ACTRIS Data Centre: An atmospheric data portal
http://actris.nilu.no/

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What is ACTRIS?

The Aerosols, Clouds and Trace gases Research Infra-Structure (ACTRIS) is a European project integrating ground-based stations equipped with advanced instrumentation for studying aerosols, clouds, and short-lived gas-phase species. See also: http://www.actris.net
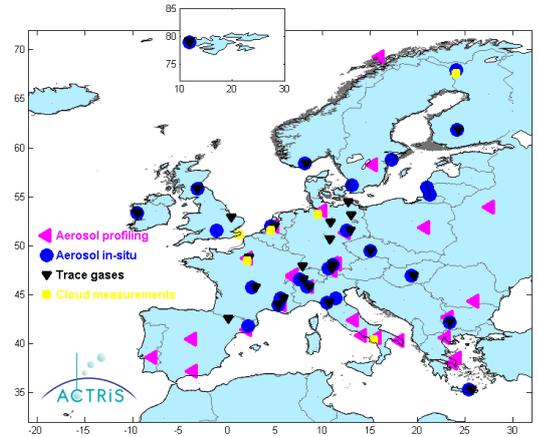
ACTRIS
- Improves measurements for numerous instruments from more than 60 European sites illustrated in the map to the right
- Ground based in situ core measurements are aerosol optical, physical and chemical properties, short-lived trace gases (volatile organic carbon and nitrogen oxides)
- Aerosol profile measurements provide aerosol scattering and extinction profiles, and more
- Cloud profile measurements providing water contents, phase (ice or liquid), microphysical quantities (particle size, number), and more

The ACTRIS data centre (ACTRIS DC) is giving free and open access to all data resulting from the activities of the infrastructure network, complemented with data from other relevant networks and data bases. The backbone of the ACTRIS DC archiving all ACTRIS measurements are

- EARLINET Data Base hosting aerosol lidar data from more than 30 European sites
- EBAS hosting ground based atmospheric in situ data from more than 1000 sites globally
- Cloudnet hosting remote sensing cloud data and products from 8+ European sites.

These data bases collect and archive all NRT and quality assured ACTRIS data. The joint data portal presented here is combining these data bases is an umbrella system building on the work achieved in GEOmon (EU FP6 Integrated project)

Snapshot of ACTRIS Data Centre, more on http://actris.nilu.no/

Basics about ACTRIS DC:

One goal: assist scientists with discovering and accessing atmospheric composition data. It contains an up-to-date catalogue of available datasets in a number of databases distributed throughout the world.

Number of data sets identified though the DC is now 46635.

Data bases and networks currently available are e.g. EMEP, EUSAAR, EUCAARI, EARLINET, CLOUDNET, NDACC, GAW-WDCA, GAWSIS-WDCGG...

Search & find data:
Search for atmospheric data across various data bases and networks, more will be implemented like AERONET.

Network affiliation:
The map shows an example with all sites reported data to GAWDCA with the information available in the balloon for Gosan: all variables measured at this site.


Collocation of measurements:
The map shows sites with measurements of absorption coefficient, black carbon (Elemental carbon) and extinction coefficient and collocation of these observations.

Download:
Most data can be downloaded. Access is regulated through data protocols. The example shows data from Hohepeissenberg. Some data are password protected (EUCARRI) some are open (EUSAAR, EMEP).
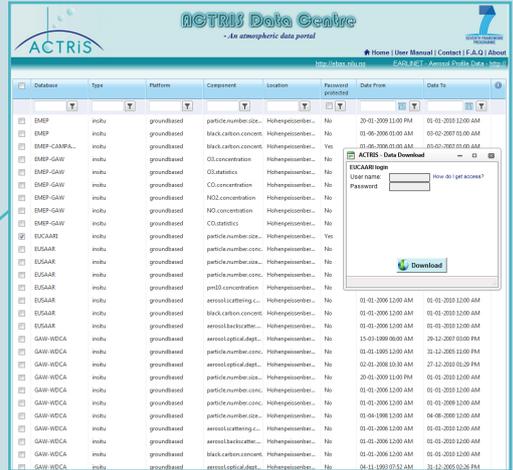
A few words on the data centre design:

A local metadata catalogue has been established to store information on datasets needed to perform a data search. This is a further development of the system that was established by NILU in the GEOmon project. The ACTRIS metadata catalogue is an ORACLE relational database application running on a Windows Server. The catalogue is updated via a series of perl-scripts– one script commonly reads in information (metadata) on datasets from one of the contributing databases, converts all the information into a common namespace and writes the information to the catalogue. The ACTRIS metadata catalogue is updated every night.

Future development in ACTRIS:

The data centre will provide tools and services to facilitate the use of measurements for broad user communities. Higher level and integrated products will be developed stage-by-stage during the project, and user requirements, interactions and feedbacks are essential. 2 other modules will be developed a "Data comparison and analysis" tool and a module for "Integration products" for new products not available from the data bases.

Interested? Contact Cathrine Lund Myhre, clm@nilu.no; or Aasmund Fahre Vik, afv@ni.u.no; or Kjetil Tørseth, kt@nilu.no. All suggestions as welcome!