



DELIVERABLE 3.10

ESA Data Warehouse Request for the Third Year

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Executive Summary

Include short summary listing deliverable objectives, key findings, and policy recommendations (if applicable). If deliverable is confidential, please include that as the final sentence here.

The SDGs EYES project aims at increasing the use of Earth Observation data in the implementation of Sustainable Development Goals (SDGs) indicators. The project will not only refine existing indicators or develop new ones but will also provide an environment where users can join and develop indicators, refine and publish them to be available to the SDGs' indicators community.

Within the project, a large amount of satellite and satellite-based products will be used, mainly free and open data provided by the Copernicus program and other European data sources. Nevertheless, there might be the need to use commercial products featuring higher spatial resolution for both indicators development, validation and production. To support the latter, the European Space Agency (ESA) and the Copernicus program make available, for research project purposes, the access to a dedicated data portal that allows accessing, within quota, to products (part of the Copernicus Contributing Missions, CCM) that otherwise would be accessible only through commercial channels .

The scope of this document is to detail the Consortium needs of data from CCM for the third year of activities. The document also provides details on the data need and on the change in data access paradigm still occurring.

Keywords

Copernicus, satellite data, high resolution

Abbreviations

CCM	Copernicus Contributing Missions
CMCC	Fondazione Centro Euro Mediterraneo sui Cambiamenti Climatici
D	Deliverable
EO	Earth Observation
ESA	European Space Agency
EU	European Union
PC	Project Coordinator
SDGs	Sustainable Development Goals
SDGs-EYES	Sustainable Development Goals - Enhanced monitoring through the family of copErnicus Services
WP	Work Package

ESA Data Warehouse Request for the Third Year

1. Introduction

This section introduces the document scope and the actual status on data access and exploitation practices with respect to the past work modalities.

1.1 Data portal and data sources

The scope of D3.10 is to identify and list the product part of the Copernicus Contributing Missions that can be used to support the implementation of the project pilots. The consortium has requested and obtained access to the Copernicus Contributing Missions online portal (<https://spacedata.copernicus.eu/>) as a European Research product.

D5.1 has the scope of listing all data sources to be used during the project to develop new SDG indicators. The document was checked to find out whether there are datasets to be retrieved from the CCM portal. Moreover, in the framework of Task 5, the pilot leaders are collecting the list of datasets needed for each pilot per sprint; they are asked to identify which datasets from the CCM portal can support pilots' development and validation. Section 2 describes the results of the analysis.

1.2 1.2 Data access paradigm change

Due to the change in data access modalities, from on-demand data requests through the provision of a detailed list of products to be collected to real time access to the full catalogue of available products, the deliverable (that is supposed to list the products to be used) might not be needed anymore.

In the meanwhile, a list of the data sources available through the CCM portal to be used during the project are listed in Section 2.

2. Data needs

Based on the methodology described in Section 1, the following sub-sections provide the list of the identified datasets from the CCM portal requested to be used within the pilots implementation and validation activities during the section year of activities

2.1 High Resolution satellite imagery

Table 1 lists the satellite very high-resolution datasets that will be used within the third year of activities of the project.

Table 1. Summary of optical and SAR very high resolution data to be accessed through the CCM portal

OPTICAL or SAR	Archive or New Acquisition	Spatial resolution class (VHR1, VHR2, HR1, HR2, MR1, see Table 2)	SIZE (SQKM) Single Area of Interest (AOI)	Number of repetitions (number of acquisitions needed for the same AOI during the same year).	Total SQKM	Justification (name of the AOI, period of acquisition...)
OPTICAL	Archive	VHR1	2507	1	2507	The two target countries are Niger and Mali. At today we cannot define neither the exact areas to be analysed, nor the number of repetitions. We are going to use only images from the archive; no requests for new acquisitions are expected
OPTICAL	Archive	VHR2	2507	1	2507	
SAR	Archive	VHR1	2507	1	2507	
SAR	Archive	VHR2	2507	1	2507	

Table 2. classification of image resolution

<50 cm	>=50 cm	1-4m	4-10m	10-30m	30-100m
VHR1	VHR2	HR1	HR2	MR1	

It shall be noticed that:

- Optical and SAR VHR1/2 data are used only by Pilot 5
- The spatial coverage might be possibly extended to other Sahel countries due to the limited number of images above the Aol
- The AOI will be designed based information received
- The temporal coverage might be possibly extended to 2014-2024 due to the limited number of images during the time frame selected.

2.2 Ancillary datasets

Besides satellite products, the CCM portal also provides access to ancillary datasets. The project requests access to the Copernicus DEM - Global and European Digital Elevation Model accessible through the following link

<https://spacedata.copernicus.eu/en/web/quest/collections/copernicus-digital-elevation-model>

Table 3. Summary of ancillary data to be accessed through the CCM portal

OPTICAL or SAR	Archive or New Acquisition	Spatial resolution class (VHR1, VHR2, HR1, HR2, MR1, see Table 2)	SIZE (SQKM) Single Area of Interest (AOI)	Number of repetitions (number of acquisitions needed for the same AOI during the same year).	Total SQKM	Justification (name of the AOI, period of acquisition...)
DEM (EEA-10)	Archive	HR1		1	24269	Pilot 4B is currently using EU-DEM v1.1 at 30 m resolution. However, EU-DEM has become obsolete.

It shall be noticed that:

- Pilot 4B works on the Olt River basin (Romania). The area is delimited by a vector file owned by the pilot operator (CMCC).
- The 10 m DEM data shall be shared with Pilot 4a

For more information:

<https://sdgs-eyes.eu/>

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<https://twitter.com/SDGsEYES>

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<https://www.linkedin.com/company/sdgs-eyes/>



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