DELIVERABLE 3.11
ESA Data Warehouse Usage for Second Year

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Natali, S., M. Santini, M. Lazzarini, (2024). ESA Data Warehouse Usage for Second Year (SDGs-EYES Deliverable 3.11)

Project Acronym: **SDGs-EYES**
Project Full Title: **Sustainable Development Goals - Enhanced monitoring through the family of Copernicus Services**
Grant Agreement Number: **Project: 101082311 - HORIZON-CL4-2021-SPACE-01**
Type of Action: **HORIZON Research and Innovation Actions**

Deliverable number	3.11
Deliverable name:	ESA Data Warehouse Usage for Second Year
Dissemination level:	Public
Type of document:	Other
Deliverable Leader:	Stefano Natali, SISTEMA
Delivery due date:	30/09/2024
Actual date of submission:	30/09/2024
Deliverable description:	Reporting data usage from the first ESA Data Warehouse request that was made in D3.9
WP / WP number:	WP3 - SDG Indicators' Development and Evaluation
Lead author(s):	Stefano Natali – SISTEMA
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Reviewers:	Manuela Balzarolo, CMCC

Version log

Version	Date	Issued by	Description	Summary of changes
1	5/09/2024	Stefano Natali	First draft	n/a
2	26/09/2024	Stefano Natali	Second draft	Contributions collected
3	30.09/2024	Stefano Natali	Revised final version	Revised based on feedback from internal reviewers

Index

Executive Summary

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 are 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 .

At the beginning of the second year, a list of commercial satellite data to be possibly used within the project was detailed (see D3.9). The scope of this document is to provide a summary of the use of the data expected to be used: whether they have been effectively collected and, if so, how they have been used.

Keywords

Copernicus, satellite data, high resolution

List of tables

Abbreviations

SDGs-EYES	Sustainable Development Goals - Enhanced monitoring through the family of copErnicus Services
CMCC	Fondazione Centro Euro Mediterraneo sui Cambiamenti Climatici
D	Deliverable
EO	Earth Observation
ESA	European Space Agency
EU	European Union
SATCEN	European Union Satellite Centre
SDGs	Sustainable Development Goals
SISTEMA	SISTEMA GmbH
WP	Work Package

Title of deliverable or scientific publication

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

Based on D3.9, the scope of D3.11 is to describe the usage of the data collected through the the Copernicus Contributing Missions online portal (https://spacedata.copernicus.eu/) as European Research product during the second year of the project.

1.2 Requested Datasets

Table 1 lists the satellite datasets requested for the second year of the project.

Table 1 - Summary of optical very high resolution data accessed through the CCM portal during the second year

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 anaysed, 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

1.3 Images Collection and Usage

With respect to the images for Niger and Mali, the catalogue of past acquisitions was checked and the project used one image covering a flooding in Niamey (niger) region in 21/9/2020. The image was used in several reports and activations (**EMSR 466**) and it was used in the frame of SDGs-EYES for the visual validation of the flooding detected with Sentinels data in an urban environment.

Since it was the only image found in the archive covering a flooding event with a correspondence with Sentinels data, the use of VHR images for the pilot was limited.

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The SDGs-EYES project is funded by the European Union