European Commission

Copernicus: 20 years of History

Copernicus

In May of 1998, a vision for a European environment monitoring programme was agreed upon in Baveno, Italy. In the 20 years since, this vision has grown beyond expectations, giving rise to Copernicus, the most ambitious and successful Earth Observation programme in the world. The seven Copernicus Sentinel satellites in orbit, complemented by contributing missions, in situ sensors and numerical models, deliver terabytes of full, free and open data daily to hundreds of thousands of users. Copernicus also supports tens of thousands of jobs and generates billions of Euros in economic benefits, but the full potential of the programme is yet to be unleashed.

1998 - 2018

1998: On 19 May, a group of experts signs the Baveno Manifesto, a document proposing the creation of a European environment monitoring programme. It is a call for Europe to play a major role in handling worldwide environmental and climate issues.

1999: The programme is initially introduced as "Global Monitoring for Environmental Security - GMES", but it evolves to serve the security of both the environment and the people of Europe, adopting "Global Monitoring for Environment and Security" as a name.

Cloud-free Europe, as seen by the OLCI instrument of Sentinel-3

2002: "Security" in the frame of GMES is defined as including humanitarian aid, peacekeeping tasks, border surveillance and response to crises.

2004: A space-based observation component is proposed. The European Commission (EC) signs an agreement with the European Space Agency (ESA), setting the stage for a GMES Space Component: the Sentinel family of satellites.

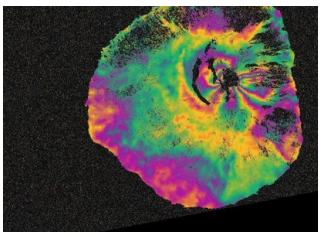
2005: GMES establishes its role as a major Earth monitoring system worldwide by becoming Europe's main contribution to the Global Earth Observation System of Systems (GEOSS).

2011: The GMES Initial Operations phase begins.

2012: GMES is renamed Copernicus, paying homage to the European astronomer who revolutionised our understanding of the Earth's dynamics. The Land Monitoring and Emergency Management Services start operating

2013: The EU adopts a Regulation introducing a hallmark of the Copernicus programme: the full, free and open data policy.

2014: On 3 April 2014 the deployment of the Copernicus Space Component begins with the launch of the Sentinel-1A radar satellite while the Copernicus Regulation is adopted by the EU the same year.



Pico do Fogo volcano, in Cabo Verde, as seen by Sentinel-1

2015: On 23 June Sentinel-2A, carrying multispectral high-resolution observation technology, reaches orbit, bringing "colour vision" to Copernicus. The Copernicus Marine Environment Monitoring Service and the Copernicus Atmosphere Monitoring Service are launched.

2016: Sentinel-3A is launched on 16 February. It is a "workhorse mission" for Copernicus, carrying multiple ocean and land monitoring instruments. Later that year, Sentinel-1B joins its twin in orbit, completing the first Copernicus Sentinel constellation. Additionally, the Copernicus Security Service becomes operational.

2017: Sentinel-2B and Sentinel-5P are launched. Sentinel-5P, "for the air we breathe", is dedicated to global Air Quality monitoring.

2018: Sentinel-3B is launched on 25 April, enabling the provision of multispectral optical data global coverage with a two-day revisit. The Copernicus Climate Change Service, the sixth of the services, is scheduled to be fully operational by the end of the year.

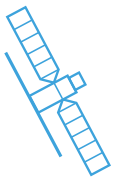
Present Day and Beyond: By the end of 2020, Copernicus will have millions of users with access to all of its data through the **Data and Information Access Services**. It will continue supporting scientists, the EU, national, regional and local government users, industry, emergency managers, NGOs and citizens in the development of new space-based applications, products, services and climate change monitoring. The Baveno experts provided us a with a legacy, a legacy that we are proud to acknowledge and to grow further.

Antartic ice caps, as seen by Sentinel-1

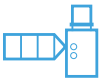
Copernicus
Europe's eyes on Earth

Space

As part of the Space Component of the Copernicus programme, state-of-the-art satellites called Sentinels have been developed, produced and launched by the European Space Agency and its partners on behalf of the European Union, which is the owner of the satellites. The free, full and open access to the data provided by the Sentinels enables users worldwide to create ground-breaking applications. The Copernicus programme also includes six thematic services that allow public and private users to use Copernicus data to tackle a wide range of societal challenges.



Sentinel-1
Sentinel-1 provides all-weather, day and night radar imagery for land, emergency management and ocean applications.



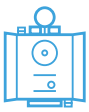
Sentinel-2
Sentinel-2 provides high-resolution optical imagery for land services.

Sentinel-3
Sentinel-3 delivers high-accuracy optical, radar and altimetry data for marine and land monitoring services.

Sentinel-4
From 2023 onwards, Sentinel-4 will provide data for atmospheric composition monitoring.

Sentinel-5
As of 2021, Sentinel-5 will also be dedicated to atmospheric composition monitoring.

Sentinel-5P
Sentinel-5 Precursor is a gap filler mission aiming to provide Air Quality data continuity until the launch of Sentinel-5.



Sentinel-6
Sentinel-6 will provide high accuracy altimetry for measuring global sea surface height, primarily for sea level rise monitoring, operational oceanography and climate studies.

Copernicus Atmosphere Monitoring Service
(CAMS)
The Copernicus Atmosphere Monitoring Service provides continuous data; forecasts and information on atmospheric composition, Air Quality and solar radiation.

Copernicus Climate Change Service
(C3S)
The Copernicus Climate Change Service provides high quality data and graphics to assist policy, science and business sectors in understanding climate change, mitigating and adapting to its effects.

Copernicus Marine Environment Monitoring Service
(CMEMS)
The Copernicus Marine Environment Monitoring Service offers unprecedented capabilities to observe, understand and anticipate the dynamics of the marine environment.

Emergency Management Service
(EMS)
The Emergency Management Service supports actors in the field of crisis management, humanitarian aid and Disaster Risk Reduction by addressing natural and man-made disasters.

Copernicus Land Monitoring Service
(CLMS)
The Copernicus Land Monitoring Service provides access to up-to-date information on land use and land cover products and on related variables.

Copernicus service for Security applications
The Security Service aims to support EU policies by providing information in response to Europe's security challenges.

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