



# ARKTALAS HOAVVA PROJECT

## DELIVERABLE D-30: ARKTALAS DATA AND ARCHIVE SYSTEM USER GUIDE

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## Revision Change log

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*This Deliverable D-30: ADAS user guide is associated with Task 2a: Arktalas Hoavva data collection and quality control. It follows the structure and outline indicated in the Statement of Work (SoW) and the Arktalas Hoavva technical project proposal.*

## Table of contents

<b>User guide</b>	2
Web interface	4
Installation procedure	7
<b>Quality control</b>	8
Unit tests	8
Website availability	8
Operational search interface	8
Metadata display	9
Metadata harvesting	9
Metadata validity	9
Metadata conformity with user requirements	9
Data download	10
Data usability by the AVS	10

# User guide

In this section is described how users can interact with the ADAS. Since the AVS is the main user interface for the Arktalas project, user interactions with the ADAS will be limited. Still, a web interface is provided so that users can directly check the contents of the ADAS without going through the AVS. This web interface will be the main focus of this user guide.

Figure 1 below shows the architecture of the ADAS and the place of the web interface in it. For a more exhaustive description of the workings of the ADAS, please refer to the **Technical Note 2 - Design of the ADAS**.

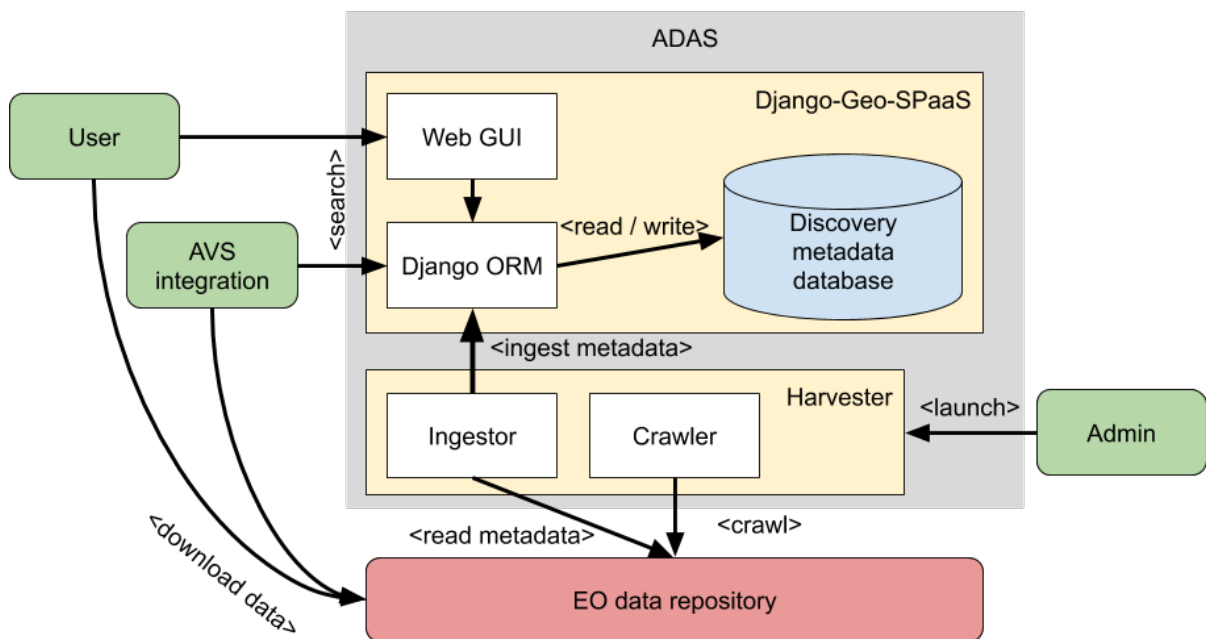


Figure 1: Overall architecture of ADAS (shown by gray block). Green blocks denote external clients, red block - distributed data repositories, yellow block - Django-Geo-SPaaS and Harvesters, blue block - centralized metadata database, white blocks - main software components. Arrow direction shows invocation sequence - arrows points from an active actor to a resource.

# Web interface

The web interface for the ADAS is available at <https://web.nersc.no/adas>.

It provides the ability to search for datasets in the ADAS database.

Figure 2 illustrates what the interface looks like:

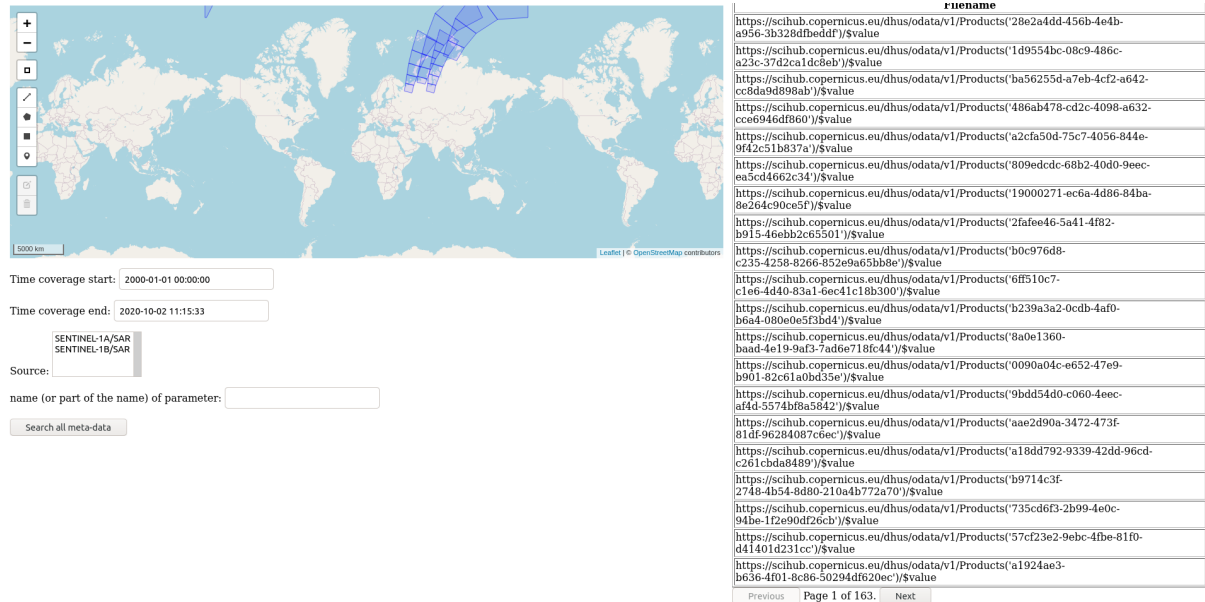


Figure 2: Web interface composed of the graphical search form (left) and the tabular search results as the URLs of the datasets (right)

## The search form

The search form has two components: the search fields and the map.

The search fields can be used to filter the datasets on:

- Time coverage
- Source
- The name of a parameter/variable contained in the dataset

The map can be used to filter on spatial coverage by drawing a shape as shown on Figure 3 below.

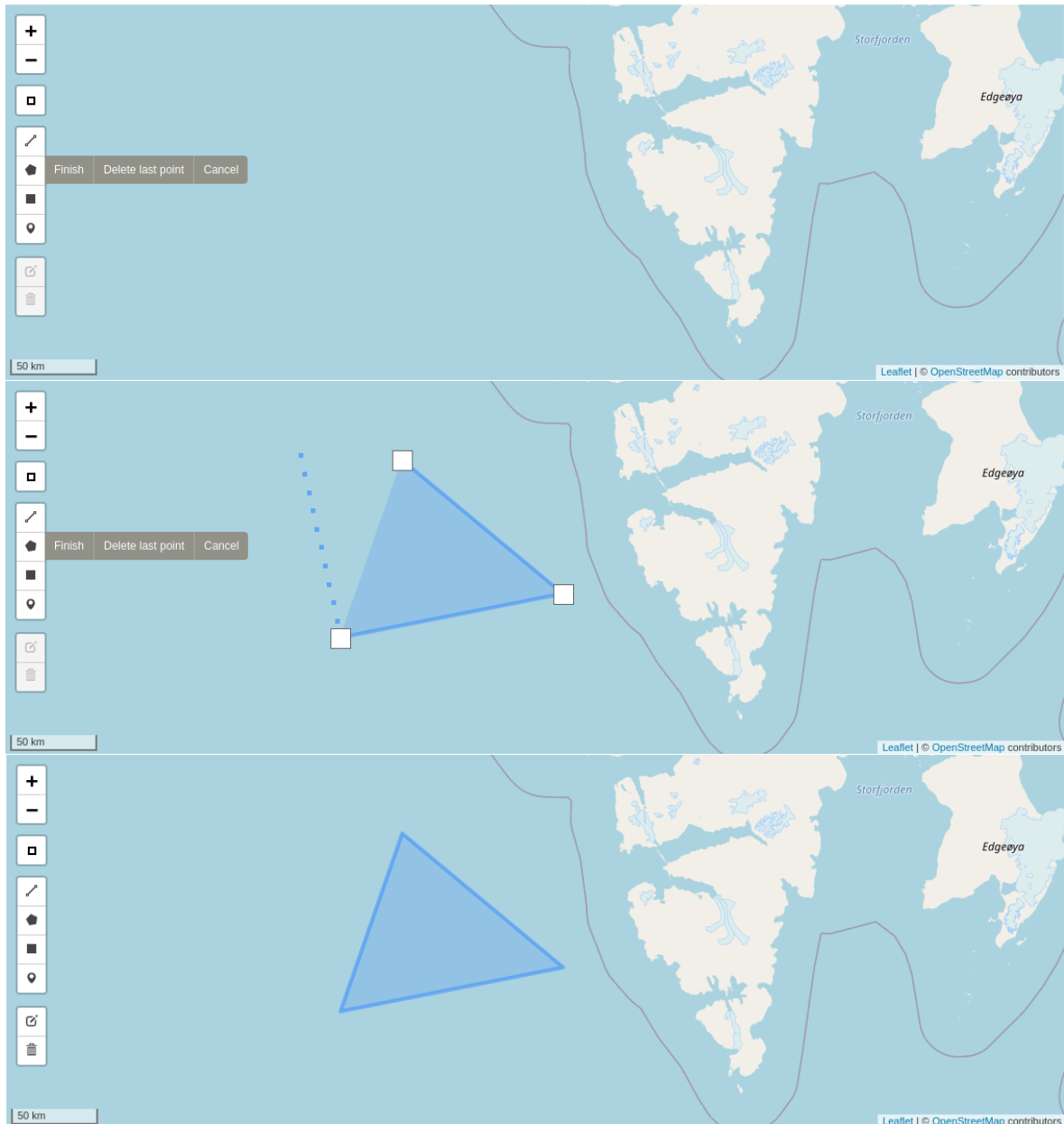


Figure 3: Drawing a shape on the map

Once all the desired search fields are filled and the shape is drawn, a click on the “Search all meta-data” button will launch the search. The results will be displayed in the right part of the screen, while the shape of each dataset’s spatial coverage will be displayed on the map.

### The results table

The table on the right of the screen shows the URLs of the datasets which were found in the search. If too many results are found, the display is paginated. The map only shows the spatial coverage of the results on the current page.

Figures 4 and 5, below, show the results of a specific search for datasets which:

- Have a time coverage intersecting with the period between June 1st, 2020 and June 15th, 2020
- Contain Sentinel-1A SAR data

- Have a spatial coverage intersecting with the triangle drawn off the Svalbard shore

Time coverage start:

Time coverage end:

Source:   
SENTINEL-1B/SAR

name (or part of the name) of parameter:

riename
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('7057c8ae-93d3-4064-b178-df77531b344b')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('7057c8ae-93d3-4064-b178-df77531b344b')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('e6ac3377-ccab-479f-a6d7-ddd66a845148')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('e6ac3377-ccab-479f-a6d7-ddd66a845148')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('03351cdc-0cad-4131-99a2-cb61d5491479')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('03351cdc-0cad-4131-99a2-cb61d5491479')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('0cbc244a-97b8-4478-999e-314e3c3d703a')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('0cbc244a-97b8-4478-999e-314e3c3d703a')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('2860c90e-d9de-424f-9e4e-6cfd4f48f883')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('2860c90e-d9de-424f-9e4e-6cfd4f48f883')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('e19612ad-0eac-4b3b-9231-081e4892f26b')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('e19612ad-0eac-4b3b-9231-081e4892f26b')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('2112a3cc-21d9-4db4-b6d1-d114641c63ef')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('2112a3cc-21d9-4db4-b6d1-d114641c63ef')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('8159a1b8-9a2b-4c57-9e2e-0a0ac6d901c1')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('8159a1b8-9a2b-4c57-9e2e-0a0ac6d901c1')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('bfc0c3a5-e9e2-4b40-91f6-02ed251fc032')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('bfc0c3a5-e9e2-4b40-91f6-02ed251fc032')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('2b031e94-874e-4f10-84cd-3bee1a5c5fc3')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('2b031e94-874e-4f10-84cd-3bee1a5c5fc3')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('6f1f479f-13ad-422a-049e-55220dca3af8')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('6f1f479f-13ad-422a-049e-55220dca3af8')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('a17e366d-3d9b-4ac4-bd20-2180c8e20d3')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('a17e366d-3d9b-4ac4-bd20-2180c8e20d3')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('3f6716ea-e736-4936-80cb-7a3de60c450a')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('3f6716ea-e736-4936-80cb-7a3de60c450a')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('f970fb77-982f-4bbb-ac40-5d4b58f23283')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('f970fb77-982f-4bbb-ac40-5d4b58f23283')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('b433bf5b-c6a8-4fbc-ad53-8dec3cb80cd7')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('b433bf5b-c6a8-4fbc-ad53-8dec3cb80cd7')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('1dd2d074-bb57-4c85-b125-d1a1f62007f')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('1dd2d074-bb57-4c85-b125-d1a1f62007f')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('75444216-95cb-48fa-9b62-45e90f08b976')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('75444216-95cb-48fa-9b62-45e90f08b976')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('5edfe7ac-e6e9-417d-8bc3-fb63febe389b')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('5edfe7ac-e6e9-417d-8bc3-fb63febe389b')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('abb85459-ba8b-4edb-a4ac-f75db36fa60')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('abb85459-ba8b-4edb-a4ac-f75db36fa60')/\$value</a>
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('7057c87e-7d43-4d51-9b8a-c7bac6bc2bcd')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('7057c87e-7d43-4d51-9b8a-c7bac6bc2bcd')/\$value</a>

Previous Page 1 of 2 Next

Figure 4: search results, page 1

Time coverage start:

Time coverage end:

Source:   
SENTINEL-1B/SAR

name (or part of the name) of parameter:

Filename
<a href="https://scihub.copernicus.eu/dhus/odata/v1/Products('864680c4-61e5-41a5-b1df-6f5c75125607')/\$value">https://scihub.copernicus.eu/dhus/odata/v1/Products('864680c4-61e5-41a5-b1df-6f5c75125607')/\$value</a>

Previous Page 2 of 2 Next

Figure 5: search results, page 2

## Installation procedure

The ADAS web application is freely available as a [Docker image](#).

The deployment of the ADAS system is automated using [Ansible](#). The Ansible code for this is located on a private Github repository: <https://github.com/nansencenter/deploy-adas>. Access to this repository can be granted on a case-by-case basis.

In order to deploy to a new server, inventory files for a new environment can be written by taking the existing ones as an example.

The server must also follow these requirements:

- Docker must be up and running
- Python 3 needs to be available
- SSH (**write out this acronym**) connections must be possible between the server and the machine where the Ansible playbook will be run.

Then, running the following command will install the ADAS:

```
ansible-playbook -i inventory/<new_env>/ deploy.yml
```

Where `<new_env>` is the name of the newly created environment.

# Quality control

This section describes the elements that need to be checked to control the quality of the ADAS. For each of these elements will be defined what needs to be checked and the result of this check.

## Unit tests

What must be checked?

Each software component should be covered by unit tests.

## Results

All the main components are indeed covered by unit tests. This can be checked on the Github page of the corresponding projects:

- <https://github.com/nansencenter/django-geo-spaas>
- <https://github.com/nansencenter/django-geo-spaas-adas-viewer>
- <https://github.com/nansencenter/django-geo-spaas-harvesting>
- <https://github.com/nansencenter/django-geo-spaas-processing>

## Website availability

What must be checked?

The ADAS web interface must be available at <https://web.nersc.no/adas>.

## Results

The web site is available.

## Operational search interface

What must be checked?

The web interface must enable users to search in the database based on the following criteria:

- Time coverage
- Spatial coverage
- Source of the dataset
- Parameters of the dataset

This can be tested by looking for known datasets and seeing if they are found.

## Results

The search functionality is operational.



## Metadata display

### What must be checked?

Once datasets are found, the relevant metadata about these datasets must be displayed. The metadata to the users remains to be defined. For now it is limited to the dataset's URL, and it will be expanded once we get user requirements.

This can be checked by looking at the interface.

### Results

The URLs are displayed.

## Metadata harvesting

### What must be checked?

The selected metadata must be collected and written to the ADAS database. This metadata harvesting must occur at a regular interval (daily, for example).

### Results

The harvesting has been tested, which can be proved by the presence of Sentinel 1 SAR metadata in the web interface.

The periodic harvesting has not been implemented yet.

## Metadata validity

### What must be checked?

The metadata for a given dataset must be correctly collected.

This can be checked by collecting metadata about known datasets and checking that the contents of the database are matching the known metadata. This should be done for at least one dataset per data source.

### Results

Sentinel 1 data is validated.

## Metadata conformity with user requirements

### What must be checked?

The metadata which is collected about each dataset must contain all the information which is relevant to the users.

This can be checked when we get the user requirements.

## Results

None yet.

## Data download

### What must be checked?

The selected datasets must be regularly downloaded.

This functionality is not fully implemented yet.

## Results

None yet.

## Data usability by the AVS

### What must be checked?

The downloaded data must be usable by the AVS.

We will be able to check this once the ADAS-AVS integration is in place.

## Results

None yet.