

## SA Database update

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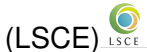
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<sup>3</sup>Norwegian Institute for Air Research (NILU)


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Due to the heterogeneity of the data collected and the different expertises, the InGOS Data Center comprises three data centers

- Atmospheric Data Center, hosted by the Laboratoire des Sciences du Climat et de l'Environnement, France



- Ecosystem Data Center, hosted by the Università degli Studi della Tuscia, Italy (UNITUS) The logo for the University of Tuscia, featuring a circular emblem with a palm tree and the text 'UNIVERSITÀ degli STUDI della Tuscia'.

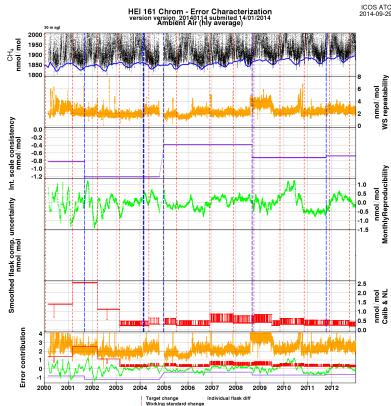
- Halocarbon Data Center, hosted by the Norwegian Institute for Air Research, Norway (NILU) The NILU logo features a stylized blue arch over a black silhouette of a city skyline, with the text 'NILU' below.

Data submission file format and database structure have evolved to account for the ongoing work made in the NA2/NA3 WPs. Additional uncertainties and type of flag can now be sent and stored in the database.

An important amount of work has been done on metadata:

- a configuration file has been defined allowing to store in the database the information on the tanks used at the station (working standards and target)
- based on WMO model, a global metadata file describing the project available datasets has been defined and implemented
- based on WMO model, a metadata header in the output data files has been defined and implemented

Automatically daily generated data products on historical data have been developed. They integrate tank metadata provided in the configuration file. These plots are available on the InGOS Atmospheric Data Center website.





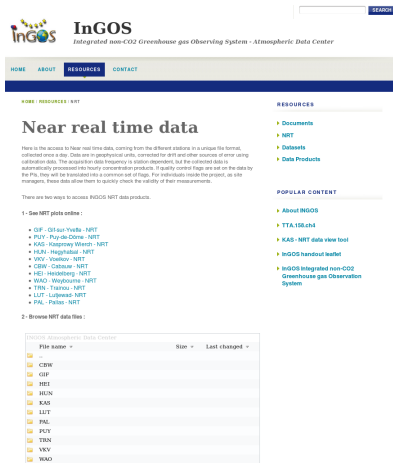
The following historical datasets (csv files) are available:

- corrected historical CH<sub>4</sub> data from 20 stations. 17 of the stations have preliminary error estimates
- corrected historical N<sub>2</sub>O data from 15 stations with error estimates for a few of them
- historical H<sub>2</sub> data from 6 stations

CH<sub>4</sub> data from 18 stations and N<sub>2</sub>O data from 15 stations were validated by the NA2 WP members. These data were included in the first InGOS atmospheric data release (INGOS\_2014.1).

The historical datasets and the data of the first release are available for download from the InGOS Atmospheric Data Center website for authorized people.

Near Real Time data for 11 stations are submitted to the database. The last month of data is available for download and can be browsed from the website (ingos-atm.lsce.ipsl.fr).



The screenshot shows the InGOS website interface. At the top, there is a search bar and navigation links for HOME, ABOUT, RESOURCES, and CONTACT. The main heading is 'Near real time data'. Below this, there is a paragraph explaining that the data is unique, collected once a day, and automatically processed into hourly concentration products. A small text block indicates two ways to access the data: '1- See NRT plots online' and '2- Browse NRT data files'. The '1- See NRT plots online' section lists 11 stations: DIP, PUY, KAS, HELN, CBW, HEJ, WAO, TRN, LUT, and PAL. The '2- Browse NRT data files' section shows a table with columns for 'File name', 'Size', and 'Last changed', listing the same 11 stations with folder icons.

**InGOS**  
Integrated non-CO<sub>2</sub> Greenhouse gas Observing System - Atmospheric Data Center

HOME ABOUT **RESOURCES** CONTACT

HOME | RESOURCES | NRT

## Near real time data

Here is the access to Near real time data, coming from the different stations in a unique file format, collected once a day. Data are in geographical units, corrected for drift and other sources of error using calibration data. The acquisition data frequency is station-dependent, but the outputted data is automatically processed into hourly concentration products. If quality control flags are set on the data by the PI, they will be transcribed into a common set of flags. For individuals inside the project, as site managers, these data allow them to quickly check the validity of their measurements.

There are two ways to access INGOS NRT data products.

1- See NRT plots online :

- DIP - GIGANT-Yverdu - NRT
- PUY - Puy-de-Côme - NRT
- KAS - Kasperov Miesch - NRT
- HELN - Haggabal - NRT
- WAO - Vaucluse - NRT
- CBW - Cabour - NRT
- HEJ - Hæmberg - NRT
- WAO - Waplesville - NRT
- TRN - Tarnou - NRT
- LUT - Lutjewad - NRT
- PAL - Palès - NRT

2- Browse NRT data files :

File name	Size	Last changed
-		
CBW		
DIP		
HELN		
KAS		
LUT		
PAL		
PUY		
TRN		
WAO		

HOME / KAS - NRT DATA VIEW TOOL

## KAS - NRT data view tool

This is an interactive time series line chart with optional annotations from the last measurements of N2O and CH4 and SF6 from Kasprowy Wierch station. Measurements are hourly resolved. Use the zoom links ("1d 5d 1m" and so on) to navigate into the time serie. Use your mouse to move into the time serie, below the time serie is the zoom range selection area (the area at the bottom of the chart). The outline in the zoom selector is a log scale version of the time series in the chart, scaled to fit the height of the zoom selector. You can also use the selector to move into the time serie. Note that the chart is rendered within the browser using Flash.

### POPULAR CONTENT

- ▶ Near real time data
- ▶ About INGOS
- ▶ HEI - NRT data view tool
- ▶ CBW - CBW data view tool
- ▶ InGOS integrated non-CO2 Greenhouse gas Observation System

### CH4



### SF6



### N2O



The database is operational and accessible from the website [www.europe-fluxdata.eu/ingos](http://www.europe-fluxdata.eu/ingos).



InGOS Ecosystem



Home	ECOS2S	CarboExtremes	CarboAfrica	GHG-Europe	ICOS	InGOS	Page21	PI Area	Log in	
Sites list	Guidelines	Docs								
<a href="#">Data</a> - <a href="#">Help</a>										

## Welcome to the InGOS database

InGOS is an EU funded IA (Integrating Activity) project targeted at improving and extending the European observation capacity for non-CO<sub>2</sub> greenhouse gases.

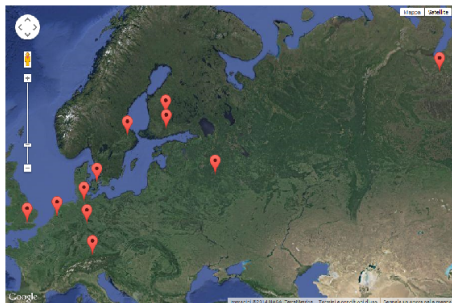
There is a big need to support and integrate the observing capacity of Europe on non-CO<sub>2</sub> greenhouse gases. The emissions of these gases are very uncertain and it is unknown how future climate change will feedback into these (many and use coupled) emissions. The Infrastructure project will work on standardizing the measurements, strengthen the existing observation sites into super-sites, capacity building in new member states, and prepare for integration of the network with other networks already in place or currently being set up (e.g. ICOS). Attribution of source categories by using advanced source techniques and data-assimilation methods using high-resolution transport model will be an integral part of the network to allow design and evaluation of the measurements and will link the network to remote sensing data and bottom up inventory developments.

This site hosts the Ecosystem Database of the InGOS measurements, including experimental results that are available to the interested users. For more information about the project visit the official webpage at <http://www.ingos-infrastructure.eu>.

More information about the project can be found at the official website: <http://www.ghg-europe.eu>



11 sites are registered even though it is not mandatory for ecosystem sites.



Site Code	Site Name	Site Responsible
DF-Hmm	Himmelmoor	Lars Kutzbach
DE-Lnf	Leinefelde	Alexander Knohl
DE-SfN	Schechenfilz Nord	Rainer Steinbrecher
DK-RCW	Risø Campus Willow	Andreas Ibrom
FI-Ily	Ilytiälä	Jimo Vesala
FI-Kns	Kalevansuo	Tommas Laurila
NL-Hor	Horstermeer	Han Dolman
RU-Fyo	Fyodorovskoye	Andrej Varlagin
RU-Ndm	Nadym	Goncharova Olga
SL-Nor	Norunda	Anders Lindroth
UK-LBT	London_BT	Carole Helfter

Data collected in different campaigns on instruments comparisons (Cabauw for CH<sub>4</sub>, Edinburgh for N<sub>2</sub>O ) are standardized in format but available under a separate, InGOS specific session.



InGOS Ecosystem



Home	ECOS	CarbonXtreme	CarboAfrica	GIG Europe	ECOS	InGOS	Page 21	PT Area	Eng In
Sites list	Catdeline	Data							
<a href="#">Home</a>	<a href="#">InGOS</a>	<a href="#">Data</a>	<a href="#">Other InGOS sites</a>						

### InGOS Specific Data

In this section of the database specific measurement and data collected in the context of the InGOS project are presented and available. Some of the dataset have been acquired and provided by external project partners and for this reason could have specific data policies and access restrictions.

The interactive navigation can be found in the table below. To access the data click on the "Get It" link. It will be required to log in, but if you are authorized to access the data the file will be immediately available. If you are an external user, the request to a InGOS user to access the data will be automatically submitted to the data owner that will authorize or not the download. If authorized you will receive an email with a link to download the data.

Please note that InGOS data are available under a data policy agreement that is attached to each single file and also available in the [Guideline](#) section of this site.

#### Data available

Variable	Description	Responsible	Period	Download
Cabauw intercomparison campaign	CH <sub>4</sub> fluxes measured during the InGOS field campaign in Cabauw where different gas analyzer have been tested and compared.	Filip Namiz	2012	<a href="#">Get It</a>
Edinburgh campaign	N <sub>2</sub> O fluxes measured during the InGOS field campaign in Edinburgh where different gas analyzer have been tested (please note: raw file, size 2.7 GB)	Liko Namiz	2012	<a href="#">Get It</a>
Cabauw spatial var. campaign	CH <sub>4</sub> fluxes measured during the InGOS field campaign in Cabauw where flux variability in the landscape was studied with a tall tower and several short towers (ITRF work package)	Ivan Mammarella	2012	<a href="#">Get It</a>

The BADM (Biological, Ancillary, Disturbances, Management) is an international template for data submission developed and adopted by different EU and US initiatives.

In the last 12 months the BADM has been optimized and re-organized with AmeriFlux and it is now distributed to the sites.

It allows to submit chambers measurements of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, NO, soil, ecosystem, heterotrophic and autotrophic respirations and all the meteorological characteristics inside the chamber.

EBAS was populated with the first InGOS data in 2013 after a test and development period during 2012.

Currently, (September 2014) 132 datasets from the 4 halocarbon stations are available in the EBAS database.

EBAS also acts as node data for GAW-WDCGG, which means that certain pre-agreed datasets are made available to this data center.



The primary database for the halocarbon data is the CDIAC database ([cdiac.ornl.gov](http://cdiac.ornl.gov)), holding halocarbon data from all SOGE and AGAGE stations.

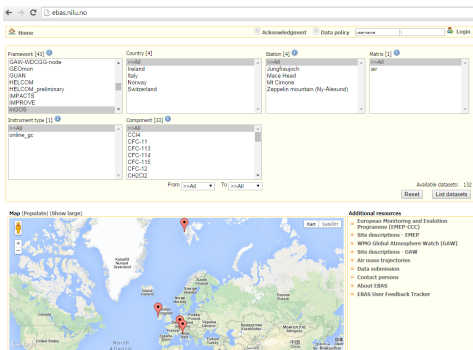
The datasets are mirrored by NILU from CDIAC after each update from AGAGE.

A conversion program is defined to handle the reformatting from AGAGE data format to NASA Ames EBAS data format. This includes detailed flagging of identified pollution episodes.

At NILU a dedicated data disk in the file tree holds the data archive, and ensures version control of files for every update.

The database web interface provides access for listing, plotting and download of InGOS data.

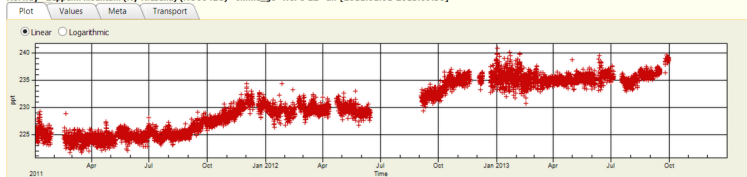
EBAS was populated with the first InGOS data in 2013 and since then, 149 datasets were downloaded, and 159 datasets were plotted in the database.



The screenshot shows the EBAS web interface with the following elements:

- Search Filters:**
  - Framework [4]:** GAW, WDCG-mode, SEDmon, ISMIL, HELCOM, HELCOM\_preliminary, IMPACTS, IMPROVE, INGOS
  - Country [4]:** ISMIL, Ireland, Italy, Norway, Switzerland
  - Station [4]:** ISMIL, Aungmyathop, Mace Head, Mt Cimone, Zeppelin mountain (Ny-Ålesund)
  - Matrix [1]:** air
  - Measurement type [1]:** ISMIL, online\_gc
  - Component [22]:** SO2, CO2, CFC-11, CFC-113, CFC-114, CFC-115, CFC-12, CH2O2
- Map (Populate) (Show large):** A map of Europe and the North Atlantic region with red location markers for various stations.
- Additional resources:**
  - European Monitoring and Evaluation Programme (EMEP-CO2)
  - Site descriptions - EMEP
  - WHO Global Air Quality Watch (GAW)
  - Site descriptions - GAW
  - Air mass trajectories
  - Data collections
  - Contact persons
  - About EBAS
  - EBAS User Feedback Tracker

Norway - Zeppelin mountain (Ny-Ålesund) (NO0042G) - online\_gc - HCFC-22 - air [2011.01.01-2013.09.30]



Norway - Zeppelin mountain (Ny-Ålesund) (NO0042G) - online\_gc - HCFC-22 - air [2011.01.01-2013.09.30]

Regime:		Data Level:		Matrix:	
Component:	IMG (Imission measurement at ground level or in the lower troposphere)	Resolution:	2h	Statistics:	air
Unit:	HCFC-22			Dataset-ID:	arithmetic mean
	ppt				200120256
Station:	NO0042G	Station name:	Zeppelin mountain (Ny-Ålesund)	Country:	Norway
Instrument:	NO01L_MEDUSA_ZEP	Type:	online_gc	Group:	air_monitor
Method:	NO01L_ZEP_MEDUSA	Std. Method:			
Technical Details:					
Originator:	Chris Lunder	Organisation:	NO01L (NILU)	Ext. lab.:	
Frameworks:	GAW-WDCGG-node GAW-WDCGG-node InGOS InGOS NILU NILU NILU				