

Cefas/DASSH OGC EDR API Pilot Project

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25 YEARS
of Cefas
120 years of science



Together we are working for a
sustainable blue future


Centre for Environment
Fisheries & Aquaculture
Science

 **Cefas**

Pilot project

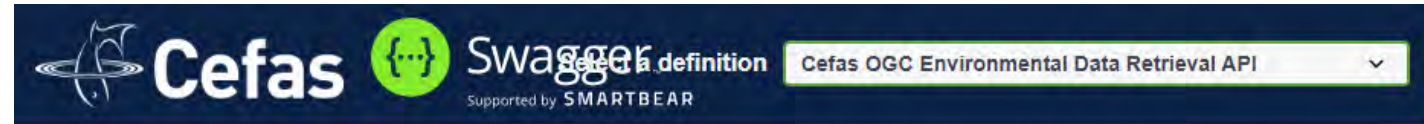
Aims:

- Test use of Cefas and DASSH OGC EDR APIs to access data programmatically
- Write R functions to query the APIs
- Create an interactive application to visualise data accessed via the APIs
- Provide feedback on how easy the APIs were to use



Querying the API

- Can use swagger to test queries
- Then learn how to construct query URLs.



OGC ENVIRONMENT DATA RETRIEVAL API

</swagger/ogc/swagger.json>

An Environmental Data Retrieval (EDR) API provides a family of lightweight interfaces to access Environmental Data resources, as per the standard defined by the Open Geospatial Consortium. Only a limited number of Cefas recordsets are available via this API.

[OGC Environment Data Retrieval Standard](#)

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e.g.

```
https://www.dassh.ac.uk/edr/collections/dbossh/instances/DASSHDT00000078/area?coords=POLYGON%28%28-33.31958%20-7.43087%2C-33.31958%2068.91161%2C57.73653%2068.91161%2C57.73653%20-7.43087%2C-33.31958%20-7.43087%29%29
```

Characteristics of the information available from the API

5 Data queries available

R Shiny App

- [Shiny \(rstudio.com\)](https://rstudio.com)
- App allows users to query APIs and visualise data without needing technical expertise.
- Hosted on Cefas' rstudioconnect infrastructure.

C7862 API Demo

This app allows you to query datasets from the Cefas Data Hub and DASSH using the [OGC ENV API](#)

Cefas

This app uses 6 datasets from the [Cefas Data Hub](#) which have had the OGC ENV API applied. These datasets are stored as *collections*

Collection ID

11460 Seafloor Litter

Query type

Draw polygon

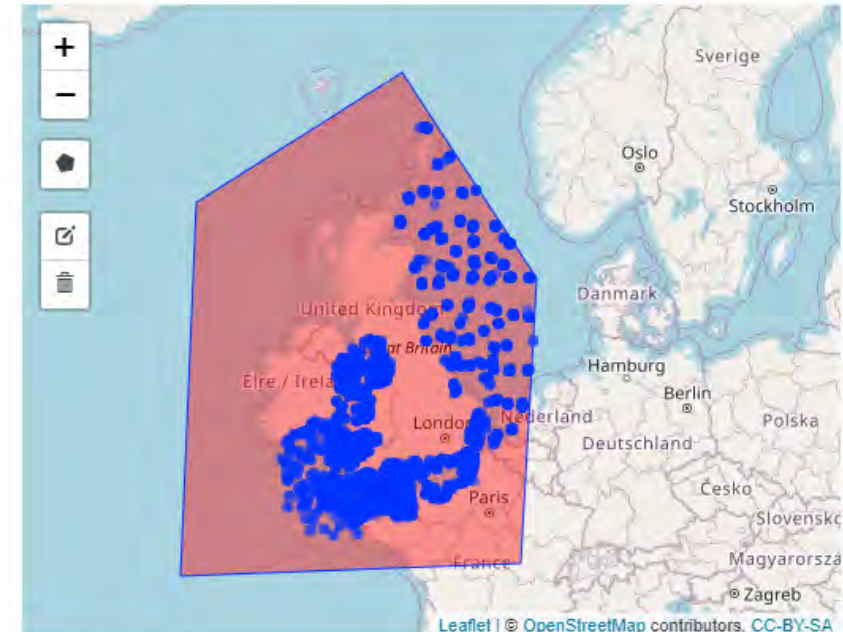
Click on the pentagon on the left to draw a polygon on the map

Query Cefas API

Your query returned 3807 rows of data

DASSH

DASSH is a data portal from the MBA. DASSH data also has the OGC ENV API applied. DASSH data is all stored in one collection called *dbossh*. It is not possible to query the whole collection at once, so select individual surveys (called instances) which are in the same area as your polygon.



Show 25 entries

Search:

area	station	fldHaulLatDegrees	fldHaulLatMinutes	fldHaul
Greater North Sea	1	51	44.3	1
Greater North Sea	2	51	36.1	2
Greater North Sea	3	51	49.4	3
Greater North Sea	4	52	49.4	2
Greater North Sea	5	52	41.1	3

Lessons learned

- Differing Implementation – made writing standardised functions difficult

Cefas

Collection1
 data
Collection2
 data
Collection3
 data

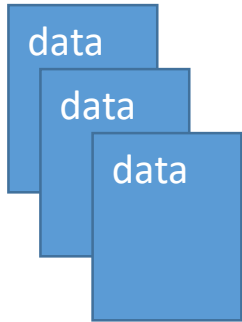
DASSH

Collection-dbossh
 Instance-survey1
 data
 Instance-survey2
 data
 Instance-survey3
 data



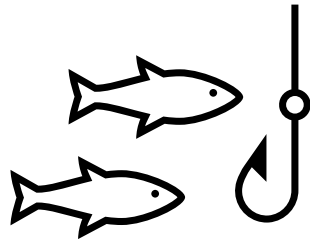
Lessons learned

- Timeouts – data not returned, why?
- Data volume – DASSH has a large amount of data so most queries take a long time or timeout.

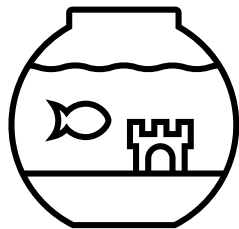


Lessons learned

- Blind querying – difficult to use an API if you don't already know what data it serves!



VS



Lessons learned

- API not setup to return complete datasets easily

*“Return the entire dataset in collection ID x” is **not** possible*

... but there are workarounds!

“Get the spatial extent of dataset in collection ID x and use this to return the entire dataset in collection ID x” is possible





Thank you for listening



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