The HALO database
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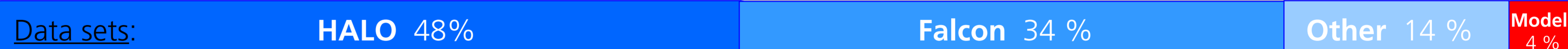
HALO database

Abstract

The observations made with the HALO research aircraft entail a large amount of data of relevance to various scientific communities (atmosphere & climate, earth observation, geoscience). The HALO database is a data retrieval and long-term archiving system with a web front-end. It allows users to access a wide range of data based on, or related to, observations with HALO. The database is also used for sharing data of scientific missions involving other DLR research aircraft or instruments. Flight track data from the database are routinely provided immediately after a campaign as input for model simulations. The web front-end of the database offers tools for (meta-) data search, as well as for uploading, updating and downloading of primary data. Queries can be extended to include IAGOS data. Some functionality of the HALO database is available to registered users only. The access to primary data is managed on a mission-by-mission basis. Additional functionality is available for the coordinators of a campaign to control access to and appearance of individual missions in the web portal. This presentation provides a brief overview of the HALO database and addresses some frequently asked questions on how to use it.

https://halo-db.pa.op.dlr.de

Scope

- Tailored to low-volume data of aircraft observations
- Atmospheric sciences, geophysics
- Focus on data from HALO and DLR-Falcon, open to data from other research aircraft
- Model data and other measurements related to aircraft campaigns
- Data above processing level 1B (NASA Ames, NetCDF, GTE)
- Currently listed: ~70 missions, ~1000 flights, > 4000 data sets, ~480 users

HALO · Geophysica · DLR-Falcon · D-CMET

| Data sets: | HALO 48% | Falcon 34 % | Other 14 % | Models 4 % |

Roles & Privileges

- ✓ Yes
- ✓ Yes, own mission
- ✓* Yes, own data
- — No

		Public	User	Co-worker	Admin	PI	halo-db@dlr.de
				logged in			
View	metadata	✓	✓	✓	✓	✓	✓
	personal data	—	✓	✓	✓	✓	✓
Primary data	download	—	—	✓	✓	✓	—
	upload	—	—	✓	✓	✓	—
	update	—	—	✓*	✓*	✓*	—
	delete	—	—	—	—	—	✓
Create	instrument	—	✓	✓	✓	✓	—
	platform	—	✓	✓	✓	✓	—
Mission page	create	—	✓	✓	✓	✓	—
	modify	—	—	—	✓	✓	—
Grant / Revoke	mission PI	—	—	—	—	✓	—
	mission Admin	—	—	—	✓	✓	—
	mission Co-worker	—	—	—	✓	✓	—
	HALO-DB User	—	—	—	—	—	✓
Enforce	data protocol	—	—	—	✓	✓	—

How to

... get a mission site at HALO-DB

Please enquire at **halo-db@dlr.de** and specify:

- Mission name
- Acronym
- Description
- Location
- Startdate
- Stopdate
- Mission PI
- Website
- Picture / Logo

... download primary data

Access is granted on a per-mission basis!

1. **Register** @ HALO-DB (User = email address)
2. **Sign in** — Reset password anytime via **Register**
3. Ask a PI or Admin of the desired mission to add you to the list of co-workers
4. **Download** buttons will show up next to the datasets

... prepare data

- Please follow the format-specific **Conventions**
- Download a file from HALO-DB and use as template
- Avoid Extended ASCII
- Contact **halo-db@dlr.de** in case of trouble

... upload data

1. Make sure you are a co-worker of the mission
2. Follow the **↑ Data Upload** dialogue

Data sets are assigned to individual flights of the mission

Example

Deutsches Zentrum für Luft- und Raumfahrt German Aerospace Center

HALO database

About Contact FAQ Glossary Conventions News

🔍 Data Detective · ≡ List Data · ↑ Data Upload

You can **edit** this mission and **manage** its workgroup because you are **ADMIN** of the mission.

MISSION: ML-CIRRUS

DESCRIPTION
Full mission name: ML-CIRRUS
Description:
The Midlatitude Cirrus ML-CIRRUS mission is a campaign with the research aircraft ...
(edit)

MAP OF THE MEASURING AREA

LICENSE
You can set the default license for this mission. It will be used by all datasets uploaded by mission members unless another license is explicitly selected.
Changes here affect all datasets, including those already online!
License: none Details about all licenses
Save changes · Revert changes

DATA PROTOCOL
→ Data_Protocol_ML-CIRRUS.pdf
Upload new Data Protocol ... (see glossary)

MISSION CREW MEMBERS

▲ Status ◊	Name	Institute at time of addition◊	Membership	Admin rights
PI	Voigt, Christiane; Prof.	DLR		
A	Account, Funktional	DLR	Suspend	Revoke
M	Sensorgruppe, Funktional Ramses FX-OP	DLR	Suspend	Grant

Add new member to mission ...

FLIGHTS

◊ Flights ◊	Category ◊	Start ◊	Stop ◊
140319a	HALO	2014-03-19 11:21:59	13:23:33

AVAILABLE DATASETS
You can click on any dataset or Download all datasets of this mission at once.

▲	Dataset	Category ◊	Data source ◊	Author ◊	Revision ◊	File
#1147	ADLR_20140319a.nas	HALO	BAHAMAS	Christiane Voigt	2014-03-20	Download

MISSION INFO
- ➤ **Start:** 2014-03-10 *(edit)*
- ➤ **Stop:** 2014-04-16 *(edit)*
- ➤ **Region:**
  → North America
  → Europe
- ➤ **Website:** pa.op.dlr.de/ML-CIRRUS *(edit)*
- ➤ **Project:** The mission ML-CIRRUS is associated with the project SPP 1294 HALO.

DATA ORIGIN
Genesis of the data (see glossary).

INSTRUMENTS
1. Platform HALO
  → Instrument Dropsonde

MODELS
1. Model type RM
  → Model COSMO-MUSCAT

LOGBOOKS
Upload new Logbooks ... (see glossary)

ADDITIONAL INFORMATION
CoCiP Documentation
CoCiP Documentation
Delete attachment

Structure

Webserver Apache · Perl Application Catalyst, MVC · Database for Metadata PostgreSQL

WWW · HALO-DB User

View · Controller · Model

html xml · IAGOS · CARIBIC · MOZAIC

Backup: 8 daily · 5 weekly · 3 monthly

File Archive for Primary Data

Deutsches Zentrum für Luft- und Raumfahrt e.V.

Institut für Physik der Atmosphäre
http://www.dlr.de/ipa

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