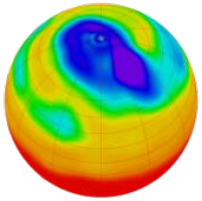
National Centre for Atmospheric Science
NATURAL ENVIRONMENT RESEARCH COUNCIL



Centre for Environmental Data Archival
SCIENCE AND TECHNOLOGY FACILITIES COUNCIL
NATURAL ENVIRONMENT RESEARCH COUNCIL

Data Users

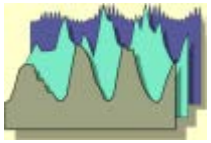
NERC Data Centres

British Atmospheric Data Centre
NATIONAL CENTRE FOR ATMOSPHERIC SCIENCE
NATURAL ENVIRONMENT RESEARCH COUNCIL

Meteorological and Climate data

NEODC

Earth Observation data



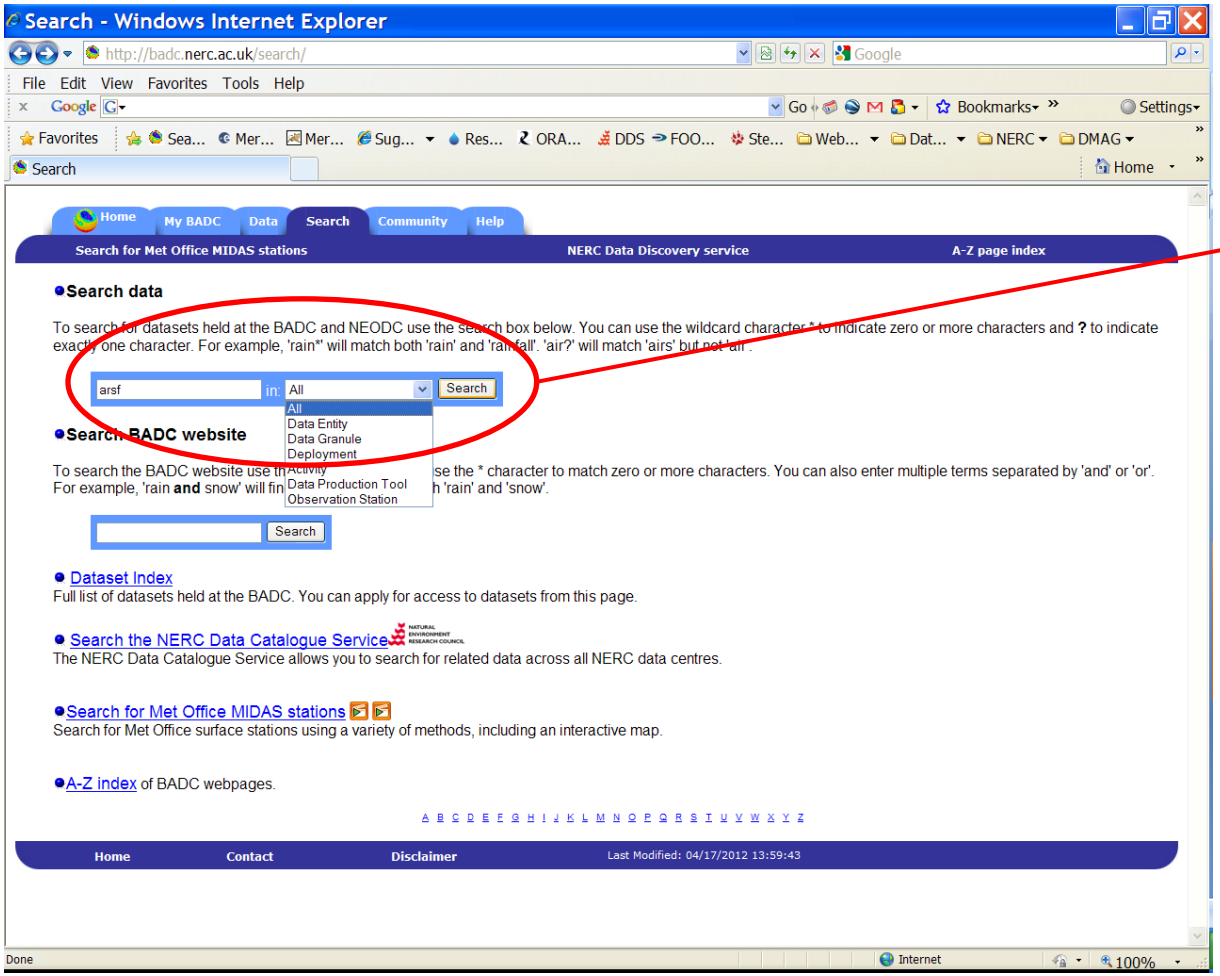
Solar-Terrestrial Physics

IPCC DDC

Climate, socio-economic and environmental data

The NERC Data Catalogue Service (DCS) allows data held by all NERC data centres to be located by users.

How to find data?
CEDA Metadata Catalogue



Users can search CEDA Catalogue from homepage or BADC Search Tab

How to find data?
CEDA Catalogue and links to the data

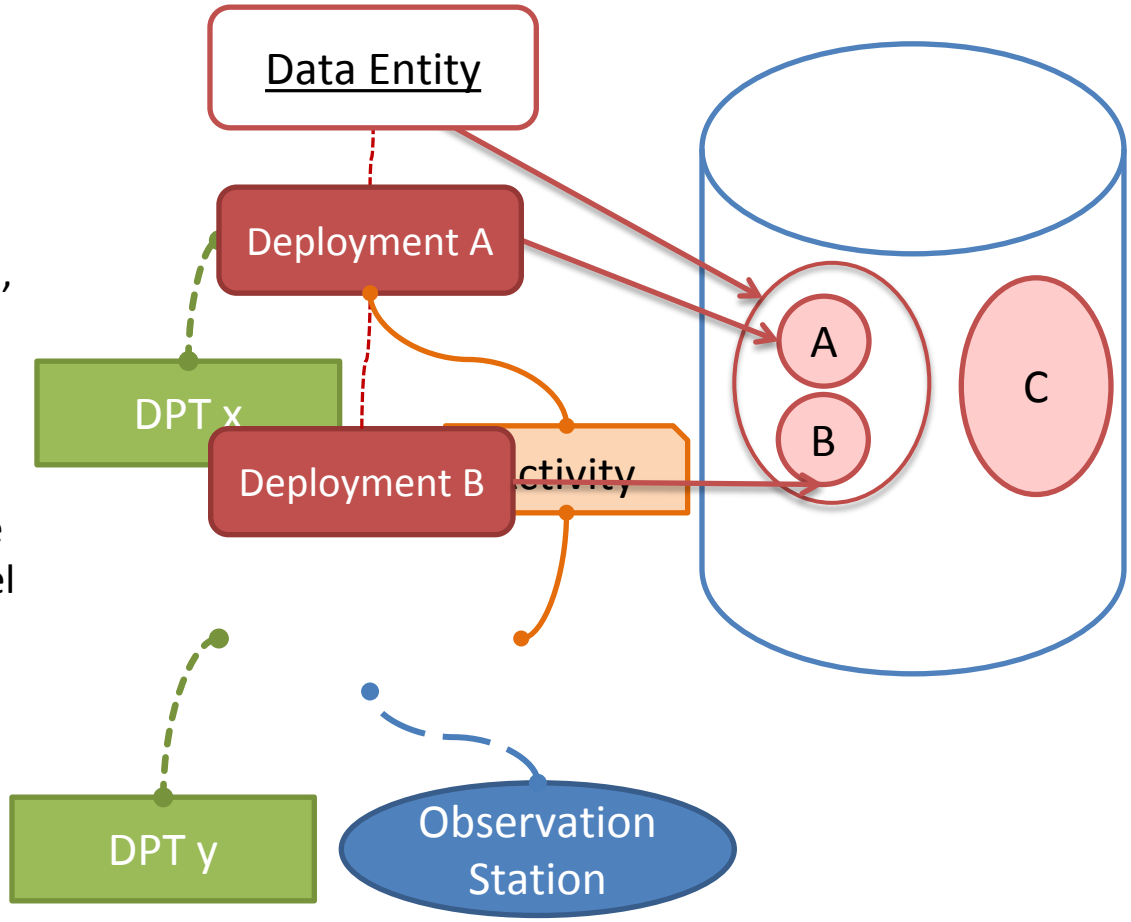
Data Entity – Logical grouping of results, e.g. all data for a project, all data for a facility

Deployment – specific part of a collection – describes **What** (date, time, description) the result (data) is plus **Where, When, & Who** information

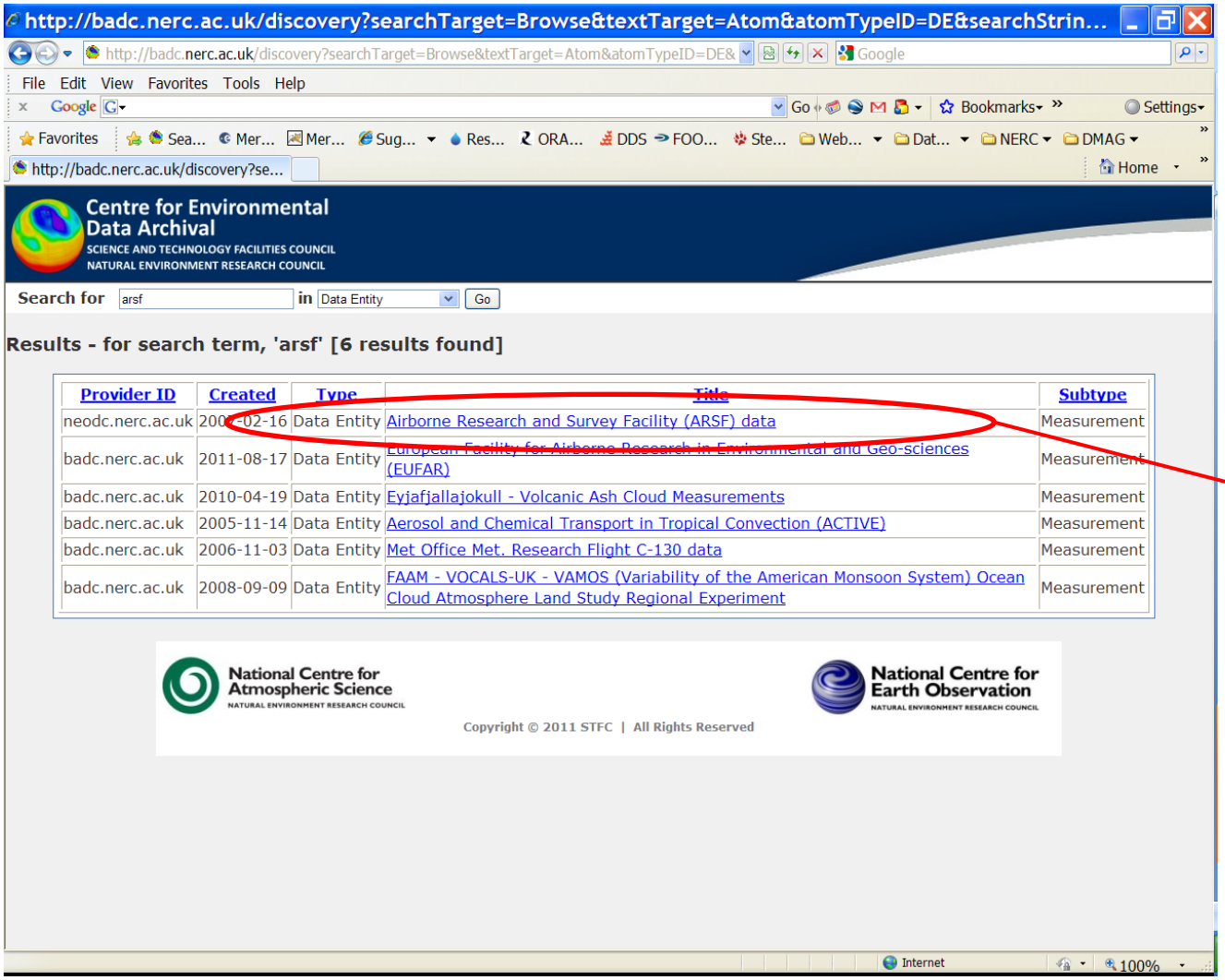
Data Production Tool (DPT) – the **How**, describes instrument/model

Observation Station - describes where the DPT was deployed

Activity – the **Why,** describes a programme/project/field campaign + has relevant links



How to find data?
CEDA Metadata Catalogue



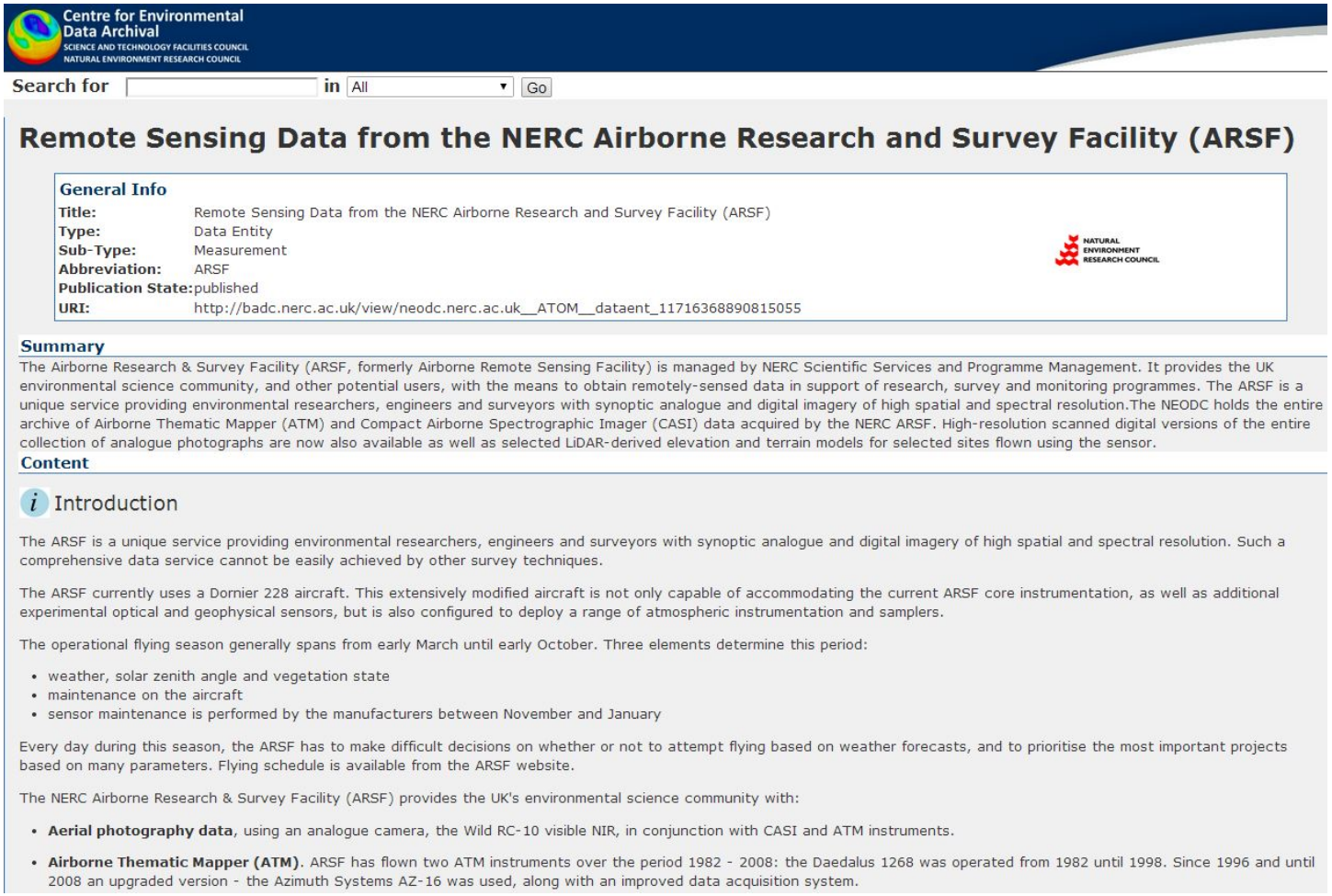
Will search across all catalogue holdings depending on search semantics.

CEDA Catalogue is based on MOLES data model that links the concept of a data entity (aka “dataset”) with related objects such as the “observation station” (i.e. plane),data tool (i.e. radar), activity (i.e. whole campaign) and the “deployment” (i.e. flight).

Users can navigate this structure to find the data they want/ related information i.e. On this mission/deployment what other instrument available?

How to find data?
Typical Dataset Catalogue Record

http://badc.nerc.ac.uk/view/neodc.nerc.ac.uk__ATOM__dataent_1171636890815055



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Search for [ ] in [All] [Go]

Remote Sensing Data from the NERC Airborne Research and Survey Facility (ARSF)

General Info

Title:	Remote Sensing Data from the NERC Airborne Research and Survey Facility (ARSF)
Type:	Data Entity
Sub-Type:	Measurement
Abbreviation:	ARSF
Publication State:	published
URI:	http://badc.nerc.ac.uk/view/neodc.nerc.ac.uk__ATOM__dataent_11716368890815055

NATURAL ENVIRONMENT RESEARCH COUNCIL

Summary

The Airborne Research & Survey Facility (ARSF, formerly Airborne Remote Sensing Facility) is managed by NERC Scientific Services and Programme Management. It provides the UK environmental science community, and other potential users, with the means to obtain remotely-sensed data in support of research, survey and monitoring programmes. The ARSF is a unique service providing environmental researchers, engineers and surveyors with synoptic analogue and digital imagery of high spatial and spectral resolution.The NEODC holds the entire archive of Airborne Thematic Mapper (ATM) and Compact Airborne Spectrographic Imager (CASI) data acquired by the NERC ARSF. High-resolution scanned digital versions of the entire collection of analogue photographs are now also available as well as selected LiDAR-derived elevation and terrain models for selected sites flown using the sensor.

Content

Introduction

The ARSF is a unique service providing environmental researchers, engineers and surveyors with synoptic analogue and digital imagery of high spatial and spectral resolution. Such a comprehensive data service cannot be easily achieved by other survey techniques.

The ARSF currently uses a Dornier 228 aircraft. This extensively modified aircraft is not only capable of accommodating the current ARSF core instrumentation, as well as additional experimental optical and geophysical sensors, but is also configured to deploy a range of atmospheric instrumentation and samplers.

The operational flying season generally spans from early March until early October. Three elements determine this period:

- weather, solar zenith angle and vegetation state
- maintenance on the aircraft
- sensor maintenance is performed by the manufacturers between November and January

Every day during this season, the ARSF has to make difficult decisions on whether or not to attempt flying based on weather forecasts, and to prioritise the most important projects based on many parameters. Flying schedule is available from the ARSF website.

The NERC Airborne Research & Survey Facility (ARSF) provides the UK's environmental science community with:

- **Aerial photography data**, using an analogue camera, the Wild RC-10 visible NIR, in conjunction with CASI and ATM instruments.
- **Airborne Thematic Mapper (ATM)**. ARSF has flown two ATM instruments over the period 1982 - 2008: the Daedalus 1268 was operated from 1982 until 1998. Since 1996 and until 2008 an upgraded version - the Azimuth Systems AZ-16 was used, along with an improved data acquisition system.

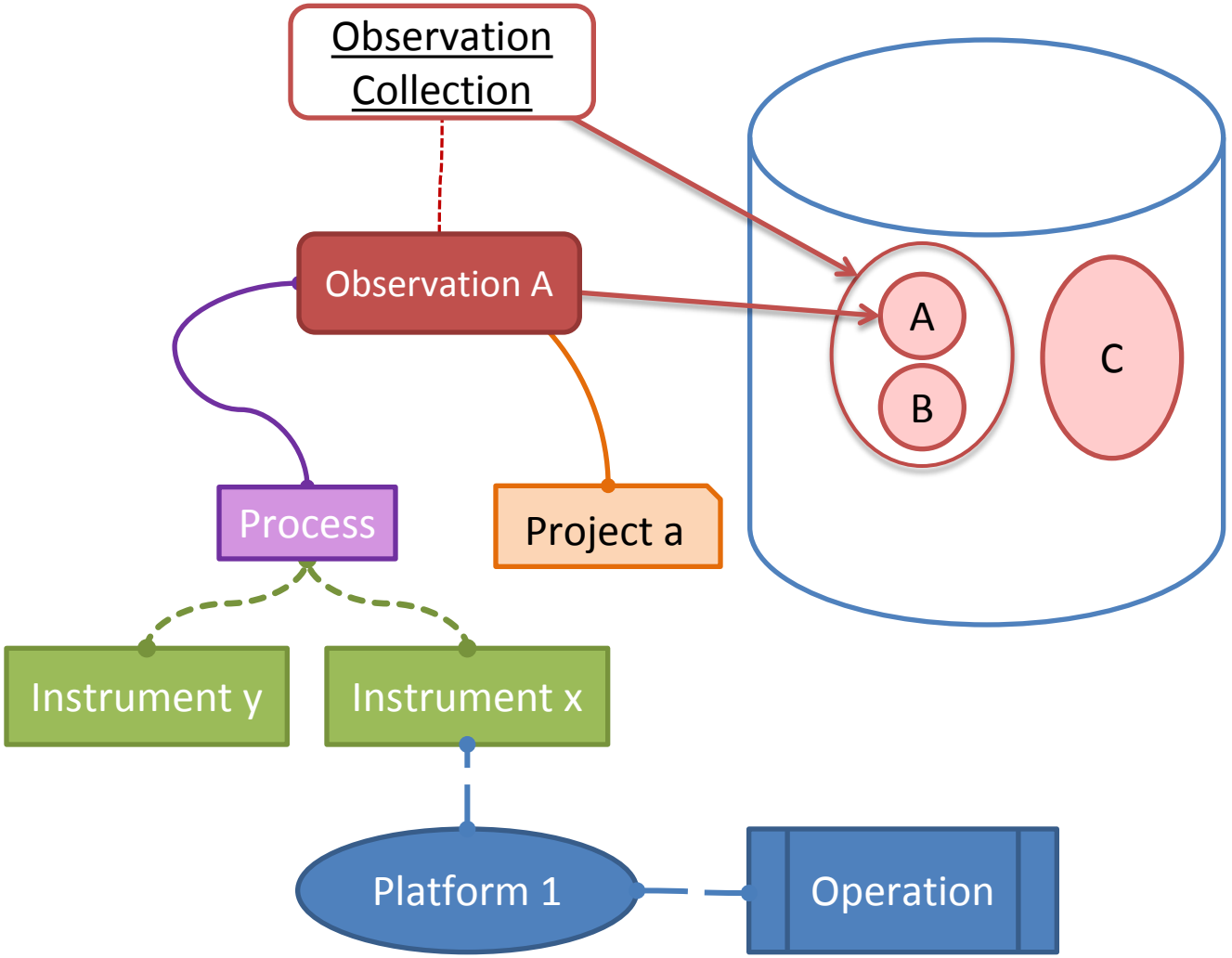
How to find data?
New CEDA Metadata Catalogue: MOLES3

Observation Collection – Logical grouping of results, e.g. all data for a project

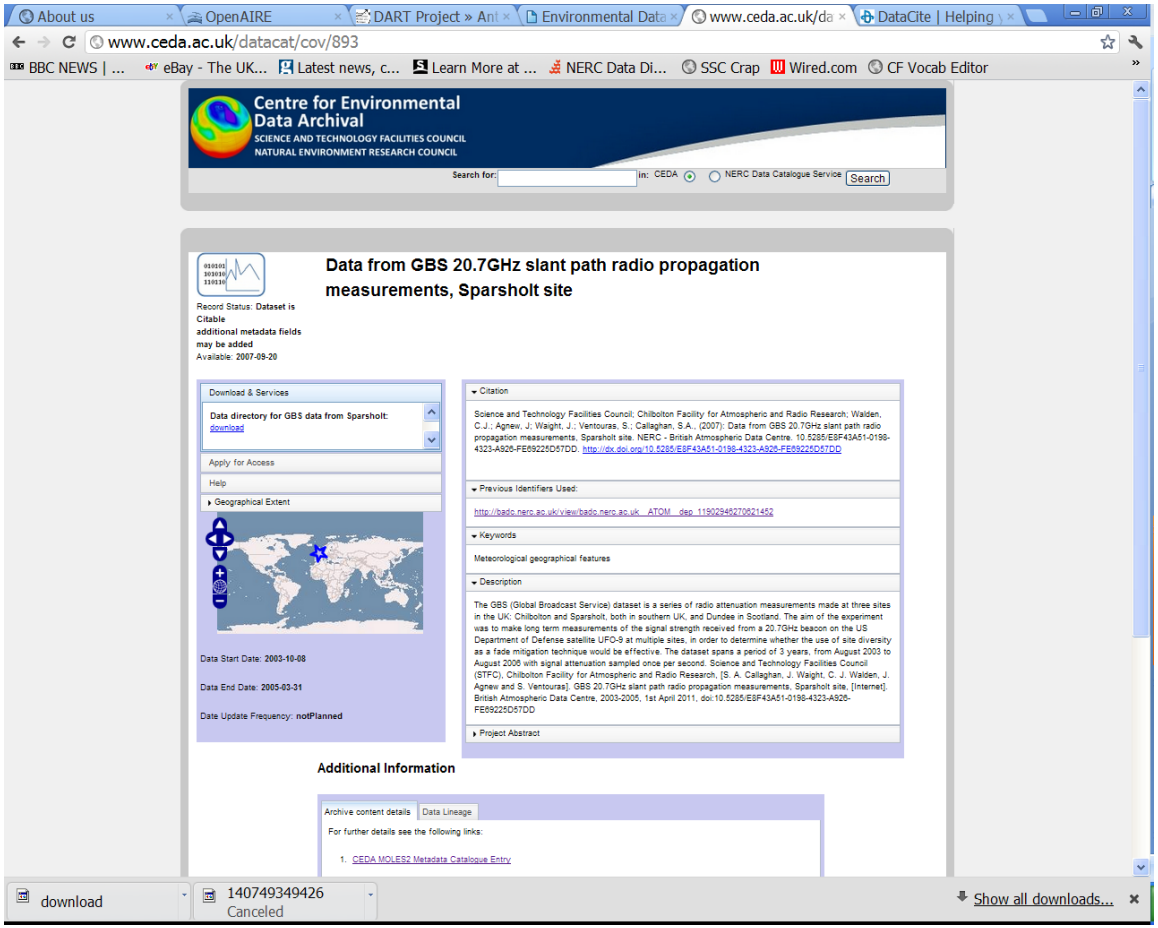
Observation – specific set of data – the **What** (date, time, description of result – the **Where, When, Who**)

Process – the **How:** Acquisition| Computation| Composite

Project – the **Why**



How to find data?
New CEDA Metadata Catalogue: MOLES3



Data Access Rules & Policies

All datasets held by CEDA are available Free of Charge…

Public Datasets i.e. anonymously available

Many of our datasets are publicly available and do not require CEDA user registration.

Restricted Datasets

BADC restricted datasets are labeled with a yellow key.

Although restricted datasets are distributed under strict Conditions of Use, the data remains Free of Charge.

Citing Data in Publications

If data are used in a publication then the dataset **should** be cited in the same way as a paper citation.
An acknowledgement to CEDA or the data provider may also be welcome/required depending on conditions of use
Examples of a citation are given on each dataset's Catalogue record, under the Citation section.

Citation

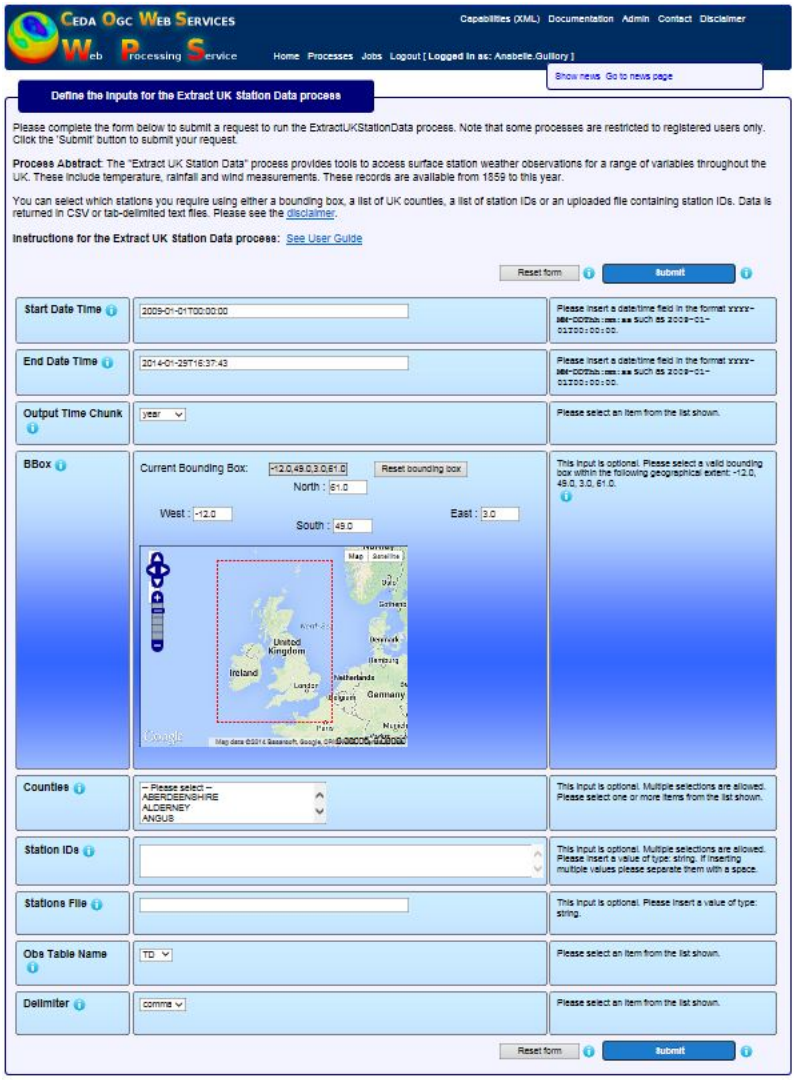
Natural Environment Research Council Airborne Research and Survey Facility . Airborne Research and Survey Facility (ARSF) Aerial Photography, Airborne Thematic Mapper (ATM), Light Detection and Ranging (LiDAR) and Compact Airborne Spectrographic Imager (CASI 2) data, [Internet]. NERC Earth Observation Data Centre, 2007, *Date of citation*. Available from http://badc.nerc.ac.uk /view/neodc.nerc.ac.uk__ATOM__dataent_11716368890815055

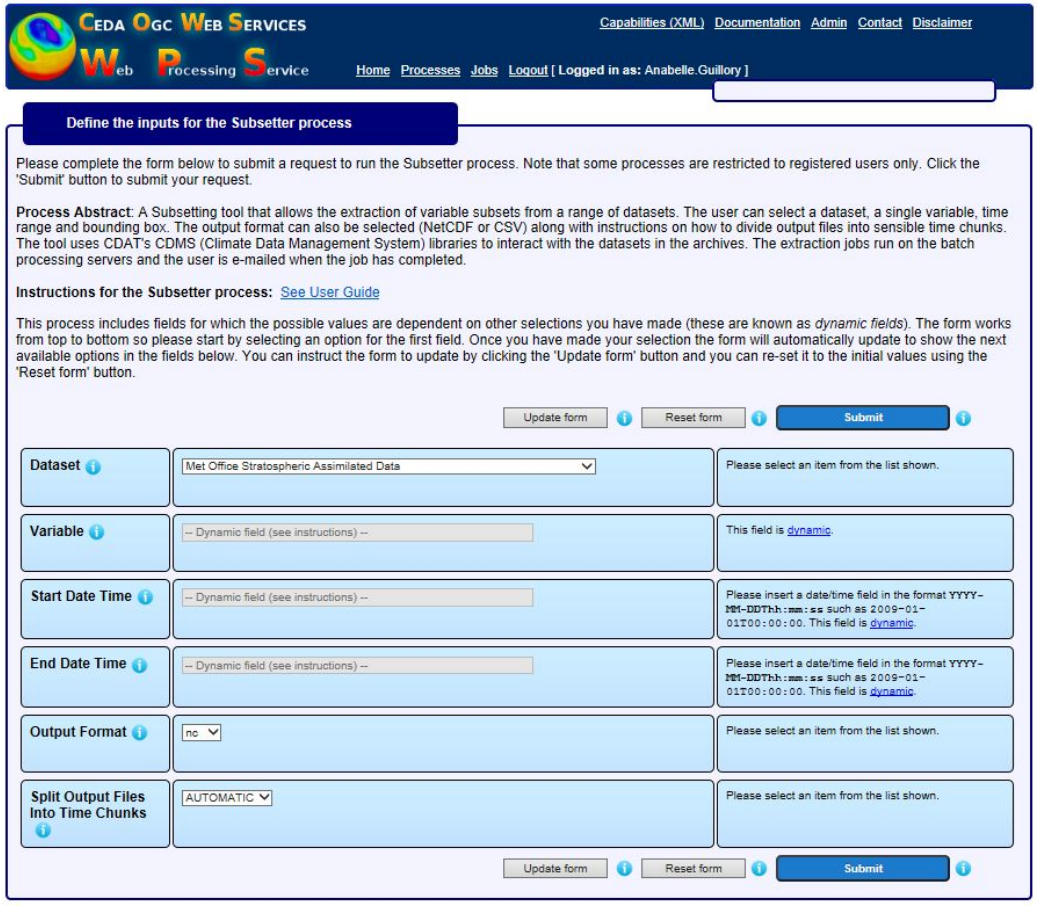
UK Meteorological Office. Met Office Integrated Data Archive System (MIDAS) Land and Marine Surface Stations Data (1853-current), [Internet].NCAS British Atmospheric Data Centre, 2012, *Date of citation*. Available from http://badc.nerc.ac.uk/view/badc.nerc.ac.uk__ATOM__dataent_ukmo-midas

Fundacion Entropika. [Lafon T.]. Fundacion Entropika High Resolution Monthly Means of Atmospheric Variables over the Amazon Basin (1972-2009) version 1.0, [Internet]. NCAS British Atmospheric Data Centre, 2013, *Date of citation*. Available from http://badc.nerc.ac.uk/view/badc.nerc.ac.uk__ATOM__ACTIVITY_493f3d08-0ade-11e3-9d71-00163e251233 ; doi:10.5285/2dfce039-cd71-43b3-bed4-98978e78f1bb

The CEDA Web Processing Service

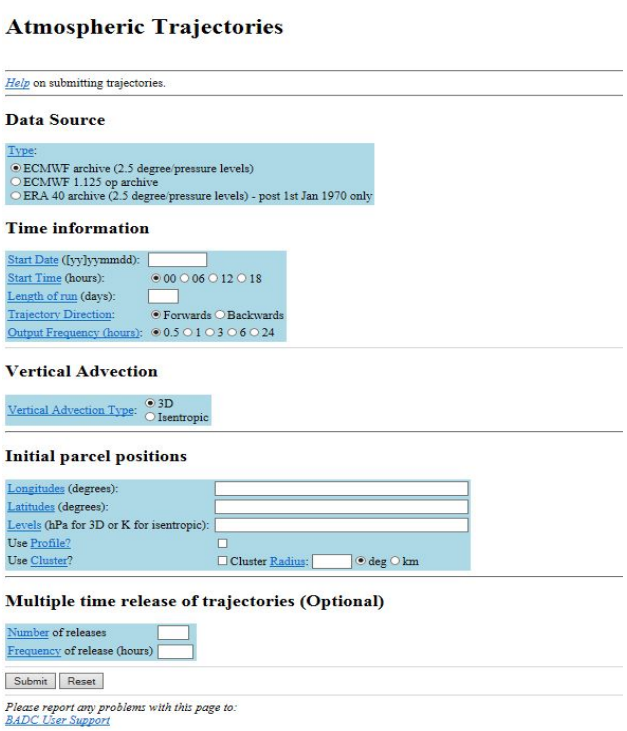
http://ceda-wps2.badc.rl.ac.uk/ui/home

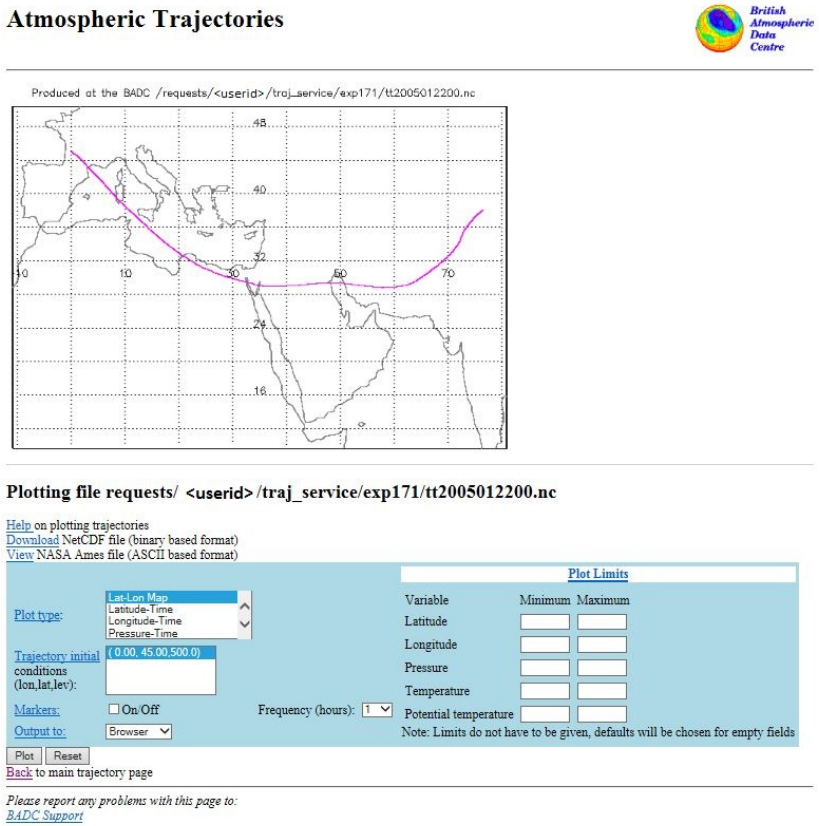




The BADC Trajectory Service

The BADC Trajectory service provides a user friendly interface to an atmospheric trajectory model so that authorised users may calculate their own air parcel trajectories. It is based on the use of the ECMWF Model data. This service is particularly useful to atmospheric research campaign participants.





http://badc.nerc.ac.uk/cgi-bin/trajectory/traj_form