

World Data Center for Aerosols

(<http://wdca.jrc.it>)

will become

(<http://wdca.jrc.ec.europa.eu>)



Climate Change Unit

IES - Institute for Environment and Sustainability

Ispra - Italy

<http://ccu.jrc.ec.europa.eu/home.php>

<http://ies.jrc.ec.europa.eu/>

<http://www.jrc.ec.europa.eu/>

Progress:

Europe: EMEP, Create, EUSAAR & NILU

Rest of the World: ESRL, twinning

N.America: Natchem

Other projects:

AOD metadata portal

	Submission class	AOD	LScat	Labs	CN	Size dist	PM Chem	PM	CCN	LIDAR
Alert	1			1989-2001(a)			1992-1995			
Ny Alesund	1/3	2003-2005				2000-2004	1995 (1989-2004)			
Point Barrow	2		1976-1998 (-2005)	1988-1998 (-2005)	1976-1998 (-2005)		1997-2003	1997-2003		
Pallas	1/3		2000-2003		1996-2002 (2003)	2000-2003				
Mace Head	1/3	2001-2005	2000 (2001-2004)	1989-2002	1991-1994	2000-2005	1992-1994			
Hohenpeissenberg	1	1993-2005	1999-2004 (-2005)		1995-2004 (-2005)	2001-2004 (-2005)	1997-2002			
Zugspitze	1	2003-2004								
Jungfraujoch	1/3	1999-2005	1995-2002 (-2005)	1995-2000 (-2005)	1995-2002 (-2005)	1997-1998	1995 (1999-2001)			
Mount Waliguan		(b)								
Izana	1	2001-2005					1992-1995			
Minamitorishima	1	2003-2004								
Assekrem										
Mauna Loa	2	2000-2005	1975-1999 (-2005)	1990-1999 (-2005)	1975-1999 (-2005)		1992-1995			
Mount Kenya										
Bukit Kototabang										
Arembepe										
American Samoa	2		1977-1991		1977-1997					
Cape Point							1992-1996			
Amsterdam Island										
Lauder										
Cape Grim	1				2003		1983-1996			
Ushuaia										
Neumayer	1		2003 (-2005)		1993-2003 (-2005)					
South Pole	2		1979-1999 (-2005)	1987-1999 (-2005)	1974-1999 (-2005)					

global station/key parameter

1 = narsto by originator

2 = narsto by WDCA

3 = narsto by CREATE

NARSTO format at WDCA

non-narsto format at WDCA

(a) submitted as BC (ng.m-2)

GAWSIS but not WDCA

NARSTO format (CREATE)

(b) broad band pyrihelimeter

neither GAWSIS nor WDCA

1 = narsto by originator

2 = narsto by WDCA

3 = narsto by CREATE

	Data Class	AOD	LScat	Labs	CN	Size dist	PM Chem	PM	CCN
Alert	1			1989-2005			1992-2005		
Ny Alesund	1/3	2003-2005	-2006	-2006	-2006	2001-2005	1989-2006		
Point Barrow	2		1976-2007	1988-2007	1976-2007		1997-2003		
Pallas	1/3		2000-2006	(-2006)	1996-2005	2001-2006	(-2006)		
Mace Head	1/3	2001-2005	2000-2006	1989-2002 (2006)	1991-4, 2000-2006	2002-2006	1992-1994 (-2006)		
Hohenpeissenberg	1	1993-2007	1999-2005 (-2006)	-2006	1995-2005 (-2006)	2001-2005 (-2006)	1997-2002 (-2006)		
Zugspitze	1	2003-2004							
Jungfraujoch	1/3	1999-2006	1995-2006	1995-2006	1995-2006	1997-1998	1995, 1999-2004 (-2006)		
Mount Waliguan		(b)							
Izana	1	2001-2007					1992-1995		
Minamitorishima	1	2003-2004							
Assekrem									
Mauna Loa	2	2000-2007	1975-2006	1990-2006	1975-2006		1992-1995		
Mount Kenya									
Bukit Kototabang									
Arembepe									
American Samoa	2		1977-1991		1977-2006				
Cape Point							1992-1996		
Amsterdam Island									
Lauder									
Cape Grim	1				1983, 1999-2006		1983-1996		1999-2006
Ushuaia									
Neumayer	1		2003-2007		1993-2007				
South Pole	2		1979-2006	1987-2006	1974-2006				

global station/key parameter

1 = narsto by originator

2 = narsto by WDCA

NARSTO format at
WDCA

GAWSIS
but not
WDCA

EUSAAR
at NILU?

neither GAWSIS
nor WDCA

WDCA to process

1 = narsto by originator

2 = narsto by WDCA

CREATE =FP5 GMES Thematic Project (Jan 2002 – Dec. 2004)

Harmonisation of the data flows to EMEP/CCC and the Global Atmosphere Watch - World Data Centre for Aerosols (GAW-WDCA) (Lille, 2003): *In future, all GAW aerosol monitoring sites in Europe will be encouraged to contribute to EMEP, by becoming level 2 or level 3 sites according to the Draft EMEP monitoring strategy, and all other EMEP level 2 and level 3 sites will be encouraged to join GAW, giving enough joint EMEP-GAW sites to meet the objectives of both networks within Europe. The infrastructure for EMEP data flow will be used for data submission from both these sites and the basic EMEP level 1 sites. This means that data only need to be submitted to the EMEP-CCC using NASA-Ames 1001. EMEP-CCC will develop an additional export function to those already available from the database providing for the export of data in the NARSTO DES. **Create Deliverable 1: Provision of an aerosol database in NARSTO data exchange standard.***

However converting data to NARSTO DES, not only reformatting data but also adding meta-data required by NARSTO DES, but not reported with NASA AMES 10001.

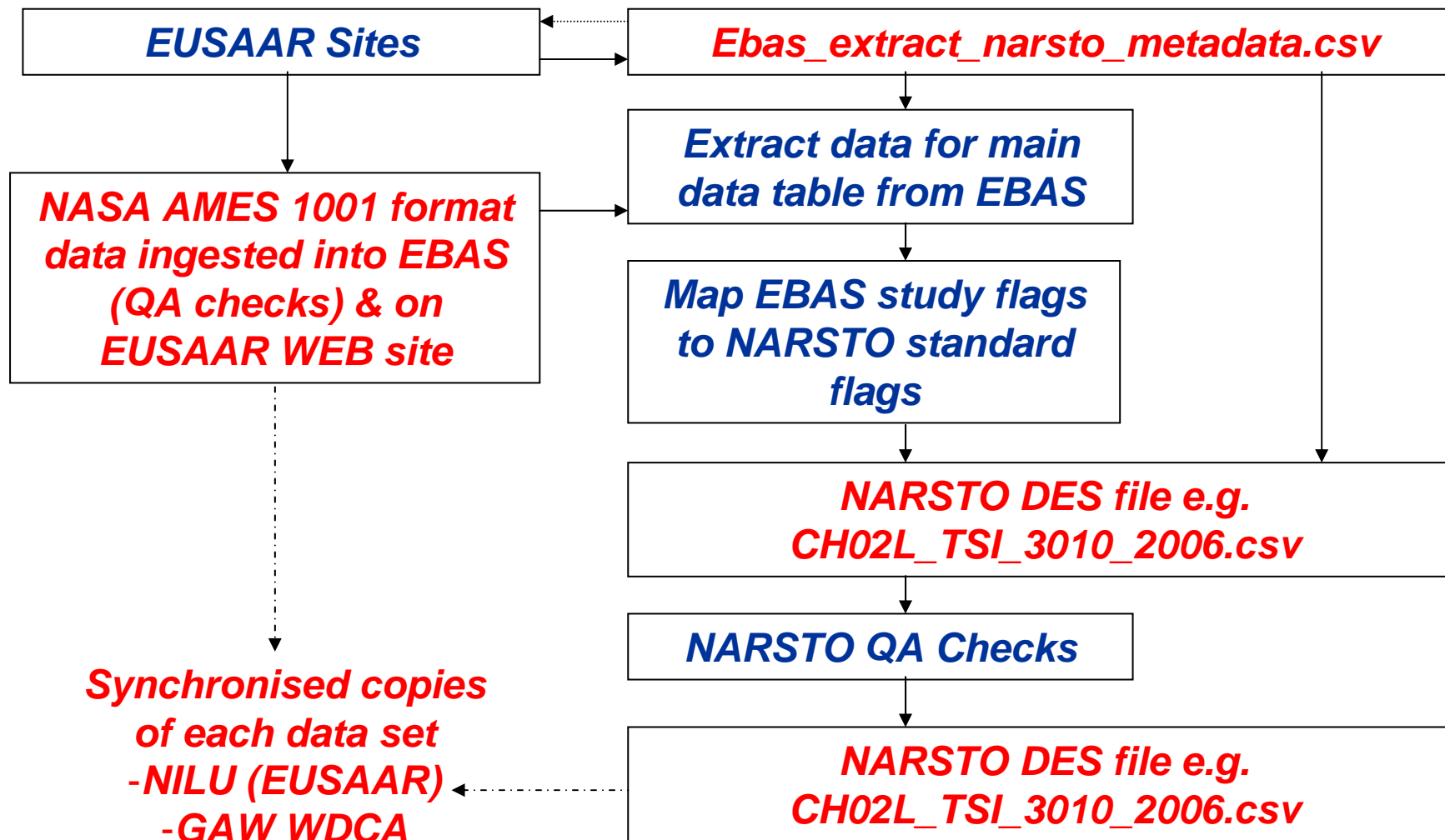
Export program v1 was hard coded – i.e. a different version of the code was necessary for each site/parameter combination = heavy on manpower & easy to make errors.

Summer 2007 review of programs and joint agreement that an upgrade was required.

2 visits to NILU in September & November 2007.

Solution (v2): general extraction program plus a common ‘wide’ metadata file that contains all the NARSTO meta-data for each site/parameter combination on a single line (flexible can be expanded)

Extraction program reads the meta-data file entry & looks for equivalent data in EBAS, extracts them & builds a NARSTO DES file from both data sources



Repeat the exercise with the 2007 data submissions (by end Dec).

Sort out remaining metadata gaps, combining organic & inorganic chemistry.

The whole procedure has been very useful as means of reviewing the internal consistency of the data sets – flags, site ids, parameter names, timestamps etc. & secondly to make the data available within global as well as European datasets.

- **Semi-automated ingestion of ESRL format files.**
- **Meta-data handled in same way as Ebas_extract_narsto_metadata.csv data for european sites & wrapped round the ESRL main data table in an excel spreadsheet.**
- **Works for both the US sites and the partner sites using the same equipment**
- **However at some time in 2008+ ESRL have to change their data format to accommodate 3-wavelength absorption measurements. Co-ordinate this with WDCA.**

Twinning:

- Idea from the Aerosol SAG, couple the less ‘productive’ global sites with an SAG member responsible for encouraging data submission.
still to do!

NATCHEM

- have submitted all their aerosol data from mid 90s – 2007 to WDCA! – mainly chemistry.
Currently ingesting and checking the data >5x the current aerosol chemistry archive!

- **Collected metadata – everything required by GAWSIS plus the header information for NARSTO for GAW & non-GAW AOD networks – e.g. AERONET, Skynet.**
- **Relational database (Access).**
- **Cold fusion interface to web pages.**
- **Database structure modified to accommodate non AOD-metadata: queries for GAWSIS & a second interface for the WDCA web pages – search for data by criteria e.g. country, WMO region, parameter etc.**