

ESA Agency Report

WGCV-WGISS Joint Meeting – 15 October 2024

Mirko Albani (ESA)

Successful Launches of 4 Satellites

EarthCare – 28 May, Falcon9



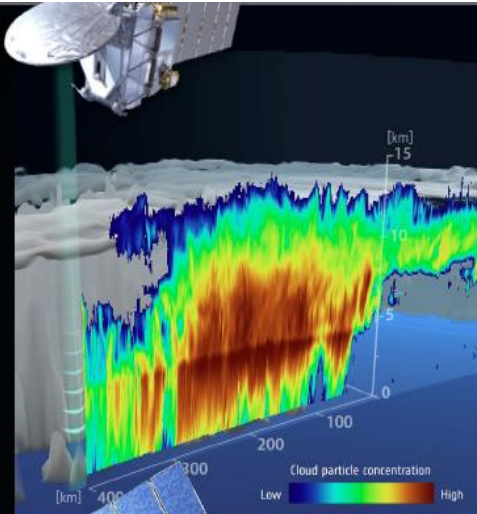
AWS/Φsat-2 – 16 August, Falcon9



Sentinel-2C – 5 September, Vega VV24



Commissioning Ongoing for all 4 Satellites: First Data Takes



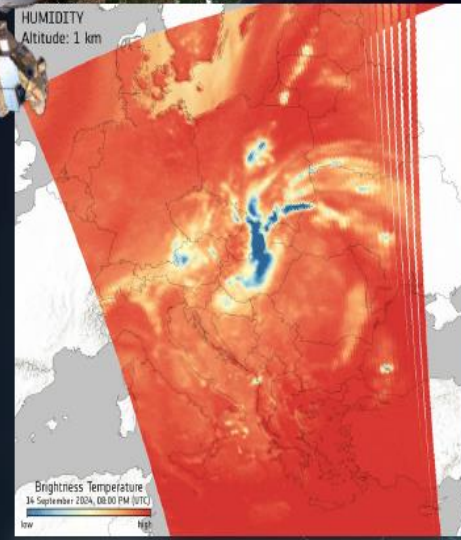
EarthCARE cloud profile over ocean east of Japan
Radar reflectivity data, taken 13 June, showing vertical structure of a cloud



PhiSat-2 data showing the Bay of Gibraltar.
True colour image at a resolution of 4.8m per pixel



S-2C Image of Seville
True colour image taken on 13 September at 10m resolution per pixel



AWS data showing Storm Boris
Humidity data from 14 Sept. at 1 km intervals and 1 to 7 km altitude showing torrential rainfall as dark blue regions over Hungary, Slovakia and Poland.

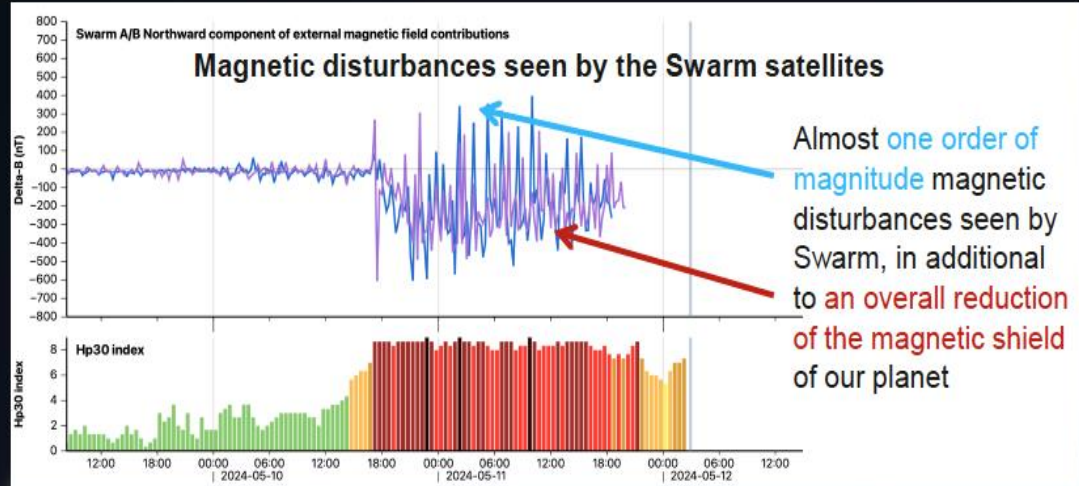
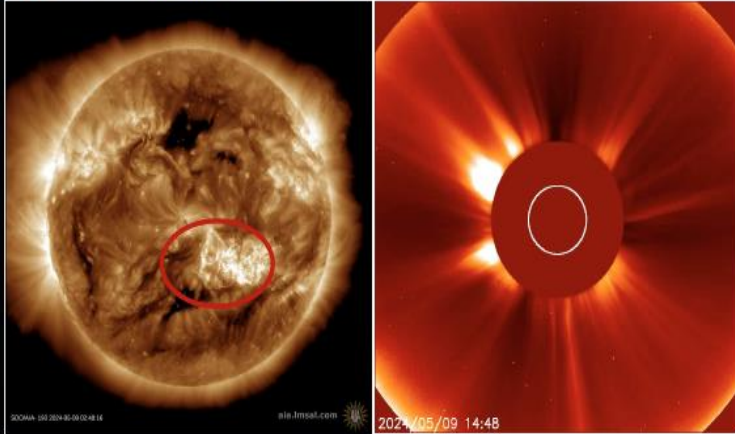
EARTH EXPLORERS

Pioneering scientific and technical excellence

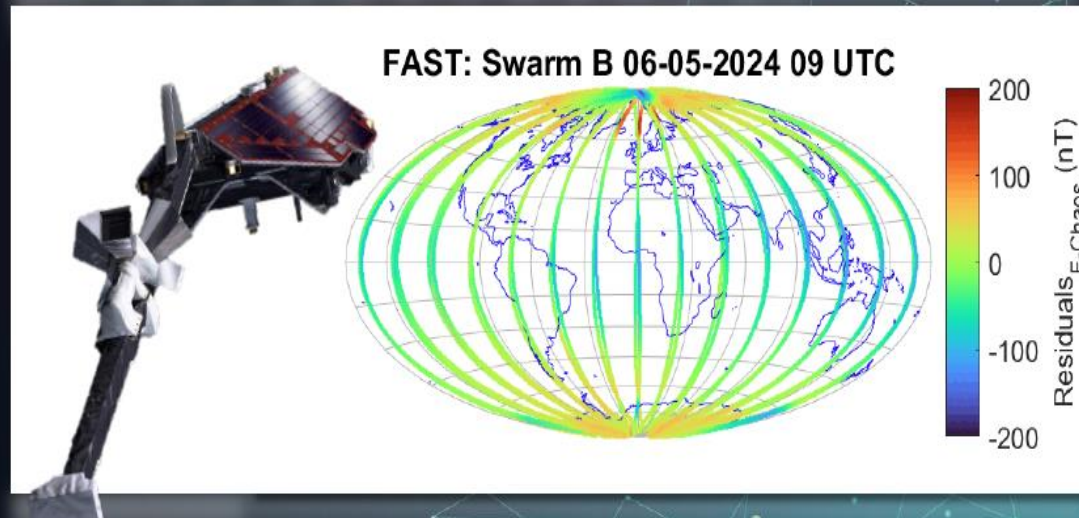


SWARM Data on Biggest Solar Storm Since 20 years

Sunspot AR3664 – radius of 15 Earths(!) – during 11-13 May launched a large amounts of Solar radio flares and high energy charged particles toward Earth (data from SOHO)



Map of confirmed aurora observations



HERITAGE MISSIONS TIMELINE



- Optical
- SAR
- SAR + Optical
- SAR + Optical + Atmospheric
- Gravity Field
- Ongoing



On some heritage missions only part of the dataset is available at ESA.



DATA

Discover and download the Earth observation data you need from the broad catalogue of missions the European Space Agency operate and support.

Aeolus

Discover what data products are offered for ESA's Aeolus mission....

EXPLORE MORE

CryoSat

Discover what data products are offered for ESA's CryoSat mission....

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Discover what data products are offered for ESA's Swarm mission.

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See all of the available data collections and products for ESA and Third Party Missions....

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DISCOVER LATEST DATA

[Find More Data >>](#)



LANDSAT 5 TM EUROPE AND NORTH AFRICA COVERAGE 1984-85

This collections contains Landsat 5 Thematic Mapper (TM) imagery acquired over Europe



LANDSAT 5 TM EUROPE AND NORTH AFRICA COVERAGE 1986-89

This collections contains Landsat 5 Thematic Mapper (TM) imagery acquired over Europe



LANDSAT 5 TM EUROPE AND NORTH AFRICA COVERAGE 1995-98

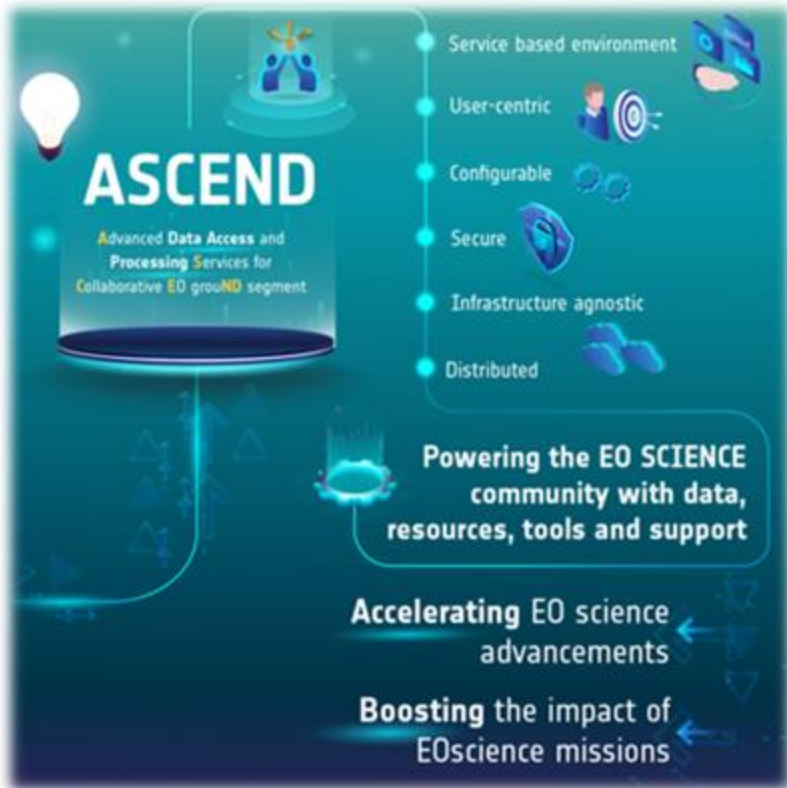
This collections contains Landsat 5 Thematic Mapper (TM) imagery acquired over Europe



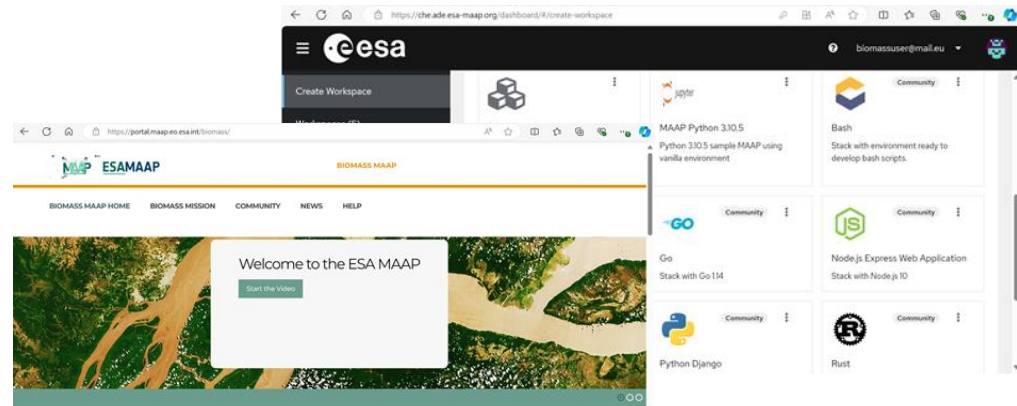
FUNDAMENTAL DATA RECORD FOR ATMOSPHERIC COMPOSITION [ATMOS_L1B]

TI Screenshot Data Record (FDR) for Atmospheric Composition UVN v1.0 dataset is

Earth Explorers and Heritage Missions Advanced Data Access



- The activity, planned to last 2 years, includes the set-up, deployment and operations of a suite of services and tools suitable for a mission-generic collaborative environment.
- As well as dedicated MAAPs to serve, as a starting point, the Biomass (live from September 30th), EarthCARE, and FLEX communities.



Biomass MAAP portal – <https://portal.maap.esa.int/biomass/>



PROGRAMME OF THE EUROPEAN UNION

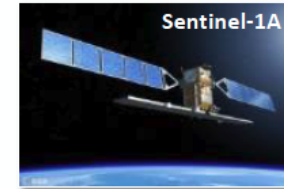


Copernicus



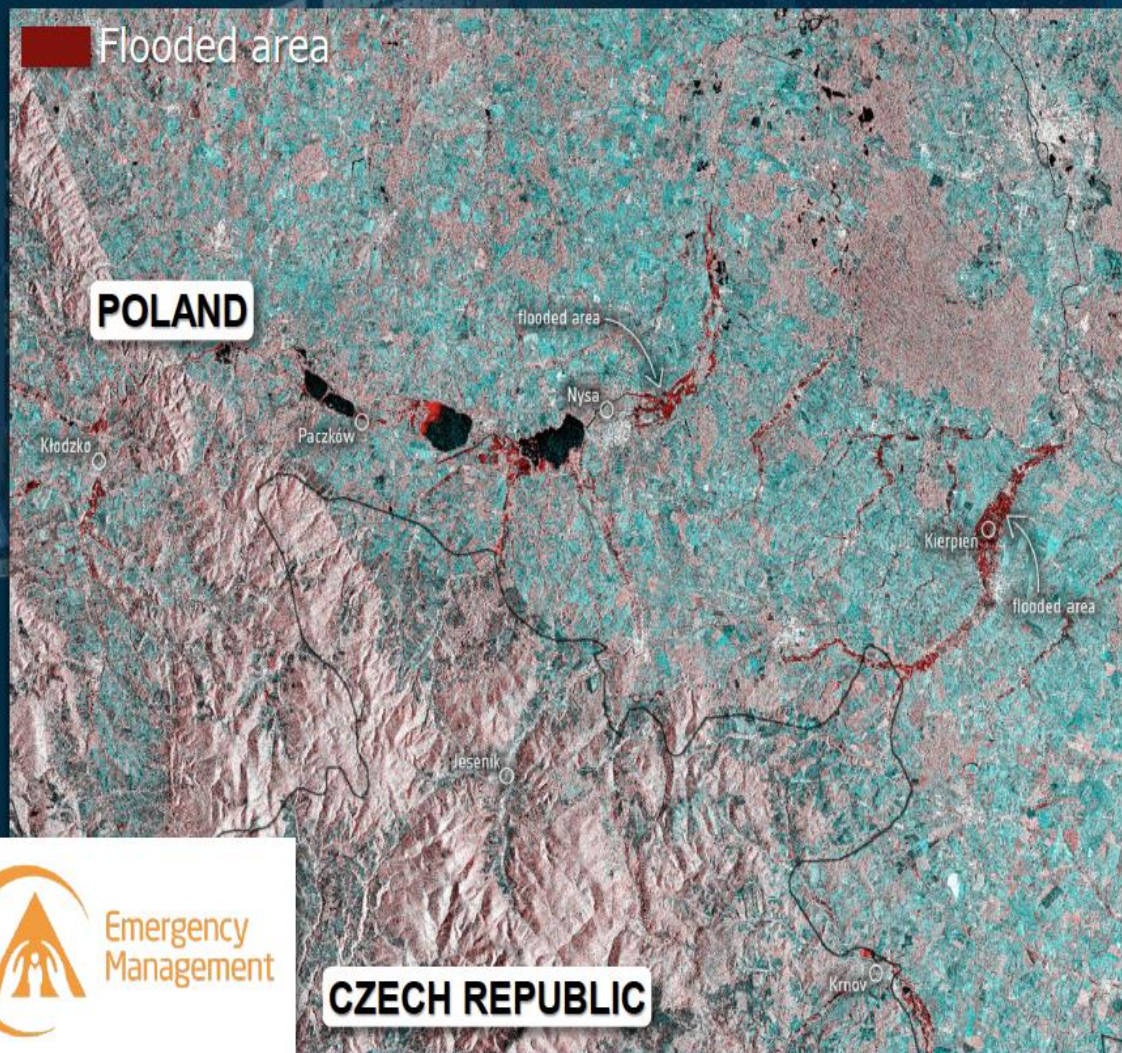
Sentinel missions are operated in full operations capacity

- Sentinel-1A → quasi-nominal operations
- Sentinel-2A and Sentinel-2B → nominal operations
- Sentinel-3A and Sentinel-3B → nominal operations
- Sentinel-5P → nominal operations
- Copernicus Contributing Missions
→ with established and emerging data suppliers



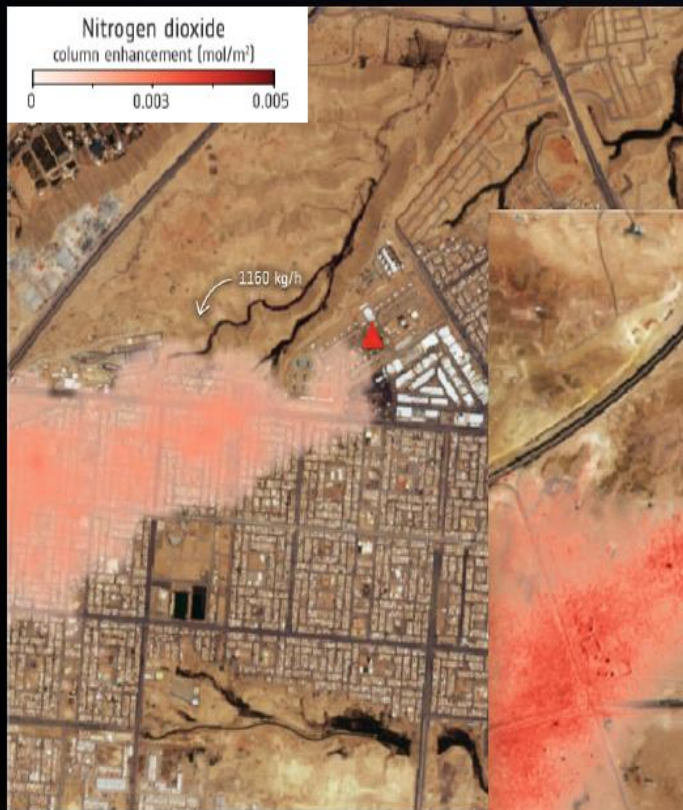
Status on 17 September 2024

Some of the catastrophic flooding in Europe caused by Storm Boris can be seen on this multi-temporal Sentinel-1 image, captured between 3 and 15 September



In response to the floods, the CEMS has been activated to produce detailed maps of the affected areas across several countries, including Poland, Germany, Slovakia, Austria, Germany and Italy





Riyadh power plant 9
(26 June 2021)

Riyadh power plant
8 (4 July 2020)



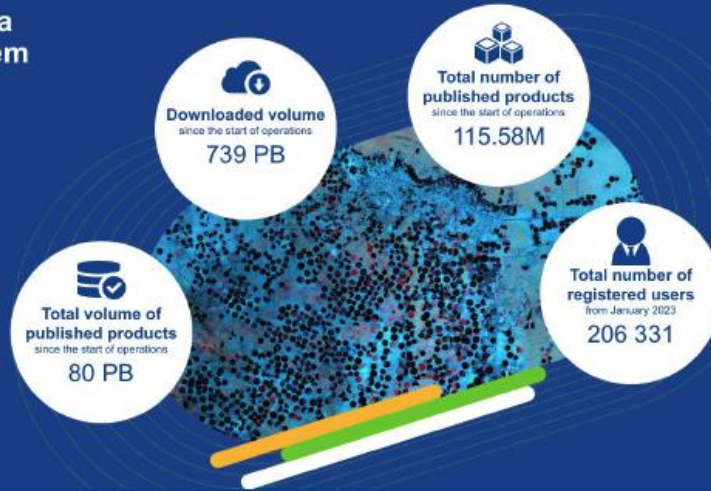
In a recent study, researchers used imagery from Copernicus Sentinel-2 to observe nitrogen dioxide plumes from power plants for the first time – marking a **significant advancement in air pollution monitoring.**

The Copernicus Data Space Ecosystem is the single-entry point for all users

<https://dataspace.copernicus.eu>

<https://dashboard.dataspace.copernicus.eu>

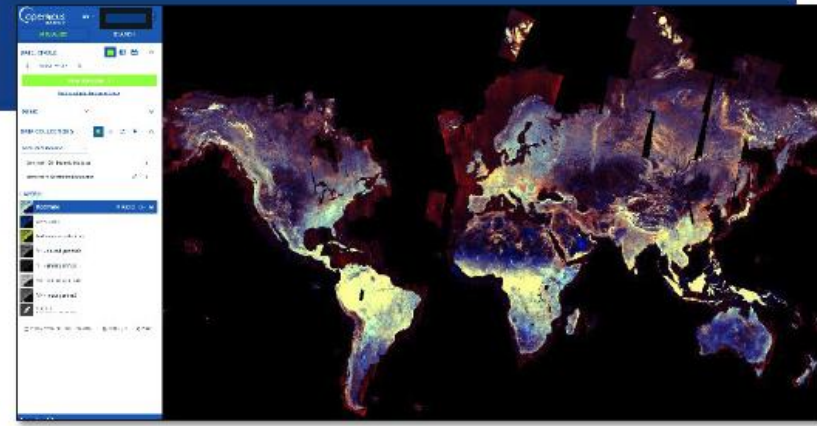
Copernicus Data Space Ecosystem Highlights



During the last 30 days
(1/31 Aug. 2024)

Number of Copernicus browser visitors
255,000

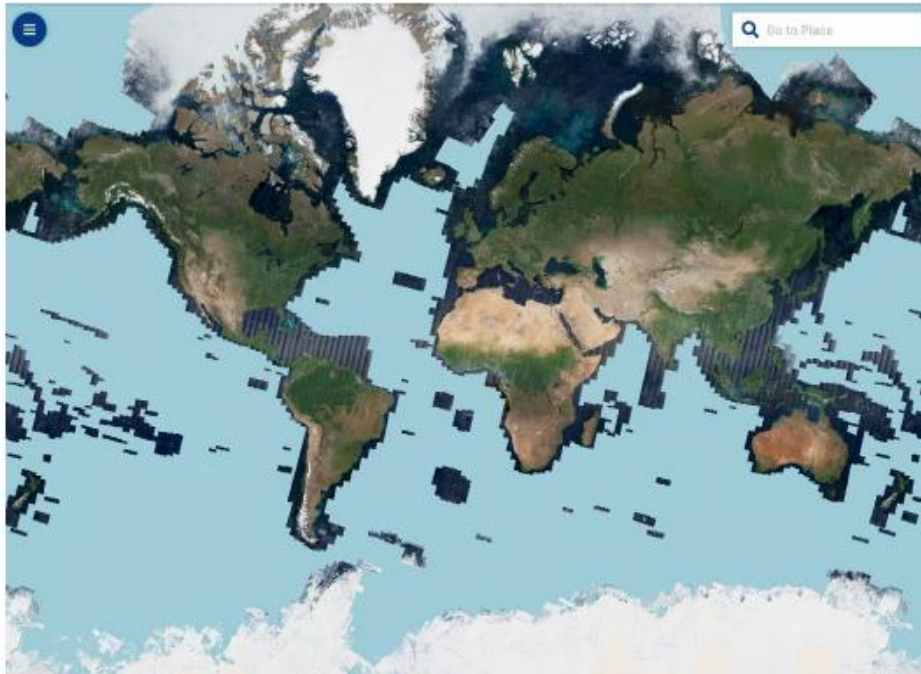
Number of active users
34,000



Key new services and enhancements (June - Aug. 2024)

- All CCM VHR systematic datasets available for download
- Publication of monthly Sentinel-1 mosaics
- S1/2/3 On-demand processing services available

Gradual publication of global monthly Sentinel-1 mosaics (2023)
and Sentinel-2 quarterly mosaics (2020-2024)



Sentinel-2 (2023)



Sentinel-1 (2023)

Credit: Contains modified Copernicus Sentinel data (2023), processed by CSDE

DestinE Platform Launched 10 June

DestinE Platform

Your gateway to a sustainable future

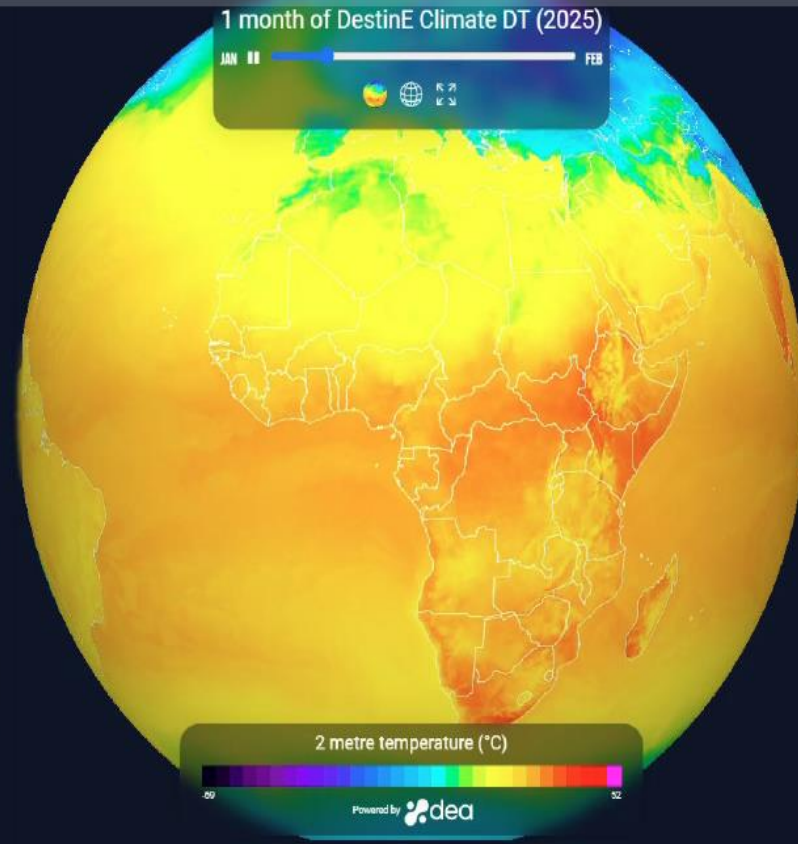
A unique ecosystem of services harnessing the power of Destination Earth.

DestinE Components

DestinE Platform

Digital Twins and Digital Twin Engine

Destination Earth Data Lake



19

Services already available

Explore

3

Services coming soon

Explore

A flexible ecosystem of services available to all DestinE users
Leveraging European Supercomputers



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<https://destination-earth.eu/destination-earth/destines-components/destination-earth-service-platform/>

MAKE SPACE FOR EUROPE

www.esa.int