ACTRIS data management of near-surface data

Athens 10-12 November 2015

Cathrine Lund Myhre, Markus Fiebig, Ann Mari Fjaeraa, Thomas Hamburger, Paul Eckhardt

NILU - Norsk institutt for luftforskning

Norwegian Institute for Air Research

Input on data management, QC, QA procedures from ACTRIS Data Centre

Tuesday

✓ **Requirements and process for data reporting of aerosol compounds issue tracker, QA metadata flagging gases and aerosol, use of data levels for NO_x/VOCs, NRT data reporting** *(Markus Fiebig)*

→ **Recent development and plans within ACTRIS DC** *(Cathrine Lund Myhre)*

- Definitions and concepts of ACTRIS data
- New release of EBAS web interfase
- Statistics and information available for you

→ **2014 ACTRIS near-surface data submission and status** *(Ann Mari Fjaeraa)*

- Are your data and sites a part of the ACTRIS 2014 data set?

Wednesday

→ **Closure studies for particle light scattering coefficient** *(Markus Fiebig)*

→ **Development and implementation of interactive consistency checks for near-surface data submission** *(Ann Mari Fjaeraa)*

- Including other information as recent development and changes in templates, plans for courses and trainings sessions, and others

→ **Increasing the number of NRT stations and instruments** *(Markus Fiebig)*

- Set up and tools offered to increase number of NRT stations

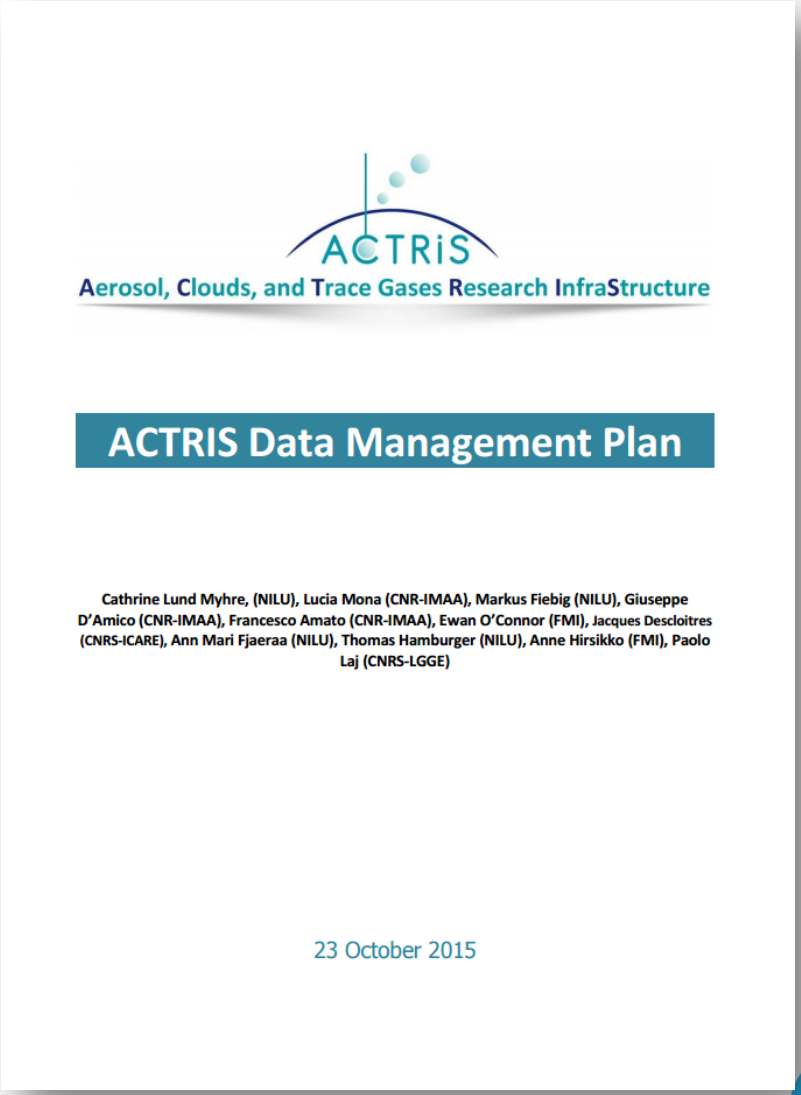
ACTRIS Data Management Plan

It might be good to know where to find information about

- What are the ACTRIS variables, for near-surface? For the full ACTRIS research infrastructure?
- What are ACTRIS data sets? What are the requirements?
- What are the recommended names to be used?
- What are the measurement methodologies used within ACTRIS?
- Information on the SOPs and recommendations
- Data Policy and the conditions of use of data
- Description the data repositories, archiving and access procedures, including storage and back up procedures…

The ACTRIS Data Management Plan published on the ACTRIS web in October answers to these questions

- See: http://www.actris.eu/DataServices/
- The document will undergo revision during ACRTIS-2, and new versions will be released



All ACTRIS near-surface variables are listed in the appendix

ACTRIS near-surface trace gas variable
Variable
NMHCs (C2-C9 hydrocarbons) *See detailed list*
OVOCs (oxidised volatile organic compounds a aldehydes, ketons, alcohols,) *See detailed list c the compounds at the end of the document*
Terpenes (biogenic hydrocarbons with a terpe structure) *See detailed list at the end of the document*
NO
NO2
NOy (NO, NO2, NO3, N2O5, HNO2, HNO3, PAN organic nitrates and aerosol nitrates sum of oxidized nitrogen species with an oxidation number >1, both organic and inorganic.)

Detailed list of trace gases included in ACTRIS - *Alkanes, Alkenes, Alkynes*

Alkanes	ethane	2-methylhexane	ethene	**Alkynes**	ethyne
	propane	n-heptane	propene		propyne
	2-methylpropane	2-2-4-trimethylpentane	trans-2-butene		1-butyne
	n-butane	3-methylheptane	1-butene		
	2-2-dimethylpropane	n-octane	2-methylpropene		
	2-methylbutane				
	n-pentane				
	cyclopentane				
	methyl-cyclopentane				
	2-2-dimethylbutane				
	2-3-dimethylbutane				
	2-methylpentane				
	3-methylpentane				
	cyclohexane				
	n-hexane				
	methyl-cyclohexane				
	2-2-3-trimethylbutane				
	2-3-dimethylpentane				
	2-2-dimethylpentane				
	2-4-dimethylpentane				
	3-3-dimethylpentane				
	3-methylhexane				

WP10 / Deliverable 10.1: ACTRIS Data Management Plan

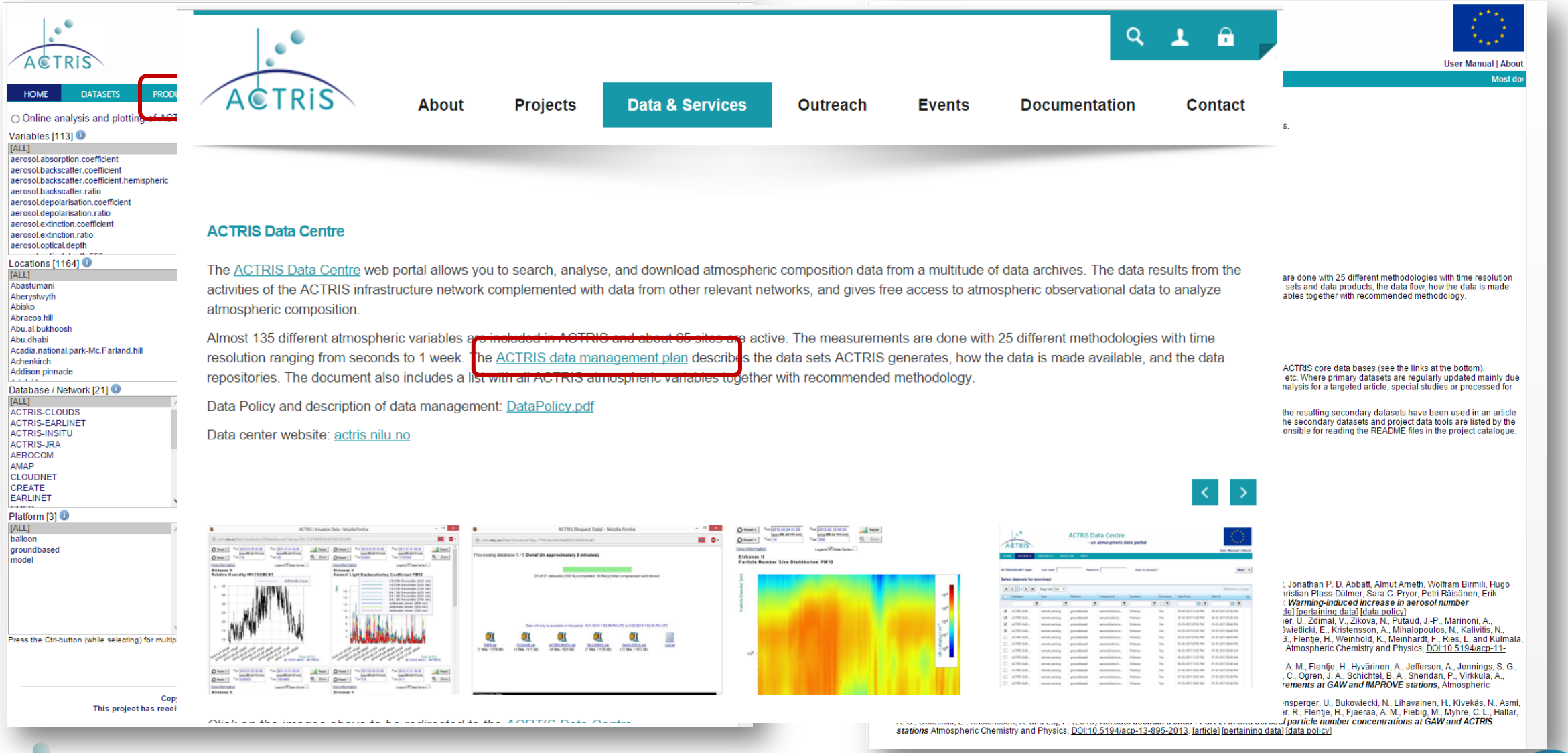
Detailed list of trace gases included in ACTRIS - *OVOCs, Terpenes, Aromatics*

OVOCs	methanol	methylethylketon		**Terpenes**	alpha-thujene	**Aromatics**	benzene
	ethanol	methacrolein			tricyclene		toluene
	isopropanol	methylvinylketon			alpha-pinene		ethylbenzene
	n-propanol	glyoxal			camphene		m-p-xylene
	n-butanol	methylglyoxal			sabinene		o-xylene
	methyl-butanol	butylacetat			myrcene		1-3-5-trimethylbenzene
	formaldehyde	acetonitrile			beta-pinene		1-2-4-trimethylbenzene
	acetaldehyde				alpha-phellandrene		1-2-3-trimethylbenzene
	n-propanal				3-carene		
	n-butanal				alpha-terpinene		
	pentanal				m-cymene		
	hexanal				cis-ocimene		
	heptanal				p-cymene		
	octanal				limonene		
	decanal				beta-phellandrene		
	undecanal				eucalyptol		
	benzaldehyde				gamma-terpinene		
	acrolein				terpinolene		
	acetone				camphor		

ACTRIS Near-surface reference SOP and recommendations

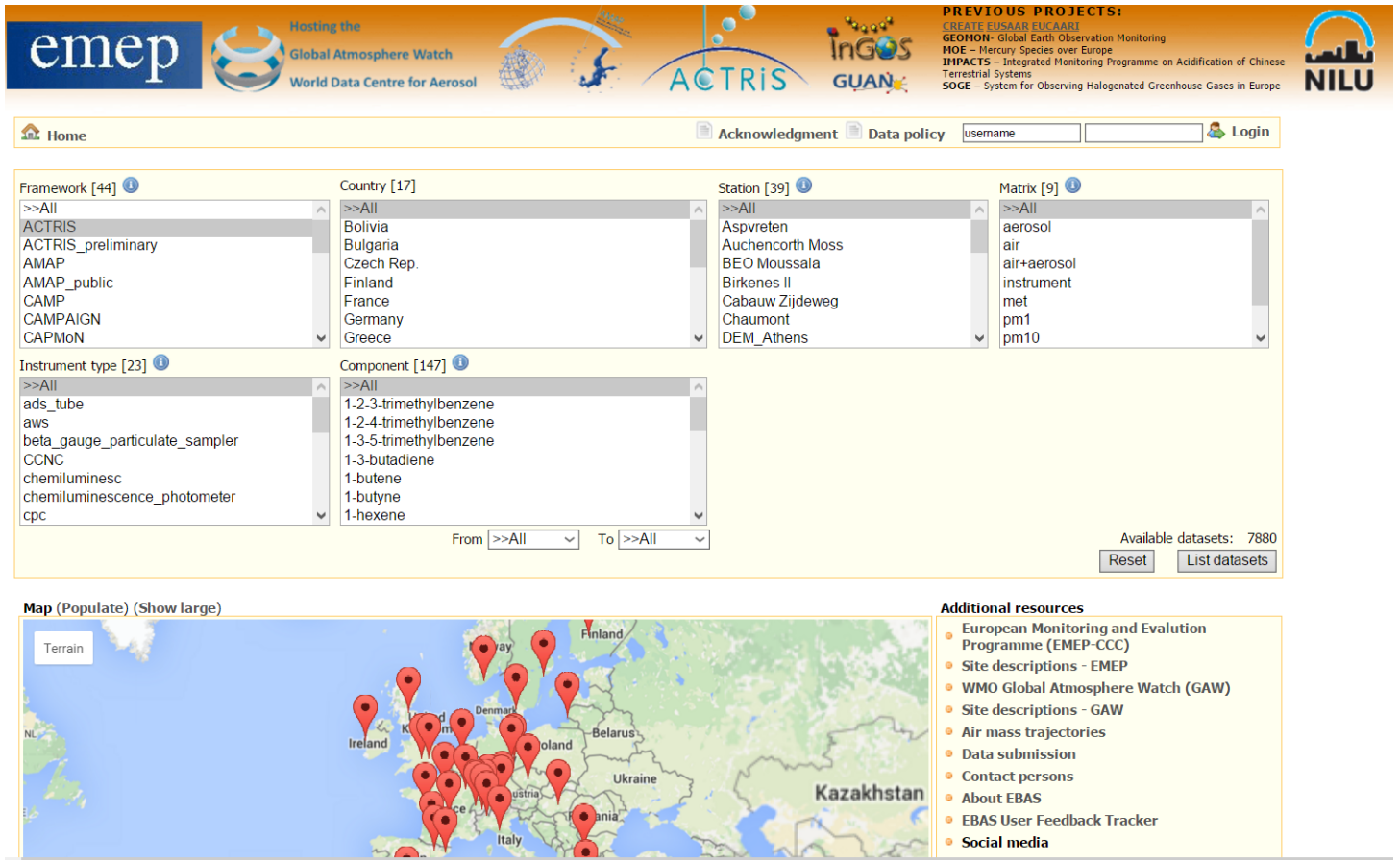
Variable	Reference SOP and recommendations
Particle light scattering coefficient	GAW report #200
Particle light absorption coefficient	GAW report #200
Particle number concentration	Wiedensohler et al., Atmos. Meas. Tech., 5, 657-685, 2012, doi:10.5194/amt-5-657-2012
Particle number size distributions (fine fraction)	Wiedensohler et al., Atmos. Meas. Tech., 5, 657-685, 2012, doi:10.5194/amt-5-657-2012
Particle number size distributions (coarse fraction)	ACTRIS protocol in preparation
Cloud condensation nuclei number concentration	ACTRIS protocol in preparation
Liquid Water Content	ACTRIS protocol in preparation, see also Guyot et al., Atmos. Meas. Tech. Discuss., 8, 5511-5563, doi:10.5194/amtd-8-5511-2015, 2015.
Particulate organic and elemental carbon mass concentrations (OC/EC)	EMEP/CCC (2014) Manual for sampling and chemical analysis. Chapter 4.22 (Last rev. February 2014). URL: http://www.nilu.no/projects/ccc/manual/index.html. See also Cavalli et al., Atmos. Meas. Tech., 3, 79-89, 2010, doi:10.5194/amt-3-79-2010
Particulate size-resolved chemical composition (organic & inorganic size-resolved mass speciation)	ACTRIS protocol in preparationSee also Ng, et al., Aerosol Science and Technology, 45:770-784. 2011, DOI:10.1080/02786826.2011.560211 and Fröhlichet al., Atmos. Meas. Tech., 6:3225-3241, 2013, doi:10.5194/amt-6-3225-2013.
Particulate levogluocsan mass concentration	Yttri et al,. Atmos. Meas. Tech., 8, 125–147, 2015, Further ACTRIS recommendations in preparation.
Volatile Organic Compounds (VOCs)	ACTRIS-FP7 Deliverable D4.9:Final SOPs for VOCs measurements http://www.actris.net/Portals/97/Publications/quality%20standards/WP4_D4.9_M42_30092014.pdf
NO_{xy}	ACTRIS-FP7 Deliverable D4.10: Standardized operating procedures (SOPs) for NOxy measurements http://www.actris.net/Portals/97/Publications/quality%20standards/WP4_D4.10_M42_140919.pdf

ACTRIS Data Management Plan



New release of EBAS web interface

- ✓ Download can now be customized (single/multi columns, flag columns)
- ✓ Data level is now shown in dataset list and metadata display
- ✓ Metadata display: shows dataset characteristics now (particle size, wavelength, location, profile height, ...)
- ✓ Latest version of export file generator is used (many bug fixes and improvements)
- ✓ Other bugs: framework associations, dmps data with many size bins are being plotted, Multiline plots legend now, the correct characteristics or statistics term is shown



New release of EBAS web interface

Month Dec 2015 Year 2015 From/To date 2015-10-10 09:37 2015-11-10 09:37 Download Plot

Group	Station	Station name	Instrument type	Component	Matrix	Resolution	Data level	Start time	End time
1	DE0044R	Melpitz	chemiluminescenc...	nitrogen_monoxide	air	1h	1.5	2011-01-01	2012-01-01
2	DE0044R	Melpitz	chemiluminescenc...	nitrogen_monoxide	air	1h	1.5	2012-01-01	2014-06-01
2	DE0044R	Melpitz	chemiluminescenc...	nitrogen_monoxide	air	1h	1.5	2011-01-01	2014-06-01
2	DE0044R	Melpitz	chemiluminescenc...	nitrogen_dioxide_plus	air	1h	1.5	2011-01-01	2014-06-01
1	DE0044R	Melpitz	chemiluminescenc...	nitrogen_dioxide_plus	air	1h	1.5	2011-01-01	2012-01-01
2	DE0044R	Melpitz	chemiluminescenc...	nitrogen_dioxide_plus	air	1h	1.5	2012-01-01	2014-06-01
1	FR0013R	Peyrusse Vieille	chemiluminescenc...	nitrogen_dioxide_plus	air	1h	2	2013-01-01	2014-01-01
3	DE0043G	Hohenpeissenberg	chemiluminescenc...	nitrogen_monoxide	air	1h	2	2011-01-01	2014-01-01
3	DE0043G	Hohenpeissenberg	chemiluminescenc...	nitrogen_dioxide	air	1h	2	2011-01-01	2014-01-01
1	FR0013R	Peyrusse Vieille	chemiluminescenc...	nitrogen_dioxide_plus	air	1h	2	2014-01-01	2015-01-01
3	FR0030R	Puy de Dôme	chemiluminescenc...	nitrogen_dioxide	air	1h	2	2011-01-01	2014-01-01
1	FR0013R	Peyrusse Vieille	chemiluminescenc...	nitrogen_monoxide	air	1h	2	2014-01-01	2015-01-01
3	FR0030R	Puy de Dôme	chemiluminescenc...	nitrogen_monoxide	air	1h	2	2011-01-01	2014-01-01
1	FR0013R	Peyrusse Vieille	chemiluminescenc...	nitrogen_monoxide	air	1h	2	2013-01-01	2014-01-01
1	IT0004R	Ispra	chemiluminescenc...	nitrogen_dioxide_plus	air	10mn		2011-01-01	2011-12-31
1	IT0004R	Ispra	chemiluminescenc...	nitrogen_monoxide	air	10mn		2011-01-01	2013-12-31
1	IT0004R	Ispra	chemiluminescenc...	nitrogen_monoxide	air	10mn		2011-01-01	2011-12-31
1	FI0050R	Hyytiälä	chemiluminesc	nitrogen_monoxide	air	1h		2012-01-01	2013-03-11

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Web statistics - Monitoring of EBAS and access

Last Update: 06 Nov 2015 - 12:15

Reported period: Oct 2015 OK

Back to main page

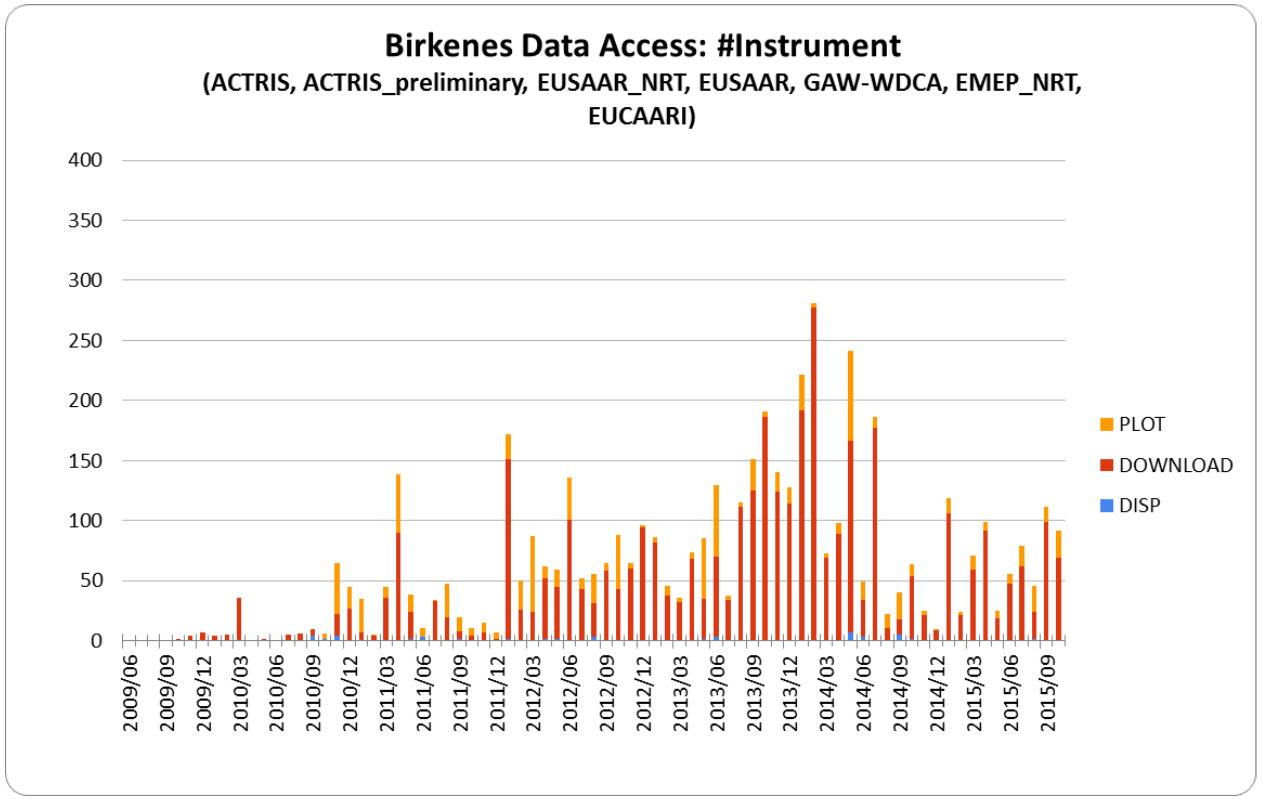
Visitors domains/countries

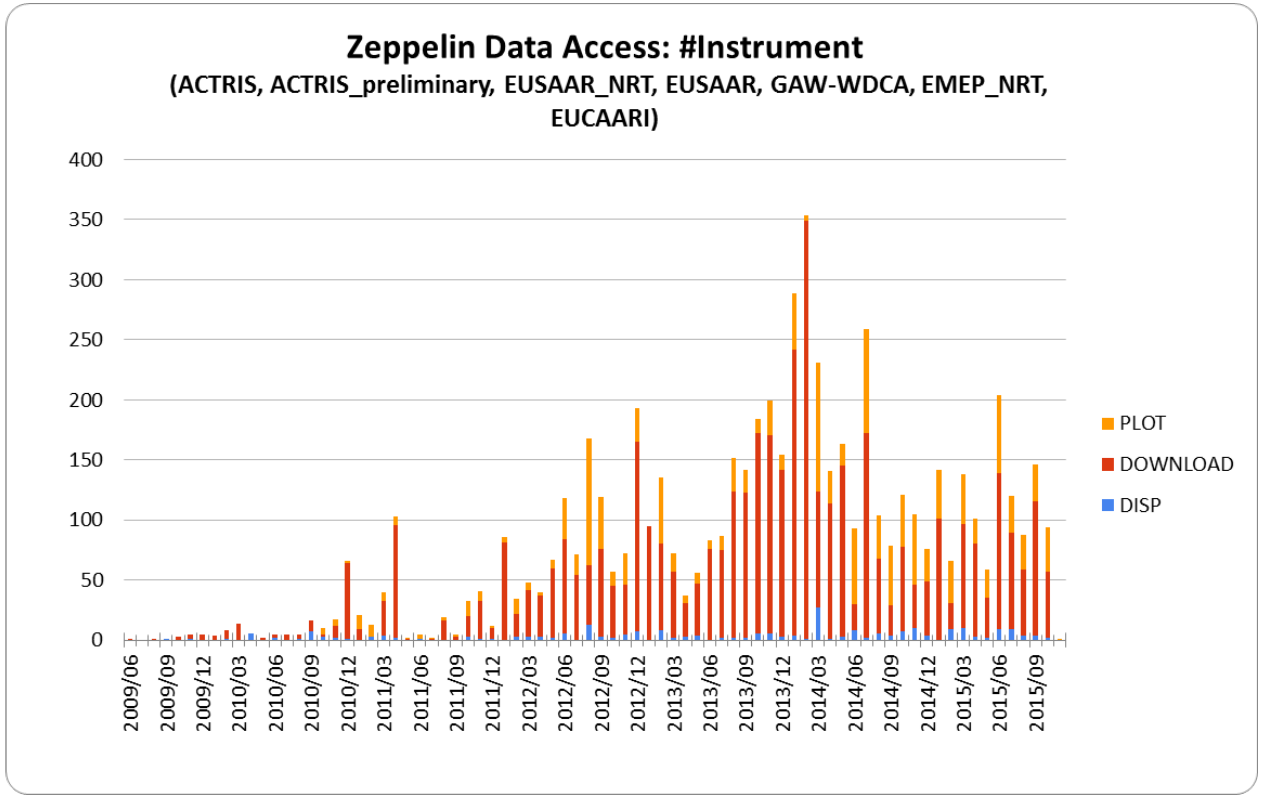
Domains/Countries		Pages	Hits	Bandwidth
Unknown	ip	10,451	15,677	1.22 GB
Network	net	4,383	5,555	441.66 MB
Germany	de	3,839	5,032	247.33 MB
Commercial	com	3,103	3,588	179.85 MB
France	fr	1,841	2,572	360.38 MB
United Kingdom	uk	1,748	2,174	93.46 MB
Norway	no	1,638	2,246	45.69 MB
Unknown	local	1,055	1,212	29.56 MB
Czech Republic	cz	772	1,097	25.95 MB
Canada	ca	754	1,020	94.34 MB
Finland	fi	696	955	41.94 MB
Sweden	se	606	1,048	52.93 MB
USA Educational	edu	602	923	62.76 MB
Denmark	dk	535	717	16.24 MB
Poland	pl	510	830	27.84 MB
USA Government	gov	470	581	14.03 MB
Netherlands	nl	452	638	29.79 MB
Spain	es	410	751	23.05 MB
Italy	it	299	502	15.93 MB
Singapore	sg	264	456	67.51 MB
Switzerland	ch	259	511	9.18 MB
Japan	jp	205	438	6.58 MB
Non-Profit Organizations	org	170	208	19.88 MB

Increase from 300 unique users per month in 2011 to 840 unique users per month in 2014

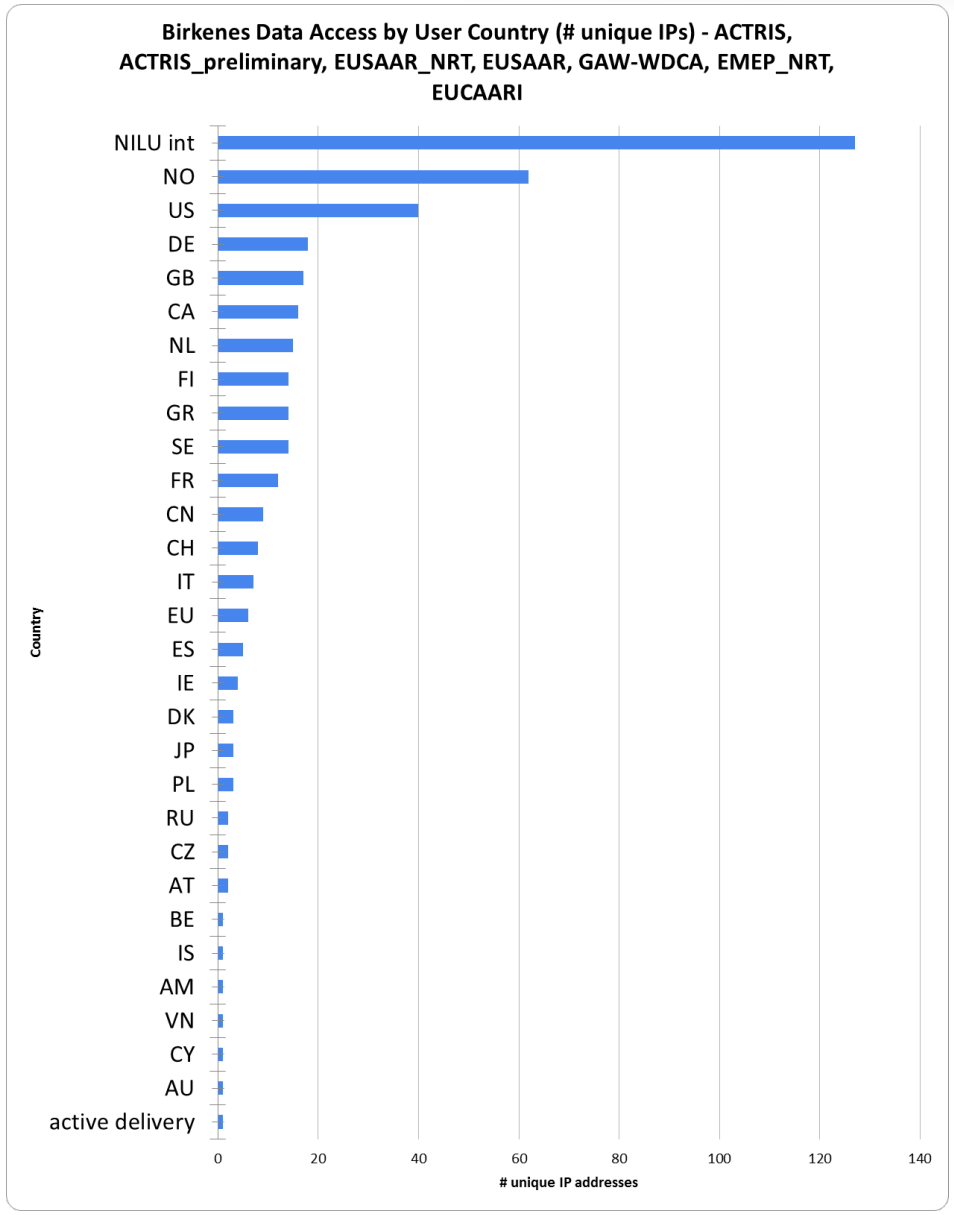
In depth user statistics

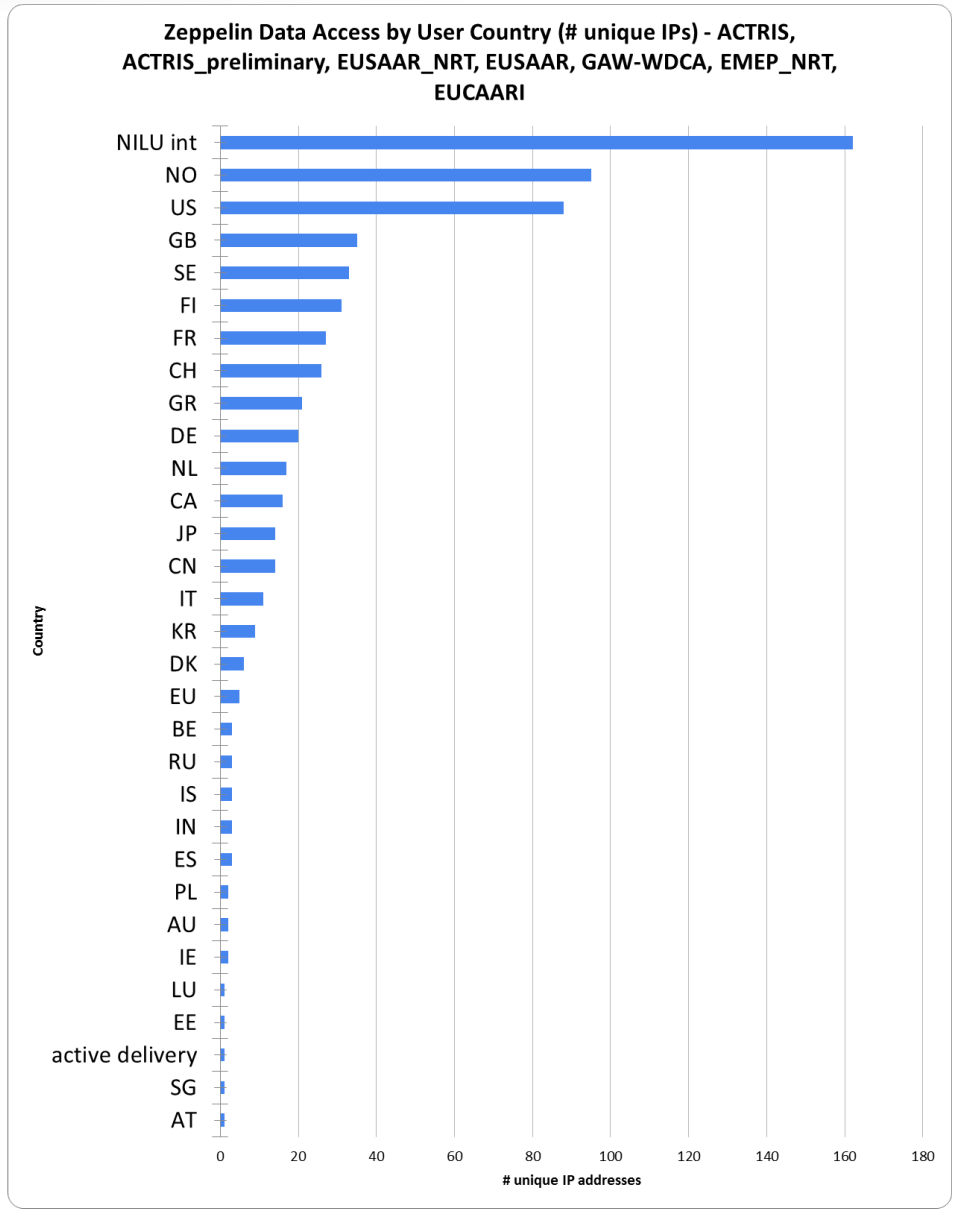
- We can provide specific user statistics for partners upon request
  - for sites, type of data, instruments, total for your country
  - For national use, e.g. the work with national ESFRI and road maps etc., as support with establishment of long-term funding, support for proposals,





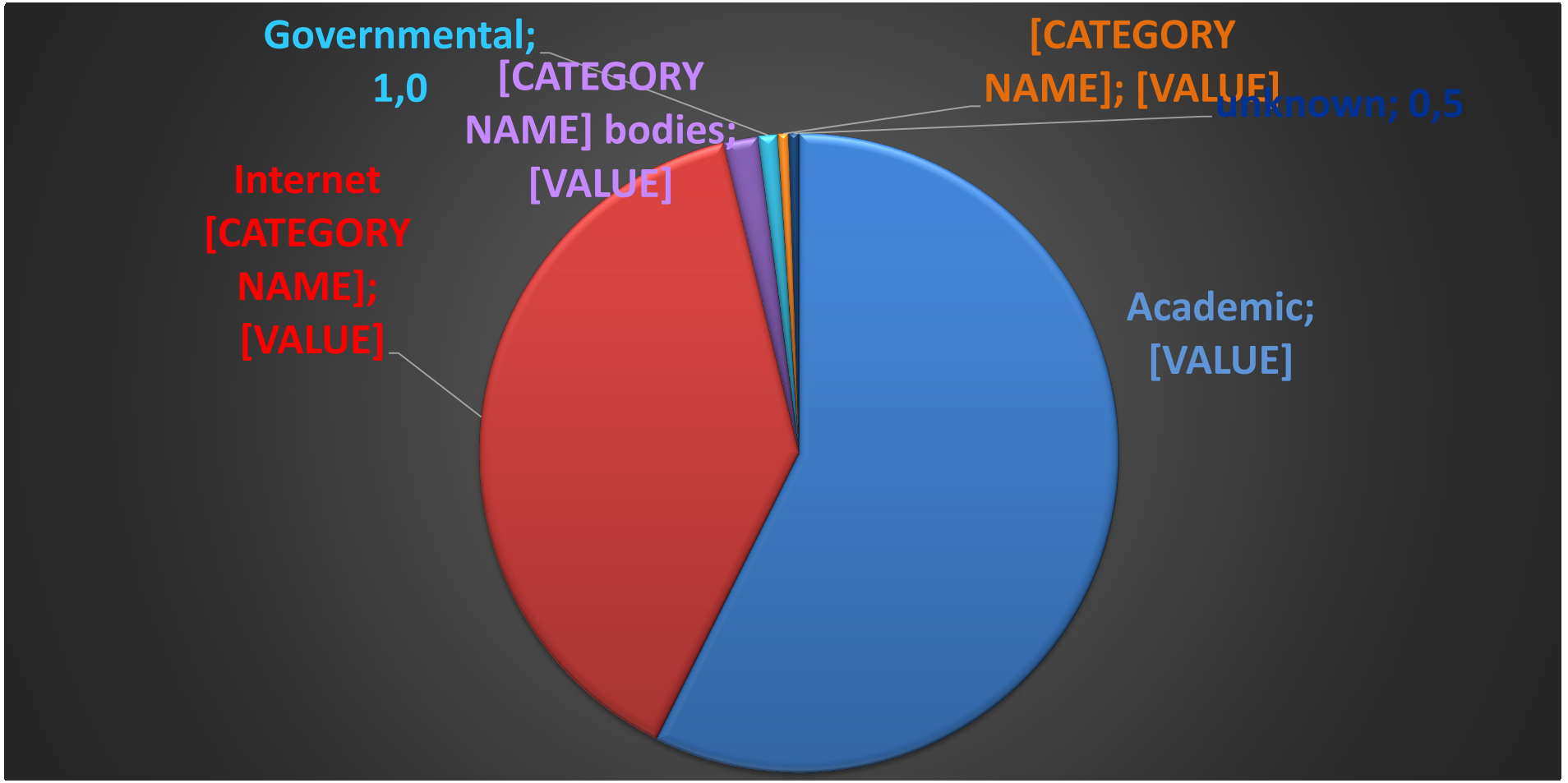
Where are the users of ACTRIS Birkenes and Zeppelin data?





Who are the users of ACTRIS near-surface data?

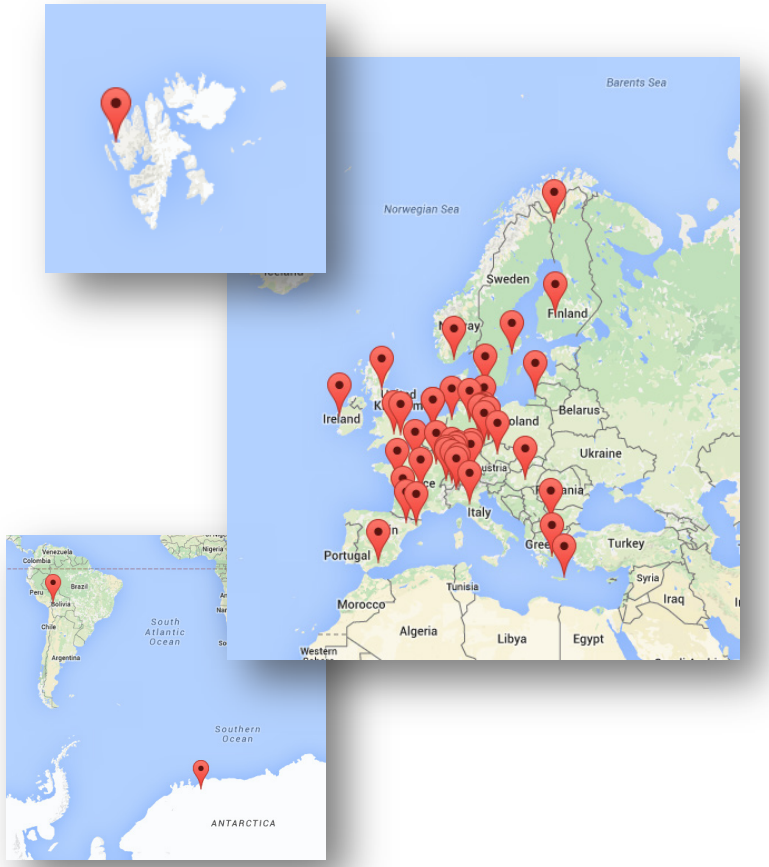
Metrics on download of all ACTRIS near surface data over the period May 2011-June 2015



Data submission status 2014

For ACTRIS near surface data, in EBAS now:

- Currently 52 sites,
- 17 countries,
- 27 methodologies,
- 148 components (including auxiliary data), high time resolution, long (and short) time series



It is very important and highly appreciated that you provide all these data, making the ACTRIS near-surface activity strong in the European RI landscape

We should all be happy and proud about this!

But please do not send the data the last few days and expect them to pop-up on the maps (see next presentation…) or in future deliverables (se next slide)

Ann Mari received more than 100 yearly data sets after her request last week

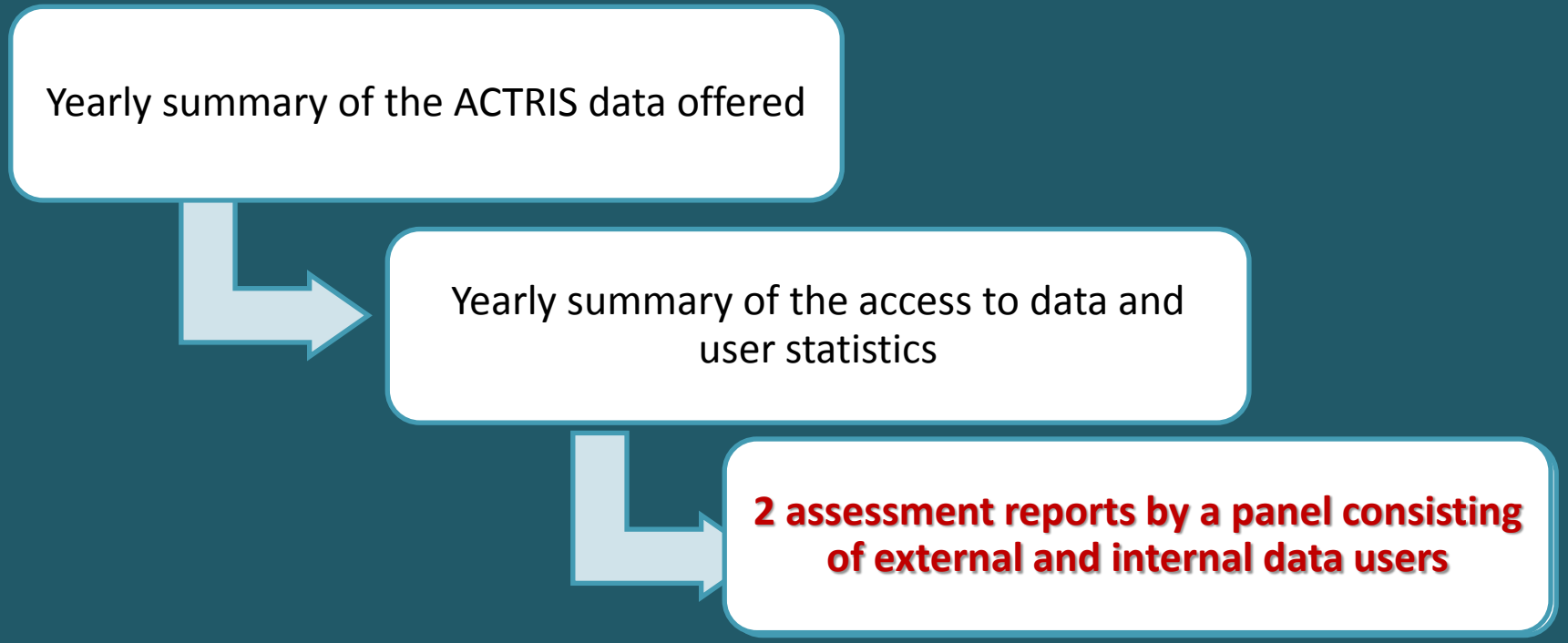
Mamma mia…

We need time to do our work properly and to have the expected and needed quality!

milestone(s) & deliverable(s)

2 types of Milestones and Deliverables

1. Progress of development and implementations of improved and new functionalities, QA/QC etc
2. Reports with Information on yearly data provision per site, access and use per variable etc



Please note

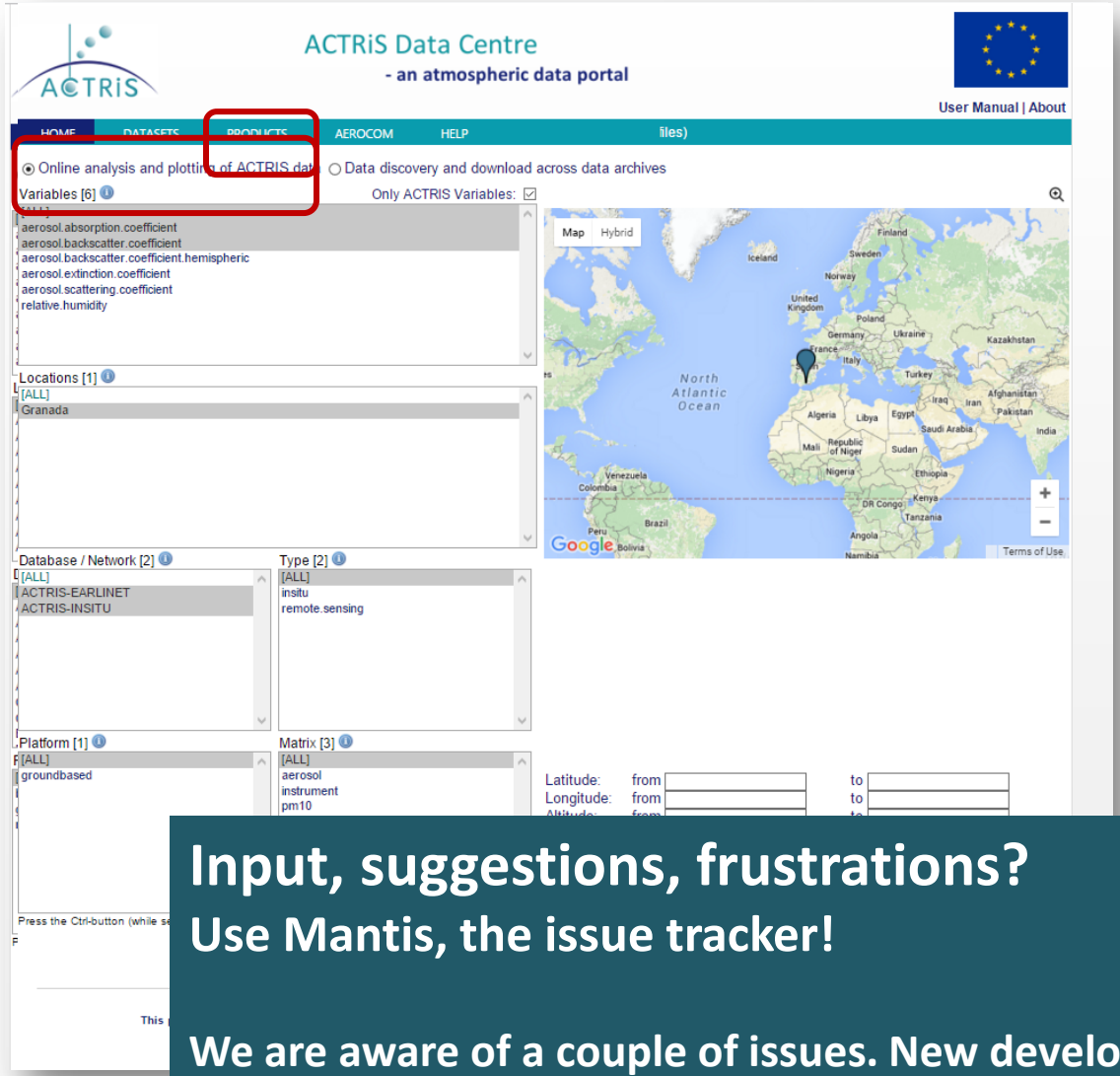
Based on reporting deadline 31 July 2016

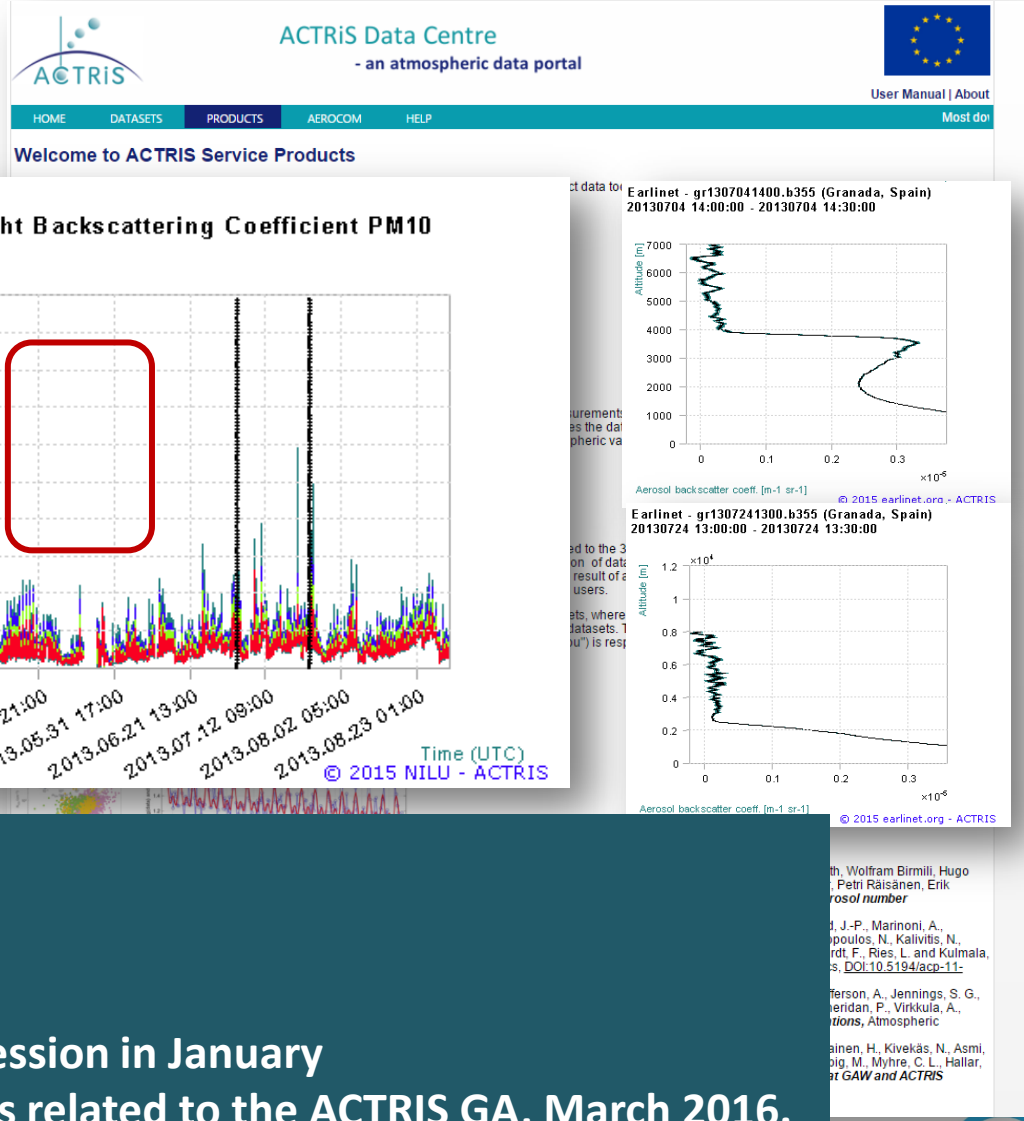
D10.2	First summary of the ACTRIS data offered by the ACTRIS Data Centre	NILU	16	**September**
D10.3	First summary of the monitoring of access to ACTRIS data and user statistics	NILU	16	**September**
D10.4	First assessment report of the services offered by the ACTRIS Data Centre	NILU/Ex	18	November

Questions or commenst now?

Thank you for your attention!

Portal news and development





Input, suggestions, frustrations?

Use Mantis, the issue tracker!

We are aware of a couple of issues. New development session in January

We hope to have a WS on this, and discussing more plans related to the ACTRIS GA, March 2016.