General In-Situ Data Submission Procedures

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RI-URBANS (101036245)

Data Submission Workshop,
Virtual, 16.november 2022

Data Submission Procedure

Step 1: Initial Contact with EBAS

Step 2: Create file

i. Metadata / header – Find template
ii. Assemble data

Step 3: Check file and submit

Step 4: Follow up of files – Issue tracker

Step 5: Data archived and accessible in user portals

Data Submission Procedure

Step 1: Initial Contact with EBAS

ATMO-ACCESS Homeless Data Portal - Request data curation services

We will provide IDs:

- the EBAS station code
- the EBAS platform code
- a code for your lab analyzing the data

Paris Chatelet

FR0041U

FR0041S

FR21L (Airparif)

Data Submission Procedure

Step 2: Create file

i. Metadata / header – Find template
ii. Assemble data

Tools:

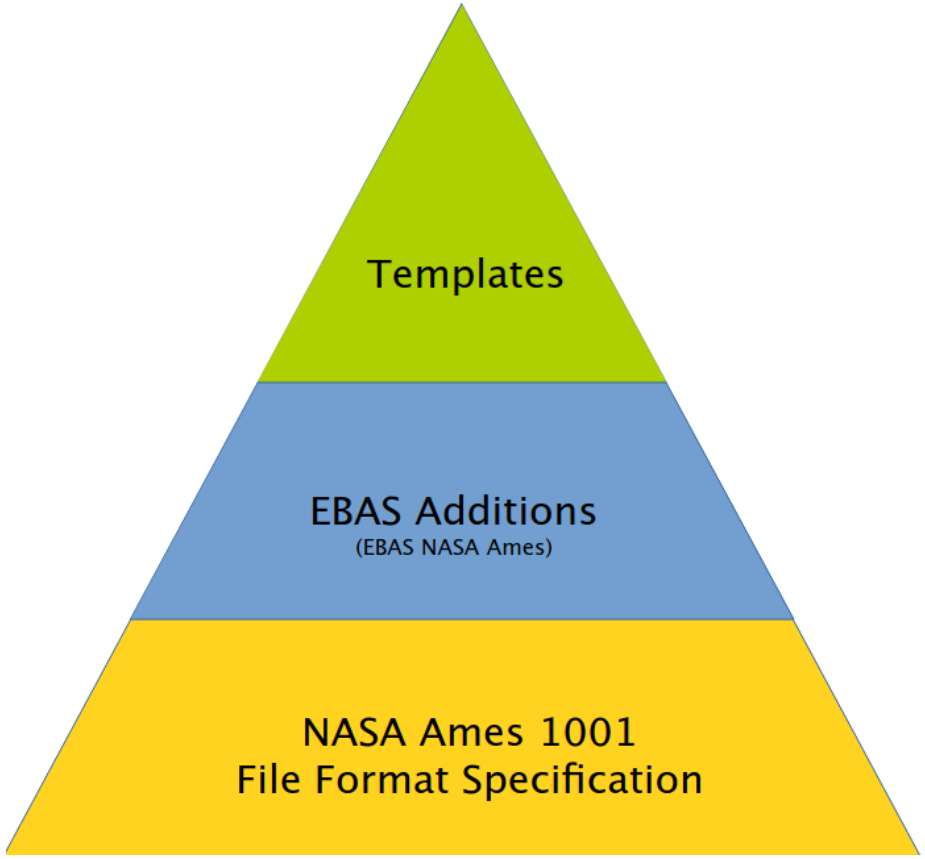
- **EBAS Data Submission Manual** (including templates and information about metadata elements): https://ebas-submit.nilu.no/
- **EBAS-io python package** (with Jupyter Notebook templates): https://git.nilu.no/ebas/ebas-io/-/wikis/home
- **EBAS file generation tool**: http://dev-ebas-file-generation-tool.nilu.no/

EBAS Data Submission Manual

- A good starting point: https://ebas-submit.nilu.no/
- Templates for different types of data
- Line by line, metadata by metadata explanation
- Templates can be used as a starting point (copy and paste) if you submit for the first time, but:
  - Walk through all metadata and customize to your station and instrument
  - Check if all variables are needed (delete those not needed, please do not report all data missing if one parameter is not measured!)
  - After finishing the header, add your data
- Alternative: create files by software or python (breakout session)

The EBAS NASA Ames File Format

- NASA Ames 1001 File Format
  - ASCII based file format
  - Long history at NILU
  - Metadata elements follow FAIR principles
  - NASA Ames File Format Specification
- Templates for different types of data



The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[  VSCAL(n),  n=1,NV  ]
[  VMISS(n),  n=1,NV  ]
[  VNAME(n)  ]   n=1,NV
NSCOML
[  SCOM(k)  ]   k=1,NSCOML
NNCOML
[  NCOM(k)  ]   k=1,NNCOML
[  X(m,1)   (  V(m,n),  n=1,NV  )  ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
numflag
0
61
```

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV
[ VMISS(n), n=1,NV
[ VNAME(n) ]  n=1,
NSCOML
[ SCOM(k) ]  k=1,N
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
```

```
99999.999999 999999.999999 999999.999999
```

Total number of header lines and format number

Remove or add a line to the header?
Change the first number!

Do not change the format number.

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCO
NNCOML
[ NCOM(k) ]  k=1,NNCO
[ X(m,1)  ( V(m,n), n
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
```

```
999.999999 999999.999999 999999.999999
```

Data originator / principal investigator name(s)

Details of the sponsoring organization/lab
Lab code given by EBAS team after first contact.

Data submitter(s) name(s)

Project acronym(s)
RI-URBANS

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV
[ VMISS(n), n=1,NV
[ VNAME(n) ]  n=1,
NSCOML
[ SCOM(k) ]  k=1,NSCOML
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
[illegible] 999999.999999 999999.999999 999999.999999
```

Volume number and total number of volumes

Not used.

Set to 1 1 to satisfy NASA Ames compatibility

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV
[ VMISS(n), n=1,NV
[ VNAME(n) ]  n=1,N
NSCOML
[ SCOM(k) ]  k=1,NS
NNCOML
[ NCOM(k) ]  k=1,NN
[ X(m,1)  ( V(m,n)
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
```

Reference date and revision date

Reference date: zero point/start point for the time axes in the file.

Revision date: When the file was last created or updated

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSC
NNCOML
[ NCOM(k) ]  k=1,NNC
[ X(m,1)  ( V(m,n),
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.99999999999999999999999999999999999999999999
```

Time interval between measurement start points.

For hourly averaged data (level 2):
Keep 1/24 = 0.041667

Do NOT change to 0 (non-uniform interval)

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCOML
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
uncertainty=6%
uncertainty=6%
uncertainty=6%
uncertainty=6%
uncertainty=6%
uncertainty=6%
```

Description of time unit

Only one supported description:
'days from file reference point'

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD   1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCO
NNCOML
[ NCOM(k) ]  k=1,NNCO
[ X(m,1)  ( V(m,n), n
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
numflag
0
```

Dependent variables/parameters

Generally: Use the template, remove statistics if not measured.

Valid parameters

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Mat
relative_humidity, %, Location=instrument inlet,
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurem  ertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measur  tainty=6%
numflag
0
```

Must be edited/changed if dependent variables are changed.

Number of dependent data columns

Multiplication factors, one per dependent variable, space separated (set to 1)

Missing value tags

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCOML
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
numflag
0
61
```

Number of special comments.
Not used, set to 0.

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[  VSCAL(n),  n=1,NV  ]
[  VMISS(n),  n=1,NV  ]
[  VNAME(n)  ]   n=1,NV
NSCOML
[  SCOM(k)  ]   k=1,NSCOML
NNCOML
[  NCOM(k)  ]   k=1,NNCOML
[  X(m,1)   (  V(m,n),  n=1,NV  )  ]
```

Filter Absorption Photometer Template

```
89 1001
Fiebig, Markus; Someone, Else
NO01L, Norwegian Institute for Air Research, NILU,, Instituttveien 18,, N-2027, Kjeller, Norway
Fiebig, Markus
GAW-WDCA
1 1
2008 01 01 2008 06 24
0.041667
days from file reference point
14
1 1 1 1 1 1 1 1 1 1 1 1 1
9999.999999 9999.99 9999.99 9999.99 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999 999999.999999
9.999999999999999999999999999999999999999999
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
numflag
0
61
```

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCOML
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

NNCOML:

Number of normal comment line (ex. 61)

NCOM:

Normal comment line

- All file global (file default) EBAS metadata
- Syntax in each line: <EBAS metadata tag>: <value>
- Last line: header comment/acknowledgement (FREE TEXT)

The EBAS NASA Ames File Format

Metadata elements

- Station
  - Match information from initial contact.
- Component, unit, matrix
  - Valid parameters
- Instrument
  - Instruments-manufactures-models in field
  - Instruments-manufactures-models in laboratory
- Time elements

Filter Absorption Photometer Template

```
Data definition:                        EBAS_1.1
Set type code:                          TU
Station code:                           NO0001R
Platform code:                          NO0001S
Timezone:                               UTC
Startdate:                              20080101000000
Revision date:                          20080624000000
Component:                              aerosol_absorption_coefficient
Unit:                                   1/Mm
Matrix:                                 pm10
Period code:                            1y
Resolution code:                        1h
Sample duration:                        1h
Laboratory code:                        NO01L
Instrument type:                        filter_absorption_photometer
Instrument manufacturer:                Radiance-Research
Instrument model:                       PSAP-3W
Instrument name:                        Radiance-Research_PSAP-3W_BIR_dry
Instrument serial number:               70810508
Method ref:                             NO01L_abs_coef_PSAP_v1
Orig. time res.:                        6mn
File name:                              NO0001R.20080101000000.20080624000000.aerosol_absorption_coefficient.pm10.1y.1h.nas
File creation:                          20170101000000
Station WDCA-ID:                        GAWANO__BIR
Station GAW-Name:                       Birkenes Atmospheric Observatory
Station GAW-ID:                         BIR
Station AIRS-ID:                        [this line is optional]
Station other IDs:                      201(NILUDB)
Station state/province:                 [this is line optional]
Station latitude:                       58.380
Station longitude:                      8.250
Station altitude:                       220m
Station land use:                       Forest
Station setting:                        Rural
Station GAW type:                       R
Station WMO region:                     6
Originator:                             Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Originator:                             Someone, Else, Someone@somewhere.no, Some nice Institute, WOW, Super interesting division, Street 18,,
X-9999, Paradise, Noway
Submitter:                              Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Data level:                             2
Version:                                1
Version description:                    initial revision, Adis_PSAP_lev0_2_lev1 v.0.0_2, Adis_PSAP_lev1_2_lev2 v.0.0.3
```

The EBAS NASA Ames File Format

Metadata elements

- Station
  - Match information from initial contact.
- Component, unit, matrix
  - Valid parameters
- Instrument
  - Instruments-manufactures-models in field
  - Instruments-manufactures-models in laboratory
- Time elements

Filter Absorption Photometer Template

```
Data definition:                    EBAS_1.1
Set type code:                      TU
Station code:                       NO0001R
Platform code:                      NO0001S
Timezone:                           UTC
Startdate:                          20080101000000
Revision date:                      20080624000000
Component:                          aerosol_absorption_coefficient
Unit:                               1/Mm
Matrix:                             pm10
Period code:                        1y
Resolution code:                    1h
Sample duration:                    1h
Laboratory code:                    NO01L
Instrument type:                    filter_absorption_photometer
Instrument manufacturer:            Radiance-Research
Instrument model:                   PSAP-3W
Instrument name:                    Radiance-Research_PSAP-3W_BIR_dry
Instrument serial number:           70810508
Method ref:                         NO01L_abs_coef_PSAP_v1
Orig. time res.:                    6mn
File name:                          NO0001R.20080101000000.20080624000000.aerosol_absorption_coefficient.pm10.1y.1h.nas
File creation:                      20170101000000
Station WDCA-ID:                    GAWANO__BIR
Station GAW-Name:                   Birkenes Atmospheric Observatory
Station GAW-ID:                     BIR
Station AIRS-ID:                    [this line is optional]
Station other IDs:                  201(NILUDB)
Station state/province:             [this is line optional]
Station latitude:                   58.380
Station longitude:                  8.250
Station altitude:                   220m
Station land use:                   Forest
Station setting:                    Rural
Station GAW type:                   R
Station WMO region:                 6
Originator:                         Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Originator:                         Someone, Else, Someone@somewhere.no, Some nice Institute, WOW, Super interesting division, Street 18,,
X-9999, Paradise, Noway
Submitter:                          Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Data level:                         2
Version:                            1
Version description:                initial revision, Adis_PSAP_lev0_2_lev1 v.0.0_2, Adis_PSAP_lev1_2_lev2 v.0.0.3
```

The EBAS NASA Ames File Format

Metadata elements

- Station
  - Match information from initial contact.
- Component, unit, matrix
  - Valid parameters
- Instrument
  - Instruments-manufactures-models in field
  - Instruments-manufactures-models in laboratory
- Time elements

Filter Absorption Photometer Template

```
Data definition:                        EBAS_1.1
Set type code:                          TU
Station code:                           NO0001R
Platform code:                          NO0001S
Timezone:                               UTC
Startdate:                              20080101000000
Revision date:                          20080624000000
Component:                              aerosol_absorption_coefficient
Unit:                                   1/Mm
Matrix:                                 pm10
Period code:                            1y
Resolution code:                        1h
Sample duration:                        1h
Laboratory code:                        NO01L
Instrument type:                        filter_absorption_photometer
Instrument manufacturer:                Radiance-Research
Instrument model:                       PSAP-3W
Instrument name:                        Radiance-Research_PSAP-3W_BIR_dry
Instrument serial number:               70810508
Method ref:                             NO01L_abs_coef_PSAP_v1
Orig. time res.:                        0min
File name:                              NO0001R.20080101000000.20080624000000.aerosol_absorption_coefficient.pm10.1y.1h.nas
File creation:                          20170101000000
Station WDCA-ID:                        GAWANO__BIR
Station GAW-Name:                       Birkenes Atmospheric Observatory
Station GAW-ID:                         BIR
Station AIRS-ID:                        [this line is optional]
Station other IDs:                      201(NILUDB)
Station state/province:                 [this is line optional]
Station latitude:                       58.380
Station longitude:                      8.250
Station altitude:                       220m
Station land use:                       Forest
Station setting:                        Rural
Station GAW type:                       R
Station WMO region:                     6
Originator:                             Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Originator:                             Someone, Else, Someone@somewhere.no, Some nice Institute, WOW, Super interesting division, Street 18,,
X-9999, Paradise, Noway
Submitter:                              Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Data level:                             2
Version:                                1
Version description:                    initial revision, Adis_PSAP_lev0_2_lev1 v.0.0_2, Adis_PSAP_lev1_2_lev2 v.0.0.3
```

The EBAS NASA Ames File Format

Metadata elements

- Station
  - Match information from initial contact.
- Component, unit, matrix
  - Valid parameters
- Instrument
  - Instruments-manufactures-models in field
  - Instruments-manufactures-models in laboratory
- Time elements

Filter Absorption Photometer Template

```
Data definition:                    EBAS 1.1
Set type code:                      TU
Station code:                       NO0001R
Platform code:                      NO0001S
Timezone:                           UTC
Startdate:                          20080101000000
Revision date:                      20080624000000
Component:                          aerosol_absorption_coefficient
Unit:                               1/Mm
Matrix:                             pm10
Period code:                        1y
Resolution code:                    1h
Sample duration:                    1h
Laboratory code:                    NO01L
Instrument type:                    filter_absorption_photometer
Instrument manufacturer:            Radiance-Research
Instrument model:                   PSAP-3W
Instrument name:                    Radiance-Research_PSAP-3W_BIR_dry
Instrument serial number:           70810508
Method ref:                         NO01L_abs_coef_PSAP_v1
Orig. time res.:                    6mn
File name:                          NO0001R.20080101000000.20080624000000.aerosol_absorption_coefficient.pm10.1y.1h.nas
File creation:                      20170101000000
Station WDCA-ID:                    GAWANO__BIR
Station GAW-Name:                   Birkenes Atmospheric Observatory
Station GAW-ID:                     BIR
Station AIRS-ID:                    [this line is optional]
Station other IDs:                  201(NILUDB)
Station state/province:             [this is line optional]
Station latitude:                   58.380
Station longitude:                  8.250
Station altitude:                   220m
Station land use:                   Forest
Station setting:                    Rural
Station GAW type:                   R
Station WMO region:                 6
Originator:                         Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Originator:                         Someone, Else, Someone@somewhere.no, Some nice Institute, WOW, Super interesting division, Street 18,,
X-9999, Paradise, Noway
Submitter:                          Fiebig, Markus, Markus.Fiebig@nilu.no, Norwegian Institute for Air Research, NILU, Atmosphere and Climate
Department, Instituttveien 18,, N-2027, Kjeller, Norway
Data level:                         2
Version:                            1
Version description:                initial revision, Adis_PSAP_lev0_2_lev1 v.0.0_2, Adis_PSAP_lev1_2_lev2 v.0.0.3
```

The EBAS NASA Ames File Format

Metadata elements

- Inlet type/description
  - Match matrix element
- Humidity
- Detection limit and measurement uncertainty
- QA measure
  - QA and currently known QA measures

Filter Absorption Photometer Template

```
Measurement height:                        4m
Inlet type:                                Impactor--direct
Inlet description:                         PM10 at ambient humidity inlet, Digitel, flow 140 l/min
Humidity/temperature control:              None
Humidity/temperature control description:  passive, sample heated from atmospheric to lab temperature
Volume std. temperature:                   273.15K
Volume std. pressure:                      1013.25hPa
Detection limit:                           0.1 1/Mm
Detection limit expl.:                     Determined by instrument noise characteristics, no detection limit flag used
Measurement uncertainty expl.:             typical value of unit-to-unit variability as estimated by Bond et al., 1999.
Zero/negative values code:                 Zero/negative possible
Zero/negative values:                      Zero and neg. values may appear due to statistical variations at very low concentrations
Standard method:                           Single-angle_Correction=Bond1999
QA measure ID:                             WCCAP-AP-2015-1
QA date:                                   20150922000000
QA document URL:                           "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
Comment:                                   Standard Bond et al. 1999 values for K1 and K2 used at all wavelengths
Acknowledgement:                           Request acknowledgement details from data originator
```

The EBAS NASA Ames File Format

Metadata elements

- Inlet type/description
  - Match matrix element
- Humidity
- Detection limit and measurement uncertainty
- QA measure
  - QA and currently known QA measures

Filter Absorption Photometer Template

```
Measurement height:                        4m
Inlet type:                                Impactor--direct
Inlet description:                         PM10 at ambient humidity inlet, Digitel, flow 140 l/min
Humidity/temperature control:              None
Humidity/temperature control description:  passive, sample heated from atmospheric to lab temperature
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Detection limit:                           0.1 1/Mm
Detection limit expl.:                     Determined by instrument noise characteristics, no detection limit flag used
Measurement uncertainty expl.:             typical value of unit-to-unit variability as estimated by Bond et al., 1999.
Zero/negative values code:                 Zero/negative possible
Zero/negative values:                      Zero and neg. values may appear due to statistical variations at very low concentrations
Standard method:                           Single-angle_Correction=Bond1999
QA measure ID:                             WCCAP-AP-2015-1
QA date:                                   20150922000000
QA document URL:                           "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
Comment:                                   Standard Bond et al. 1999 values for K1 and K2 used at all wavelengths
Acknowledgement:                           Request acknowledgement details from data originator
```

The EBAS NASA Ames File Format

Metadata elements

- Inlet type/description
  - Match matrix element
- Humidity
- Detection limit and measurement uncertainty
- QA measure
  - QA and currently known QA measures

Filter Absorption Photometer Template

```
Measurement height:                        4m
Inlet type:                                Impactor--direct
Inlet description:                         PM10 at ambient humidity inlet, Digitel, flow 140 l/min
Humidity/temperature control:              None
Humidity/temperature control description:  passive, sample heated from atmospheric to lab temperature
Volume std. temperature:                   273.15K
Volume std. pressure:                      1013.25hPa
Detection limit:                           0.1 1/Mm
Detection limit expl.:                     Determined by instrument noise characteristics, no detection limit flag used
Measurement uncertainty expl.:             typical value of unit-to-unit variability as estimated by Bond et al., 1999.
Zero/negative values code:                 Zero/negative possible
Zero/negative values:                      Zero and neg. values may appear due to statistical variations at very low concentrations
Standard method:                           Single-angle_Correction=Bond1999
QA measure ID:                             WCCAP-AP-2015-1
QA date:                                   20150922000000
QA document URL:                           "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
Comment:                                   Standard Bond et al. 1999 values for K1 and K2 used at all wavelengths
Acknowledgement:                           Request acknowledgement details from data originator
```

The EBAS NASA Ames File Format

Metadata elements

- Inlet type/description
  - Match matrix element
- Humidity
- Detection limit and measurement uncertainty
- QA measure
  - QA and currently known QA measures

Filter Absorption Photometer Template

```
Measurement height:                       4m
Inlet type:                               Impactor--direct
Inlet description:                        PM10 at ambient humidity inlet, Digitel, flow 140 l/min
Humidity/temperature control:             None
Humidity/temperature control description: passive, sample heated from atmospheric to lab temperature
Volume std. temperature:                  273.15K
Volume std. pressure:                     1013.25hPa
Detection limit:                          0.1 1/Mm
Detection limit expl.:                    Determined by instrument noise characteristics, no detection limit flag used
Measurement uncertainty expl.:            typical value of unit-to-unit variability as estimated by Bond et al., 1999.
Zero/negative values code:                Zero/negative possible
Zero/negative values:                     Zero and neg. values may appear due to statistical variations at very low concentrations
Standard method:                          Single-angle Correction=Bond1999
QA measure ID:                            WCCAP-AP-2015-1
QA date:                                  20150922000000
QA document URL:                          "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
Comment:                                  Standard Bond et al. 1999 values for K1 and K2 used at all wavelengths
Acknowledgement:                          Request acknowledgement details from data originator
```

The EBAS NASA Ames File Format

Metadata elements

- Inlet type/description
  - Match matrix element
- Humidity
- Detection limit and measurement uncertainty
- QA measure
  - QA and currently known QA measures

Filter Absorption Photometer Template

```
Measurement height:                      4m
Inlet type:                              Impactor--direct
Inlet description:                       PM10 at ambient humidity inlet, Digitel, flow 140 l/min
Humidity/temperature control:            None
Humidity/temperature control description: passive, sample heated from atmospheric to lab temperature
Volume std. temperature:                 273.15K
Volume std. pressure:                    1013.25hPa
Detection limit:                         0.1 1/Mm
Detection limit expl.:                   Determined by instrument noise characteristics, no detection limit flag used
Measurement uncertainty expl.:           typical value of unit-to-unit variability as estimated by Bond et al., 1999.
Zero/negative values code:               Zero/negative possible
Zero/negative values:                    Zero and neg. values may appear due to statistical variations at very low concentrations
Standard method:                         Single-angle_Correction=Bond1999
QA measure ID:                           WCCAP-AP-2015-1
QA date:                                 20150922000000
QA document URL:                         "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
Comment:                                 Standard Bond et al. 1999 values for K1 and K2 used at all wavelengths
Acknowledgement:                         Request acknowledgement details from data originator
```

If you have the information
- Include it!

No information
- Write: 'None'
- Remove lines
  - Change numbers in file.

The EBAS NASA Ames File Format

NASA Ames File Format Specification

```
NLHEAD    1001
ONAME
ORG
SNAME
MNAME
IVOL    NVOL
DATE    RDATE
DX(1)
XNAME(1)
NV
[ VSCAL(n), n=1,NV ]
[ VMISS(n), n=1,NV ]
[ VNAME(n) ]  n=1,NV
NSCOML
[ SCOM(k) ]  k=1,NSCOML
NNCOML
[ NCOM(k) ]  k=1,NNCOML
[ X(m,1)  ( V(m,n), n=1,NV ) ]
```

Assemble data

starttime	endtime	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	aerosol_absorption_coefficient	flag
0.000000	0.041667	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.041667	0.083333	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.083333	0.125000	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.125000	0.166667	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.166667	0.208333	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.208333	0.250000	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.250000	0.291667	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.291667	0.333333	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.333333	0.375000	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.375000	0.416667	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.416667	0.458333	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.458333	0.500000	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.500000	0.541667	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.541667	0.583333	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		
0.583333	0.625000	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	999.999999	99.999999	999.999999	0.999000		

- starttime + dependent variables (endtime, variables, flag)
- Have a look at starttime-endtime format

Data Submission Procedure

Step 3: Check file and submit

Tools:

- **EBAS submit tool** (File check and submit): https://ebas-submit-tool.nilu.no/

File check

Select file... | Reset | Upload and check | Configuration...

NO0002R.20190101000000.20210527094221.filter_absorption_photometer.aerosol_absorption_coefficient.pm10.1y.1h.NO01L_Radiance-Research_PSAP-3W_BIR_dry.NO01L_abs_coef_PSAP_v1.lev2.nas

Recheck file | Save file | Submit file

File has been checked. See below for possible header and data errors.

File header errors (errors 0, warnings 0)

```
10  11
11  1 1 1 1 1 1 1 1 1 1
12  999.999999 999.999999 999.999999 999.999999 999.999999 999.999999 999.999999 999.999999 99.999999 999.999999 9.999999
13  end_time of measurement, days from the file reference point
14  aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=arithmetic mean
15  aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=percentile:15.87
16  aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=percentile:84.13
17  aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=arithmetic mean
18  aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=percentile:15.87
19  aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=percentile:84.13
20  aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=arithmetic mean
21  aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=percentile:15.87
22  aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=percentile:84.13
23  numflag, no unit
24  0
25  63
```

File data errors (returning up to a maximum of 1000 rows) (errors 0, warnings 27)

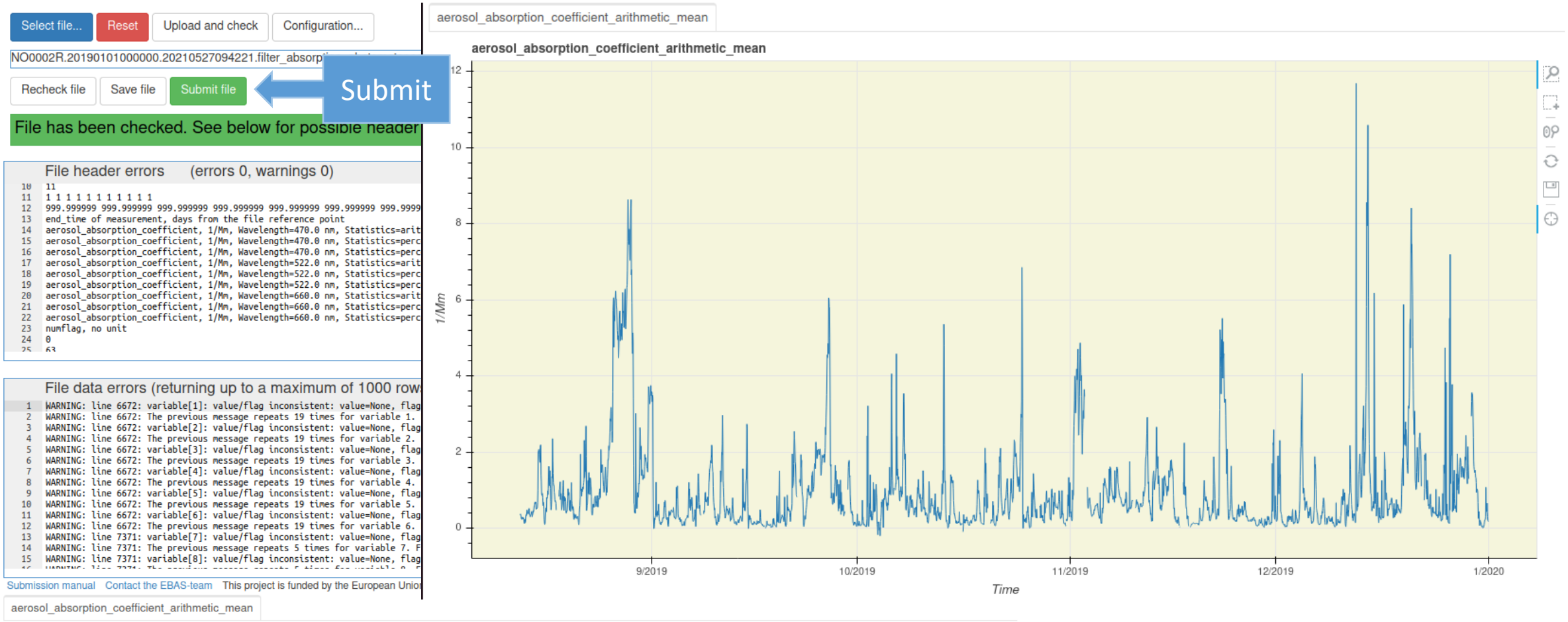
```
1   WARNING: line 6672: variable[1]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
2   WARNING: line 6672: The previous message repeats 19 times for variable 1. First occurrences in lines: 6672, 6991, 7033, 7034, 724
3   WARNING: line 6672: variable[2]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
4   WARNING: line 6672: The previous message repeats 19 times for variable 2. First occurrences in lines: 6672, 6991, 7033, 7034, 7244, ...
5   WARNING: line 6672: variable[3]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
6   WARNING: line 6672: The previous message repeats 19 times for variable 3. First occurrences in lines: 6672, 6991, 7033, 7034, 7244, ...
7   WARNING: line 6672: variable[4]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
8   WARNING: line 6672: The previous message repeats 19 times for variable 4. First occurrences in lines: 6672, 6991, 7033, 7034, 7244, ...
9   WARNING: line 6672: variable[5]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
10  WARNING: line 6672: The previous message repeats 19 times for variable 5. First occurrences in lines: 6672, 6991, 7033, 7034, 7244, ...
11  WARNING: line 6672: variable[6]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
12  WARNING: line 6672: The previous message repeats 19 times for variable 6. First occurrences in lines: 6672, 6991, 7033, 7034, 7244, ...
13  WARNING: line 7371: variable[7]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
14  WARNING: line 7371: The previous message repeats 5 times for variable 7. First occurrences in lines: 7371, 7767, 7800, 7802, 7804, ...
15  WARNING: line 7371: variable[8]: value/flag inconsistent: value=None, flags=[]; no missing or invalid flag: flag 999 added
```

No ERRORS is required, some warnings are usually ok but check them before submitting

Submission manual | Contact the EBAS-team | This project is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 654109 and by NILU. V.3.01.03p

aerosol_absorption_coefficient_arithmetic_mean

File check


Select file...
Reset
Upload and check
Configuration...
NO0002R.20190101000000.20210527094221.filter_absorp
Recheck file
Save file
Submit file
Submit
File has been checked. See below for possible header
File header errors (errors 0, warnings 0)
10 11
11 1 1 1 1 1 1 1 1 1 1
12 999.999999 999.999999 999.999999 999.999999 999.999999 999.999999 999.9999
13 end_time of measurement, days from the file reference point
14 aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=arit
15 aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=perc
16 aerosol_absorption_coefficient, 1/Mm, Wavelength=470.0 nm, Statistics=perc
17 aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=arit
18 aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=perc
19 aerosol_absorption_coefficient, 1/Mm, Wavelength=522.0 nm, Statistics=perc
20 aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=arit
21 aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=perc
22 aerosol_absorption_coefficient, 1/Mm, Wavelength=660.0 nm, Statistics=perc
23 numflag, no unit
24 0
25 63
File data errors (returning up to a maximum of 1000 row
1 WARNING: line 6672: variable[1]: value/flag inconsistent: value=None, flag
2 WARNING: line 6672: The previous message repeats 19 times for variable 1.
3 WARNING: line 6672: variable[2]: value/flag inconsistent: value=None, flag
4 WARNING: line 6672: The previous message repeats 19 times for variable 2.
5 WARNING: line 6672: variable[3]: value/flag inconsistent: value=None, flag
6 WARNING: line 6672: The previous message repeats 19 times for variable 3.
7 WARNING: line 6672: variable[4]: value/flag inconsistent: value=None, flag
8 WARNING: line 6672: The previous message repeats 19 times for variable 4.
9 WARNING: line 6672: variable[5]: value/flag inconsistent: value=None, flag
10 WARNING: line 6672: The previous message repeats 19 times for variable 5.
11 WARNING: line 6672: variable[6]: value/flag inconsistent: value=None, flag
12 WARNING: line 6672: The previous message repeats 19 times for variable 6.
13 WARNING: line 7371: variable[7]: value/flag inconsistent: value=None, flag
14 WARNING: line 7371: The previous message repeats 5 times for variable 7. F
15 WARNING: line 7371: variable[8]: value/flag inconsistent: value=None, flag
Submission manual
Contact the EBAS-team
This project is funded by the European Unio
aerosol_absorption_coefficient_arithmetic_mean
aerosol_absorption_coefficient_arithmetic_mean
aerosol_absorption_coefficient_arithmetic_mean
1/Mm
0
2
4
6
8
10
12
9/2019
10/2019
11/2019
12/2019
1/2020
Time

Data Submission Procedure

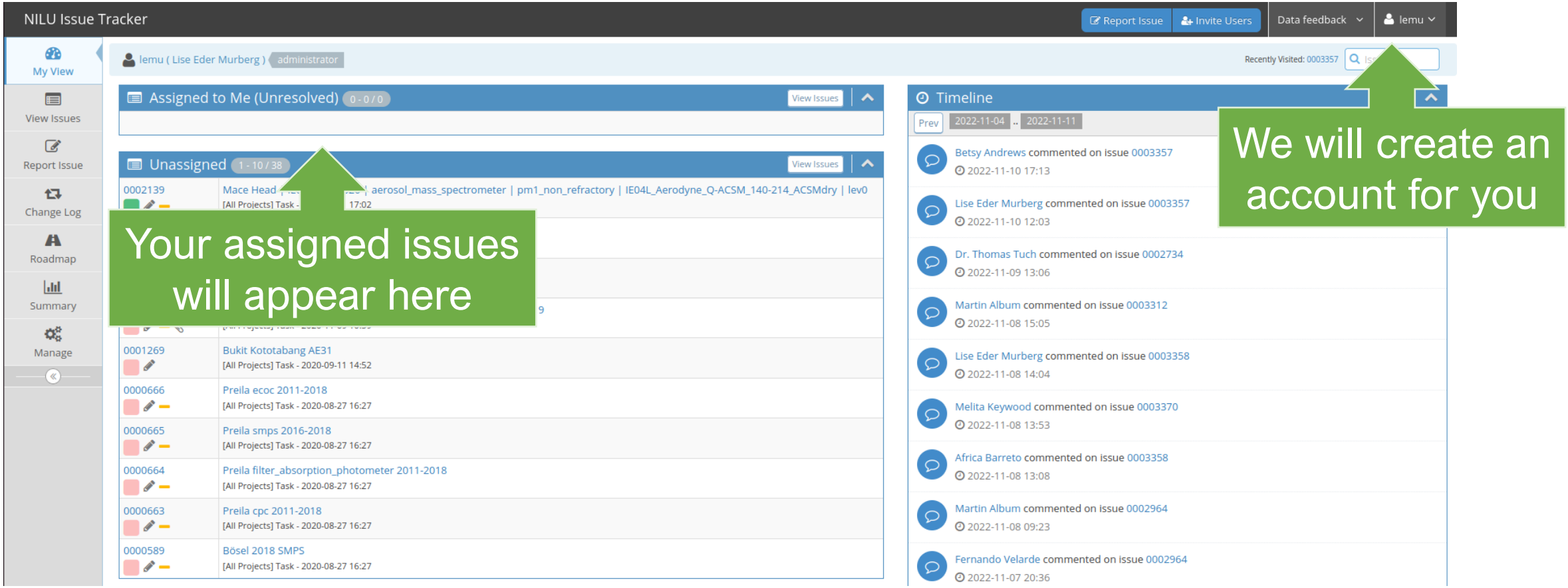
Step 4: Follow up of files / Issue tracker

- Communication of issues
- See progress of submitted files

Tools:

- **Mantis – NILU Issue Tracker**: https://mantis.nilu.no

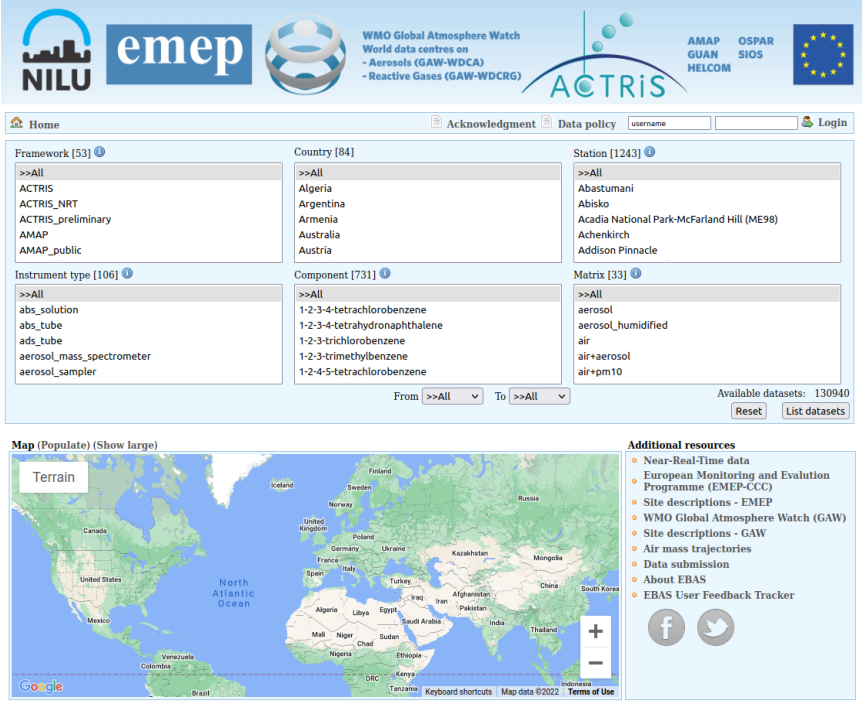
EBAS data issue tracking system



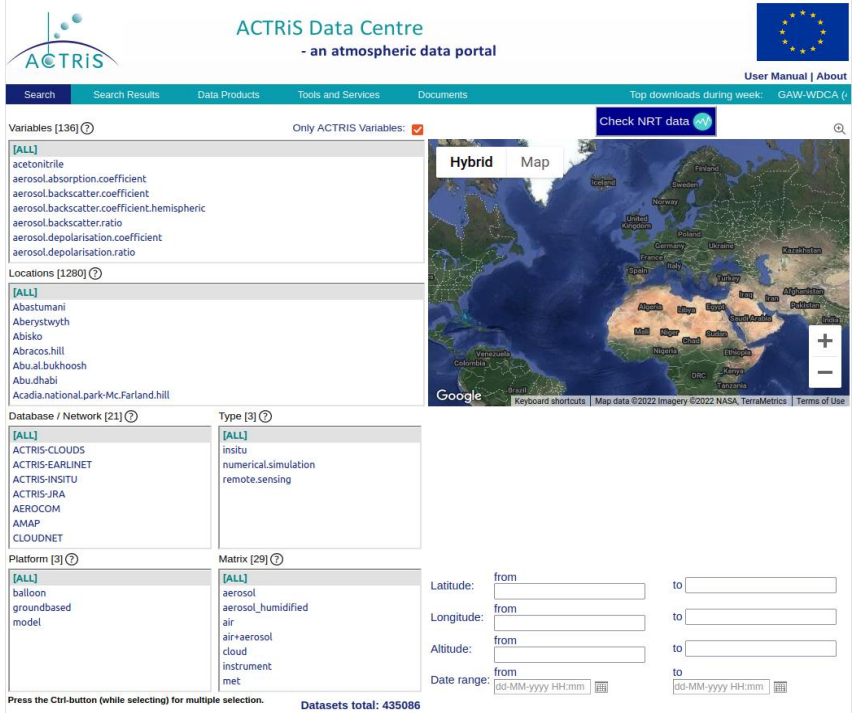
Data Submission Procedure

Step 5: Data archived and accessible in user portals

EBAS Data Portal



ACTRIS Data Portal



Questions?

Data Submission Workshop,
Virtual, 16.november 2022

Aerosol particle phase

- aerosol particle absorption coefficient / equivalent black carbon
- particle number concentration
- particle number size distribution

Data Submission Workshop,
Virtual, 16.november 2022

Aerosol particle absorption coefficient / equivalent black carbon

- Filter Absorption Photometer template
- Lev 2: Only Aerosol particle absorption coefficient.
- Explanation of eBC to APAC afterwards.

```
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Matrix=instrument
temperature, K, Location=instrument internal, Matrix=instrument
relative_humidity, %, Location=instrument inlet, Matrix=instrument
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:15.87, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=470 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=520 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
aerosol_absorption_coefficient, 1/Mm, Wavelength=660 nm, Statistics=percentile:84.13, Measurement uncertainty=6%
numflag
```

Aerosol particle absorption coefficient / equivalent black carbon

- Filter Absorption Photometer template

Group 0: Valid data		
Flag	**Validity**	**Description**
000	V	valid data, no flag
Group 1: Exception flags for accepted, irregular data		
Flag	**Validity**	**Description**
110	V	Episode data checked and accepted by data originator. Valid measurement
Group 3: Flags for aggregated datasets		
Flag	**Validity**	**Description**
390	V	Data completeness less than 50%
392	V	Data completeness less than 75%
394	V	Data completeness less than 90%
Group 5: Chemical problem		
Flag	**Validity**	**Description**
559	V	Unspecified contamination or local influence, but considered valid
Group 6: Mechanical or instrumental problem		
Flag	**Validity**	**Description**
640	V	Instrument internal relative humidity above 40%
Group 9: Missing flags		
Flag	**Validity**	**Description**
999	M	Missing measurement, unspecified reason

Aerosol particle absorption coefficient / equivalent black carbon

- Filter Absorption Photometer template

```
Standard method:                    Single-angle_Correction=Bond1999
QA measure ID:                      WCCAP-AP-2015-1
QA date:                            20150922000000
QA document URL:                    "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
```

- “Standard method” allows reference to the respective guidelines and SOPs.
  - Standard Operating Procedures and Measurement Guidelines for particulate matter and aerosol particle variables

Aerosol particle absorption coefficient / equivalent black carbon

- Filter Absorption Photometer template

```
Standard method:                    Single-angle_Correction=Bond1999
QA measure ID:                      WCCAP-AP-2015-1
QA date:                            20150922000000
QA document URL:                    "http://www.actris-ecac.eu/files/ECAC-report-AP-2015-1-7_NILU_AP-121.pdf"
```

- Quality assurance (QA) of the measurements:
  - QA measures can be an on-site or off-site intercomparison, round-robin or an on-site audit.
  - QA and currently known QA measures

Aerosol particle number concentration

- Condensation Particle Counter template

```
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=
relative_humidity, %, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=
temperature, K, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=
particle_number_concentration, 1/cm3, Statistics=arithmetic mean
particle_number_concentration, 1/cm3, Statistics=percentile:15.87
particle_number_concentration, 1/cm3, Statistics=percentile:84.13
numflag, no unit
```

Group 0: Valid data		
Flag	**Validity**	**Description**
000	V	valid data, no flag
Group 1: Exception flags for accepted, irregular data		
Flag	**Validity**	**Description**
110	V	Episode data checked and accepted by data originator. Valid measurement
Group 5: Chemical problem		
Flag	**Validity**	**Description**
559	V	Unspecified contamination or local influence, but considered valid
Group 6: Mechanical or instrumental problem		
Flag	**Validity**	**Description**
640	V	Instrument internal relative humidity above 40%
Group 9: Missing flags		
Flag	**Validity**	**Description**
980	M	Missing due to calibration or zero/span check
999	M	Missing measurement, unspecified reason

```
Standard method:                    None
```

```
QA1 measure ID:                 WCCAP-CPC-2020-2
QA1 date:                       20200317
QA1 document URL:               "http://www.actris-ecac.eu/files/ECAC-report-CPC-2020-2-20.pdf"
```

Aerosol particle number size distribution

- Coarse mode particle size distribution template
- Differential scanning mobility particle sizer template

```
end_time of measurement, days from the file reference point
pressure, hPa, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=, Measurement uncertainty=
relative_humidity, %, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=, Measurement uncertainty=
temperature, K, Location=instrument internal, Statistics=arithmetic mean, Matrix=instrument, Detection limit=, Detection limit expl.=, Measurement uncertainty=
particle_number_size_distribution, 1/cm3, D=10.0 nm, Statistics=arithmetic mean
particle_number_size_distribution, 1/cm3, D=10.0 nm, Statistics=percentile:15.87
particle_number_size_distribution, 1/cm3, D=10.0 nm, Statistics=percentile:84.13
particle_number_size_distribution, 1/cm3, D=12.0 nm, Statistics=arithmetic mean
particle_number_size_distribution, 1/cm3, D=12.0 nm, Statistics=percentile:15.87
particle_number_size_distribution, 1/cm3, D=12.0 nm, Statistics=percentile:84.13
particle_number_size_distribution, 1/cm3, D=14.0 nm, Statistics=arithmetic mean
```

...

```
particle_number_size_distribution, 1/cm3, D=800.0 nm, Statistics=arithmetic mean
particle_number_size_distribution, 1/cm3, D=800.0 nm, Statistics=percentile:15.87
particle_number_size_distribution, 1/cm3, D=800.0 nm, Statistics=percentile:84.13
numflag, no unit
```

Aerosol particle number size distribution

- Differential scanning mobility particle sizer template

Group 0: Valid data		
Flag	**Validity**	**Description**
000	V	valid data, no flag
Group 1: Exception flags for accepted, irregular data		
Flag	**Validity**	**Description**
110	V	Episode data checked and accepted by data originator. Valid measurement
Group 3: Flags for aggregated datasets		
Flag	**Validity**	**Description**
390	V	Data completeness less than 50%
392	V	Data completeness less than 75%
394	V	Data completeness less than 90%
Group 5: Chemical problem		
Flag	**Validity**	**Description**
559	V	Unspecified contamination or local influence, but considered valid
Group 6: Mechanical or instrumental problem		
Flag	**Validity**	**Description**
640	V	Instrument internal relative humidity above 40%
Group 9: Missing flags		
Flag	**Validity**	**Description**
999	M	Missing measurement, unspecified reason

+ Standard method
+ QA measures
+ All other metadata!!

Thank you!

Questions?

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