:	GAW station category
09	OBSERVATION CATEGORY:	Observation category defined in Section 3.3 (empty in meteorological data)
10	COUNTRY/TERRITORY:	The name of the country/territory where the station is located, or to which the ship or aircraft belongs is described here.
11	CONTRIBUTOR:	See section 2.2.1. (empty in meteorological data)
12	LATITUDE (degree):	Latitude of the station location (decimal)
13	LONGITUDE (degree):	Longitude of the station location (decimal)
14	ALTITUDE (m):	Altitude of the station above sea level
15	NUMBER OF SAMPLING HEIGHTS:	The number of sampling heights from the ground for vertical profile observation. Unity for ground based observation. (empty in meteorological data)
16	SAMPLING HEIGHTS (m):	The heights of the sampling intake from the ground. In the case of vertical profile observation, the heights are arranged in decreasing order (empty in meteorological data)
17	CONTACT POINT:	E-mail address, fax number, or telephone number of Contact person for measurement (empty in meteorological data)
18	PARAMETER:	Observation parameter
19	COVERING PERIOD:	Period of time in which measurement data are included.
20	TIME INTERVAL:	Temporal resolution of each measurement datum.
21	MEASUREMENT UNIT:	Unit of the mole fractions. (empty in meteorological data)
22	MEASUREMENT METHOD:	Measurement method employed. (empty in meteorological data)

23	SAMPLING TYPE:	See [Sampling type] in Annex 3. (empty in meteorological data)
24	TIME ZONE:	Reported time zone with reference to UTC
25	REFERENCE SCALE:	Scale (traceability) employed in the measurement. (empty in meteorological data)
26 - 29	CREDIT FOR USE:	This is a formal notification for data users. "For scientific purposes, access to these data is unlimited and provided without charge. By their use you accept that an offer of co-authorship will be made through personal contact with the data providers or owners whenever substantial use is made of their data. In all cases, an acknowledgement must be made to the data providers or owners and the data centre when these data areused within a publication.
30	COMMENTS:	Any comments necessary for data usage are described. A definition of remarks (see Section 2.6 and Table 8) is described if needed.

Records

Item name	Number of digits	"No Data"	Content	Supplementary explanation
DATE	10	9999-99-99	Beginning date of measurement (YYYY-MM-DD)	7 digits are used only for ice core to represent estimated year. The date for a monthly mean is the first date of the month. For example, 2005-02-01 is used for the monthly mean in February 2005.
TIME	5	99:99	Beginning time of measurement (hh:mm)	The time for a monthly or daily mean is represented as 00:00.
DATE	10	9999-99-99	End date of measurement (YYYY-MM-DD)	In the case of a continuous observation, end date is filled with ‘9999-99-99’.
TIME	5	99:99	End time of measurement (hh:mm)	In the case of a continuous observation, end time is filled with ‘99:99’.
DATA	10	-99999.999	Mole fractions	16 digits are used only for VOCs
ND	5	-9999	Number of data used to average the data	
SD	7	-999.99	Standard deviation	
F	5	-9999	Data flag	The details of data flags should be specified by the Contributor in the metadata.
CS	2	-9	Calculation Status indicating who provides the data. “0” means the Contributor. “1” means the WDCGG.	This value is added by the WDCGG.

REM	9	-99999999	Data remarks	Additional information on data to be included. The definition is described under “COMMENTS” of the header part.

Example

C01 TITLE: OCf daily mean data

C02 FILE NAME: badl1.improve.as.cs.ocf.nl.da.dat

C03 DATA FORMAT: Version 1.0

C04 TOTAL LINES: 44

C05 HEADER LINES: 32

C06 DATA VERSION:

C07 STATION NAME: Badlands NP

C08 STATION CATEGORY: global

C09 OBSERVATION CATEGORY: Air sampling observation at a stationary platform

C10 COUNTRY/TERRITORY: SD

C11 CONTRIBUTOR: improve

C12 LATITUDE: 43.74350

C13 LONGITUDE: -101.94120

C14 ALTITUDE: 736

C15 NUMBER OF SAMPLING HEIGHTS: 1

C16 SAMPLING HEIGHTS:

C17 CONTACT POINT: nmhyslop@ucdavis.edu

C18 PARAMETER: OCf

C19 COVERING PERIOD: 2017-01-01 2017-01-31

C20 TIME INTERVAL: daily

C21 MEASUREMENT UNIT: ug/m^3 LC

C22 MEASUREMENT METHOD:

C23 SAMPLING TYPE: continuous

C24 TIME ZONE: UTC

C25 MEASUREMENT SCALE:

C26 CREDIT FOR USE: This is a formal notification for data users. 'For scientific purposes, access to these data is unlimited

C27 and provided without charge. By their use you accept that an offer of co-authorship will be made through personal contact

C28 with the data providers or owners whenever substantial use is made of their data. In all cases, an acknowledgement

C29 must be made to the data providers or owners and the data centre when these data are used within a publication.'

C30 COMMENT:

C31

C32 DATE TIME DATE TIME DATA ND SD F CS REM

2017-01-04 00:00 9999-99-99 99:99 0.398 -9999 0.09 8 -9 -99999999

2017-01-07 00:00 9999-99-99 99:99 0.495 -9999 0.09 8 -9 -99999999

2017-01-10 00:00 9999-99-99 99:99 0.658 -9999 0.10 8 -9 -99999999

2017-01-13 00:00 9999-99-99 99:99 0.851 -9999 0.11 8 -9 -99999999

2017-01-16 00:00 9999-99-99 99:99 0.483 -9999 0.09 8 -9 -99999999

2017-01-19 00:00 9999-99-99 99:99 0.779 -9999 0.10 8 -9 -99999999

2017-01-22 00:00 9999-99-99 99:99 0.431 -9999 0.09 8 -9 -99999999

2017-01-25 00:00 9999-99-99 99:99 0.175 -9999 0.08 8 -9 -99999999

2017-01-28 00:00 9999-99-99 99:99 0.213 -9999 0.08 8 -9 -99999999

2017-01-31 00:00 9999-99-99 99:99 0.210 -9999 0.08 8 -9 -99999999

File name convention

The following file naming convention is used (inspired by the GAW Report no. 188):

[Station code].[Contributor].[Observation category].[Sampling type].[Parameter].[Auxiliary item].[Data type].dat

An example is:

badl1.improve.as.cs.ocf.nl.da.dat

[**Station code**]:

e.g. badl1

[**Contributor**]:

e.g. improve

[**Observation category**]:

- as: Air observation at a stationary platform
- am: Air observation by a mobile platform
- ap: Vertical profile observation of air
- tc: Total column observation at a stationary platform
- hy: Hydrographic observation by ships
- ic: Ice core observation
- sf: Observation of surface seawater and overlying air

[**Sampling type**]:

- cn: Continuous or quasi-continuous in situ measurement
- fl: Analysis of air samples in flasks
- fi: Filter measurement
- rs: Remote sensing
- ic: Analysis of ice core samples
- bo: Analysis of samples in bottles
- ot: Other

[**Parameter**]:

e.g. ocf

[**Auxiliary item**]:

If a data file is NOT identified uniquely with the codes above, this field is filled with some characters to give a unique filename. Most files have *nl* in this field, which means *NULL*.

[**Data type**]:

- ev: Event sampling data
- om: One-minute mean data
- tm: Ten-minute mean data
- hrxxxx: Hourly mean data observed in the year xxxx
- da: Daily mean data
- mo: Monthly mean data

Status flags

The description of the various status flags are dot described in the header of the data file. Table below describes status flages deployed by the *Federal Land Manager Environmental* Database.

Status Flag	Description
H1 / 0	Historical data that have not been assessed or validated.
I0 / 1	Invalid value - unknown reason
I1 / 2	Invalid value - known reason
I2 / 3	Invalid value (-999), though sample-level flag seems valid (SEM)
M1 / 4	Missing value because no value is available
M2 / 5	Missing value because invalidated by data originator
M3 / 6	Missing value due to clogged filter
NA / 7	Not available from source data
V0 / 8	Valid value
V1 / 9	Valid value but comprised wholly or partially of below detection limit data
V2 / 10	Valid estimated value
V3 / 11	Valid interpolated value
V4 / 12	Valid value despite failing to meet some QC or statistical criteria
V5 / 13	Valid value but qualified because of possible contamination
V6 / 14	Valid value but qualified due to non-standard sampling conditions
V7 / 15	Valid value set equal to the detection limit (DL) since the value was below the DL
VM / 16	Valid modeled value
VS / 17	Valid substituted value