

EBAS as InGOS Halocarbon Data Centre



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Introduction

InGOS an EU funded Integrating Activity (IA) project, supporting the integration of and access to existing national research infrastructures, targeted at improving and extending the European observation capacity for non-CO₂ greenhouse gases. The project period is from October 2011 to December 2015. EBAS is a data infrastructure operated by NILU – Norwegian Institute for Air Research. Its main objective is to handle, store and disseminate atmospheric composition data generated by international and national frameworks like long-term monitoring programmes and research projects. EBAS is the official repository for the InGOS Halocarbon data.

The InGOS Halocarbon Data Centre is part of the Service Activity 1 (SA1) InGOS Data Centre. SA1 is closely linked to Network Activity 4 (NA4) Data assurance halocarbon measurements, covering calibrations and quality assurance of trace gas measurements in Europe.

<http://www.ingos-infrastructure.eu/>

<http://ebas.nilu.no>

Methods

EBAS improves the access to and application of the different types of halocarbon and measurement data, and thereby increase our understanding of the atmosphere. It simplifies the data upload and download procedures and provides visibility to all data providers, participating scientists and projects/programmes.

The primary database for the InGOS halocarbon data is the CDIAC database <http://cdiac.ornl.gov>, holding halocarbon data from all SOGE and AGAGE stations.

The original data are updated on a regularly basis (i.e. after each bi-annual AGAGE meeting), and then mirrored from CDIAC to NILU. A dedicated data disc in the file tree inside EBAS holds the data archive, and ensures version control of files for every update. A conversion program is handling the reformatting from AGAGE data format to NASA Ames 1001 EBAS data format. This includes detailed flagging of identified pollution episodes.

InGOS data follows the data guidelines and formatting developed and implemented in the context of the I3 ACTRIS (Aerosol, Clouds, and Trace gases Research InfraStructure) project, and the EBAS-Online project.

All InGOS data are forwarded to GAW-WDCGG under a formal agreement with GAW and Japan Meteorological Agency about EBAS serving as a sub-node data center for WDCGG.

The InGOS Halocarbon Data Centre supports an open data policy following the general EBAS policy, which is easily assessable through a link from the front page of EBAS.



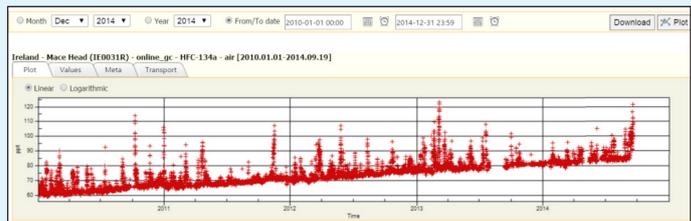
Data formatting templates

As a part of the data centre activity, EBAS provides access to, and require use of, specific data formatting guidelines. The official data format in EBAS is the NASA Ames 1001 EBAS data format. This data format contains additional metadata specifications ensuring proper documentation of the measurements principles and station set-up at each site, as well as its favour of data interpretation and dissemination through simplicity and easy readable nature. Information such as contact information to data provider, station setting, standard methods and calibration scale are included in the metadata information.

INGOS Halocarbon Sites



Group	Station	Station name	Instrument type	Component	Matrix	Resolution	Start time	End time
1	IE0031R	Mace Head	online_gc	HFC-245fa	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-236fa	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-365mfc	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-32	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-23	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-143a	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-134a	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-227ea	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	HFC-152a	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	SF6	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	PFC-218	air	2h	2010-01-01	2014-09-19
1	IE0031R	Mace Head	online_gc	SF2F2	air	2h	2010-01-01	2014-09-19



Regime:	ING (Emission measurement at ground level or in the lower troposphere)	Data Level:	air
Component:	HFC-134a	Resolution:	2h
Unit:	ppb	Matrix:	air/mixt/mean
Station:	IE0031R	Station name:	Mace Head
Platform:	Station	Position:	53.32583 N, -9.89944 E, 5m ASL
Setting:	Coastal	Type:	regional representative
GAW ID:	MHD	GAW Type:	Global
WDCA ID:	GAWAIE_MHD	WDCA Name:	Mace Head
AIRIS ID:		Other ID's:	
Instrument:	IE01L_MEDUSA_MHD	Type:	online_gc
Method:	GRISL_MHD_MEDUSA	Std. Method:	
Originator:	Simon O'Doherty	Organisation:	GRISL (UNIBRIS)
Frameworks:	GAW-WDCGG-node-INGOS	Ext. lab:	

InGOS halocarbon data in numbers

5 year long time series (2010-2014) from the MEDUSA instruments installed at Mace Head (Ireland), Jungfraujoch (Switzerland), and Zeppelin (Norway), and from the ADS instrument installed at Mt.Cimone (Italy) form the InGOS halocarbon dataset.

In total 144 single time series from 36 different parameters are available for search, plot and download.

491 InGOS datasets are downloaded and 478 datasets are plotted in EBAS since the first data set was made available in 2013.

EBAS system uptime since October 2013 is 99%.

UK DECC data

The EBAS database enables search for and retrieval of atmospheric composition data across a number of projects and programmes. One important goal for EBAS as InGOS Halocarbon Data Centre is the integration of the different halocarbon measurements from AGAGE stations in Europe, together with measurements from other projects and programmes.

The Data Centre has, in close cooperation with NA4 and the University of Bristol, established reporting procedures and written formatting templates for the UK DECC (Deriving Emissions linked to Climate Change) data from tracegas monitor and online_gc measurement principles. Data from the Tacolneston, Angus and the Ridge Hill measurement stations have been included in EBAS and in total 102 individual datasets from these three stations are available for search and download (Figure 5). Data from February 2012 to October 2014 are currently available.