ACTRIS | Data Centre

ACTRIS-EARLINET annual datasets 2024

How to access the data via the ACTRIS-EARLINET API

About these datasets

This record is part of the ACTRIS-EARLINET 2024 annual release for all ACTRIS-EARLINET stations. ACTRIS-EARLINET data are curated and provided by ARES (Aerosol REmote Sensing), the ACTRIS Research Infrastructure Data Centre unit responsible for data processing, data curation and quality control, and data provisioning for ACTRIS-EARLINET.

These datasets are DYNAMIC: the DOI does not point to a fixed file archive but to a live query on the ACTRIS-EARLINET API. The set of files can still grow after publication, because a station may process and upload 2024 data later. There is therefore no final, versioned inventory, so please always cite the dataset together with the date on which you retrieved it (see 'How to cite').

How a DOI maps to the data

Each variable DOI corresponds to one station, one optical variable and one emission wavelength, for the year 2024. A per-station collection groups all the variable DOIs of a station; a single general collection groups all stations.

Downloading the data from the API

Files are retrieved from the download endpoint, filtered by station, emission wavelength and optical variable. Queries must cover at most one month (fromDate / toDate), so one year of a variable is retrieved with twelve calls. The exact monthly links for this record are listed in its description on the repository; the pattern is:

```
GET https://api.actris-ares.eu/api/services/restapi/products/downloads
    ?kind=OPTICAL
    &stations=POT
    &fromDate=2024-01-01&toDate=2024-01-31
    &wavelength=355
    &opticaltype=backscatter
```

The response is a ZIP of the NetCDF files. 'opticaltype' selects the files that CONTAIN that variable, not a file type, so the same file can appear under more than one variable:

- backscatter returns all backscatter and extinction files;
- extinction and lidarratio return the extinction files;
- particledepolarization returns the backscatter files that carry depolarization (355 and 532 nm).

Browsing the metadata

To list products (without downloading) or to fetch a single file, use:

```
GET https://api.actris-ares.eu/api/services/restapi/opticalproducts
    ?stations=POT&fromDate=2024-01-01&toDate=2024-01-31

GET https://api.actris-ares.eu/api/services/restapi/opticalproducts/id/<id>/downloads
    (a single NetCDF file)
```

Interactive documentation (Swagger UI): https://api.actris-ares.eu/api/swagger-ui/

Citing and acknowledging the data

Because the dataset is dynamic, cite the DOI of the record together with the date you accessed the data, for example: ACTRIS-EARLINET (2024). <dataset title>. ACTRIS ARES Data Centre. <DOI> (accessed <YYYY-MM-DD>).

In publications, please also acknowledge the ARES unit:

> "The author(s) would like to thank the ACTRIS ARES Data Centre unit for providing the data on [name of the data / elaborated products]."

ACTRIS ARES Data Centre Unit (ROR: https://ror.org/011fna123).

File format and support

Files are NetCDF, following the ACTRIS-EARLINET data file structure. For questions on access or on the data, contact the ARES team at services@actris-ares.eu.