Aerosol In Situ Data Reporting for 2022

*ACTRIS Aesosol In Situ Community Meeting, 25 January 2023*

«The same procedure as last year, Miss Sophie?»
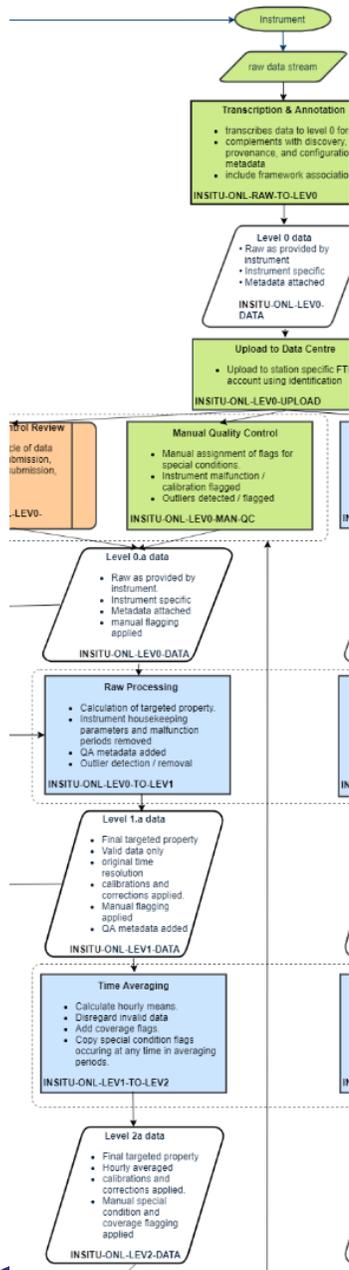
«The same procedure as EVERY year, James!»

What to be reported, and how?

- Reporting of all 3 data levels for each instrument: 0, 1, and 2.

- Applies to these ACTRIS aerosol in situ instrument types:
  - Integrating nephelometer
  - Filter absorption photometer (ALL flavours)
  - Mobility particle size spectrometer
  - Condensation particle counter
  - Cloud condensation nucleus counter
  - Aerosol chemical speciation monitor

- Exceptions (only level 2):
  - OC / EC
  - Aerodynamic particle size spectrometer
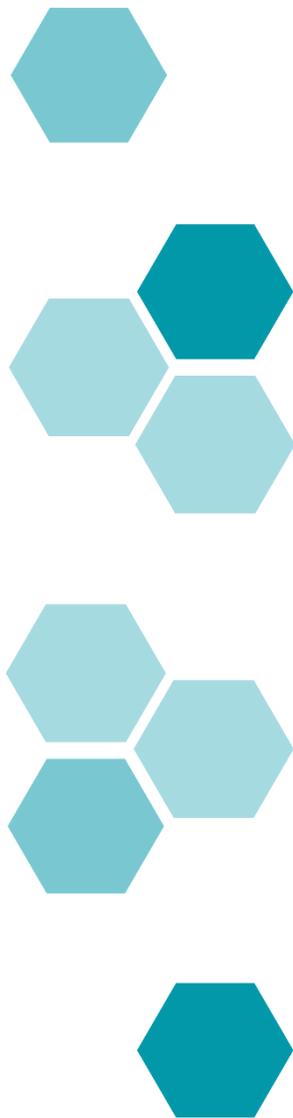
How are we working?

- National Facilities (NFs / stations) are responsible for data QC!

- Data QC: flagging happens from level 0 (raw as out of instrument) to level 0.a

- Data levels 0.a, 1.a, and 2.a are connected – have to be the same version.

- DC In Situ will create issues in Issue Tracker for each instrument and data level.

- Issues assigned to last year's responsible persons.

- Please notify DC In Situ immediately when responsible person changed!

- Upload finished data submissions to EBAS submission portal.

- **Deadline: 31 May!**

- Helpdesk in late May (use ebas@nilu.no).
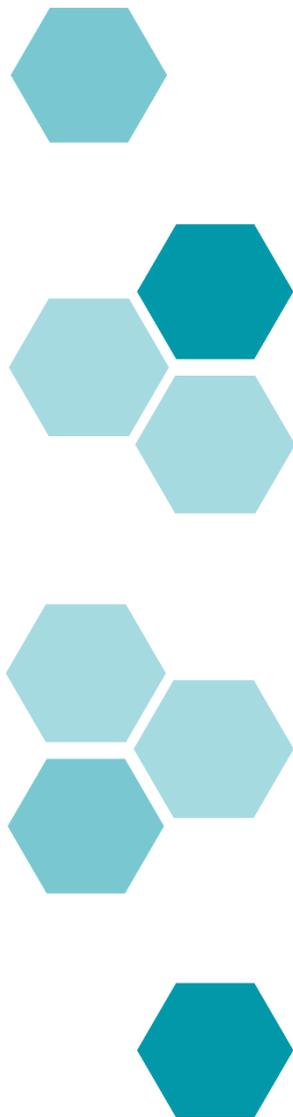
Data Quality Control How-To

- Consult data QC guidelines at ACTRIS ECAC homepage.
  (separate versions per instrument type)

- Consult templates at EBAS submission manual
  (separate templates per instrument type and data level)

- Pay attention to flag shortlists on template pages
  - Shortlist to make flagging more homogeneous
  - Shortlists vary between instrument type and data level
  - Shortlists slightly longer for level 0 than 1 and 2.

- Use flags 110 and 559 for spike, but instrument worked
  - 110 when you know reason for spike.
  - 559 when you don't know reason for spike.

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%
686	I	Invalid due to zero check. Used for Level 0.
687	I	Invalid due to span check. Used for Level 0.

Group 9: Missing flags		
Flag	**Validity**	**Description**
999	M	Missing measurement, unspecified reason

Further Points

- OPSS instruments are NOT on ACTRIS whitelist, but have been reported as ACTRIS in the past
    - Hohenpeissenberg
    - Montseny
    - Pic duMidi
    - OPE
    - La Reunion
    - DEM_Athens
    - Birkenes
- Please continue to report these, but under EMEP and GAW-WDCA
- Please do make sure to have «ACTRIS» in list of frameworks.
- Boundary checks on absorption coefficient data introduced – files overriding check by default will be rejected.
- Normal procedures for AE33: produce and submit all 3 data levels!
- Pay attention to special AE33 metadata elements: filter type (**DOUBLE CHECK!**), nominal flow rate, maximum attenuation, leakage factor zeta, compensation parameters (from setup file)
- Use opportunity: work on AE33 reprocessing in parallel.