



EUROPEAN UNION

# Uso de los datos y servicios de **COPERNICUS** como apoyo a la adaptación al cambio climático



The image shows a screenshot of the Copernicus mission interface. The background is a dark space with a starry sky. In the center, the Copernicus logo is displayed in white, with a blue arc above the 'o'. Below the logo, the text "La mirada de Europa sobre la Tierra" is written in white. On the left side, there is a circular menu with a globe in the center, surrounded by six icons and their corresponding labels in Spanish: "VIGILANCIA ATMOSFERICA", "VIGILANCIA MEDIOAMBIENTAL MARINA", "VIGILANCIA TERRESTRE", "CAMBIO CLIMATICO", "GESTION DE EMERGENCIAS", and "SEGURIDAD". At the bottom center, the European Union flag and the text "Comisión Europea" are visible. At the bottom right, there is a control bar with icons for play, list, settings, full screen, and other navigation functions.



## ¿Qué es *COPERNICUS*?

Es uno de los programas bandera de la Unión Europea:

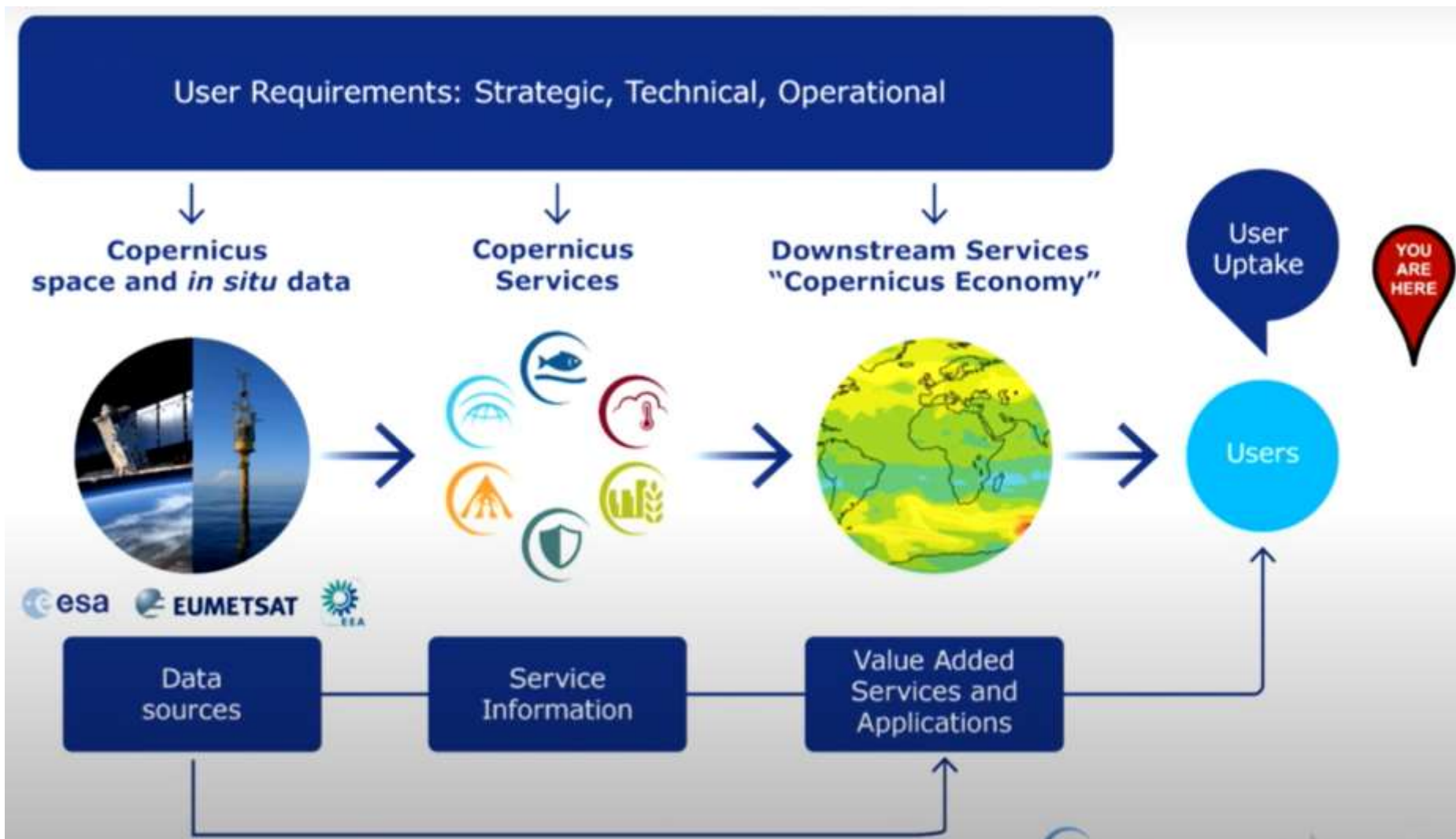
- Monitoriza el medio ambiente y estado de los ecosistemas del planeta
- Ayuda a la gestión de crisis y catástrofes
- Favorece el posicionamiento de la UE como actor relevante a nivel global

Mantiene una estrategia de **USO LIBRE, ABIERTO Y GRATUITO** de datos



# COPERNICUS GOVERNANCE



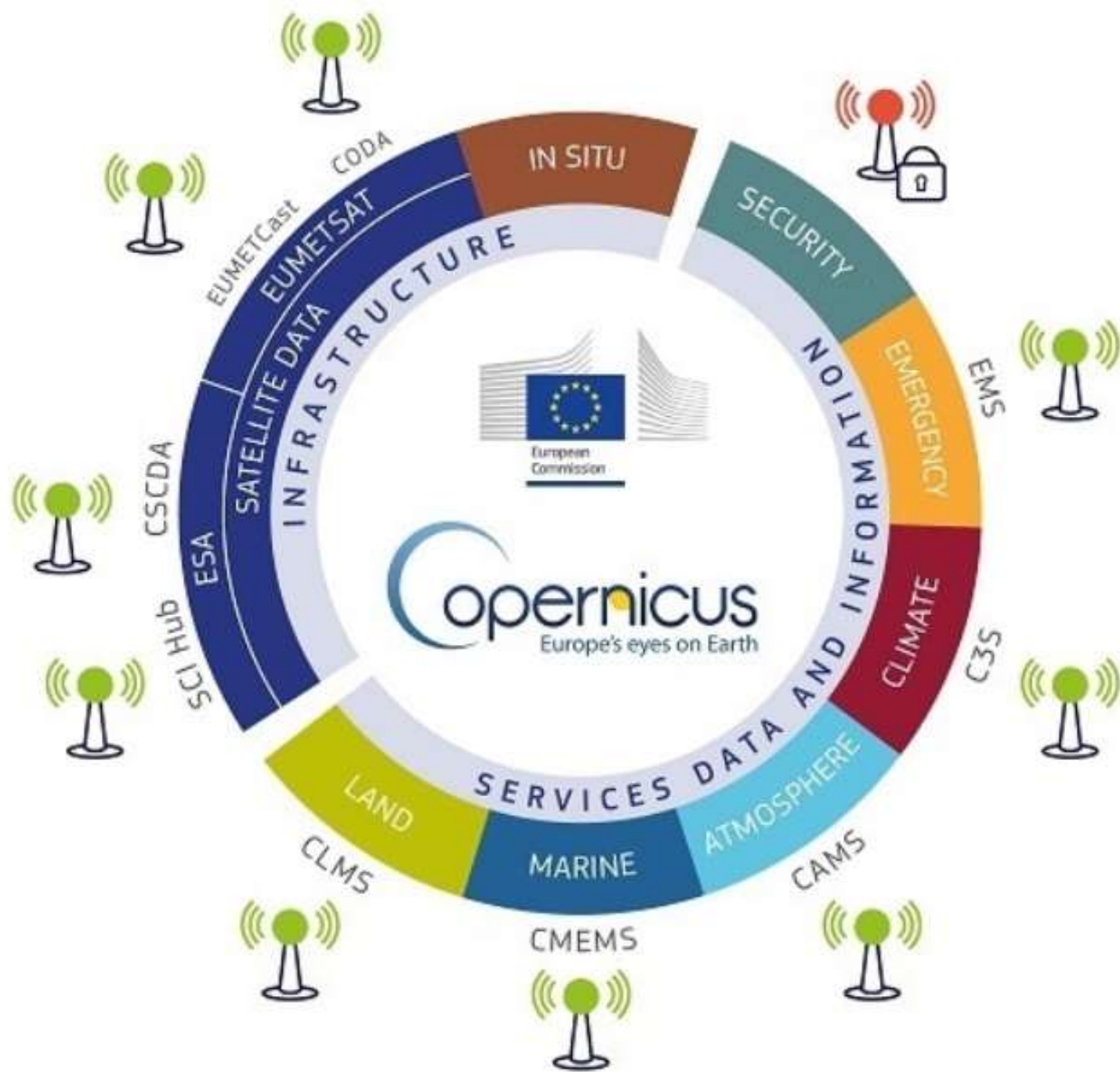






EUROPEAN UNION

# Puntos de acceso a datos e información de Copernicus

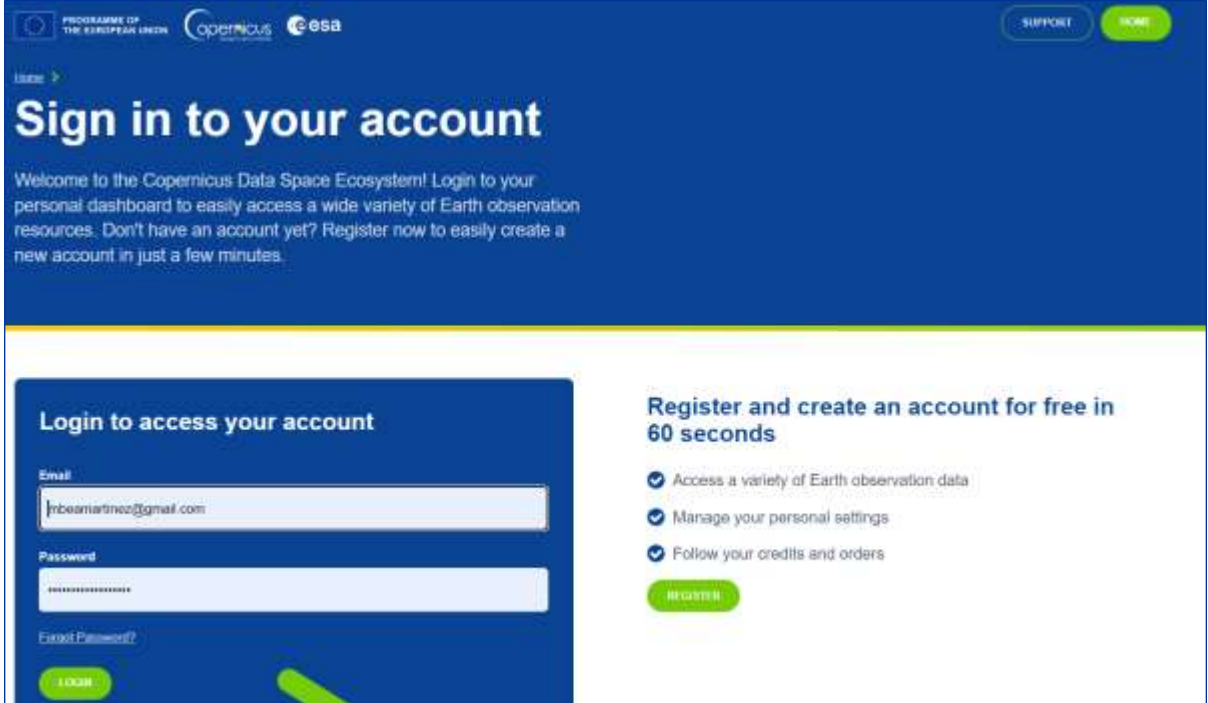




# Acceso a imágenes de satélite (Sentinel)

ESA

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



The screenshot shows the login page for the Copernicus Data Space Ecosystem. At the top, there are logos for the European Union, Copernicus, and ESA. The main heading is "Sign in to your account". Below this, a welcome message states: "Welcome to the Copernicus Data Space Ecosystem! Login to your personal dashboard to easily access a wide variety of Earth observation resources. Don't have an account yet? Register now to easily create a new account in just a few minutes." The page is divided into two main sections. On the left, under the heading "Login to access your account", there are input fields for "Email" (containing "inbeamartinez@gmail.com") and "Password" (masked with dots). Below these fields is a "Forgot Password?" link and a "LOGIN" button. On the right, under the heading "Register and create an account for free in 60 seconds", there are three bullet points: "Access a variety of Earth observation data", "Manage your personal settings", and "Follow your credits and orders". Below these points is a "REGISTER" button.



# Visualizar/descargar imágenes

Copernicus BROWSER

EN Manuel Bea

VISUALIZE SEARCH

DATE: SINGLE

30%

Show latest date

Find products for current view

CONFIGURATIONS:

Default

DATA COLLECTIONS:

Sentinel-2

Sentinel-2 L1C	i
Sentinel-2 L2A	✓ i

Go to Place

Click to finish





 EN ▼ Manuel Bea ▼ ◀

VISUALIZE SEARCH

SEARCH CRITERIA:

Product name

To apply a location filter, please define an AOI/a POI

DATA SOURCES:

SENTINEL-1 Filters →

SENTINEL-2 Filters →

MSI

L1C

L2A

100%

Auxiliary Data File

Immediate 

SENTINEL-3 Filters →

SENTINEL-5P Filters →

SENTINEL-6 Filters →

CCM Optical Filters →



# Granada Hoy

COSTA TROPICAL

GRANADA PROVINCIA VIVIR ANDALUCÍA ECONOMÍA ACTUAL SOCIEDAD DEPORTES OPINIÓN

TODAS LAS SECCIONES

ÁREA METROPOLITANA COSTA TROPICAL ZONA NORTE SIERRA NEVADA PONIENTE

SUCESOS

## Incendio de Los Guájares: un año del peor fuego de la provincia en varias décadas

- Durante todo el operativo trabajaron 3.208 profesionales de distintos puntos de Andalucía, 110 vehículos pesados, 34 aviones de carga en tierra, 15 aviones anfibios, 12 aviones de coordinación, 67 helicópteros de transporte y extinción, 21 helicópteros pesados, y ocho helicópteros de control y mando
- El incendio recorrió una superficie de 5.194 hectáreas y un perímetro de longitud de 150 kilómetros

TIME RANGE:

From:






◀ 2022-09-05 ▶ hh 00 ⬇ : mm 00 ⬆






Until:






◀ 2022-09-30 ▶ hh 23 ⬇ : mm 59 ⬆


Filter by months

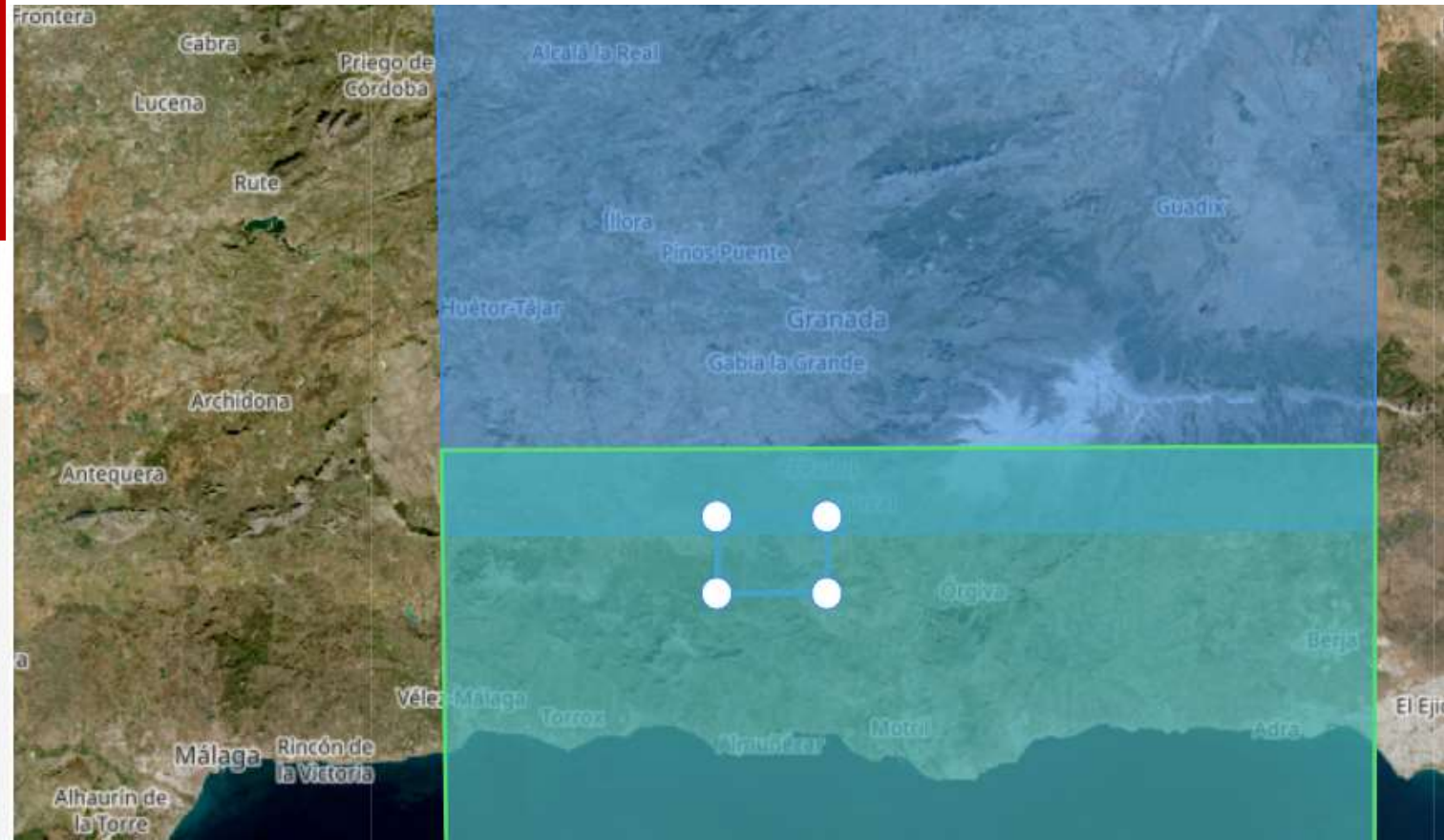


 S2A\_MSIL2A\_20220910T105631\_N0400\_R094\_T30SVF\_20220910T171600.SAFE  
**Mission:** SENTINEL-2      **Instrument:** MSI  
**Sensing time:** 2022-09-10T10:56:31.024Z  
[Visualize](#)    SENTINEL-2   MSI   S2MSI2A       

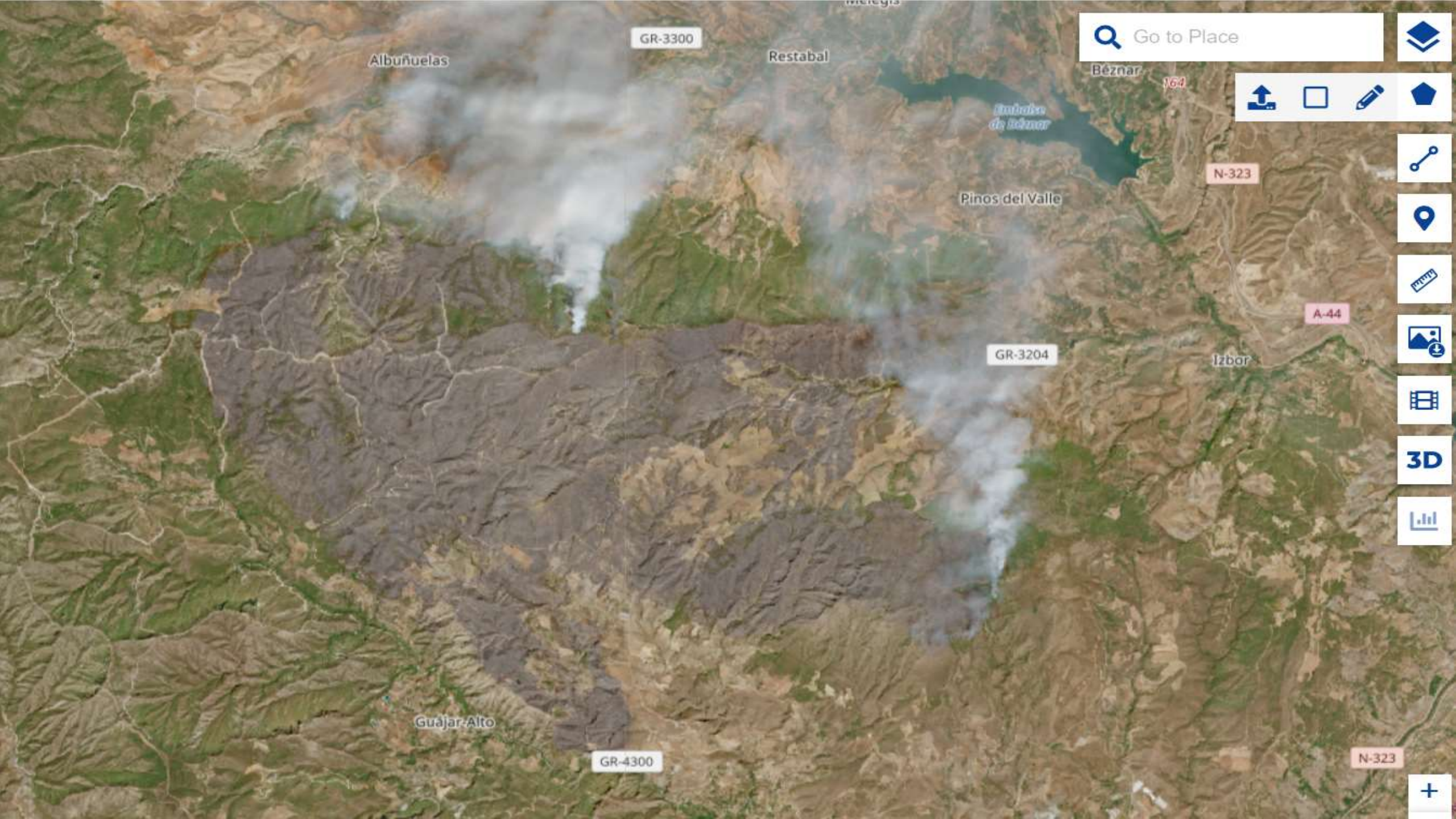
 S2A\_MSIL2A\_20220910T105631\_N0400\_R094\_T30SVG\_20220910T171600.SAFE  
**Mission:** SENTINEL-2      **Instrument:** MSI  
**Sensing time:** 2022-09-10T10:56:31.024Z  
[Visualize](#)    SENTINEL-2   MSI   S2MSI2A       

 S2B\_MSIL2A\_20220905T105619\_N0400\_R094\_T30SVG\_20220905T134414.SAFE  
**Mission:** SENTINEL-2      **Instrument:** MSI  
**Sensing time:** 2022-09-05T10:56:19.024Z  
[Visualize](#)    SENTINEL-2   MSI   S2MSI2A       

 S2B\_MSIL2A\_20220905T105619\_N0400\_R094\_T30SVF\_20220905T134414.SAFE  
**Mission:** SENTINEL-2      **Instrument:** MSI  
**Sensing time:** 2022-09-05T10:56:19.024Z







GR-3300

Albuñuelas

Restabal

Béznar

Embalse de Béznar

Pinos del Valle

N-323

GR-3204

Izbor

A-44

Guájar Alto

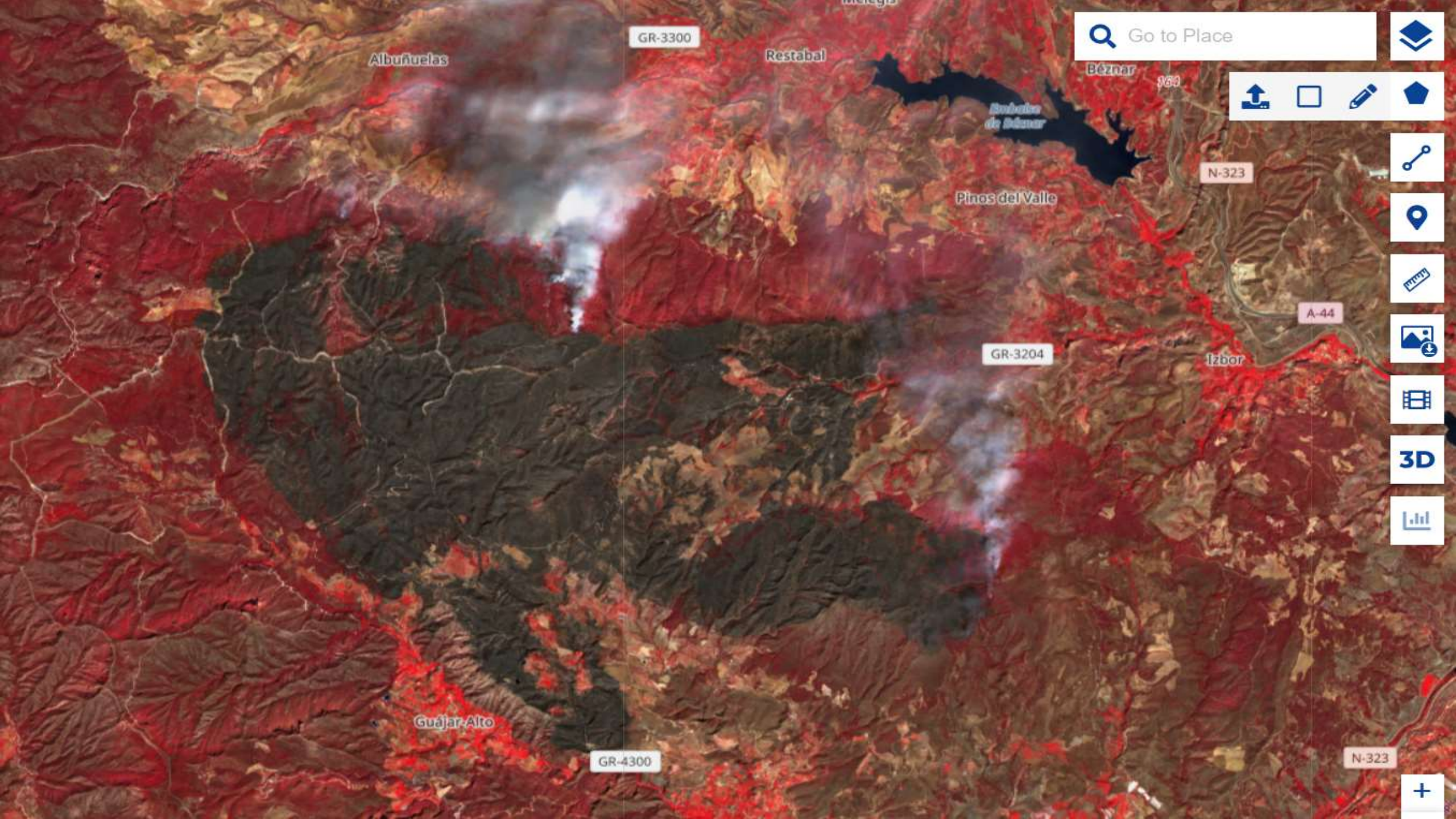
GR-4300

N-323

Go to Place







GR-3300

Restabal

Go to Place

Albuñuelas

Bézna

N-323

GR-3204

Pinos del Valle

N-323

A-44

Izbor

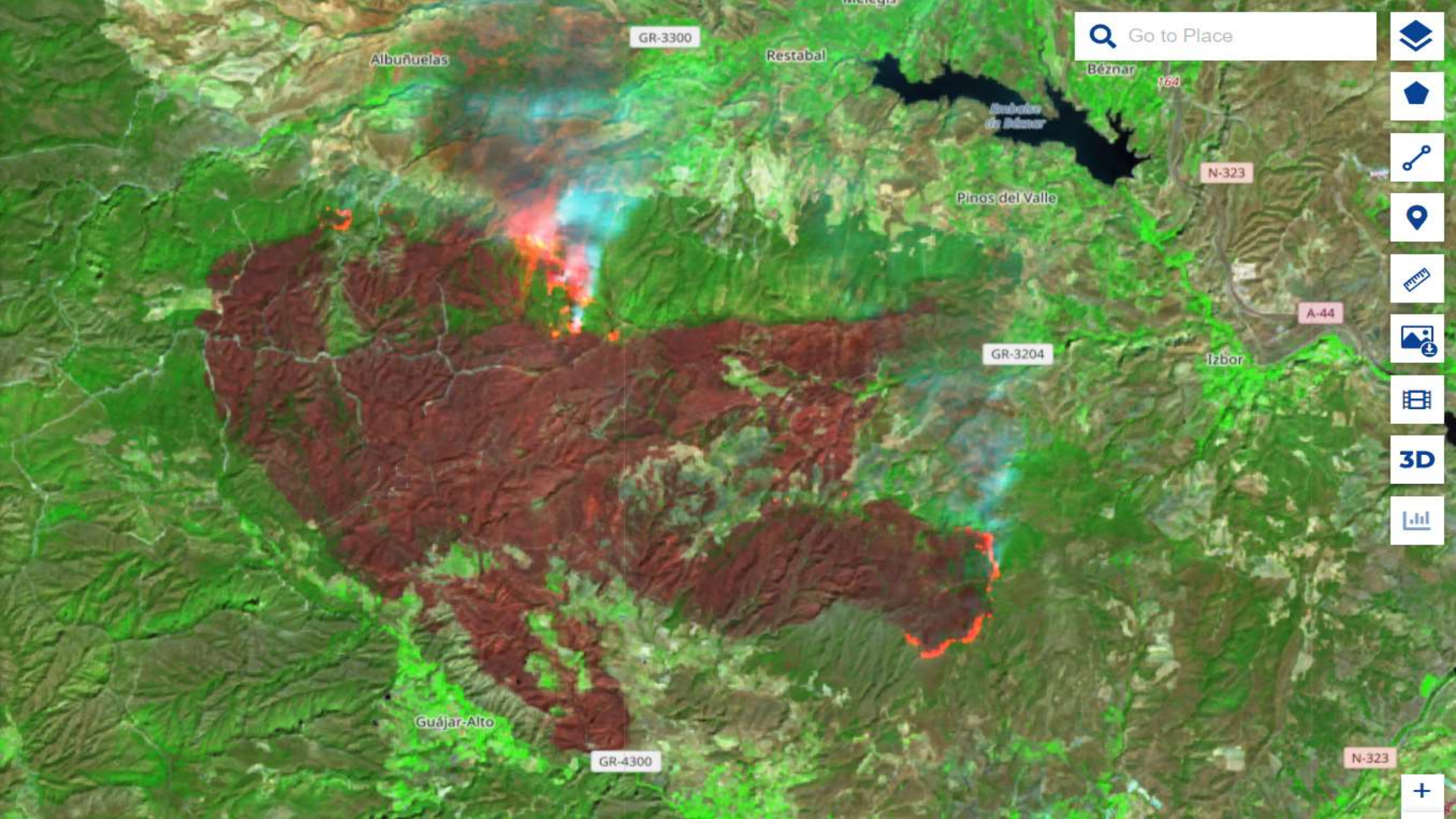
Guájar Alto

GR-4300

N-323

+





Go to Place

Albuñuelas

GR-3300

Restabal

Béznar

164

Pinos del Valle

N-323

A-44

GR-3204

Izbor

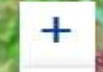
Guájar-Alto

GR-4300

N-323



3D

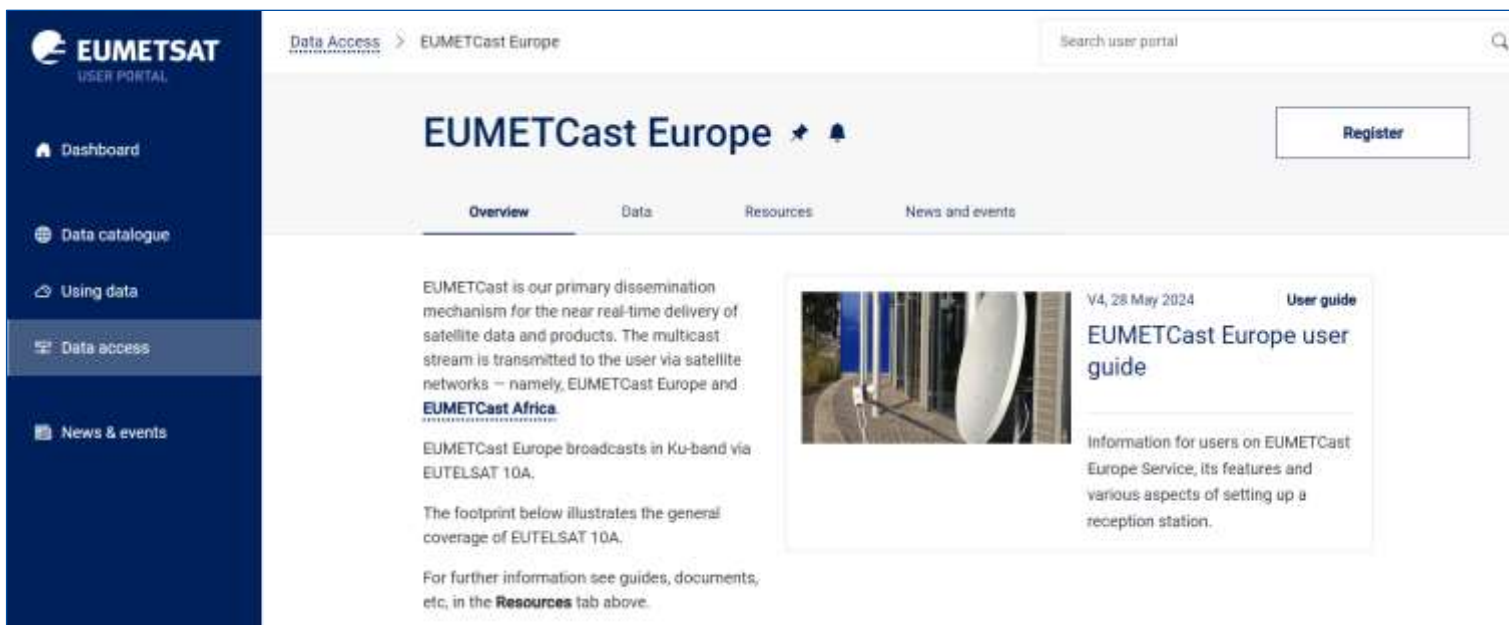




# Acceso a imágenes de satélite (EUMETSAT)

<https://user.eumetsat.int/data-access/eumetcast-europe>

DATOS DE SATÉLITES METEOROLÓGICOS EN TIEMPO ‘CASI-REAL’



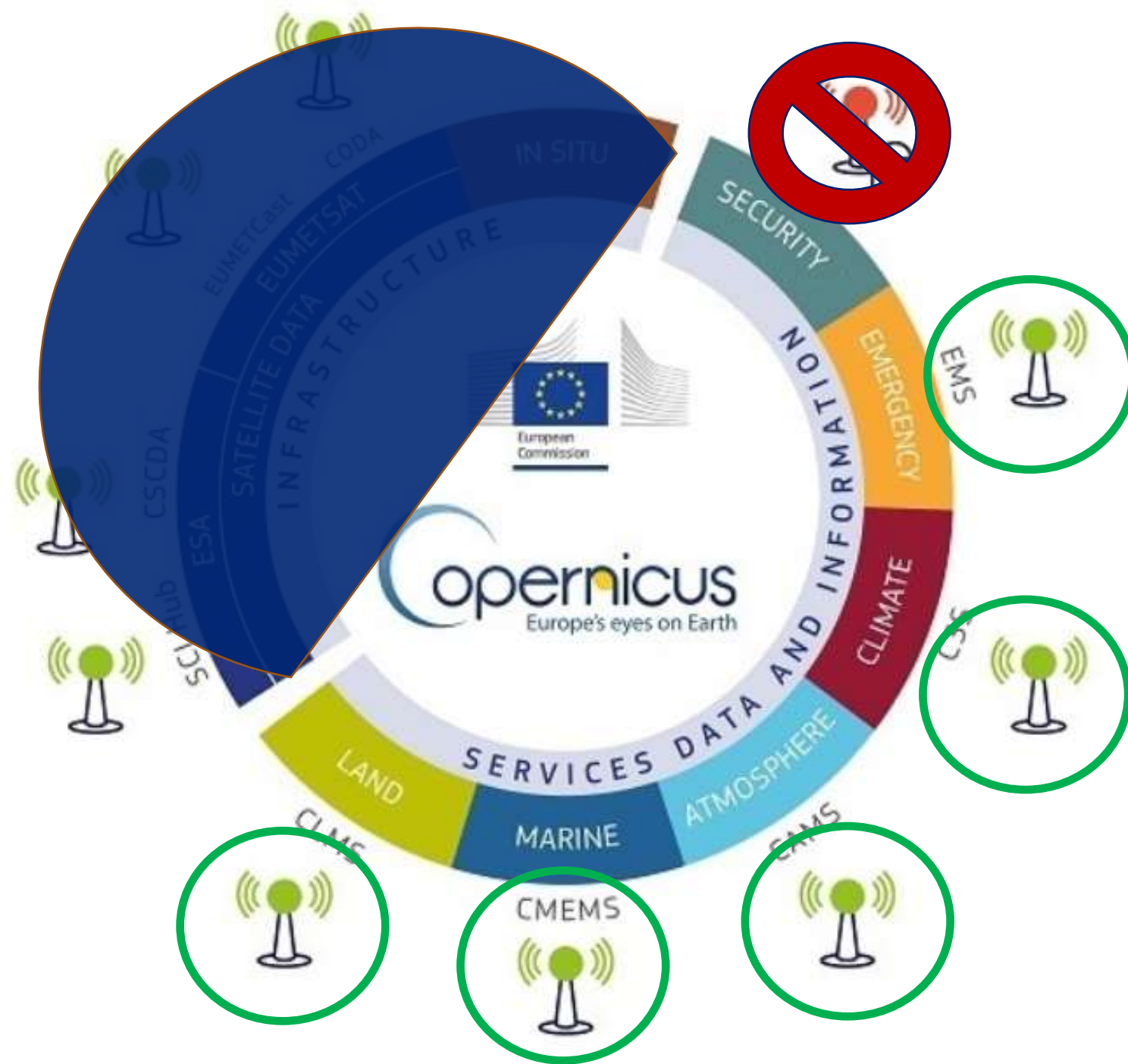
The screenshot shows the EUMETSAT User Portal interface. On the left is a dark blue sidebar with navigation links: Dashboard, Data catalogue, Using data, Data access (highlighted), and News & events. The main content area is titled 'Data Access > EUMETCast Europe' and includes a search bar and a 'Register' button. Below the title are tabs for Overview, Data, Resources, and News and events. The 'Overview' tab is active, displaying text about EUMETCast as a dissemination mechanism for satellite data and products, transmitted via satellite networks like EUMETCast Europe and EUMETCast Africa. It mentions that EUMETCast Europe broadcasts in Ku-band via EUTELSAT 10A and provides information on the general coverage footprint. A 'User guide' section is also visible, dated V4, 28 May 2024, with a thumbnail image of a satellite dish and a brief description of the user guide's content.





EUROPEAN UNION

# Puntos de acceso a datos e información de Copernicus





## EMERGENCY

<https://www.copernicus.eu/en/copernicus-services/emergency>

El Servicio de Gestión de Emergencias de Copernicus (Copernicus EMS) proporciona información geoespacial dirigida a agentes implicados en la gestión de catástrofes naturales y situaciones de emergencia.

Cuenta con dos componentes:

1. Cartografía
2. Alerta temprana

# EMERGENCY



## EMS Data Access

The EMS services provide various ways to access or download the data. Just click on the links below.



### Mapping

[List of EMS Rapid Mapping Activations](#)

[List of Risk & Recovery Mapping Activations](#)

[Web Map Viewer](#)



### Flood

[EFAS Data Access](#)

[GloFAS Data Access](#)



### Wildfires

[EFFIS Data Request Form](#)

[EFFIS Data Access](#)



### Drought

[EDO/GDO Data Access](#)



## Early Warning & Monitoring

Copernicus EMS Early Warning and Monitoring offers critical geospatial information at European and global level through continuous observations and forecasts for floods, droughts and forest fires.



### Floods

The **European Flood Awareness Systems (EFAS)** and **Global Flood Awareness Systems (GloFAS)** provide complementary flood forecast information to relevant stakeholders that support flood risk management at the national, regional and global level.



### Fires

The **European Forest Fire Information System (EFFIS)** monitors forest fire activity in near-real time. EFFIS supports wildfire management at the national and regional level for EU member states and across the Middle East and North Africa.



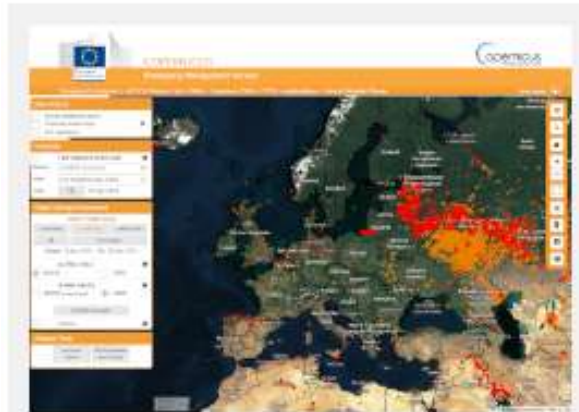
### Droughts

The **Drought Observatory (DO)** provides drought-relevant information and early-warnings for **Europe (EDO)** and **globally (GDO)**. The service publishes short analytical reports (Drought News) in anticipation of an imminent drought.





## EFFIS applications



### Current Situation Viewer

The most up to date information on the current fire season in Europe and in the Mediterranean area.

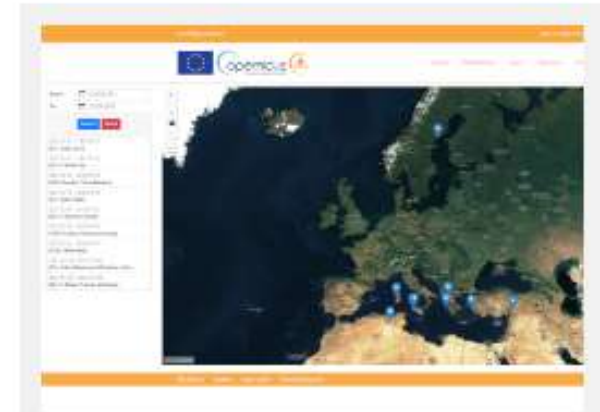
[Read more >](#)



### Current Statistics Portal

Statistics are provided at national level and also for 3 groups of countries, EU, European non-EU countries, and Middle East and North Africa countries.

[Read more >](#)



### Firenews

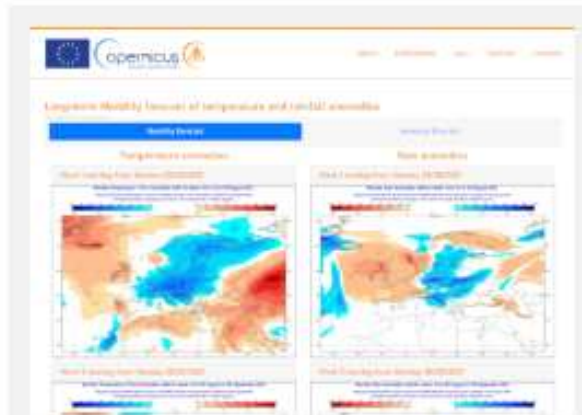
Fire news is an application that collects, geo-locates and stores in a database fire news published in the internet in all the EU and other languages, allowing the user to filter the news on the basis of geographical scope, keywords, etc.

[Read more >](#)





## EFFIS applications



### Long-term fire weather forecast

Monthly and seasonal forecast of temperature and rainfall anomalies that are expected to prevail over European and Mediterranean areas.

[Read more >](#)



### Wildfire Risk Viewer

Wildfire Risk index for the pan-European Scale. This includes two main groups of components by considering the fire danger and the vulnerability on three categories: people, ecological, and economic values.

[Read more >](#)



### Data request

Request for country totals (burnt areas & number of fires) per year, as published in the Forest Fires in Europe, North Africa and Middle East reports, and more.

[Read more >](#)



# EMERGENCY



[https://forest-fire.emergency.copernicus.eu/apps/effis\\_current\\_situation/](https://forest-fire.emergency.copernicus.eu/apps/effis_current_situation/)

# EMERGENCY



**Map Options**

- Human Settlement Layer
- Protected Areas Layer ⓘ
- Corine Land Cover
- FUELS ⓘ

**Forecasts**

**FIRE DANGER FORECAST** ⓘ

Source: ECMWF (8 km res.)

Index: Initial Spread Index (ISI)

Date:

**Rapid Data**

Last 1 Day

From

MODIS

MODIS

MODIS

Burnt Area Locator

**FIRE SEVERITY** (weekly updated) ⓘ

**FWI**

- Fire Weather Index (FWI)
- Initial Spread Index (ISI)**
- Build Up Index (BUI)
- Fine Fuel Moisture Code (FFMC)
- Duff Moisture Code (DMC)
- Drought Code (DC)
- Anomaly
- Ranking

**KBDI**

- Keetch–Byram Drought Index (KBDI)

**MARK-5**

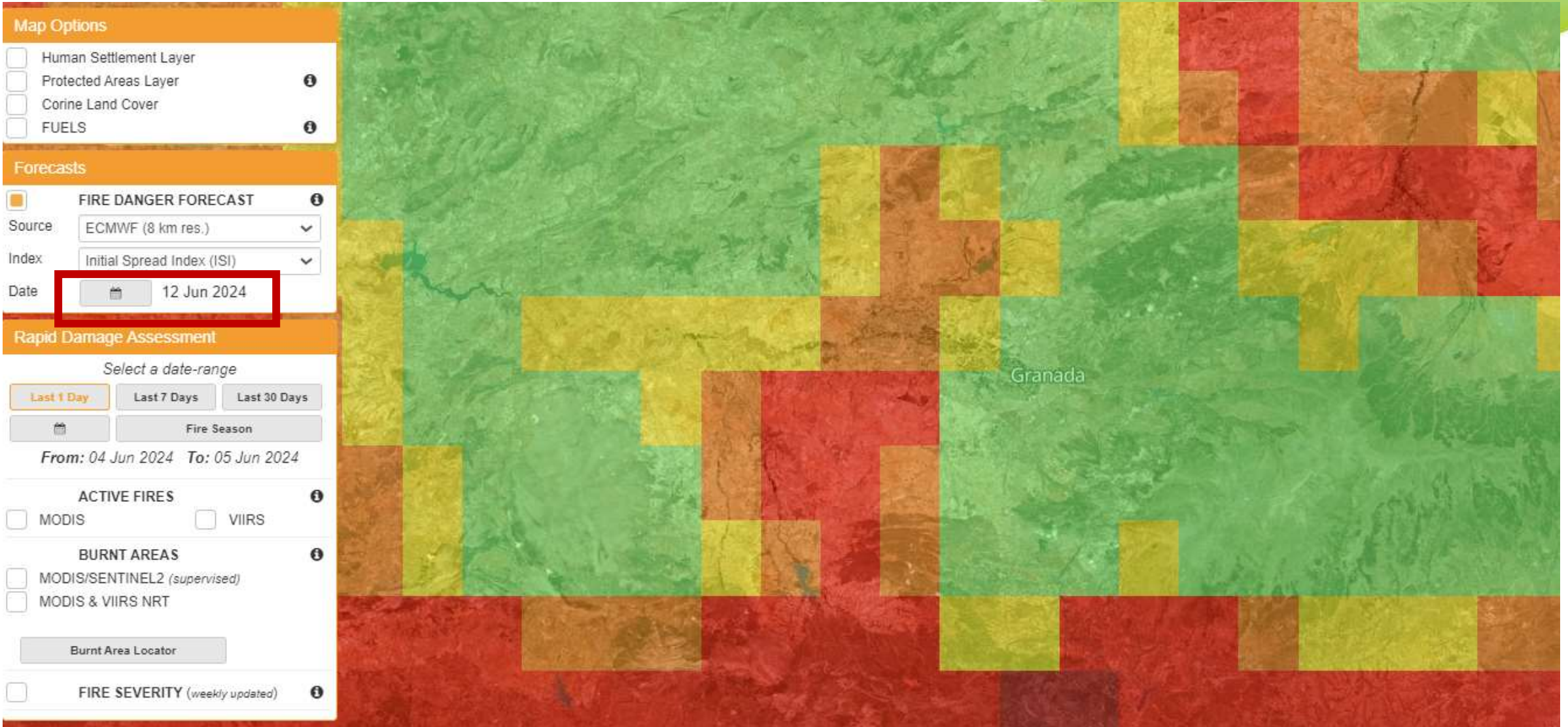
- Drought Factor (DF)
- Rate of Spread (ROS)
- Fire Danger Index (FDI)

**NFDRS**

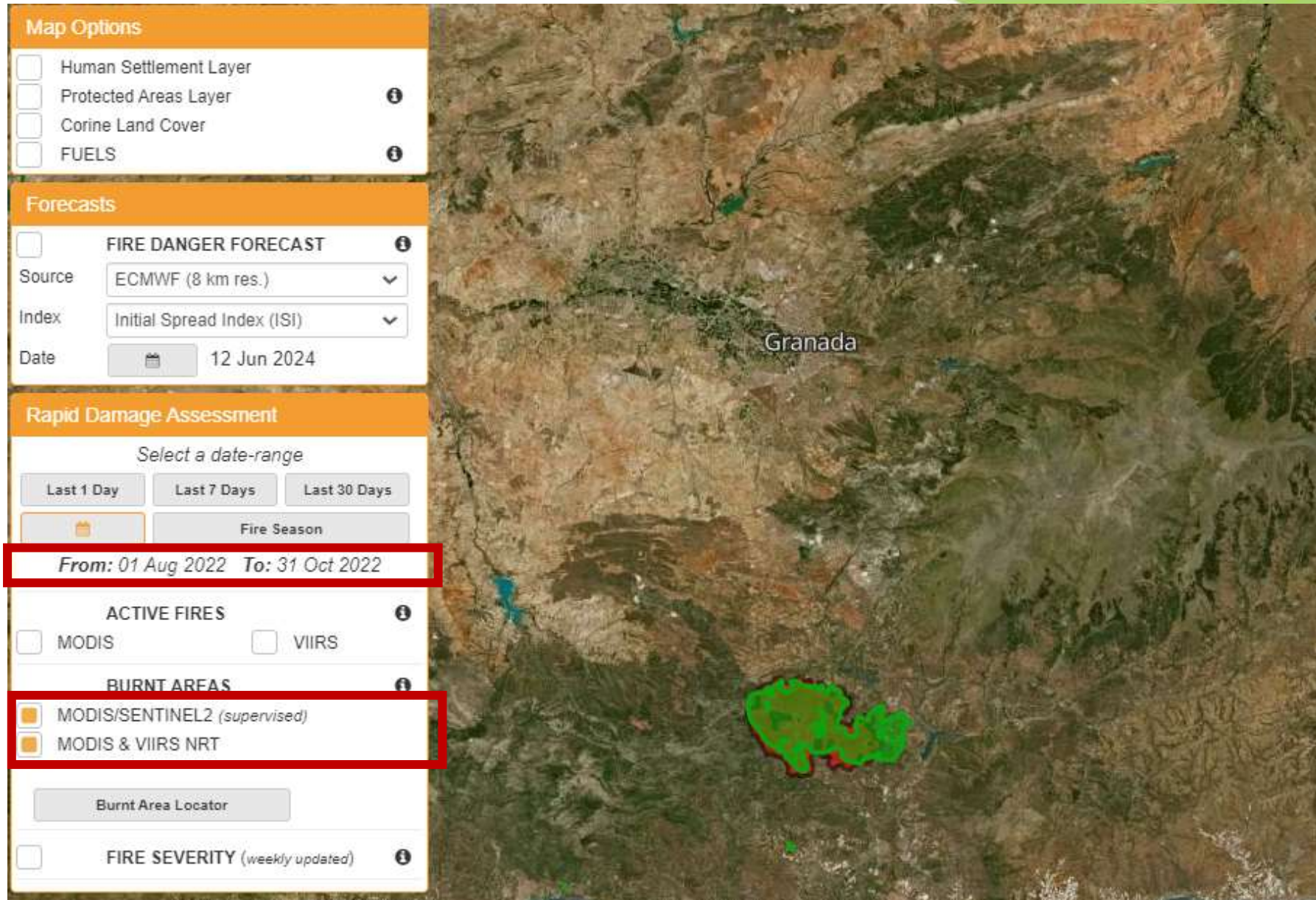
- NFDRS Rate of Spread (NFDRS ROS)
- NFDRS Spread Component (NFDRS SC)
- NFDRS Energy Release Component (NFDRS ERC)
- NFDRS Burning Index (NFDRS BI)



# EMERGENCY

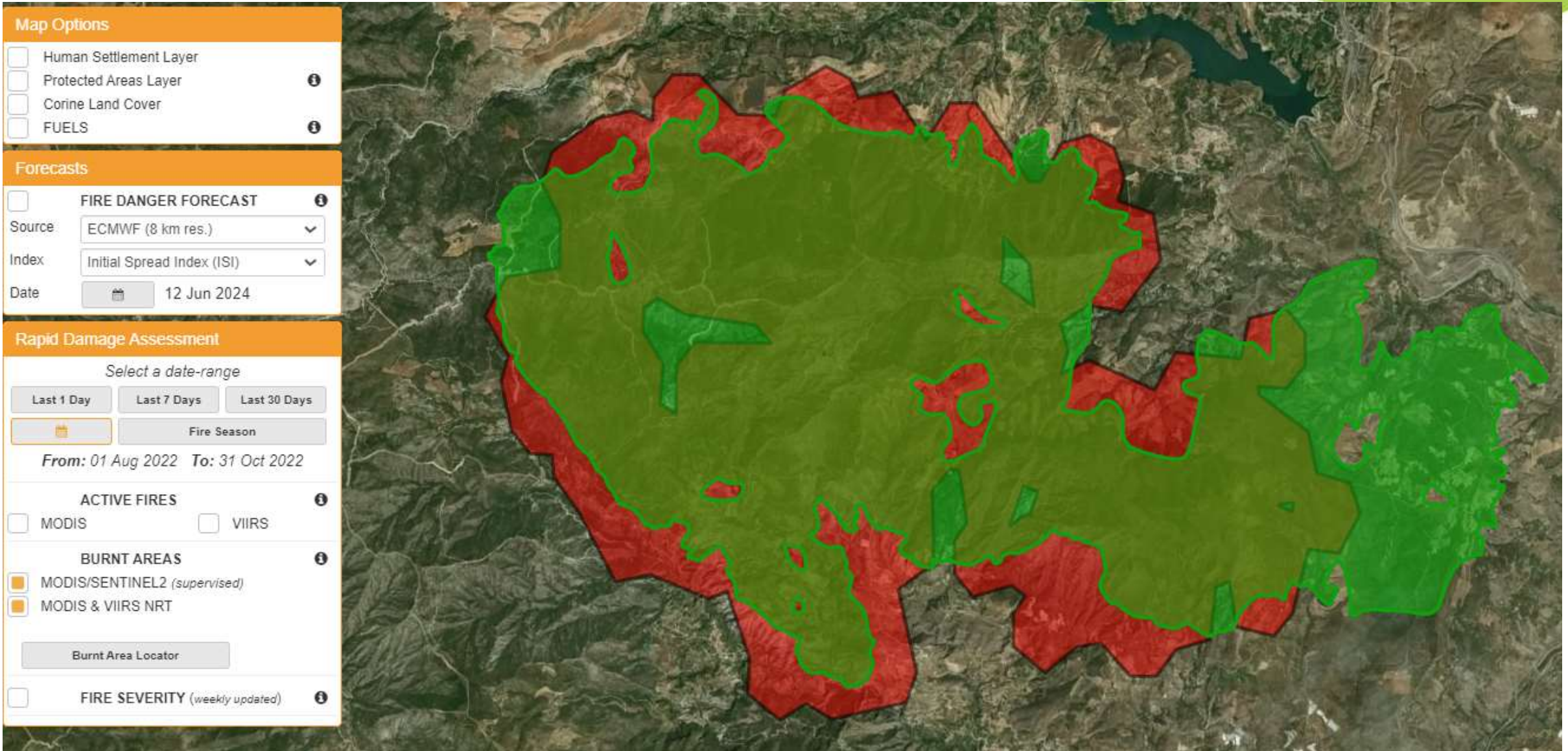






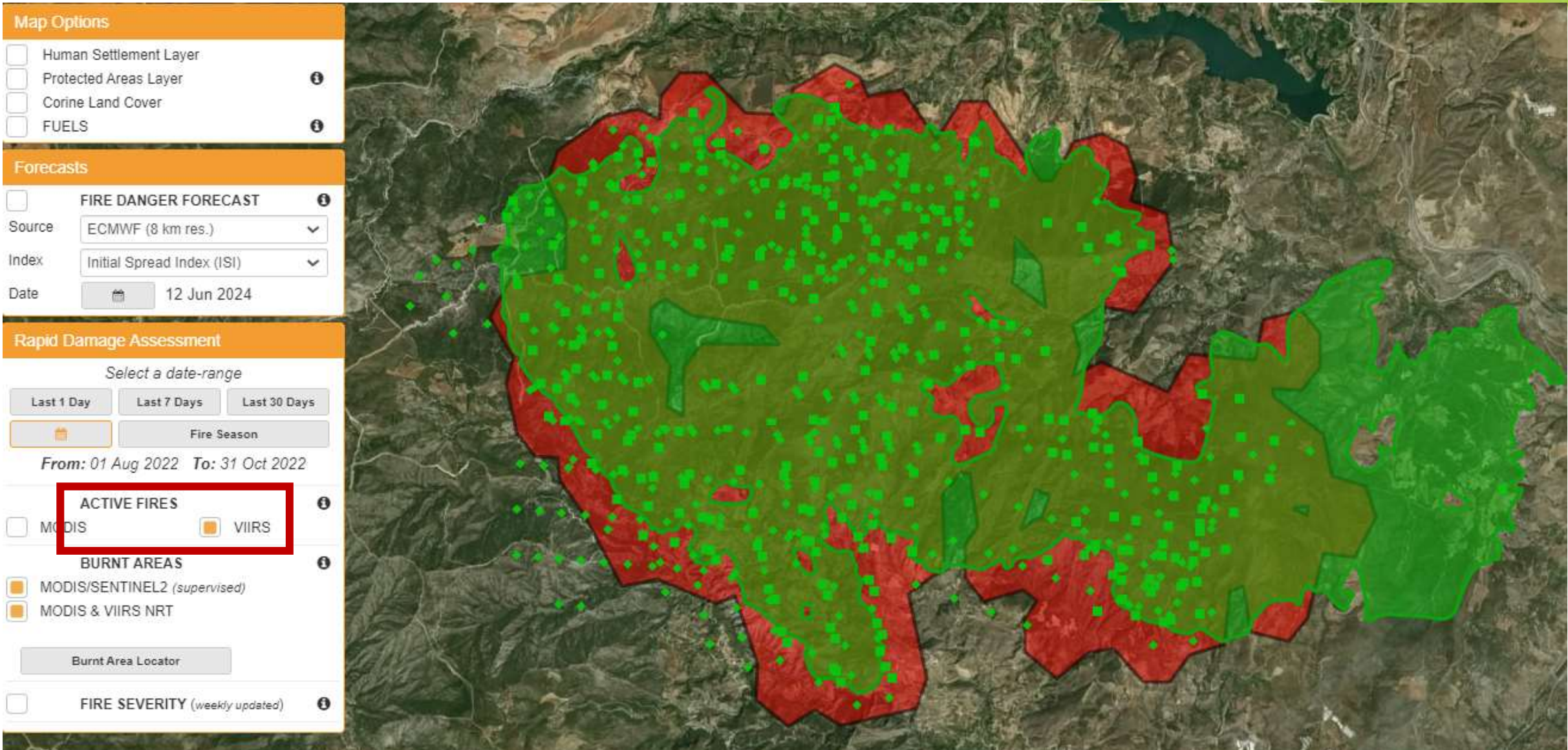


# EMERGENCY





# EMERGENCY





# EMERGENCY



### Burnt Area Locator

España

--- Select a province ---

From: 01 Jan 2024 To: 06 Jun 2024

Legend: Last 7 dd. Last 30 dd. All

Fire Date	Area (ha)	Province
05 Jun 2024	524	Cádiz (ES)
01 Jun 2024	15	Badajoz (ES)
31 May 2024	34	Badajoz (ES)
29 May 2024	0	Málaga (ES)
28 May 2024	89	Tarragona (ES)
28 May 2024	15	Tarragona (ES)
28 May 2024	28	Toledo (ES)
28 May 2024	3	Alicante/Alacant (ES)
28 May 2024	13	León (ES)
28 May 2024	12	León (ES)
28 May 2024	3	León (ES)
28 May 2024	52	Mallorca (ES)
26 May 2024	45	Ciudad Real (ES)
24 May 2024	16	Toledo (ES)
21 May 2024	2	Gran Canaria (ES)
12 May 2024	19	León (ES)
12 May 2024	54	León (ES)
12 May 2024	458	Zaragoza (ES)
11 May 2024	15	Lugo (ES)
11 May 2024	4	Málaga (ES)
11 May 2024	2	Teruel (ES)
10 May 2024	29	León (ES)
10 May 2024	1	Asturias (ES)
10 May 2024	9	Lugo (ES)
07 May 2024	17	Ciudad Real (ES)
05 May 2024	17	León (ES)
04 May 2024	5	Valencia/València (ES)



### Burnt Area Locator

España

Cádiz

From: 01 Jan 2024 To: 06 Jun 2024

Legend: Last 7 dd. Last 30 dd. All

Fire Date	Area (ha)	Province
05 Jun 2024	524	Cádiz (ES)
		Cádiz (ES)

Zoom to burnt area

Fire danger chart



# EMERGENCY

✕

### Burnt Area Locator

**From:** 01 Jan 2024 **To:** 06 Jun 2024

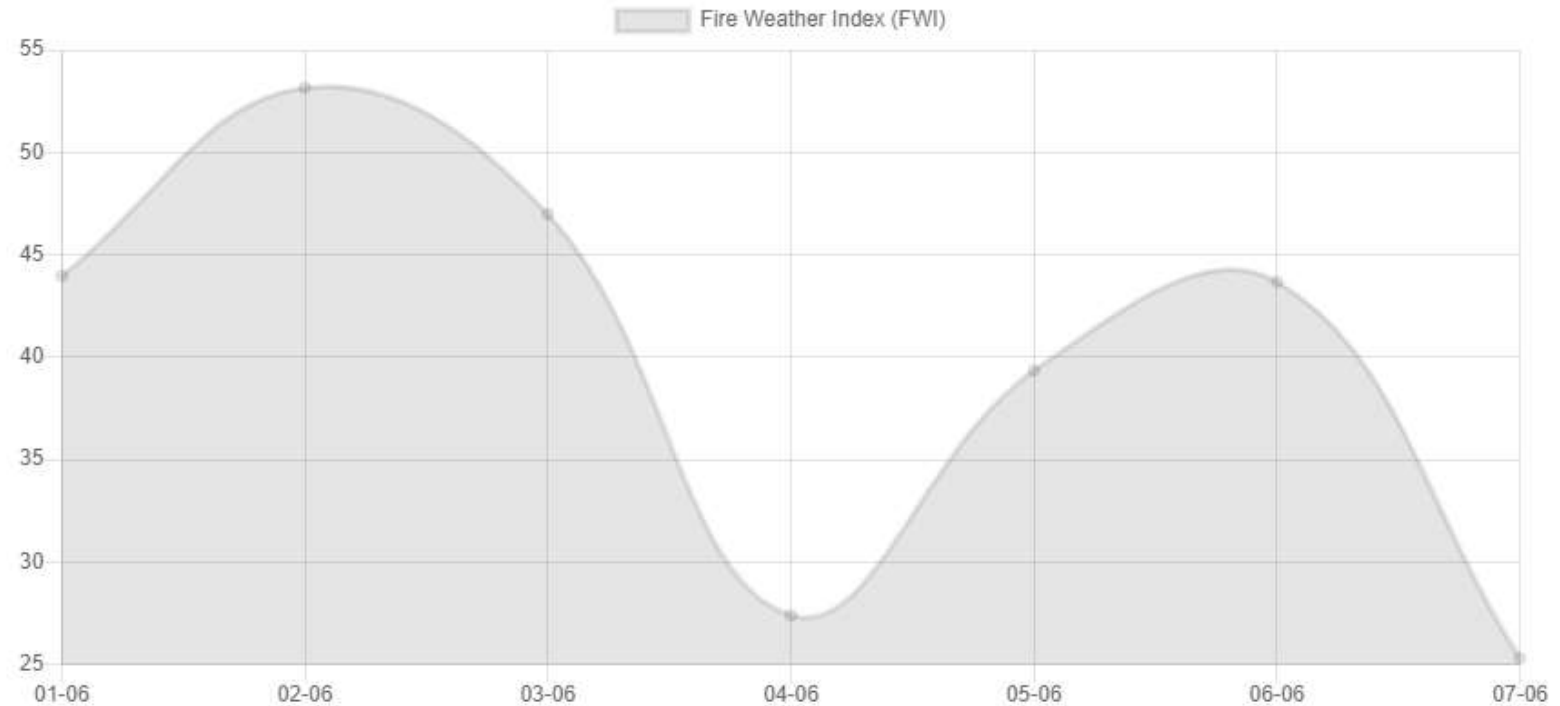
Legend: Last 7 dd. Last 30 dd. All

Fire Date	Area (ha)	Province
▼ 05 Jun 2024	524	Cádiz (ES)
▼ 01 Jun 2024	15	Badajoz (ES)
▼ 31 May 2024	34	Badajoz (ES)
▼ 29 May 2024	0	Málaga (ES)
▼ 28 May 2024	89	Tarragona (ES)
▼ 28 May 2024	15	Tarragona (ES)
▼ 28 May 2024	28	Toledo (ES)
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▼ 28 May 2024	12	León (ES)
▼ 28 May 2024	3	León (ES)
▼ 28 May 2024	52	Mallorca (ES)
▼ 26 May 2024	45	Ciudad Real (ES)
▼ 24 May 2024	16	Toledo (ES)
▼ 21 May 2024	2	Gran Canaria (ES)
▼ 12 May 2024	19	León (ES)
▼ 12 May 2024	54	León (ES)
▼ 12 May 2024	458	Zaragoza (ES)
▼ 11 May 2024	15	Lugo (ES)
▼ 11 May 2024	4	Málaga (ES)
▼ 11 May 2024	2	Teruel (ES)
▼ 10 May 2024	29	León (ES)
▼ 10 May 2024	1	Asturias (ES)
▼ 10 May 2024	9	Lugo (ES)
▼ 07 May 2024	17	Ciudad Real (ES)
▼ 05 May 2024	17	León (ES)
▼ 04 May 2024	5	Valencia/València (ES)

- Fire Weather Index (FWI)
- Initial Spread Index (ISI)
- Build Up Index (BUI)
- Fine Fuel Moisture Code (FFMC)
- Duff Moisture Code (DMC)
- Drought Code (DC)
- Anomaly
- Ranking

Coordinates [lat-Ing]: [36.09385129983624--5.661960600148215]

Source: :ECMWF (8 km res.)





EUROPEAN UNION

# CLIMATE

<https://climate.copernicus.eu/>



About Us    What we do    Data



## Climate Change

We provide authoritative information about the past, present and future climate, as well as tools to enable climate change mitigation and adaptation strategies by policy makers and businesses.





# CLIMATE

## Welcome to the Climate Data Store

Dive into this wealth of information about the Earth's past, present and future climate.

It is freely available and functions as a one-stop shop to explore climate data. [Register for free](#) to obtain access to the CDS and its Toolbox.

We are constantly improving the services and adding new datasets. For latest announcements, watch the posts on the [C3S forum](#).

All



Search



C3S Atlas



Climate Data Store API



Access the **ECMWF Support Portal**



## CLIMATE

El '**CLIMATE DATA STORE**' es un servicio basado en la nube que proporciona a los usuarios un punto de entrada único y una interfaz uniforme para una amplia gama de conjuntos de datos climáticos alojados por múltiples proveedores, incluidas observaciones, registros de datos climáticos, re-análisis, previsiones estacionales, resultados de modelos climáticos y otros productos de datos.

Todos los datos del CDS se describen con nombres y unidades utilizando un modelo de datos común, independientemente del tipo de datos original y del proveedor. Los conjuntos de datos pueden seleccionarse a partir de un catálogo con función de búsqueda, que conduce a páginas web que contienen descripciones detalladas, con formularios para agrupar y descargar datos, enlaces a documentación e información sobre garantía de calidad, complementados en varios casos con visores rápidos de datos.



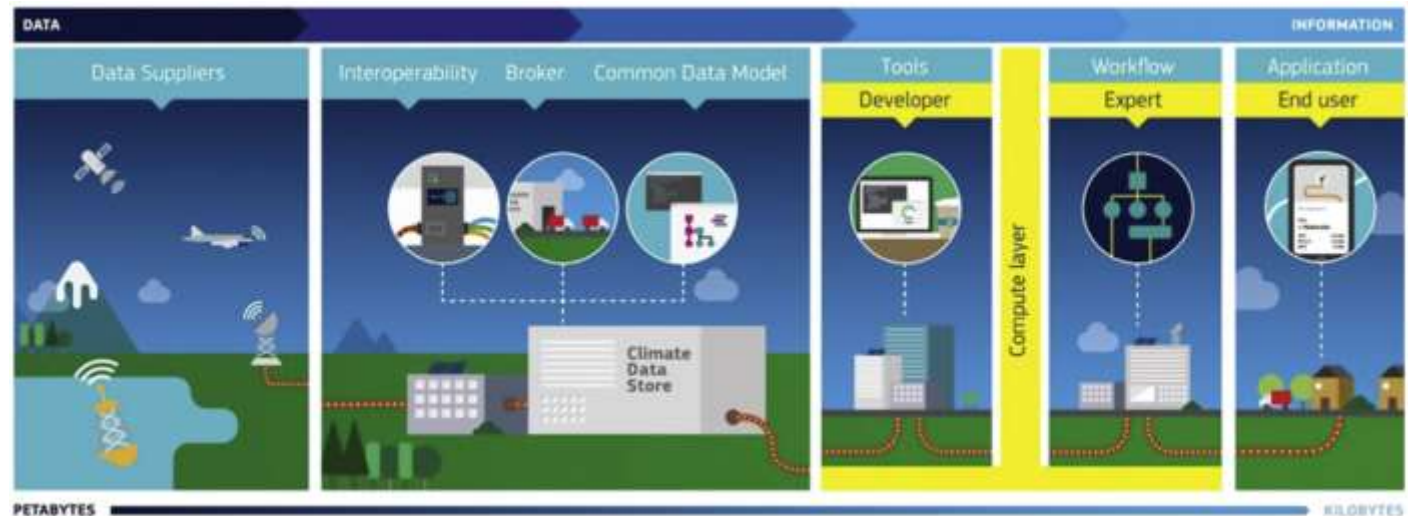


# CLIMATE

El catálogo **CDS** contiene más de 100 conjuntos de datos climáticos, la mayoría en cuatro grupos:

- 1) observaciones y productos de datos básicos,
- 2) reanálisis globales y regionales,
- 3) datos de previsiones estacionales de múltiples proveedores, y
- 4) proyecciones climáticas globales y regionales.

El catálogo también incluye diversos conjuntos de datos preparados para aplicaciones específicas. En conjunto, estos datos describen la evolución pasada, presente y posible futura del clima basándose en los mejores datos científicos disponibles.

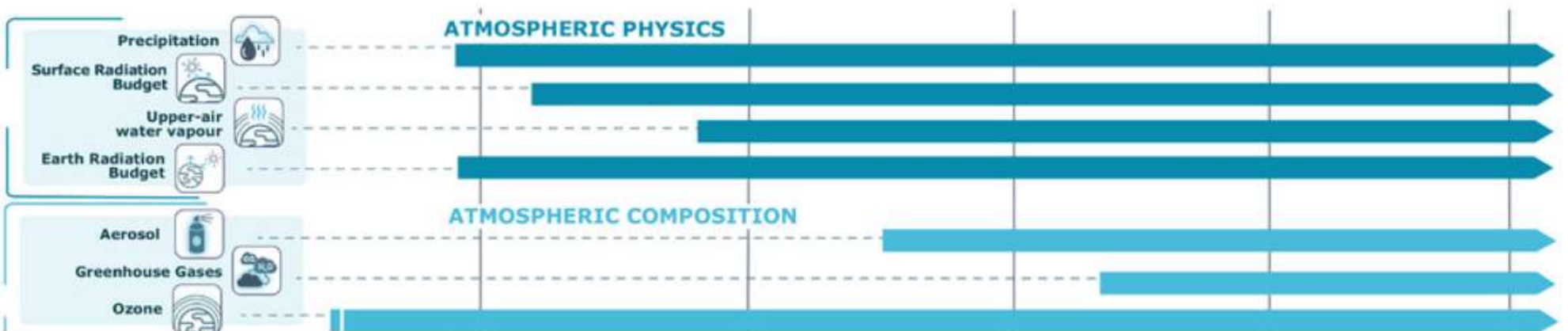
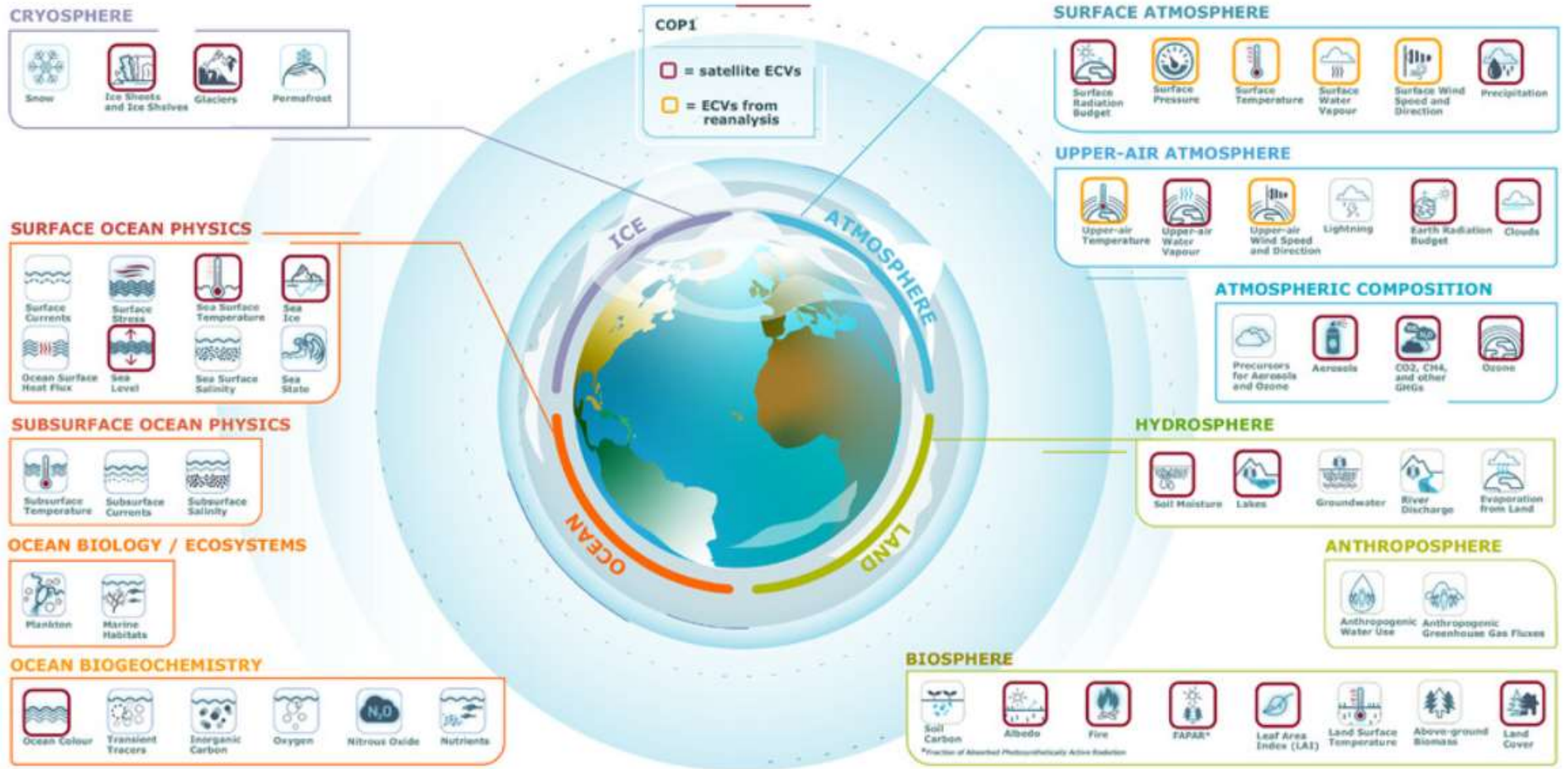




EUROPEAN

# CLIMATE

## 1. Observations



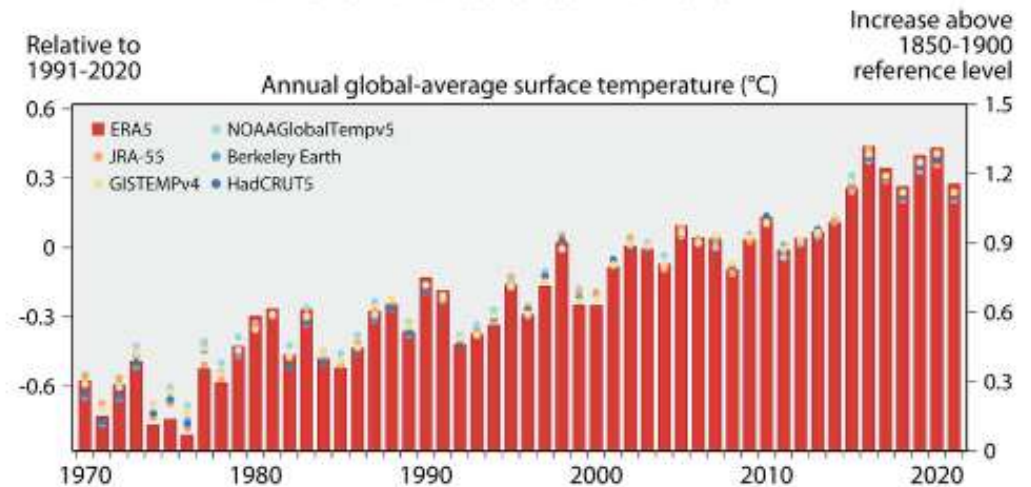
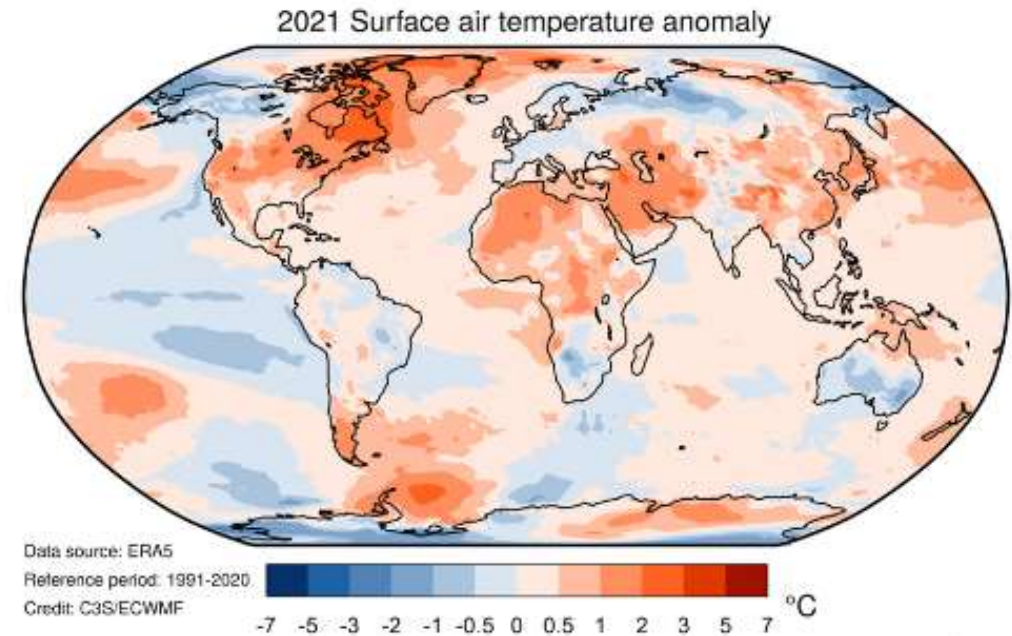




# CLIMATE

## 2. Reanálisis climáticos

La mayoría de los usuarios del C3S que necesitan información sobre el tiempo y el clima del pasado utilizan datos de reanálisis, que integran observaciones de numerosos sistemas de observación junto con información de un modelo de previsión. El C3S permitió el desarrollo del último ERA5, que proporciona datos horarios, diarios y mensuales desde 1950 hasta el presente, para cientos de variables a una resolución global de aproximadamente 30 km en 137 niveles desde la superficie hasta unos 80 km de altitud.





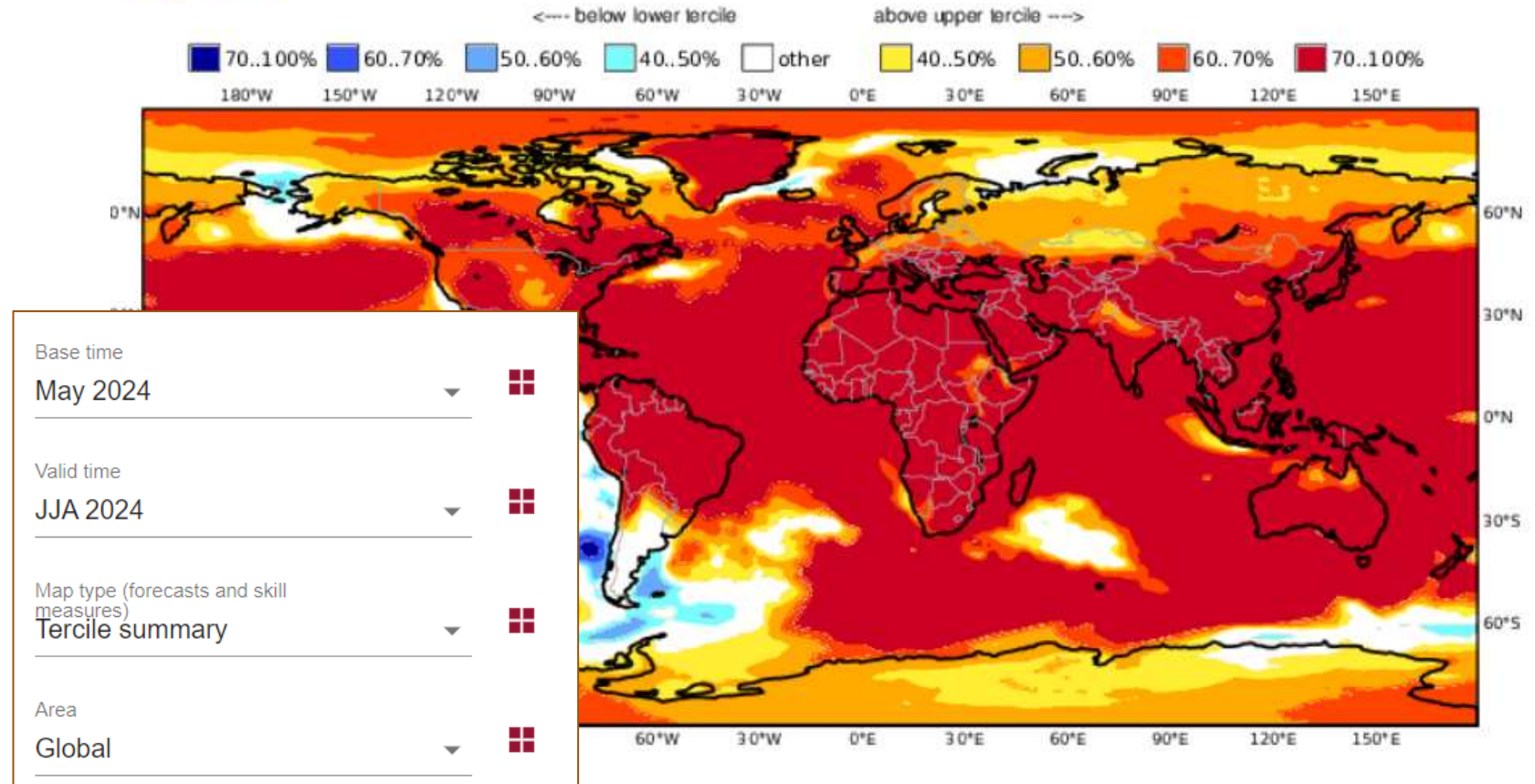
# CLIMATE

## 3. Previsiones estacionales

Los datos y productos gráficos del C3S, se publican mensualmente en el CDS y están disponibles en cuadrículas regulares de 1° × 1° de latitud-longitud a intervalos de 6, 12 o 24 horas dependiendo de la variable.

El C3S también tiene previsto facilitar el acceso y la utilización de predicciones climáticas plurianuales (decenales) para la toma de decisiones en el contexto de cuatro sectores económicos (seguros, agricultura, infraestructuras y energía).

C3S multi-system seasonal forecast    ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
Prob(most likely category of 2m temperature)    JJA 2024  
Nominal forecast start: 01/05/24  
Unweighted mean







# CLIMATE

## C3S multi-system T2m 3-month

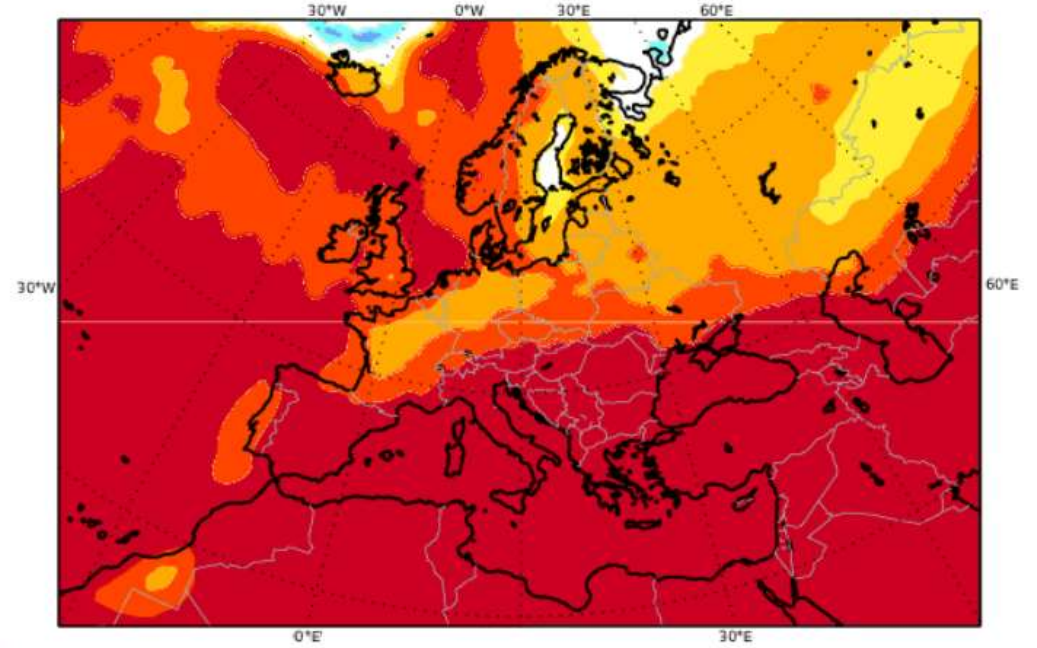
Base time  
May 2024

Valid time  
JJA 2024

Map type (forecasts and skill measures)  
Tercile summary

Area  
Europe

C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC  
 Prob(most likely category of 2m temperature) JJA 2024  
 Nominal forecast start: 01/05/24  
 Unweighted mean





## CLIMATE

### Parameters

- 10m wind speed
- MSLP
- SST
- T2m
- T850
- geopotential height 500hPa
- precipitation
- zonal wind 10hPa
- sea ice concentration

### Plot type

- 1-month maps
- 3-month maps
- Time series

### Centres

- C3S multi-system
- CMCC
- DWD
- ECCC
- ECMWF
- JMA
- Met Office
- Meteo-France
- NCEP

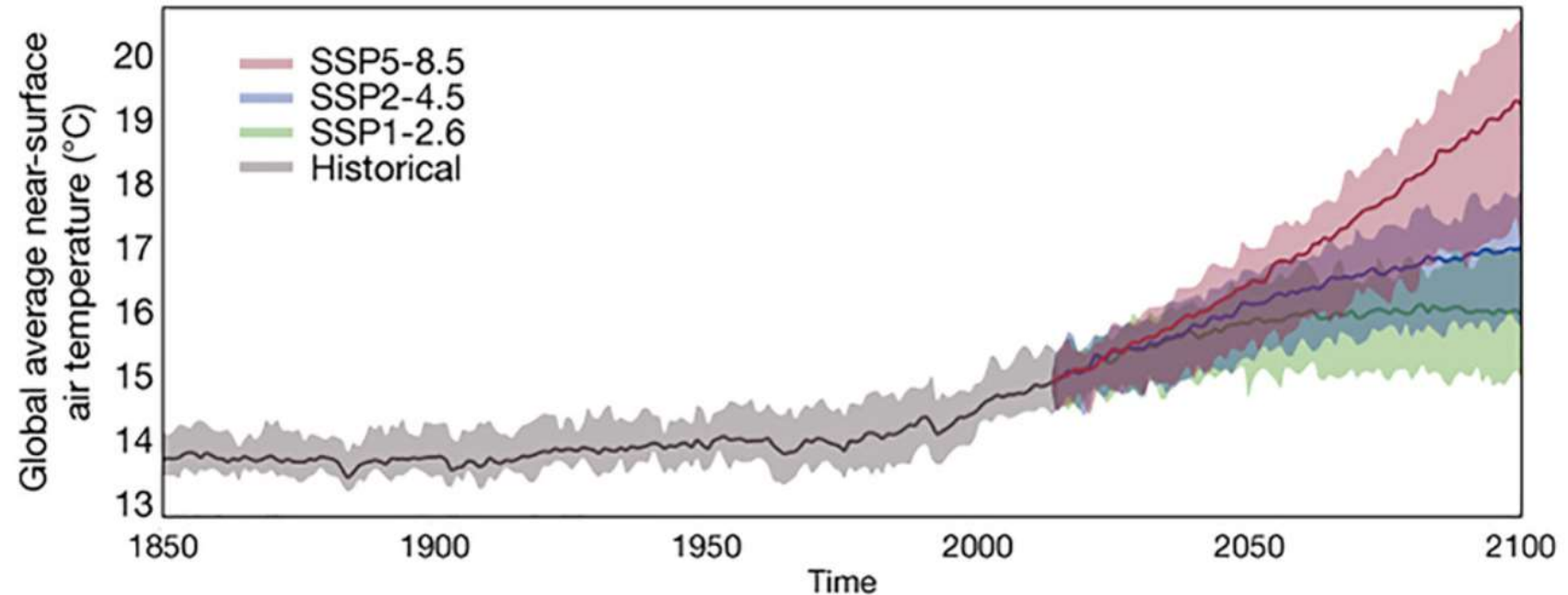




# CLIMATE

## *Climate projections*

Las proyecciones climáticas son simulaciones numéricas limitadas por escenarios climáticos futuros plausibles basados en especificaciones hipotéticas de emisiones y concentraciones de gases de efecto invernadero y otros factores que afectan al equilibrio radiativo del planeta utilizando modelos climáticos y del sistema terrestre. Sirven de apoyo a la preparación de los Informes de Evaluación elaborados por el IPCC.





# CLIMATE

## Copernicus services catalogue

CLEAR

SEARCH BY KEYWORD

APPLY

### FILTER BY COPERNICUS SERVICES

ATMOSPHERE

CLIMATE CHANGE

EMERGENCY - CEMS-EFAS

EMERGENCY - CEMS-EFFIS

EMERGENCY - CEMS-GLOFAS

LAND - GLOBAL

LAND - PAN-EUROPEAN/LOCAL LAND

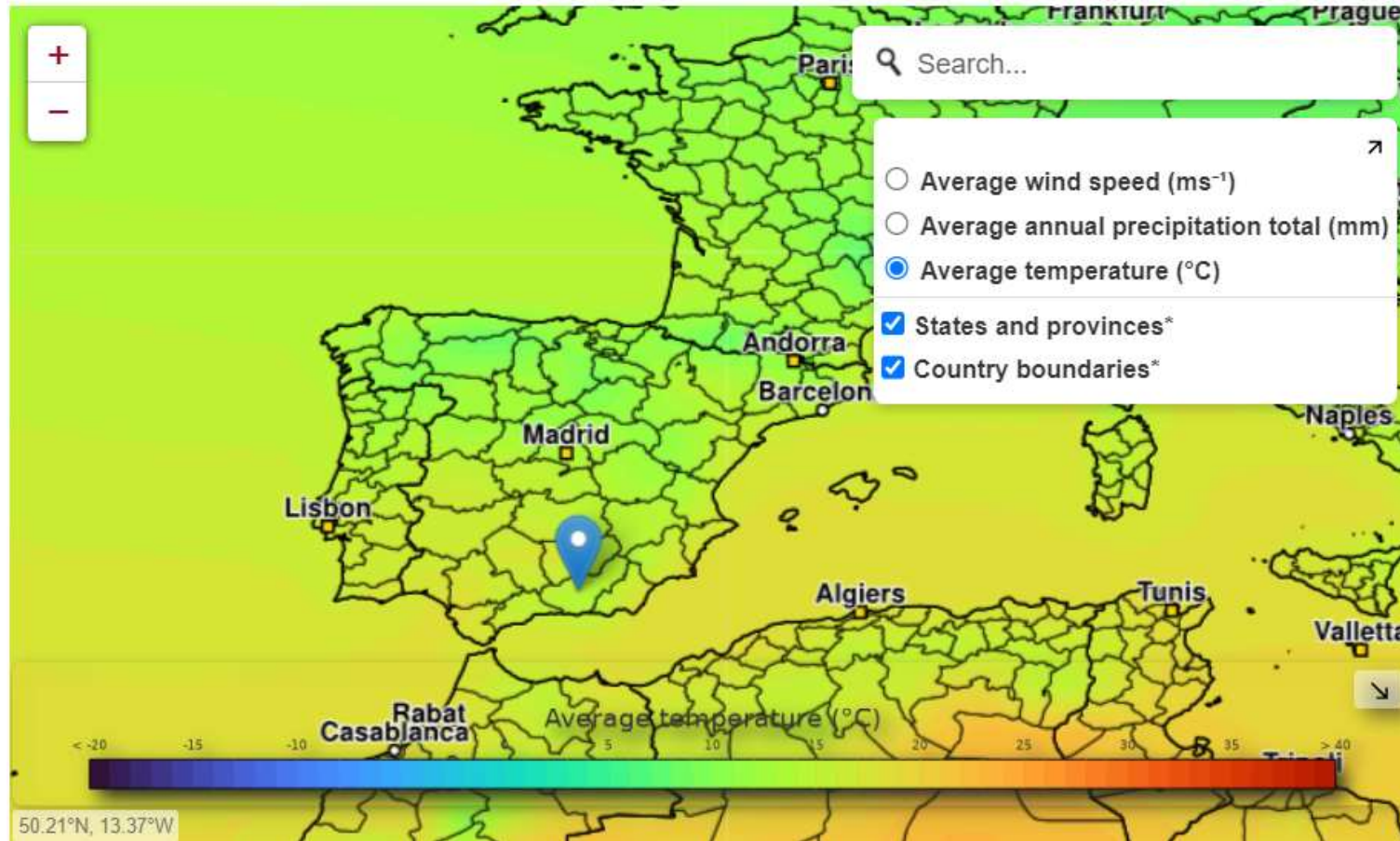
MARINE





# CLIMATE

## ERA5 explorer





# CLIMATE

## ERA5 explorer

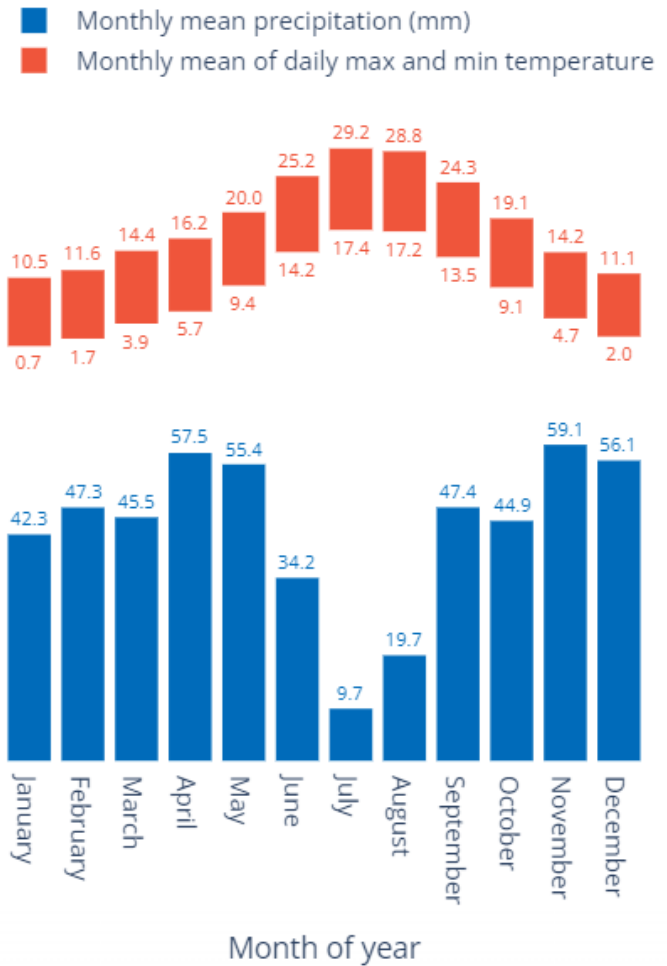
Temporal aggregation: Monthly (climatol... | v

Variable: Temperature | v

- Overview
- Temperature**
- Precipitation
- Wind speed and direction
- Frost days and tropical nights

Granada has had a Mediterranean climate during the 2010 period.

The climatology plot shows the average daily maximum temperatures for each month, along with typical precipitation totals for the 1981-2010 reference period.







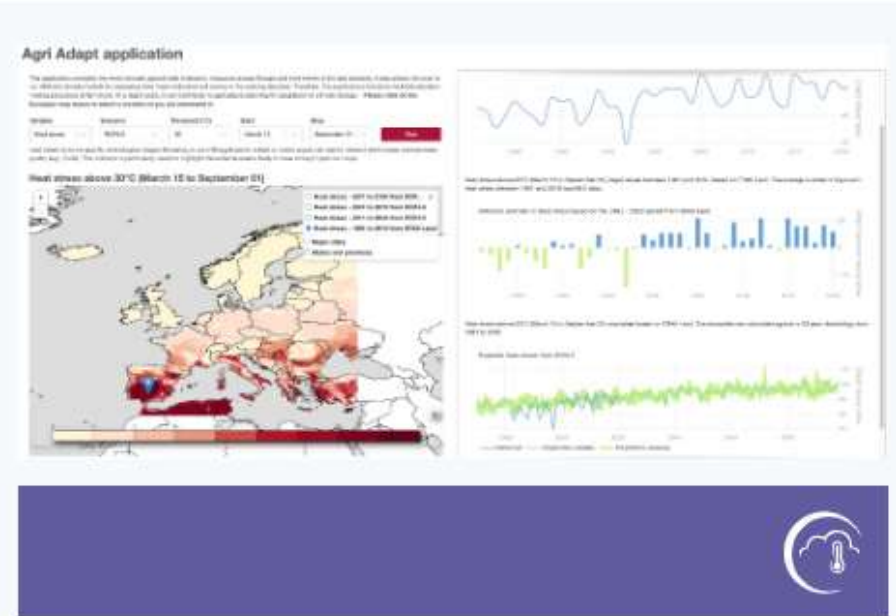
# CLIMATE

## AGRICULTURA (p.e., 'Agroclimatic explorer')

### app-agriadapt-agroclimatic-explorer

Published:

This application allows users to interactively explore agro-climate indicators relevant to agricultural production in Europe under present climate conditions (1970-present) and as well as comparing future climate scenarios (2011-2100). Projected changes in the climate will impact European agriculture by affecting the phenological development of crops thereby changing cropping calendars. Additionally, detrimental impacts on crop production...





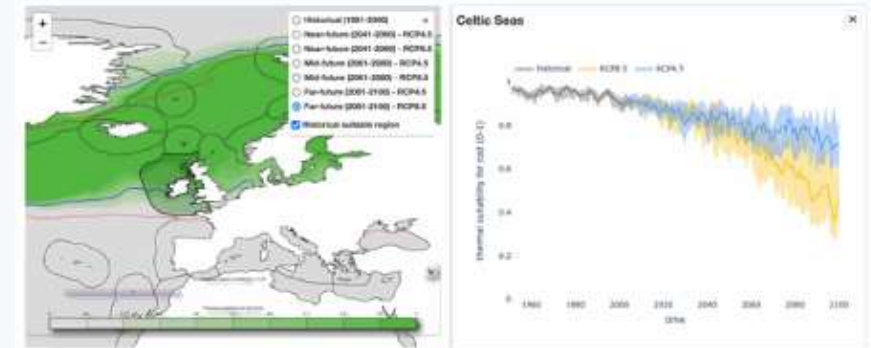
# CLIMATE

## BIODIVERSIDAD (p.e., 'Thermal suitability fish')

### app-biodiversity-thermal-suitability-fish

Published:

This application explores the thermal suitability for selected fish species habitats over the world's oceans and inner seas, based on CMIP5 climate projections (bias-adjusted to ERA5) from 10 Global Circulation Models. The interactive maps show habitat-specific thermal suitability averages alongside sea surface temperature for 20-year time frames (1981-2000 (historical), 2041-2060 (near future), 2061-2080 (mid future), 2081-2100 (far...)







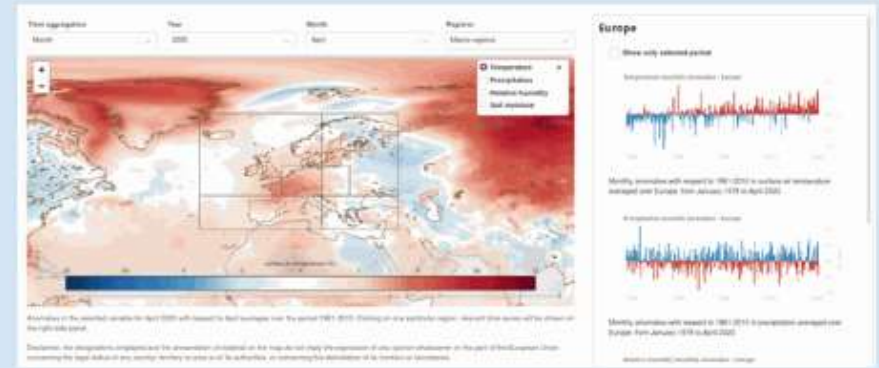
# CLIMATE

CLIMA (p.e., 'Climate bulletin')

## app-c3s-monthly-climate-bulletin-explorer

Published:

This application delivers an interactive version of the monthly C3S Climate bulletin. It allows users to explore the dataset on the aggregated regions - the globe, Europe and Europe's macro-regions - that are covered in the bulletin and on individual European countries. It presents a global map showing one out of temperature, precipitation, humidity and soil moisture...



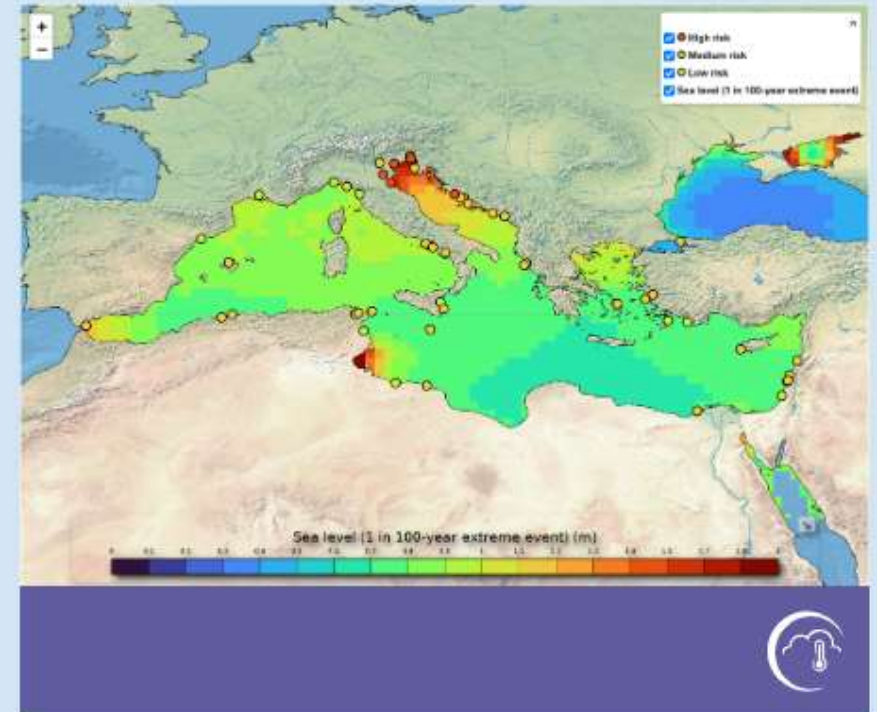


# CLIMATE

## app-climate-mediterranean-sea-level

Published:

Sea level rise is impacting the Mediterranean region's cultural heritage. Many United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Sites in the Mediterranean are situated along the coast and are therefore under increasing risk from coastal flooding due to sea level rise and extreme storm surge events. The application, developed in partnership with the Union for the Mediterranean, explores the impact...





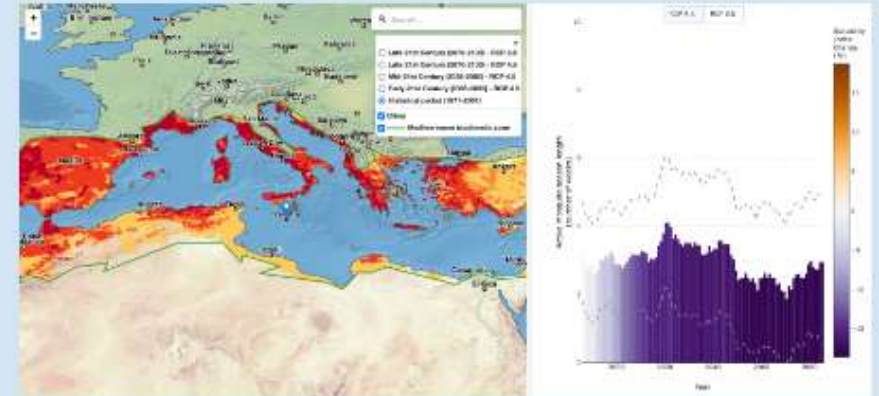


# CLIMATE

## app-climate-mediterranean-vectors

Published:

The Mediterranean region is densely populated and is susceptible to the transmission of human disease through air-borne vectors, such as the tiger mosquito (*Aedes albopictus*). The current changes to the climate have already seen an expansion of the area classified as climatically-suitable for the tiger mosquito, as well as changes to the length of the mosquito's breeding season around the Mediterranean. For example, highland regions are now...





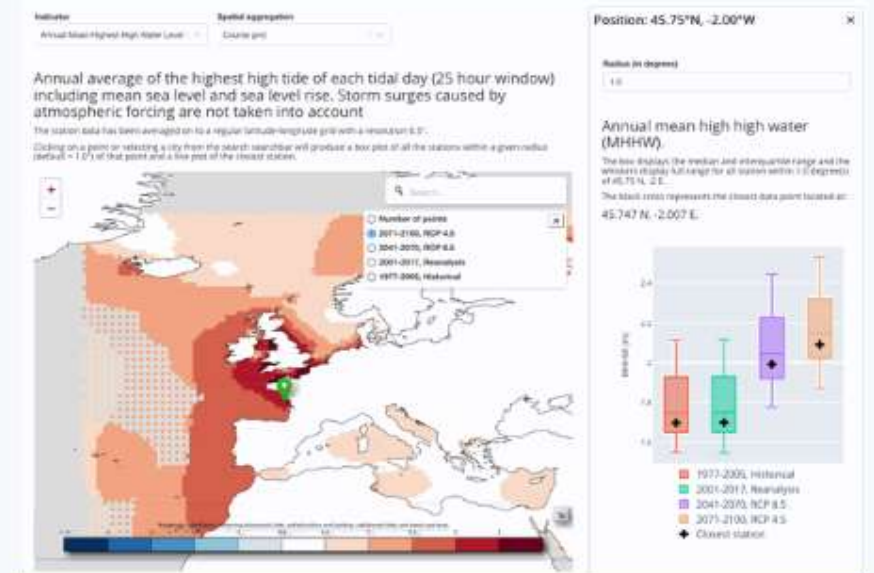
# CLIMATE

**COSTA** (p.e., 'Waves projections')

## app-coastal-indicators-waves-projections

Published:

The application presents a range of European coastal indicators, including water levels, tidal ranges and ocean surface wave parameters under the impacts associated with climate change up the 2100. The indicators are useful for various coastal sectors and studies, for example assessing coastal flooding, coastal erosion, infrastructure planning and adaption studies. This application is underpinned by the C3S datasets 'Water level change...







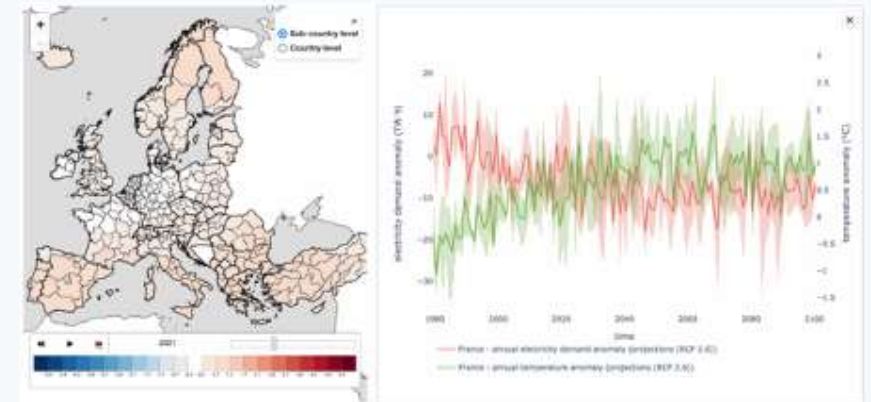
# CLIMATE

**ENERGÍA** (p.e., 'Supply-demand explorer')

## app-energy-explorer-europe

Published:

This application explores climate data over Europe and the effect of climate change on energy supply and demand. Data is provided for the European domain, in a multi-variable, multi-timescale view of the climate and energy systems. This is beneficial in anticipating important climate-driven changes in the energy sector for either long-term planning or medium-term operational activities. The application can also be used to investigate the role...





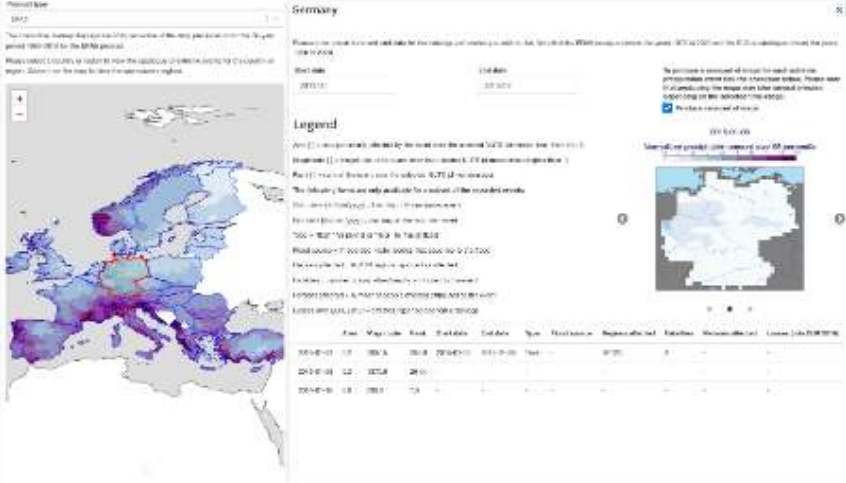
# CLIMATE

## EVENTOS EXTREMOS (p.e., 'Extreme precipitation')

### app-extreme-precipitation-catalogue-past-events

Published:

This application allows users to explore a catalogue of historical extreme precipitation events across Europe. The magnitude and likely impacted area of the extreme events are presented, along with information on the reported financial damages and losses. The damage and loss information have been compiled from multiple external repositories and collated in a uniform manner to be presented in conjunction with the climatic data. The...



The screenshot shows a web application interface. On the left, there is a map of Europe with a color-coded overlay indicating extreme precipitation events. On the right, there is a detailed view for Germany, including a legend, a smaller map of Germany, and a table of event data.

Date	Magnitude	Risk	Estimate	Costs	Type	Relevance	Reported by	Estimate	Minimised by	Losses	Link
2014-01-17	1.0	100.0	100.0	200000000	100000000	100000000	100000000	100000000	100000000	100000000	100000000
2014-01-18	1.0	100.0	100.0	200000000	100000000	100000000	100000000	100000000	100000000	100000000	100000000
2014-01-19	1.0	100.0	100.0	200000000	100000000	100000000	100000000	100000000	100000000	100000000	100000000





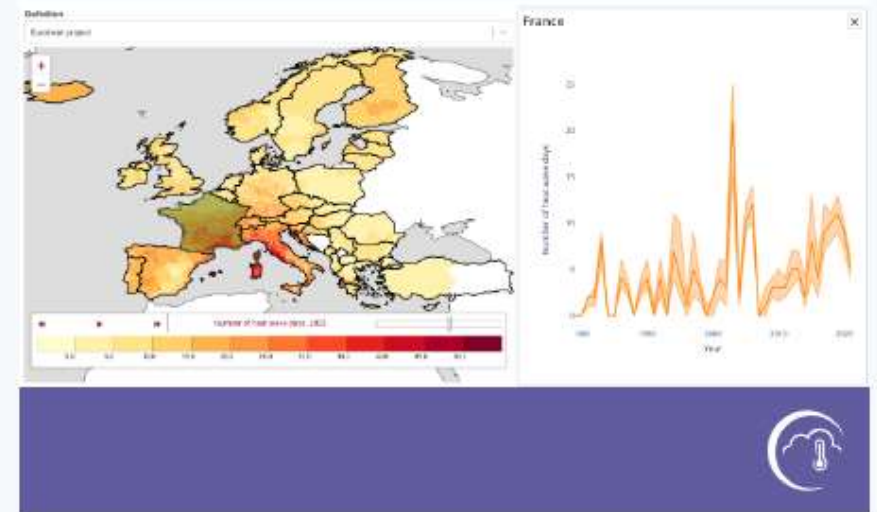
# CLIMATE

**SALUD** (p.e., 'Heat waves')

## app-health-heat-waves-current-climate

Published:

This application allows users to explore the number of heat waves in European countries based on the ERA5 hourly data on single levels dataset. A heat wave is a prolonged period of high temperature, relative to the region. A number of qualifying definitions of heat waves are used in the climate and health communities. This application, and underlying dataset, presents the following heat-wave definitions: ...





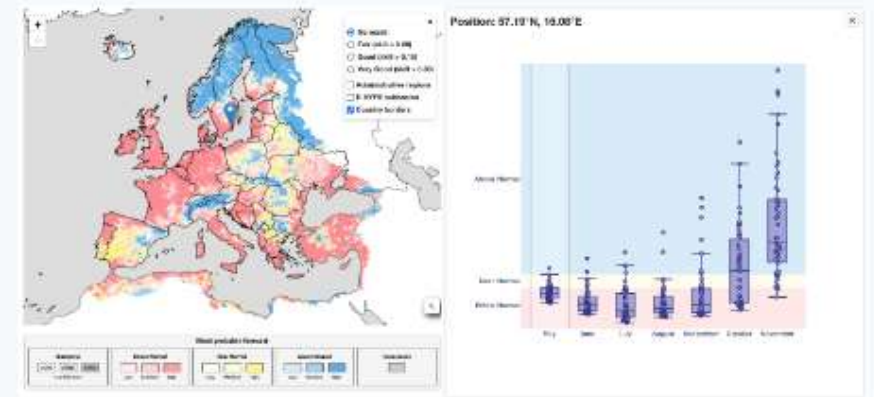
# CLIMATE

## HIDROLOGÍA (p.e., 'Seasonal forecast')

### app-hydrology-seasonal-forecast-explorer

Published:

This application presents European hydrological seasonal forecasts of monthly mean river discharge from a multi-model ensemble of hydrological models. Information from seasonal-range forecasts are of value for many parts of the water sector, for example in planning management of rivers for hydropower and environmental flows. The seasonal forecasts are based on the SEAS5 meteorological forecasts from ECMWF, which are bias adjusted with...







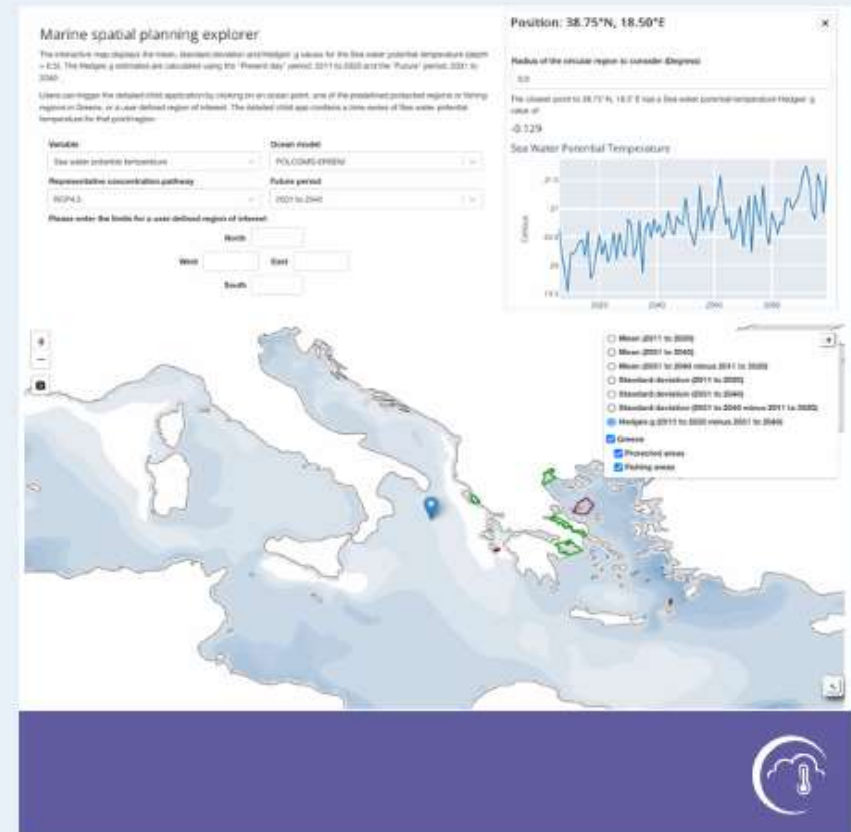
# CLIMATE

MARES (p.e., 'Spatial planning')

## app-marine-spatial-planning-explorer

Published:

Marine Spatial Planning (MSP) is a public process of analysing and allocating marine space to human activities to achieve ecological, economic, and social objectives. Resulting plans regulate the sharing of marine space by different industries and nature conservation. Conservation and broader ecosystem-based management of ocean species and habitats contribute to the sustainability of dependent industries (e.g. wild-capture fisheries) that are...





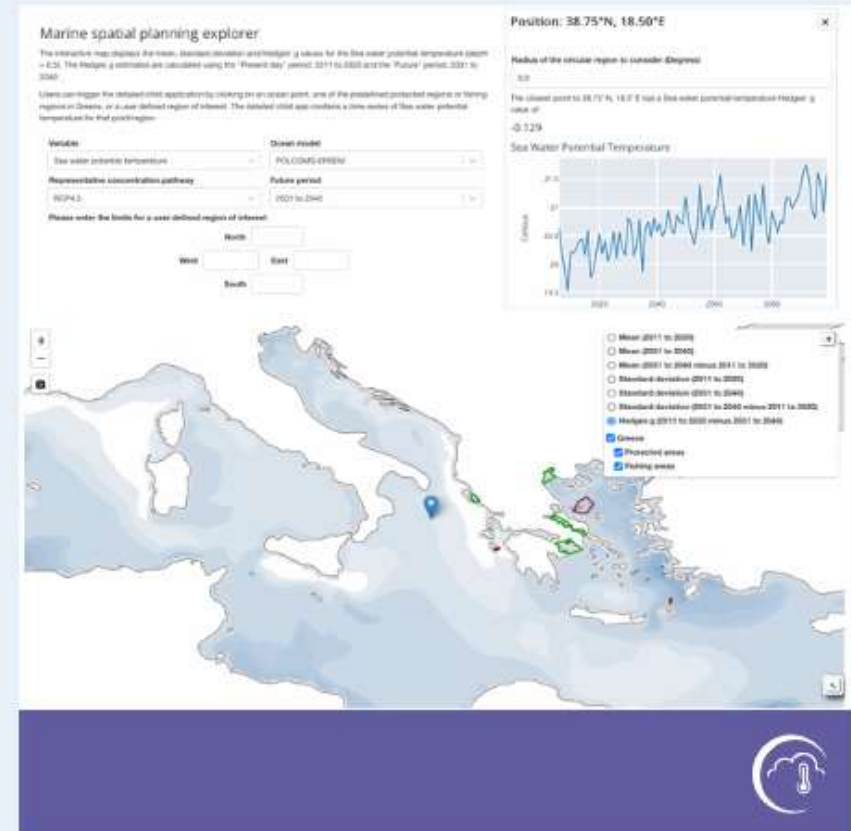
# CLIMATE

MARES (p.e., 'Spatial planning')

## app-marine-spatial-planning-explorer

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EUROPEAN UNION

# LAND

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Europe's eyes on Earth



Land  
Monitoring Service

CLMS portfolio

Dataset catalogue

Data viewer

Use cases

About us

## Copernicus Land Monitoring Service (CLMS)

We provide geographical information on land cover and its changes, land use, ground motion, vegetation state, water cycle and earth surface energy variables for both Europe and the entire globe.

All products are free of charge and can be used for any purpose.



# LAND



## Land Cover and Land Use Mapping

Land cover classifications complemented by detailed layers on vegetated and non-vegetated land cover characteristics



## Priority Area Monitoring

Tailored land cover and land use information with a higher level of detail for specific areas of interest prone to environmental changes



## Bio-geophysical Parameters

Qualified bio-geophysical products on the status and evolution of the land surface complemented by the long term time series



## Ground Motion Monitoring

Information on the natural and anthropogenic ground motion throughout Europe with millimeter accuracy



## Satellite Data

Satellite image mosaics from Copernicus and commercial satellite missions monitoring land surface conditions



## Reference and Validation Data

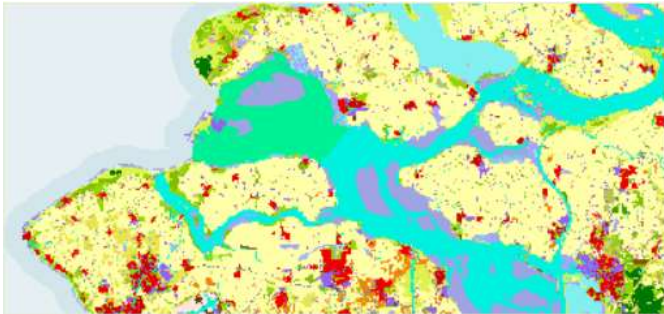
Ground-based observations, geospatial reference data used in CLMS product creation or validation



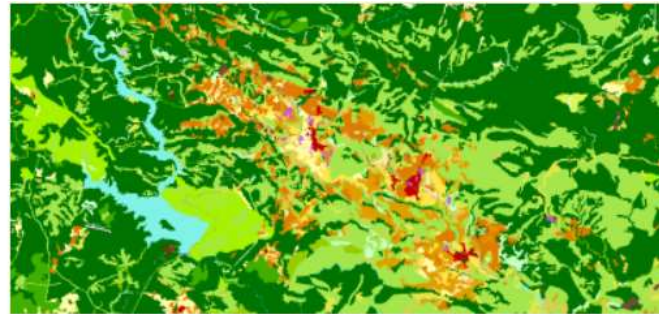


# LAND

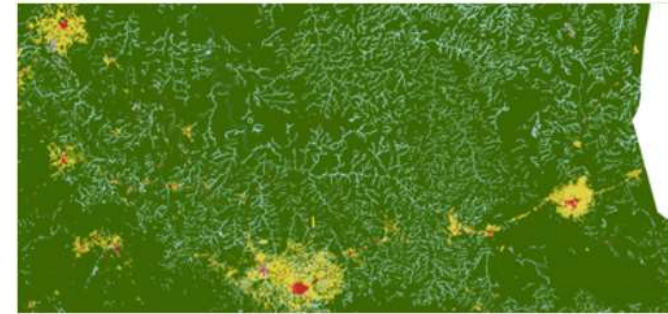
## PRIORITY AREAS MONITORING



Coastal Zones



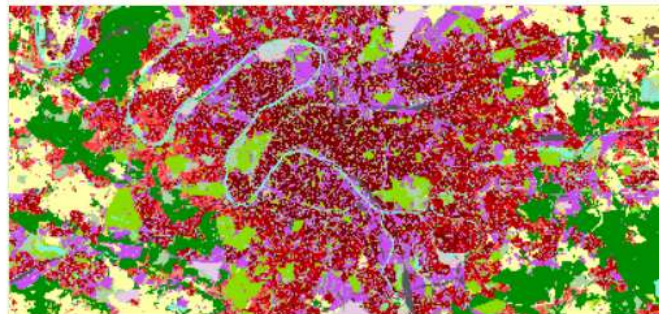
N2K



Reference Land Cover and Land Cover Change in selected Hot Spots



Riparian Zones

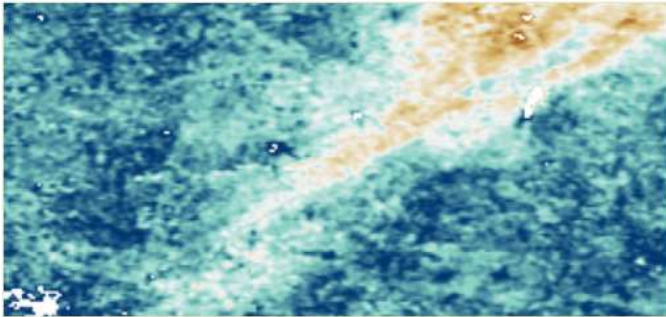


Urban Atlas



# LAND

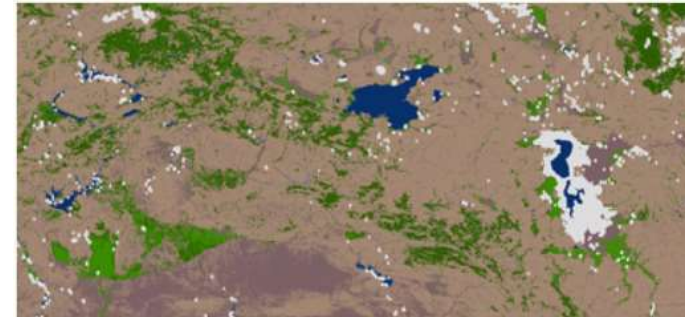
## BIO-GEOPHYSICAL PARAMETERS



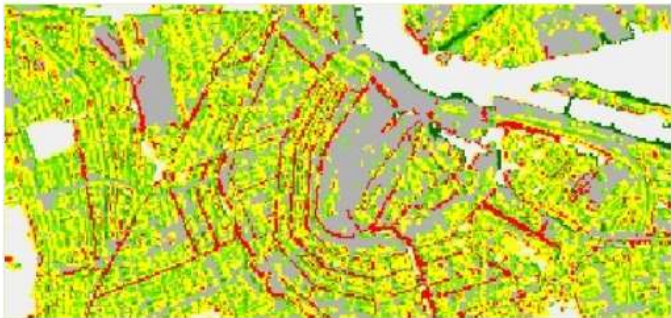
Soil Moisture



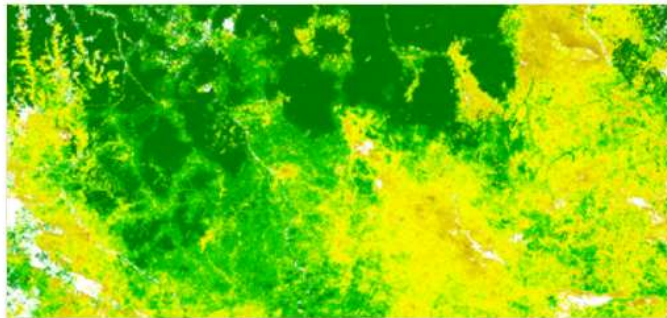
Snow



Water Bodies



Temperature and Reflectance



Vegetation





EUROPEAN UNION

# ATMOSPHERE

<https://atmosphere.copernicus.eu/>



Data

About us

What we do



We provide consistent and quality-controlled information related to air pollution and health, solar energy, greenhouse gases and climate forcing, everywhere in the world.

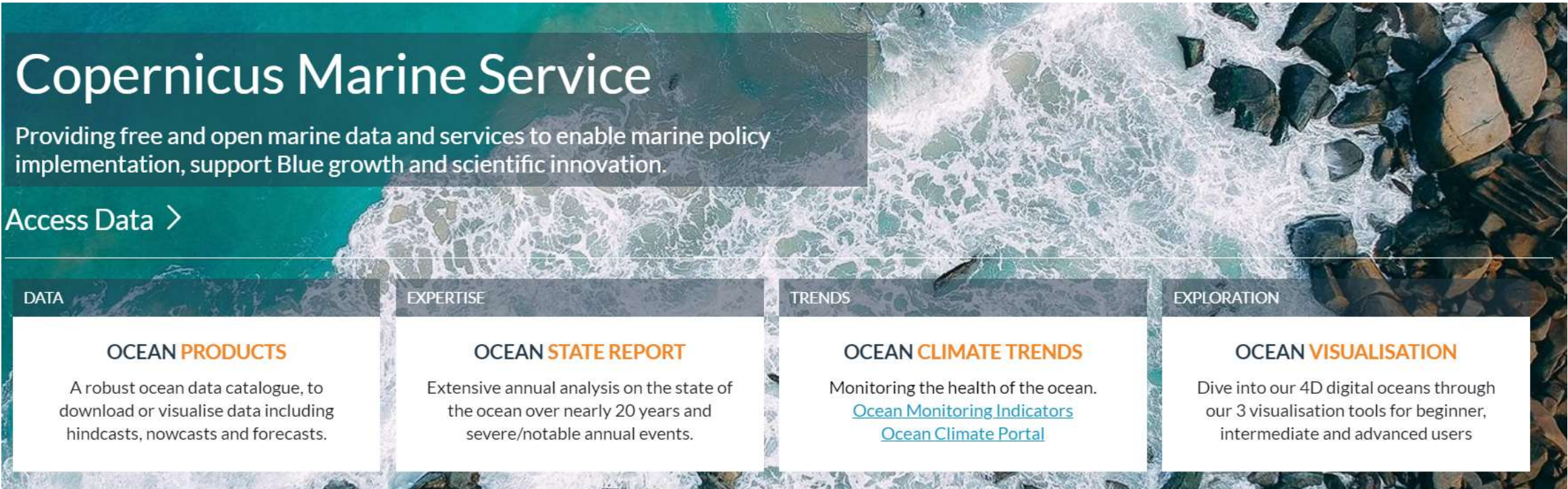


# MARINE

<https://marine.copernicus.eu/>



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## Copernicus Marine Service

Providing free and open marine data and services to enable marine policy implementation, support Blue growth and scientific innovation.

[Access Data >](#)

DATA	EXPERTISE	TRENDS	EXPLORATION
<p><b>OCEAN PRODUCTS</b></p> <p>A robust ocean data catalogue, to download or visualise data including hindcasts, nowcasts and forecasts.</p>	<p><b>OCEAN STATE REPORT</b></p> <p>Extensive annual analysis on the state of the ocean over nearly 20 years and severe/notable annual events.</p>	<p><b>OCEAN CLIMATE TRENDS</b></p> <p>Monitoring the health of the ocean.  <a href="#">Ocean Monitoring Indicators</a>  <a href="#">Ocean Climate Portal</a></p>	<p><b>OCEAN VISUALISATION</b></p> <p>Dive into our 4D digital oceans through our 3 visualisation tools for beginner, intermediate and advanced users</p>