



NEXTGEOSS



# Establish the connection of Citizen Observatories resources with central catalogue

---

MENTOR(S): GEORGIANA BERE & LÉA MANOUSSAKIS (DATOPIAN),  
JOÃO ANDRADE & KOUSHIK PANDA (DEIMOS), VALANTIS TSIAKOS  
(ICCS)

# Challenge Aim

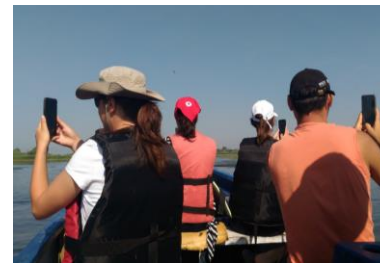
---

- Citizen Observatories → community-based environmental monitoring and information systems
- Fragmented landscape of related activities
- Enable the integration of the H2020 Citizen Observatories (i.e. LandSense, GroundTruth2.0, GROW, SCENT) datasets with the NextGEOSS catalogue as an approach to connect citizen science into GEOSS.

# Background

---

- The use of mobile devices and low-cost portable sensors coupled with data analytics, quality assurance and modelling approaches pave the way for citizens to have an active role and voice in environmental decision making.
- Citizen-science campaigns conducted across different European regions and beyond, leading to the collection of valuable environmental information i.e. land cover/land use, soil parameters, water & air quality parameters, phenological observations, disaster resilience
- Connection with H2020 WeObserve Communities of Practice ([www.weobserve.eu/cops/](http://www.weobserve.eu/cops/))



# Results

---

- ❖ Analysis of existing infrastructure and endpoints that enable machine-to-machine access to resources.
- ❖ Compilation of a template /online questionnaire for documenting data and resources involving community-based environmental monitoring citizen science projects.
- ❖ Implementation, testing and deployment of a data harvester for a part of SCENT citizen-science data, aiming to constitute a prototype for the ingestion of citizen-science resources (metadata) into a centralised catalogue.
- ❖ The implemented harvester is also available in github: <https://github.com/NextGeoss/ckanext-nextgeossharvest/wiki/17.-Harvesting-Scent-products>

# Results

## Data Providers

NextGEOSS engages the main providers of earth observation data, including Copernicus Collaborative Ground Segments and Core Services. The data hub draws upon resources provided by public, commercial, and research institutions working with satellite, aerial, and in situ measurements.

The following data providers are currently integrated in the NextGEOSS system:

27 data providers found

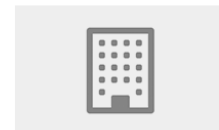
Order by:



SCENT  
16462 Datasets



SIMOcean  
670 Datasets



Static EBVs  
2 Datasets



USGS  
53601 Datasets




# Results

[Dataset](#) [Thematic Areas](#) [Activity Stream](#) [Manage](#)

## scent\_danube\_image\_34541

Published by SCENT  
Part of collection SCENT Danube Image



Using SCENT Explore and SCENT Measure apps, volunteers competed collecting important information about Danube Delta parameters, such as images of land-cover/land-use.

### Spatial Extent



Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA.

### Data and Resources



JPEG

#### Product Download

URI for accessing the image file.

[More info](#)

[Download](#)



JSON

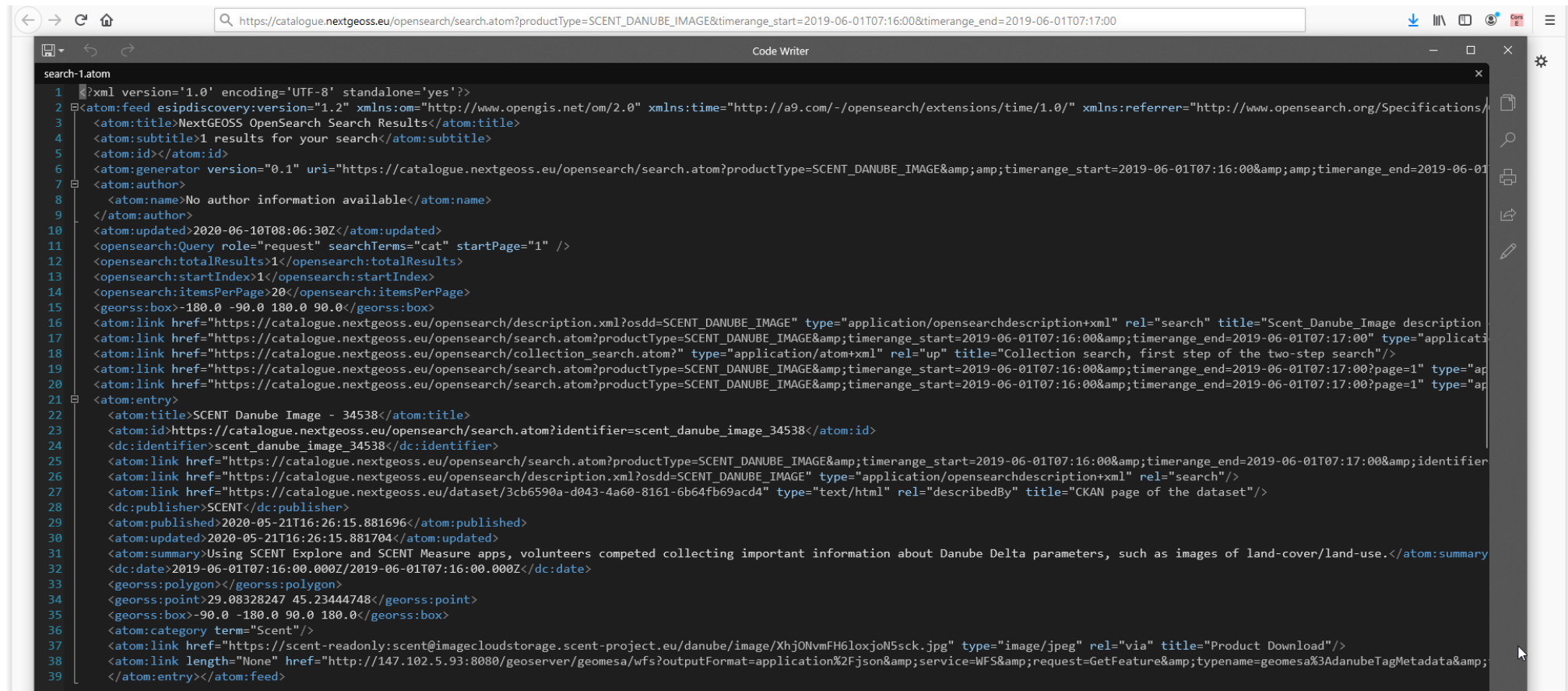
#### Image tags

URI for accessing the application file containing the different tags information.

[More info](#)

[Download](#)

# Results

A screenshot of a web browser window displaying XML search results. The browser's address bar shows the URL: https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT\_DANUBE\_IMAGE&timerange\_start=2019-06-01T07:16:00&timerange\_end=2019-06-01T07:17:00. The page content is XML code, with a dark-themed code editor overlaying it. The XML includes metadata such as title, subtitle, generator, author, updated date, and search parameters. A single search result is shown for the item "SCENT Danube Image - 34538", including its identifier, DC identifier, publisher, published date, updated date, summary, date, and geospatial coordinates. The XML also contains links to the item's description, collection search, and the dataset page.

```
1 <?xml version='1.0' encoding='UTF-8' standalone='yes'?>
2 <atom:feed esipdiscovery:version="1.2" xmlns:om="http://www.opengis.net/om/2.0" xmlns:time="http://a9.com/-/opensearch/extensions/time/1.0/" xmlns:referrer="http://www.opensearch.org/Specifications/
3 <atom:title>NextGEOSS OpenSearch Search Results</atom:title>
4 <atom:subtitle>1 results for your search</atom:subtitle>
5 <atom:id></atom:id>
6 <atom:generator version="0.1" uri="https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT_DANUBE_IMAGE&timerange_start=2019-06-01T07:16:00&timerange_end=2019-06-01
7 <atom:author>
8 <atom:name>No author information available</atom:name>
9 </atom:author>
10 <atom:updated>2020-06-10T08:06:30Z</atom:updated>
11 <opensearch:Query role="request" searchTerms="cat" startPage="1" />
12 <opensearch:totalResults>1</opensearch:totalResults>
13 <opensearch:startIndex>1</opensearch:startIndex>
14 <opensearch:itemsPerPage>20</opensearch:itemsPerPage>
15 <georss:box>-180.0 -90.0 180.0 90.0</georss:box>
16 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/description.xml?osdd=SCENT_DANUBE_IMAGE" type="application/opensearchdescription+xml" rel="search" title="Scent_Danube_Image description
17 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT_DANUBE_IMAGE&timerange_start=2019-06-01T07:16:00&timerange_end=2019-06-01T07:17:00" type="applicati
18 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/collection_search.atom?" type="application/atom+xml" rel="up" title="Collection search, first step of the two-step search"/>
19 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT_DANUBE_IMAGE&timerange_start=2019-06-01T07:16:00&timerange_end=2019-06-01T07:17:00?page=1" type="ap
20 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT_DANUBE_IMAGE&timerange_start=2019-06-01T07:16:00&timerange_end=2019-06-01T07:17:00?page=1" type="ap
21 <atom:entry>
22 <atom:title>SCENT Danube Image - 34538</atom:title>
23 <atom:id>https://catalogue.nextgeoss.eu/opensearch/search.atom?identifier=scent_danube_image_34538</atom:id>
24 <dc:identifier>scent_danube_image_34538</dc:identifier>
25 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/search.atom?productType=SCENT_DANUBE_IMAGE&timerange_start=2019-06-01T07:16:00&timerange_end=2019-06-01T07:17:00&identifier
26 <atom:link href="https://catalogue.nextgeoss.eu/opensearch/description.xml?osdd=SCENT_DANUBE_IMAGE" type="application/opensearchdescription+xml" rel="search"/>
27 <atom:link href="https://catalogue.nextgeoss.eu/dataset/3cb6590a-d043-4a60-8161-6b64fb69acd4" type="text/html" rel="describedBy" title="CKAN page of the dataset"/>
28 <dc:publisher>SCENT</dc:publisher>
29 <atom:published>2020-05-21T16:26:15.881696</atom:published>
30 <atom:updated>2020-05-21T16:26:15.881704</atom:updated>
31 <atom:summary>Using SCENT Explore and SCENT Measure apps, volunteers competed collecting important information about Danube Delta parameters, such as images of land-cover/land-use.</atom:summary
32 <dc:date>2019-06-01T07:16:00.000Z/2019-06-01T07:16:00.000Z</dc:date>
33 <georss:polygon></georss:polygon>
34 <georss:point>29.08328247 45.23444748</georss:point>
35 <georss:box>-90.0 -180.0 90.0 180.0</georss:box>
36 <atom:category term="Scent"/>
37 <atom:link href="https://scent-readonly.scent@imagecloudstorage.scent-project.eu/danube/image/Xhj0NvmFH6loxjoN5sck.jpg" type="image/jpeg" rel="via" title="Product Download"/>
38 <atom:link length="None" href="http://147.102.5.93:8080/geoserver/geomesa/wfs?outputFormat=application%2Fjson&service=WFS&request=GetFeature&typeName=geomesa%3AdanubeTagMetadata&
39 </atom:entry></atom:feed>
```



# Conclusion

---

Main benefits:

- Maximise the value of citizen-science data by facilitating the discoverability and usability along with EO and other in-situ data;
- Deterring factor towards creating silos of resources;
- Promoting the use of open solutions and common standards for data sharing;
- Facilitate uptake of citizen-science resources as part of SDGs monitoring and implementation processes;
- Applicable methodology for other existing Citizen Observatories data.