



ATMO ACCESS
Access to Atmospheric Research Facilities

Title	Feedback meeting 3 with user panel, discussion of updates
Work package n°	5
Deliverable n°	22
Lead beneficiary	ICOS ERIC
Author(s)	Alex Vermeulen, Ute Karstens, Damien Boulanger, Lise Eder Murberg, Cathrine Lund Myhre, Valerie Thouret, Pawel Wolff, Nikolaos Evangeliou, Sabine Eckhardt
Deliverable Type	Minutes
Dissemination Level	Public
Estimated delivery date	30 September 2024
Actual delivery date	31 March 2025
Version	1.0
Reviewed by	
Accepted by	
Comments	





ATMO ACCESS
Access to Atmospheric Research Facilities

Table of Content

<i>Footprint Services</i>	3
ICOS Footprint Tool (GHG)	3
ACTRIS Footprint Tool (aerosols & BC)	4
IAGOS Footprint Tool (vertical gradients)	5
<i>Time-series analysis service</i>	7
<i>Homeless data</i>	10





Footprint Services

March 03, 2025 15:00-16:30 CET via [Zoom](#)

Participants: Ute Karstens (ICOS), Alex Vermeulen (ICOS), Nikolaos Evangeliou (ACTRIS), Lise Eder Murberg (ACTRIS) Damien Boulanger (IAGOS), Valérie Thouret (IAGOS), Samuel Hammer (ICOS Central Radiocarbon Lab), Clinton Nyathi (University of Witwatersrand-South Africa and TOAR-II), Fabian Maier (Max Planck Institute for Biogeochemistry), Jgor Arduini (University of Urbino-Italy/ ISAC-CNR-Italy), Rabia Ali Hundal (IUSS Pavia, Italy/ Univeristy of Urbino-Italy/ISAC CNR Bologna Italy), Kateřina Komínková (Global Change Research Institute CAS, Czech Republic), Filip Desmet (BIRA-IASB)

Agenda:

- For each of the three footprint services:
 - Brief introduction of the service
 - Summary of updates since the last user panel meeting
 - Feedback from the users
- Invitation to give feedback on all ATMO-ACCESS Virtual Access Services: [Virtual Access Feedback Form](#)
- Final remarks and future perspectives

Notes:

ICOS Footprint Tool (GHG)

Presented by Ute Karstens

Link to the presentation: [ATMO-ACCESS ICOS Footprint User Panel March 2025.pdf](#)

Updates:

- Flexpart footprint service for passive tracers added
 - footprints computed upon request through a separate form, now added to the ATMO ACCESS VA portal
 - global on 1x1 degree grid, European domain on 0.25 x 0.25 degree
 - ERA5 or IFS forecast meteorology
 - User can request calculations for different time intervals and footprint backward time
 - Custom list of 3D coordinates for receptor points
- STILT footprint tool
 - small technical updates behind the scenes
 - improved documentation





Planned further developments:

- Implementation of CO₂ fluxes from wild fire and ocean
- Implementation of N₂O
- Separating the calculation of footprints and concentrations
- Video tutorials and online workshops

Comments:

Sam Hammer:

Great to have now two different models (flexpart+stilt) available to generate footprints.

Q: Do they rely on different meteorological fields?

Answer: yes, STILT uses IFS operational analysis data, FLEXPART either ECMWF ERA5 or for the last three months ECMWF IFS analysis or forecast data.

Q: Will the full time resolved footprints become available or will we have still only make available the arrival time integrated footprint data.

Answer: Only time aggregated footprints are available in the tool. Backward timestep resolved STILT footprints are made available on special request in collaborations and projects.

Clinton Nyathi Wits:

Q: Can we get footprints for Africa?

A: Yes, please make use of the Flexpart footprint service

Fabian Maier:

Can we get hourly footprint calculations?

Q: Yes, that is possible for Flexpart and also for STILT this is on special request

Can we get footprint data for individual hourly backward steps within each footprint for an arrival time?

A: Unfortunately, not for STILT. We could do this in the FLEXPART footprint on special request. Please remember that this requires a lot of storage.

ACTRIS Footprint Tool (aerosols & BC)

Presented by Nikolaos Evangeliou

Link to the presentation :

https://nilu365-my.sharepoint.com/:p:/g/personal/ne_nilu_no/EVdeVMkOrLxInqnu5_FwJKoBgIRd1--ngZLrgSj9fx61w?e=6GNumC

Updates:

- Mostly in the core code of the service, not so obvious for the user.
- Forecast version now available
- Conversion from GFS to ECMWF meteorological fields
- Conversion from Flexpart version 10.4 to 11 is ongoing
- Clear statement how users should cite the service given on website





- Statistics show the large number of users, requests, CPU and storage requirements on the Norwegian super computing service.
- Results so far used in 7 research articles.

No immediate questions, but please feel free to email ne@nilu.no with questions, comments and feedback, but also use the online forms inside the service as we need this to document the service provision and user requirements with the Commission.

IGOS Footprint Tool (vertical gradients)

Presented by Damien Boulanger

Link to the presentation: [ATMO-ACCESS IGOS Footprint User Panel March 2025.pdf](#)

Updates:

- Implementation of a time filter
- Dropdown list with stations has now a better support for the search via keyboard
- Feedback button added
- SOFT-IO model data (CO contribution) issued from CAMS-GLOB-ANT emission inventory added
- Data used by the service are now updated daily

Planned further developments:

- Add data download

Comments:

IGOS Tool will possibly extended to data from the greenhouse gas module

Feedback form

Presented by Lise Eder Murberg

Link to feedback form <https://www.atmo-access.eu/virtual-access-feedback-form/>

The feedback form linked to the ATMO-ACCESS virtual access portal and the services. Users are encouraged to provide feedback also after this meeting via this form. This is important to document the service provision and user requirements for the Commission and will make it easier to justify why funding is needed to continue this service.

Future perspectives

Presented by Alex Vermeulen





ATMO ACCESS
Access to Atmospheric Research Facilities

RIs will try to keep the services running but will need additional funding to keep the same level of support, provide continued improvements based on the feedback from users and to provide scientific and technical support for users. This will need people behind the services, which is the most expensive part.

Suggestions for a possible funding scheme and continuation of the services are outlined in two documents that are part of the output of ATMO ACCESS. A deliverable describing the expected cost of the service, their scientific outcome and outreach activities is currently under review. Another document on the long-term strategy is also in preparation, it contains use cases and options for funding schemes.

Comment by Sam Hammer: The use of footprints in the selection of ICOS flasks that was provided using Flexpart forecast footprints (ICOS Footprint Tool) is a vital service for ICOS to avoid nuclear contaminations in the flask sampling.

Answer: This use case is not included in the document because it was not yet counted in the statistics.

All user feedback is important, and it helps to create a long-term strategy. Therefore, it is important that users properly acknowledge the services in publications by stating that results were supported by ATMO-ACCESS services, showing that these services contribute to scientific progress.





ATMO ACCESS
Access to Atmospheric Research Facilities

Time-series analysis service

March 05, 2025, 11:30-12:30 CET via Zoom

Participants: Damien Boulanger (CNRS/IAGOS), Valérie Thouret (UT/IAGOS), Julie Patuel (CNRS/IAGOS), Thibaut Lebourgeois (LAERO, CNRS), Wenche Aas (NILU/ACTRIS), Lise Eder Murberg (NILU/ACTRIS), Guillaume Brissebrat (CNRS/AERIS), Susanne Rohs (FZJ/IAGOS), Ute Karstens (ICOS), Carlos Ordonez (Madrid University)

Agenda:

- Introduction of the service
- Updates since the last user panel meeting
- Feedback from the users
- Invitation to give feedback on all ATMO-ACCESS Virtual Access Services: [Virtual Access Feedback Form](#)
- Final remarks and future perspectives

Link to the presentation:

[ATMO-ACCESS Timeseries analysis User Panel March 202025.pdf](#)

Notes:

- Introduction of the service by Damien (see presentation)
 - Description of the service: features, workflow, timeline
- Updates from the last user panel meeting by Damien (see presentation)
 - All the updates are based on specific demands from panelists during the last panel meetings
 - Data updates: better integration of ACTRIS data (thanks to a joint effort of ACTRIS-DC and developers of the service) + new variables for IAGOS (relative humidity, water vapor and temperature)
 - Improved ergonomoy: dropdown list of stations is searchable using keyboard in "Data search step"; new temporal filter and data availability in number of samples in "Data filter step"; align y axes in "Data analysis step"
- Feedback from the users
 - *Will it be possible to download the data corresponding to the plots (see Carlos comments)?* A: This is a planned feature
 - *Provide further information on methods used for Trends and other statistics:* A: A: Also a planned feature





- Issues of missing data or “too short” timeseries for trends analysis: proposition of merging datasets (mostly concerns ACTRIS datasets)
- *Comment from Wenche (NILU). Looked at time series from mainly ACTRIS sites (i.e. NO₂, aerosols absorption coefficient, EC/OC).*
 - *Several of the data series are originally in EBAS stored as separate time series (can be due to change in method or other metadata) and it would have been useful if the user can after plotting the data force time series to be combined for the statistical analysis.*
 - *Aerosol_absorption_coefficient: not clear which wavelengths have been used*
 - *EC and OC. A mixture of component names used which can be confusing. (i.e EC/OC together and elemental carbon, organic carbon separate)*
- *Comments by Carlos Ordóñez (UCM):*

Please see the feedback I provided from the online form (summary provided here):

 - *Very satisfied of the service*
 - *training resources do you think would be good to have : e-learning tutorials (with examples), Interactive webinars*
 - *Comments/suggestions:*
 - *It is a very nice time series analysis service, with access to a number of atmospheric components and meteorological parameters from different research infrastructures. There are different options for data selection and aggregation. The user can produce and download different kinds of figures, including histograms, box plots, time series and scatter plots of different fields. Moreover, the service provides three different options for trend calculations based on both parametric and non-parametric methods.*
 - *The plots are good and at this moment the only feature that is missing is the possibility of downloading the processed (e.g. daily, monthly, etc.) data. That could be very useful for additional scientific analyses, or to obtain time series that can be further analysed in statistics lectures as well as by Bachelor and Master theses.*
 - *Benefits from the service: Saving time, valuable scientific and technical support, Immediate access to the results / interactive analysis, Ready-to-use graphics*
 - *The service is very useful. Providing access to the datasets (e.g. as ascii files) that the users are plotting would be very helpful when they need to do additional analyses for research purposes. That would also be great to obtain processed time series that the students can use in statistics courses as well as in their Bachelor and Master theses.*
 - *I mainly use these datasets:*



ATMO ACCESS
Access to Atmospheric Research Facilities

- *O₃, CO and meteorological data (mainly profile data within the PBL) from IAGOS.*
- *CO, CH₄ and meteorological data from ICOS.*
- Final remarks and future perspectives
 - Sustainability of the service: IAGOS will maintain it in Toulouse, as long as ACTRIS and ICOS maintain the data flow in the appropriate format. Continuity with the IRISCC on-going project.
- In progress:
 - update of the Help page with more information for non-expert users
 - video tutorial should be ready for April 2025
- Planned:
 - Add a disclaimer as a message attached to the download on the responsibility of the scientific meaning
 - Implement the data download





Homeless data

4th of March 2025, 3:00 PM - 4:00 PM

Participants: Lise Eder Murberg, Yong Lin, Alexia Baudic, Angela Marinoni, Damien Boulanger, Duska, Evan Britton, Jeni Vasilescu, Leo, Lucyna Samek, Marco Zanatta, Marjan Savadkoohi, Milena Jovašević-Stojanović, Petra Ružičková, Susanne Rohs, Željko Ćirović and Benedetto De Rosa.

The agenda:

- Brief overview of the homeless data portal and the use of it
- Updates since the last meeting and long-term strategy
- Feedback and suggestions
- Feedback form

Minutes:

Brief overview of the homeless data portal and the use of it + updates since last meeting and long-term strategy

Presentation by Lise: [ATMO-ACCESS User_panel_2025-03-04.pptx](#)

Feedback and suggestions

Questions to you!

How is the user experience of the homeless data portal itself? // Any suggestions for changes to the portal?

- No comments

How is the user perspective on the data flow in the RIs? // Positive / negative feedback to the RI specific workflows? // Handling of "unregular" data?

- Jeni: Aerosol remote sensing, lidar data, Request and first steps is ok and went fast. However, it took some time to discuss metadata and formatting of data with DC before the data were finally in the database, ca. one month.

If you accessed through VA portal, but did not send a request; why not? // Will you use this type of service in the future?

- No comments.





User perspective on long-term strategy? // Is this a service you feel is beneficial for the scientific community? // Will you use this service for a cost you can include in your project? // Views on joint access point vs access through each RI?

- Marco Zanatta: if it is possible to host other types of data, non-traditional datasets, e.g., lev3. For example, datasets with several instruments and joining models and measurement data. Currently the homeless data portal and EBAS/ACTRIS do not offer this.
 - o Lise: Currently working on how to handle these types of data in EBAS. Hopefully a possibility in the future.
- About including the cost of data curation in the project
 - o Marco: not ideal, also depending on the price. A high price is unrealistic, while a lower price might be possible.
 - o Marco: One more inclusion, this might not even be allowed since the data has to be public in projects depending on the funding and thus also paying to make it public is not ideal.
- Cross RIs vs. Each RI
 - o Jeni: Depends on if the data is available in all relevant RIs. - more visibility of the data if metadata are shared and visible in all RIs. If the service is Cross RI, the end-product should also facilitate Cross RI visibility.

Feedback form

If you have more feedback after the meeting or have feedback to any of the other services, please fill out this form: <https://www.atmo-access.eu/virtual-access-feedback-form/>