Rapid Mapping at I-Cube SERTIT

Dr Hervé Yésou,

http://sertit.unistra.fr/

French Lebanese summer school on Remote Sensing

Beirut May 30th to June 3rd , 2022

Copernicus services

https://www.copernicus.eu/fr/services/urgences

EMERGENCY SERVICE

Emergency Management Service

Mapping

Rapid Mapping (RM)

Risk & Recovery Mapping (RRM)

Early Warning System

Floods

EFAS
GloFAS

Fires

EFFIS

Droughts

EDO
GDO

opernicus
Europe's eyes on Earth

EMS early warning components

The of the Copernicus EMS consists of three different systems:

•The European Flood Awareness System (**EFAS**), which provides overviews on ongoing and forecasted floods in Europe up to 10 days in advance.

•The European Forest Fire Information System (**EFFIS**), which provides near real-time and historical information on forest fires and forest fire regimes in the European, Middle Eastern and North African regions.

•The European Drought Observatory (**EDO**), which provides drought-relevant information and early-warnings for Europe.

Global Flood Awareness System (GloFAS), **Global Wildfire Information System** (GWIS) and **Global Drought Observatory** (GDO) complete the previous three above systems at global level.

European Forest Fire Information System
EFFIS

European Forest Fire Information System -

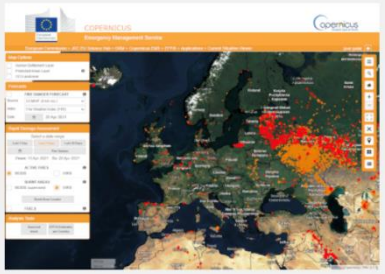
EFFIS supports the services in charge of the protection of forests against fires in the EU and neighbor countries and provides the European Commission services and the European Parliament with updated and reliable information on wildland fires in Europe.

Since 1998, : network of experts from the countries in what is called the Expert Group on Forest Fires

Experts from 43 countries in European, Middle East and North African countries.

In 2015, EFFIS became one of the components of the Emergency Management Services in the EU Copernicus program.

EFFIS Applications



Current Situation Viewer

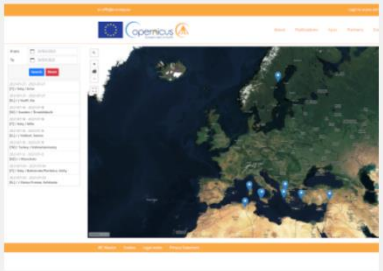
The most up to date information on the current fire season in Europe and in the Mediterranean area.

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.

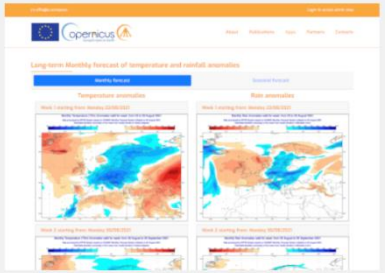
Read more >



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 >



Long-term fire weather forecast

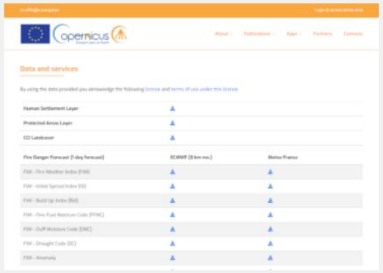
Monthly and seasonal forecast of temperature and rainfall anomalies that are expected to prevail over European and Mediterranean areas.

Read more >

Data Request Form

Request for data that are not directly available via the EFFIS web services.

Read more >

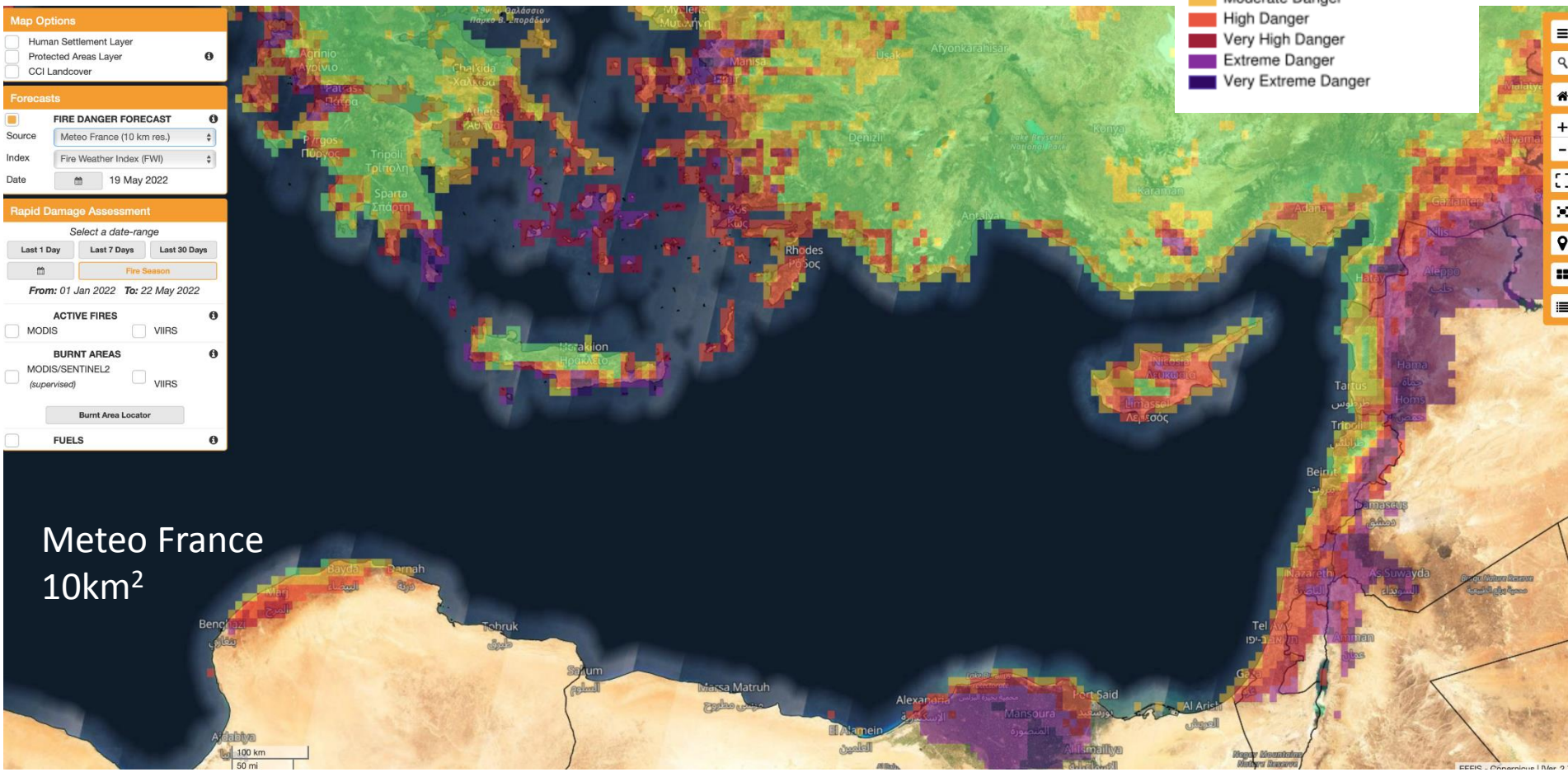


Data and services

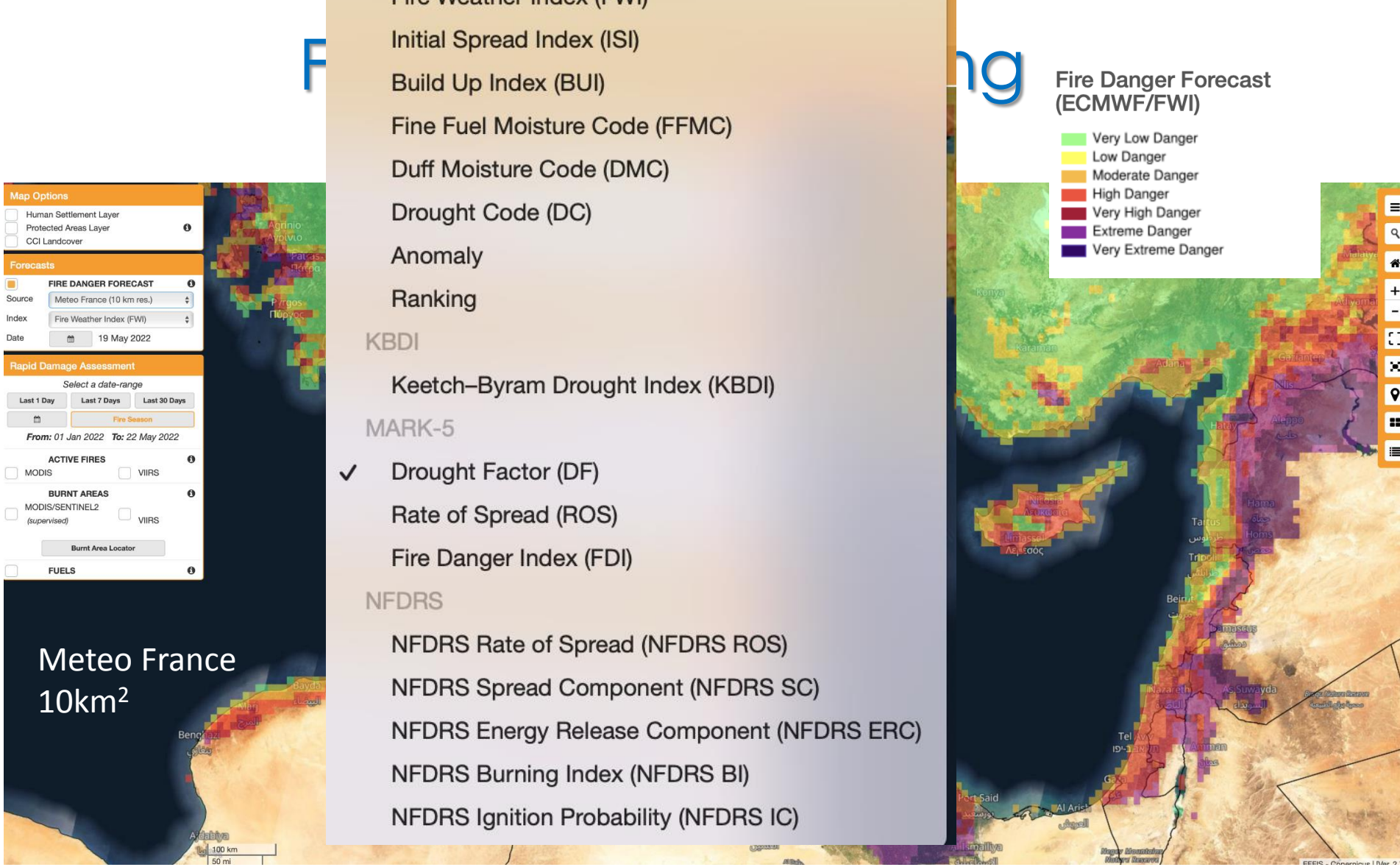
Country totals (burnt areas & number of fires) per year, as published in the Forest Fires in Europe, North Africa and Middle East reports.

Read more >

Forest fire forecasting

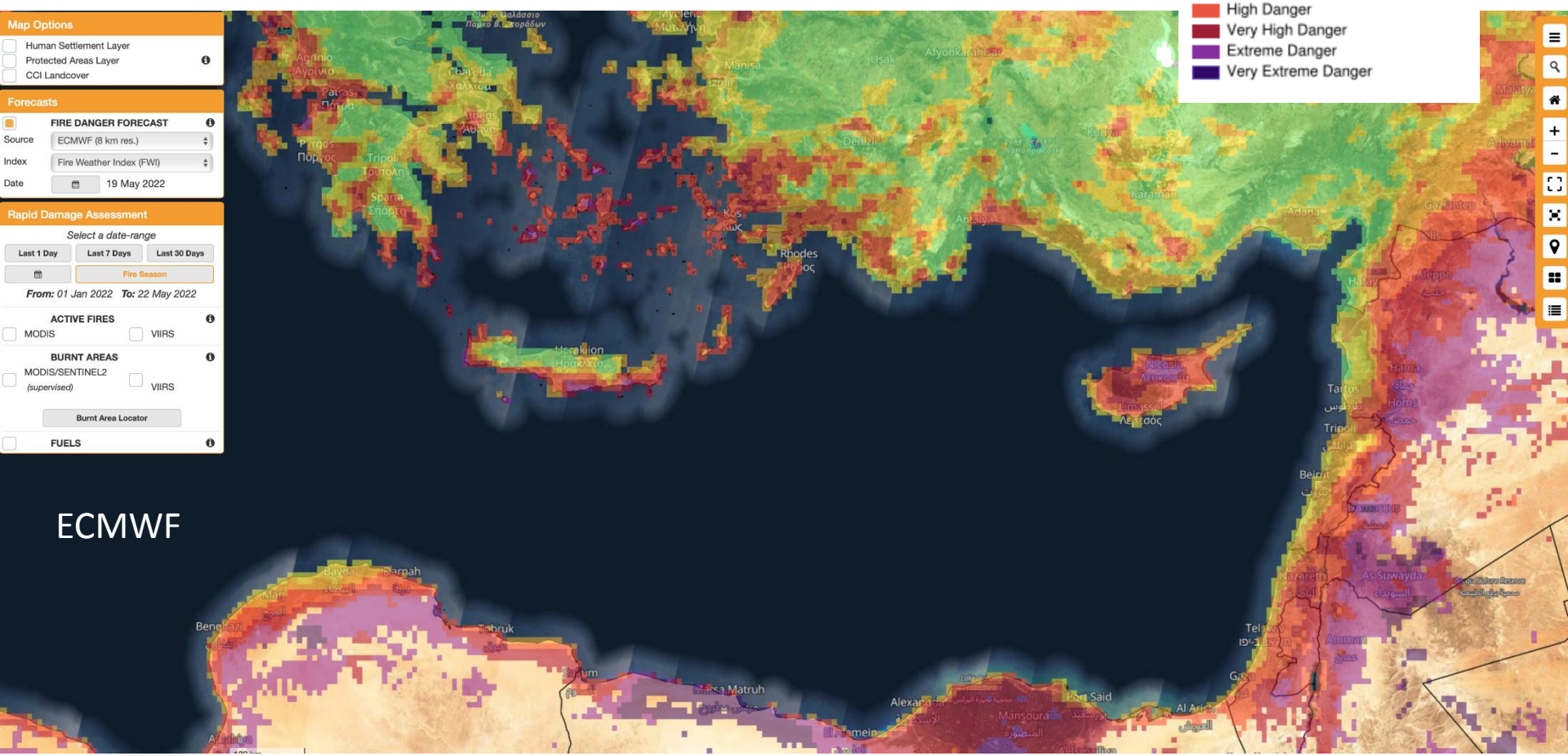


Based on two models for various indicators: Fire Weather Index FWI



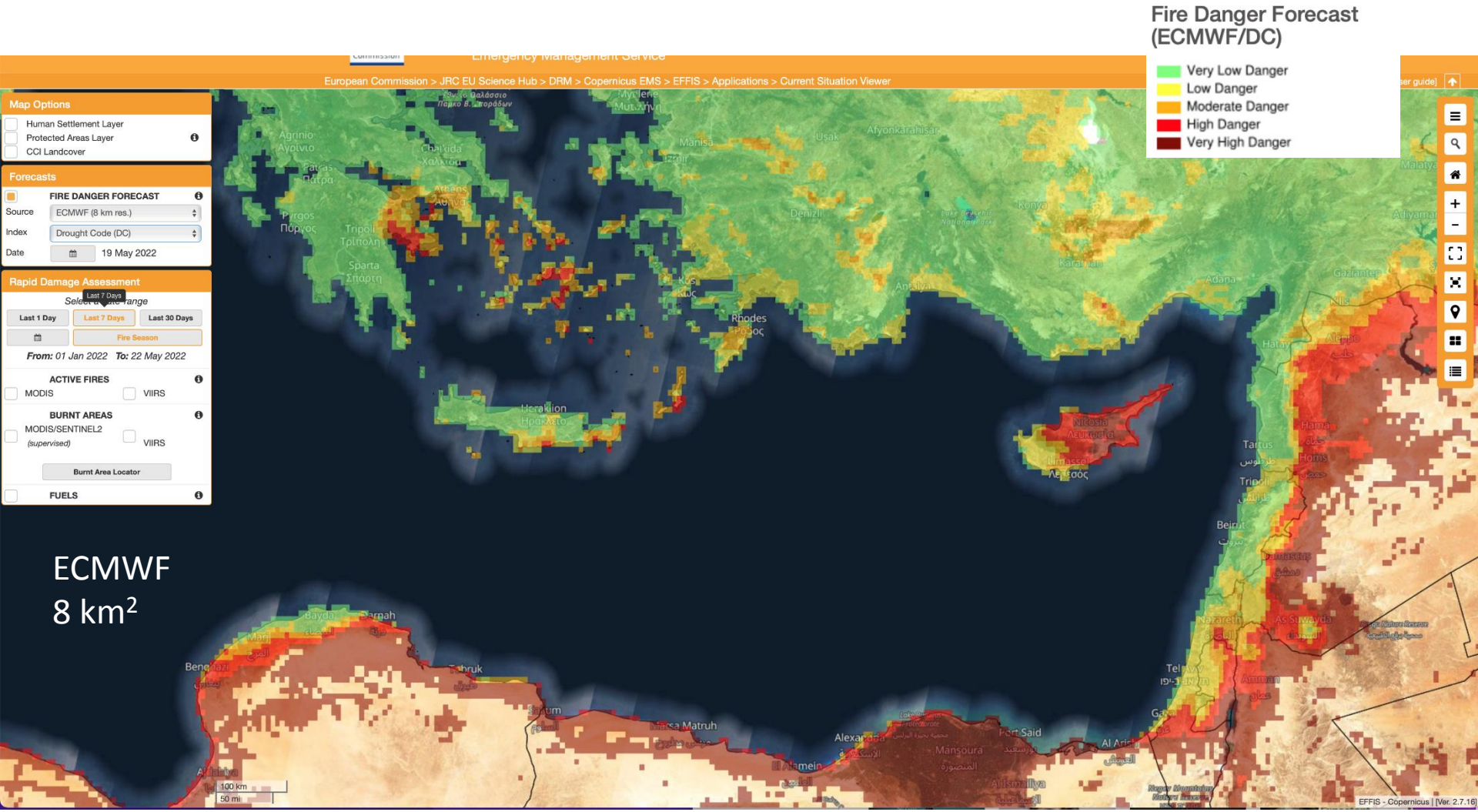
Based on two models for various indicators: Fire Weather Index FWI

Forest fire forecasting



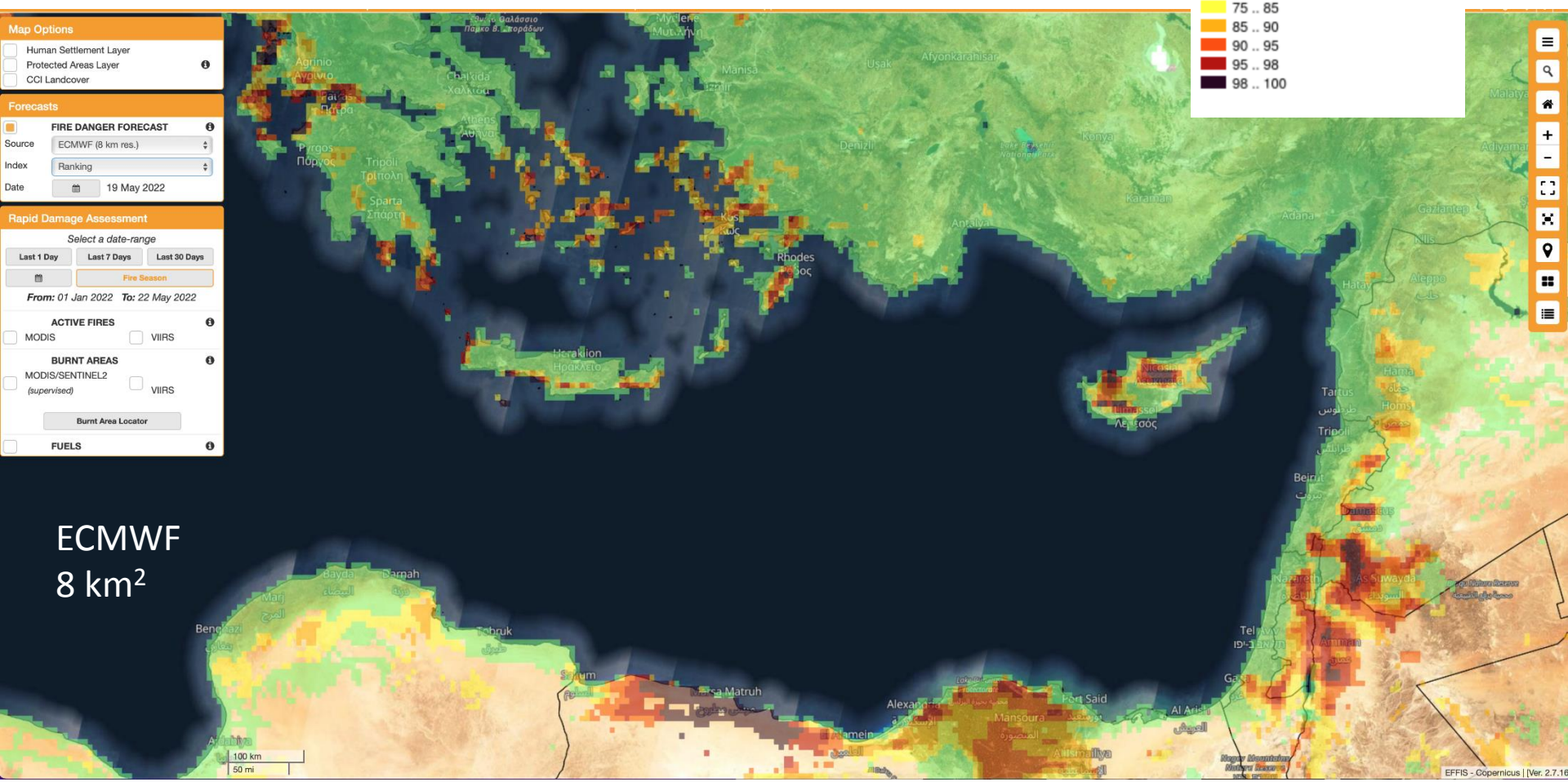
Based on two models for various indicators: Fire Weather Index FWI

Forest fire forecasting



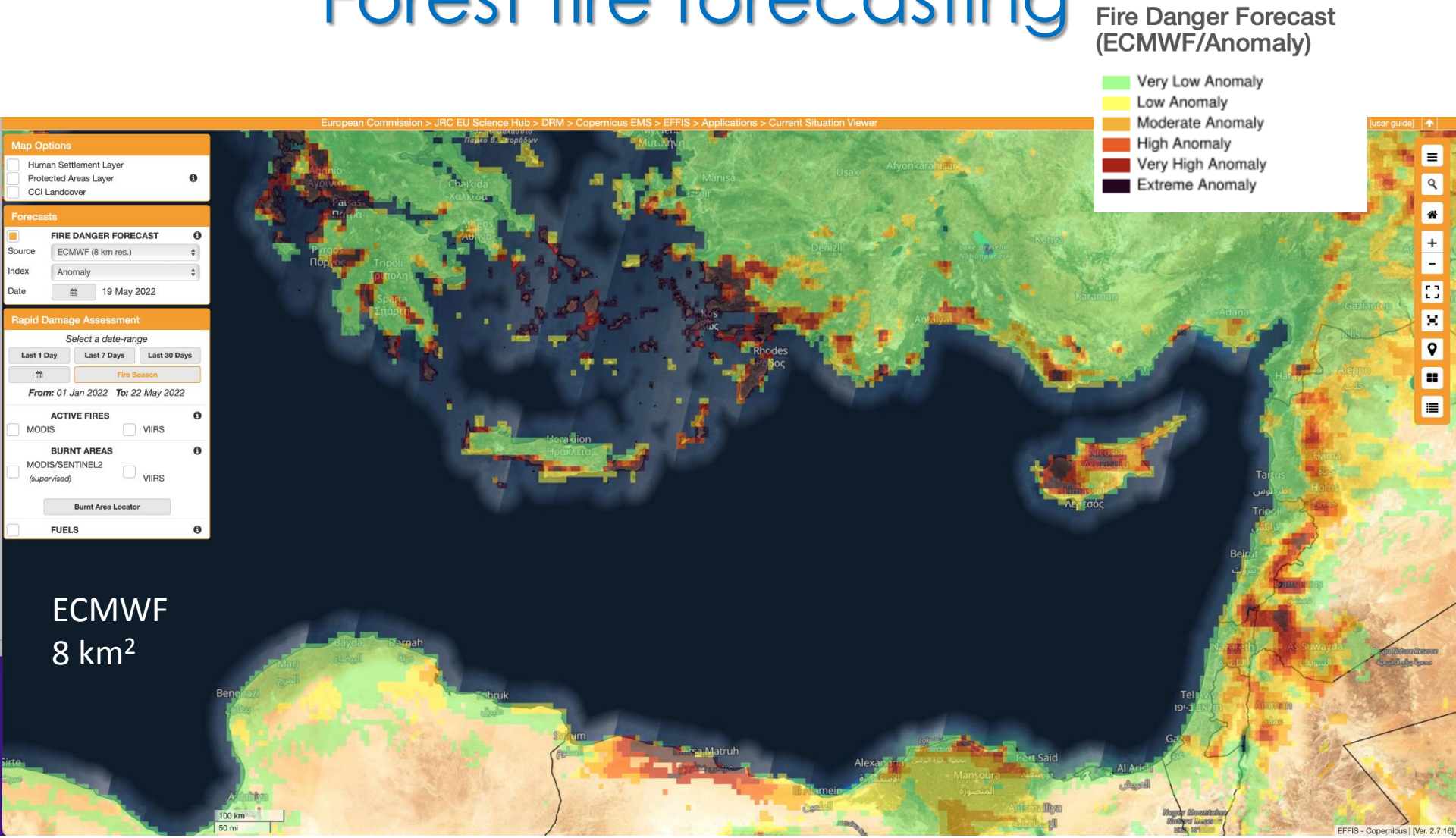
Based on two models for various indicators: Drought Code

Forest fire forecasting



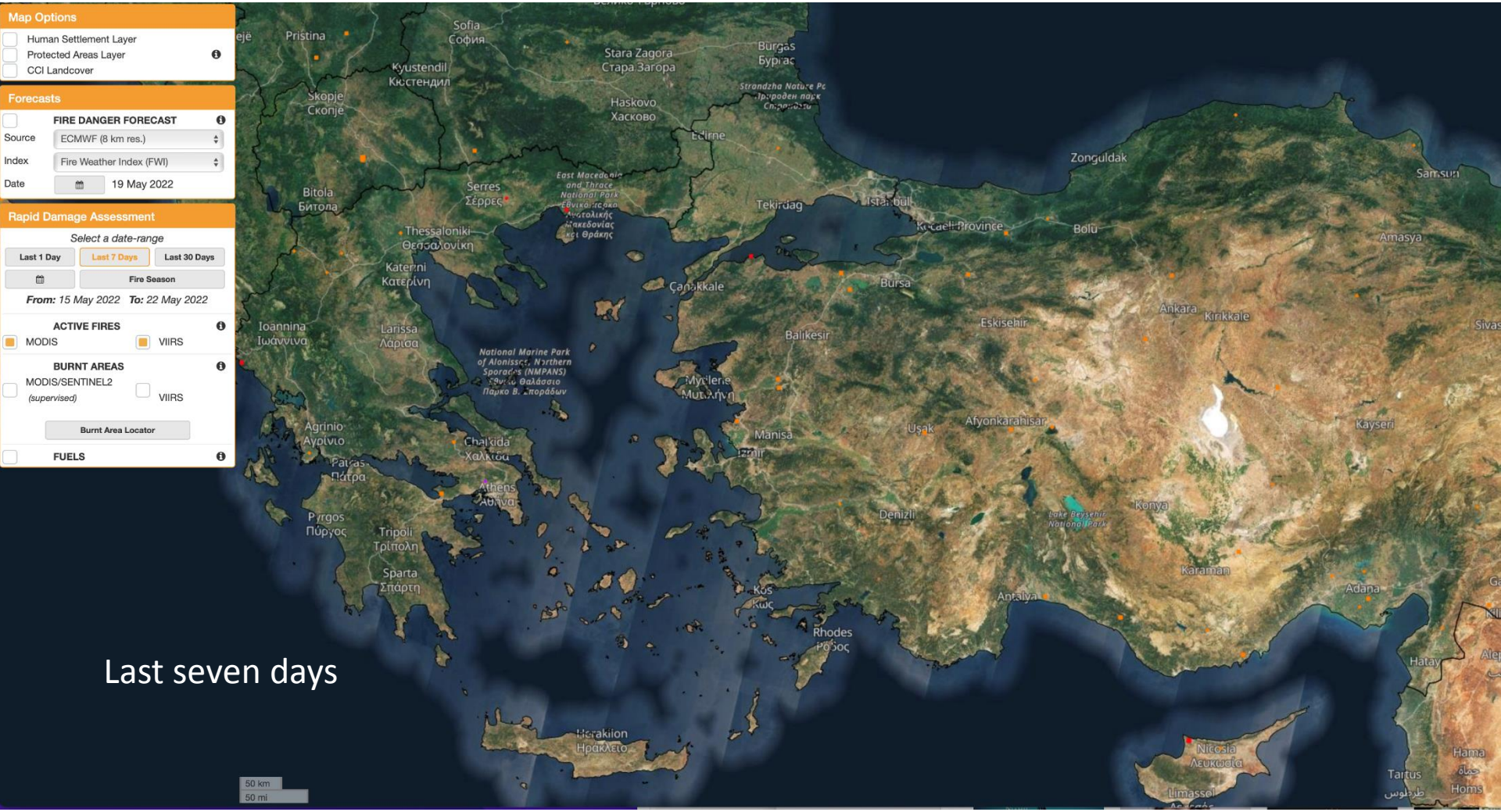
Based on two models for various indicators: Ranking

Forest fire forecasting



Based on two models for various indicators: Anomaly

Current situation: different time scales



Rapid damage assessment

Current situation: different time scales

One fire season

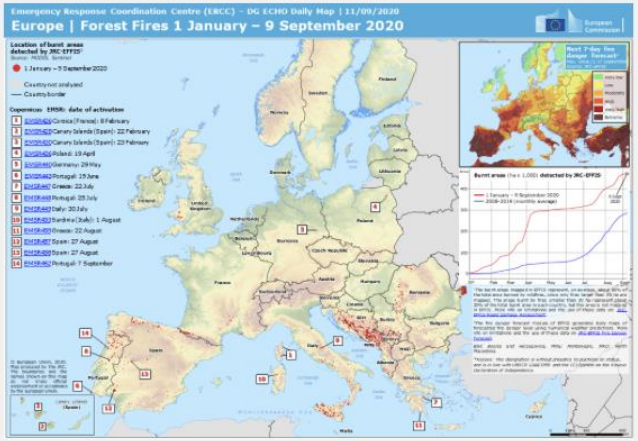
Rapid damage assessment

Country/Regional Wildfire Maps

In relations with EMSR activity

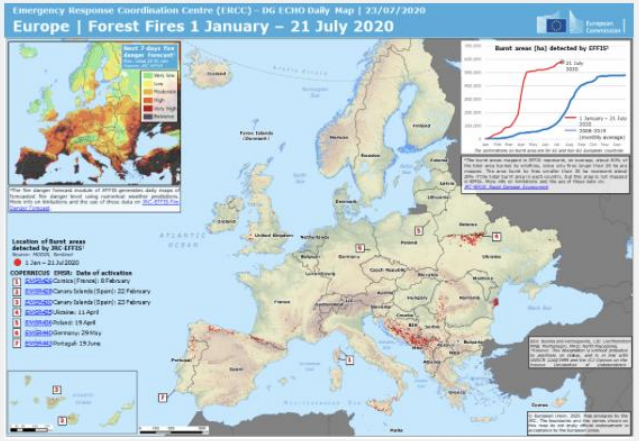
11 September 2020 - ECHO Daily Map

Forestfires Europe



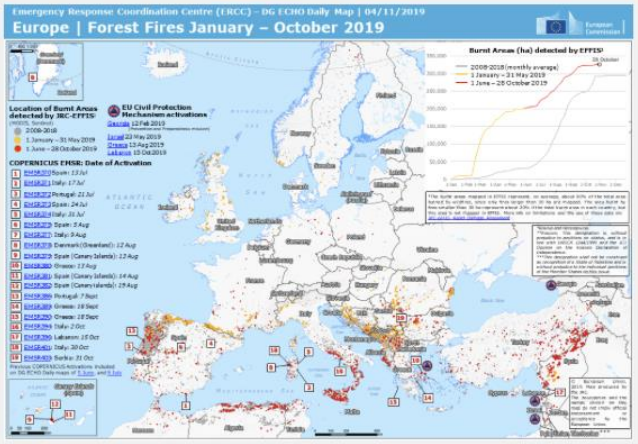
23 July 2020 - ECHO Daily Map

Forestfires Europe



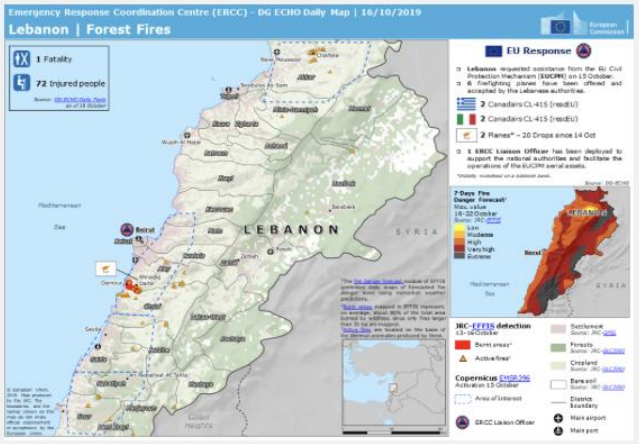
4 November 2019 - ECHO Daily Map

Forestfires Europe



16 October 2019 - ECHO Daily Map

Lebanon Forest-fires



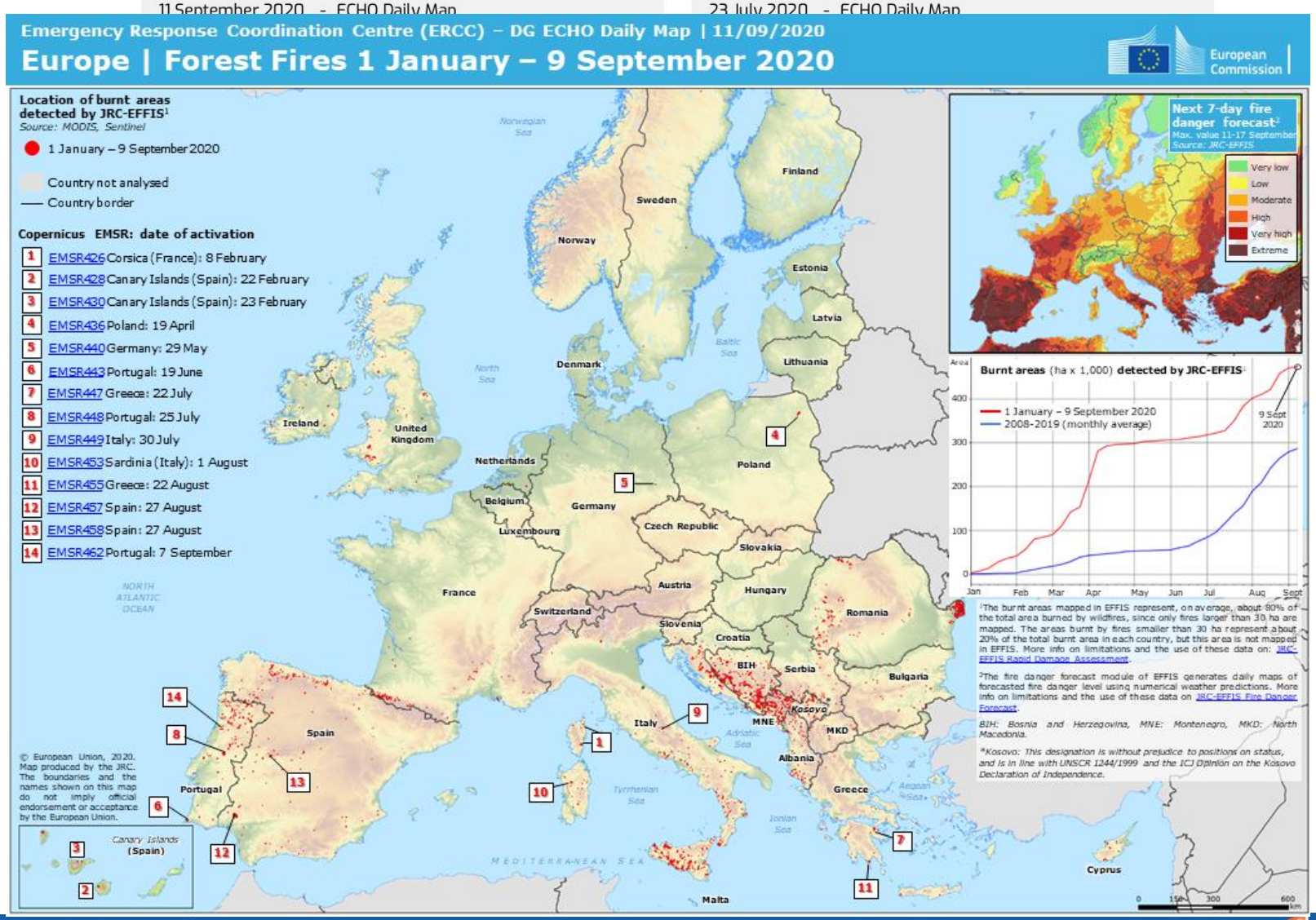
untry/Regiona
ildfire Maps

Country/Regional Wildfire Maps

In relations with EMSR activity

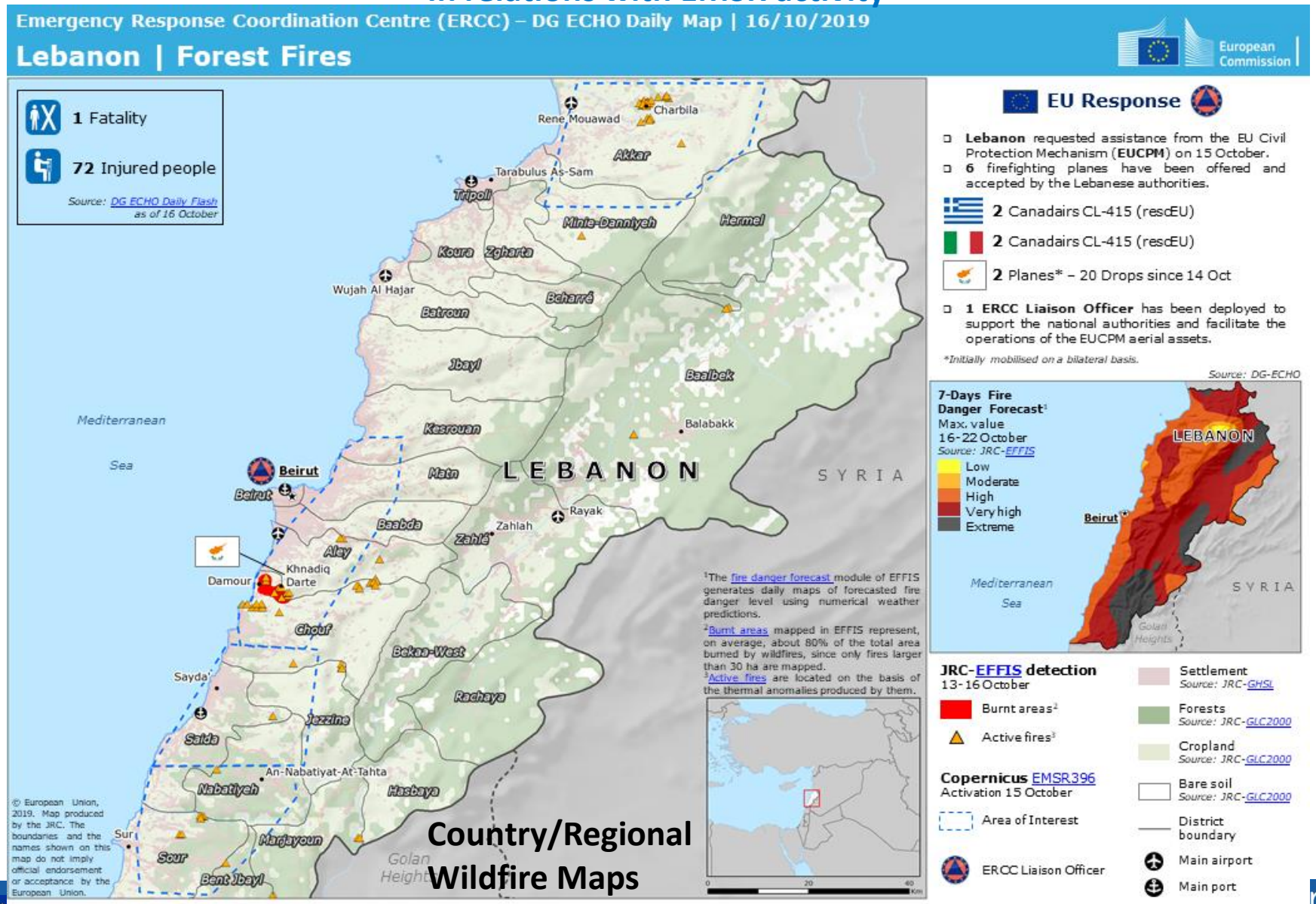
11 September 2020 - ECHO Daily Map

23 July 2020 - ECHO Daily Map



Country/Regional Wildfire Maps

In relations with EMSR activity



Fire news

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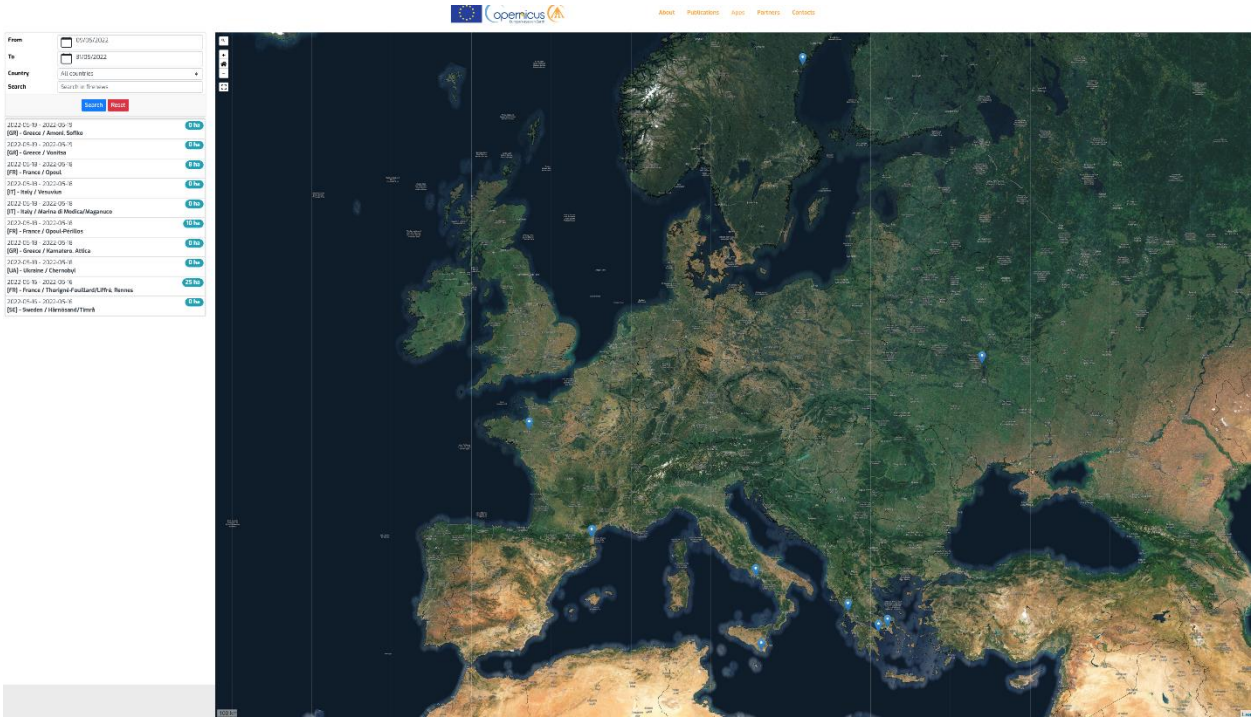


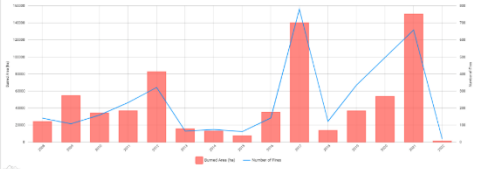
Fire news

opernicus
About
Publications
Apps
Partners
Contacts
From
09/05/2022
To
31/05/2022
Country
All countries
Search
Search in firenews
Search
Reset
2022-05-19 - 2022-05-19
(GR) - Greece / Amoni, Sofiko
0 ha
2022-05-19 - 2022-05-19
(GR) - Greece / Vonitsa
0 ha
2022-05-18 - 2022-05-18
(FR) - France / Opoul
8 ha
2022-05-18 - 2022-05-18
(IT) - Italy / Vesuvius
0 ha
2022-05-18 - 2022-05-18
(IT) - Italy / Marina di Modica/Maganuco
0 ha
2022-05-18 - 2022-05-18
(FR) - France / Opoul-Périllos
10 ha
2022-05-18 - 2022-05-18
(GR) - Greece / Kamatero, Attica
0 ha
2022-05-18 - 2022-05-18
(UA) - Ukraine / Chernobyl
0 ha
2022-05-16 - 2022-05-16
(FR) - France / Thorigné-Fouillard/Liffré, Rennes
25 ha
2022-05-16 - 2022-05-16
(SE) - Sweden / Härnösand/Timrå
0 ha

EFFIS Statistics Portal

EFFIS Estimates

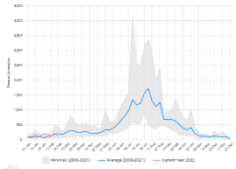
of Burned Areas and Number of Fires



Open

Seasonal Trend

of Burned Areas, Number of Fires and Thermal Anomalies



Open

Information available for

EU Countries

- Overview
- AUT - Austria
- BEL - Belgium
- BGR - Bulgaria
- HRV - Croatia
- CYP - Cyprus
- CZE - Czechia
- DNK - Denmark
- EST - Estonia
- FIN - Finland
- FRA - France
- DEU - Germany
- GRC - Greece
- HUN - Hungary
- IRL - Ireland

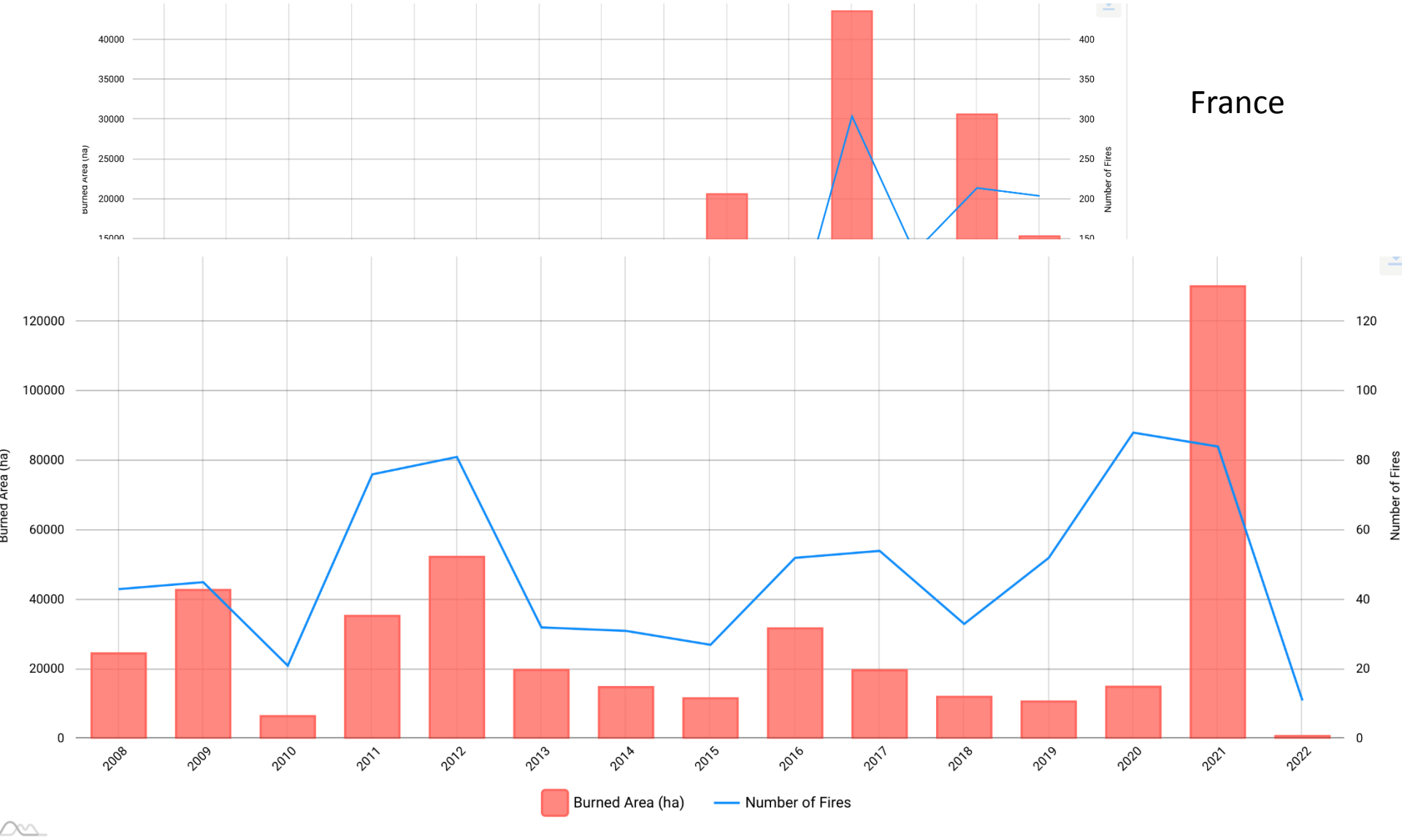
European non EU Cou...

- Overview
- ALB - Albania
- BIH - Bosnia and Herzegovina
- GEO - Georgia
- MNE - Montenegro
- MKD - North Macedonia
- NOR - Norway
- SRB - Serbia
- CHE - Switzerland
- TUR - Turkey
- UKR - Ukraine
- GBR - United Kingdom

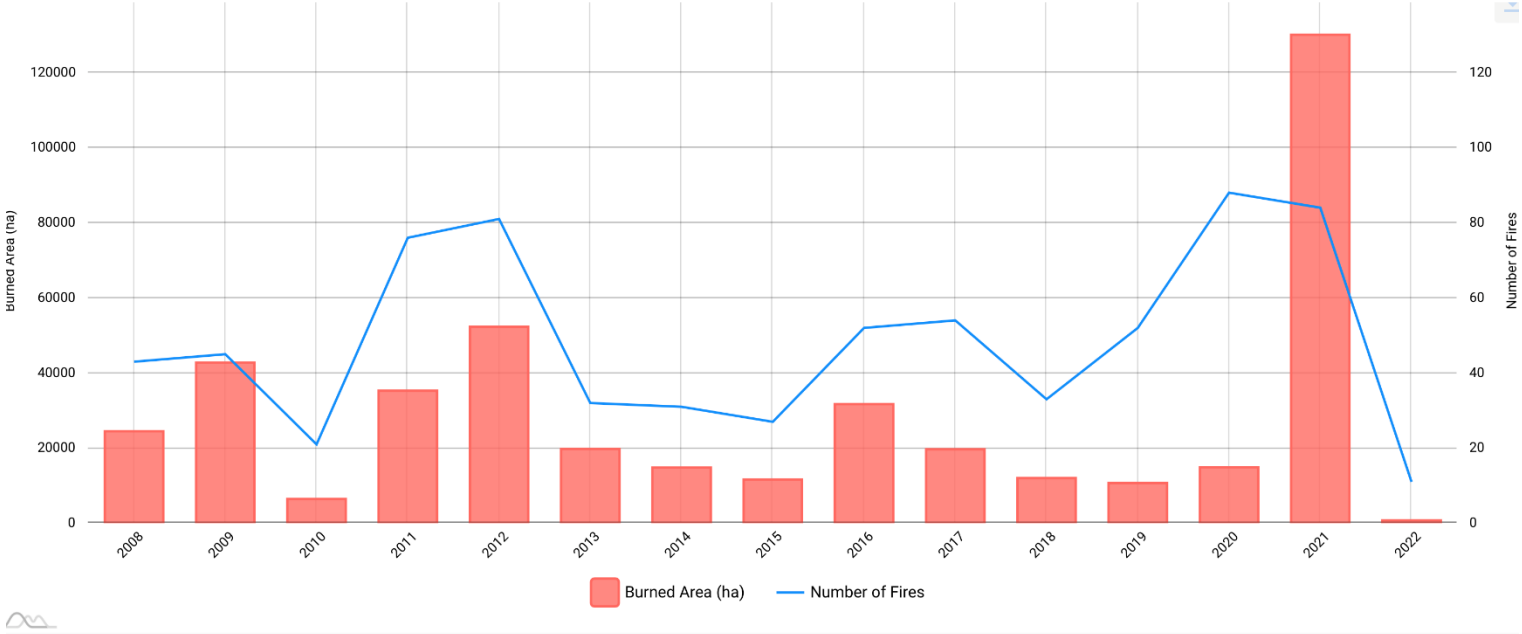
MENA Countries

- Overview
- DZA - Algeria
- ISR - Israel
- LBN - Lebanon
- LBY - Libya
- MAR - Morocco
- PSE - State of Palestine
- SYR - Syrian Arab Republic
- TUN - Tunisia

EFFIS Statistics Portal



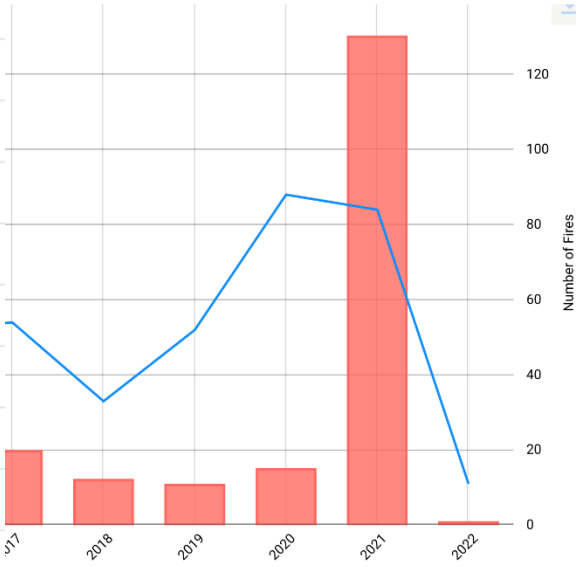
EFFIS Statistics Portal



Greece

EFFIS Statistics Portal

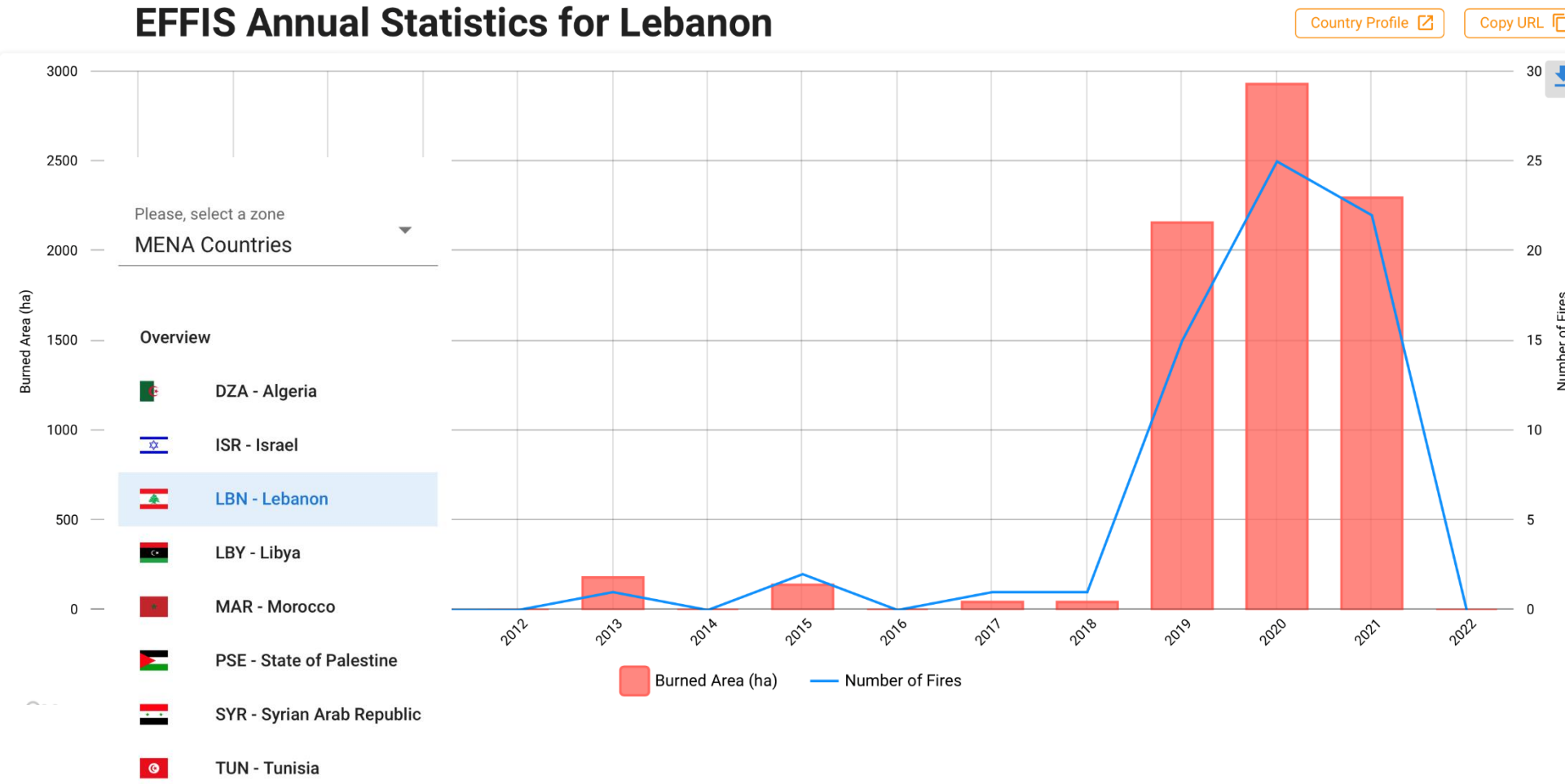
Year	Burned Area (ha)	Number of Fires
2008	24502	43
2009	42757	45
2010	6472	21
2011	35305	76
2012	52269	81
2013	19762	32
2014	14815	31
2015	11613	27
2016	31707	52
2017	19682	54
2018	12037	33
2019	10689	52
2020	14915	88
2021	130058	84
2022	756	11



Greece

2020-2021 same amount of fires
But in terms of surface *10 in 2021

EFFIS Statistics Portal



GWIS

GWIS : a joint initiative of the GEO and the Copernicus Work Programs.

GWIS : Bring together existing information sources at regional and national level in order to provide a comprehensive view and evaluation of fire regimes and fire effects at global level and to provide tools to support operational wildfire management from national to global scales.

GWIS builds on the ongoing activities of the European Forest Fire Information System (EFFIS), the Global Terrestrial Observing System (GTOS) Global Observation of Forest Cover- Global Observation of Land Dynamics (GOFC-GOLD) Fire Implementation Team (GOFC Fire IT), and the associated Regional Networks,

GWIS

Current Situation Viewer

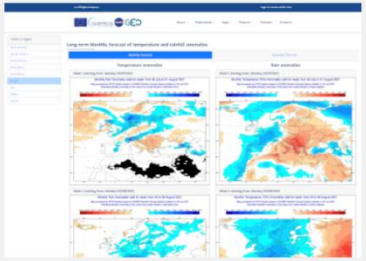
Provides fire danger forecast up to 10 days in advance, 1-day lightning forecast and near-real time information on active fires...
Read more >

Current Statistics Portal

Statistics are provided at national level and for regions of interest, such as the "Brazilian Legal Amazon" and the Arctic Monitoring and Assessment Program (AMAP).
Read more >

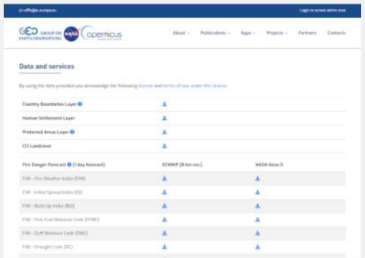
Country Profile

Provides historical overviews of fire regimes at country and sub-country level for the period 2002-2019.
Read more >



Long-term fire weather forecast

Monthly and seasonal forecast of temperature and rainfall anomalies that are expected to prevail over the world. **Read more >**

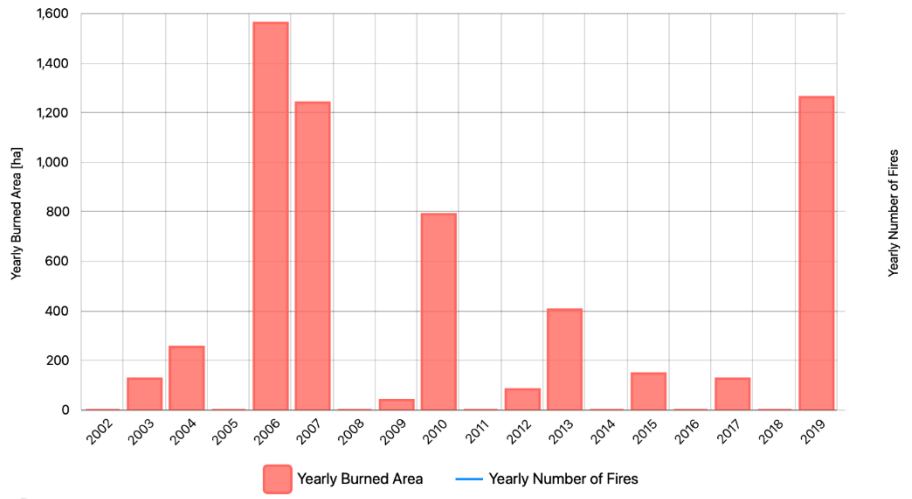


Data & Services

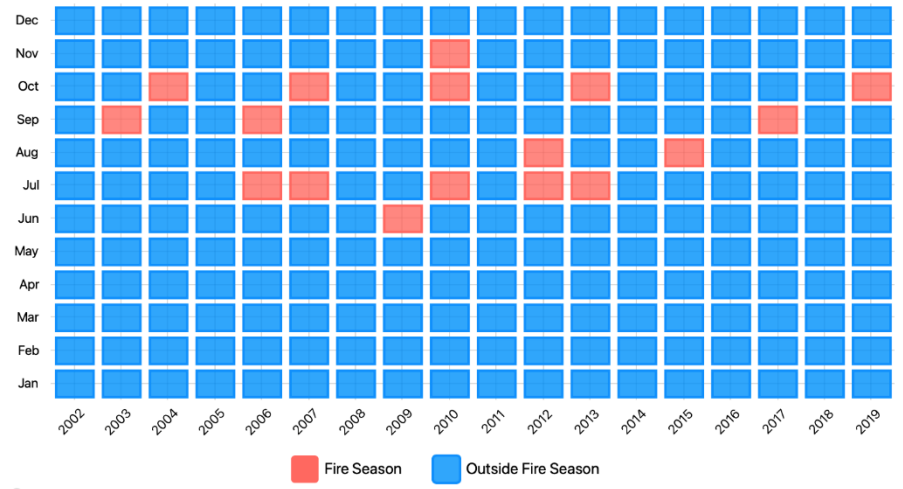
Provides access to the data used in the GWIS applications. Data from the Current Situation Viewer are provided from the WMS.
Read more >

GWIS : Country profile

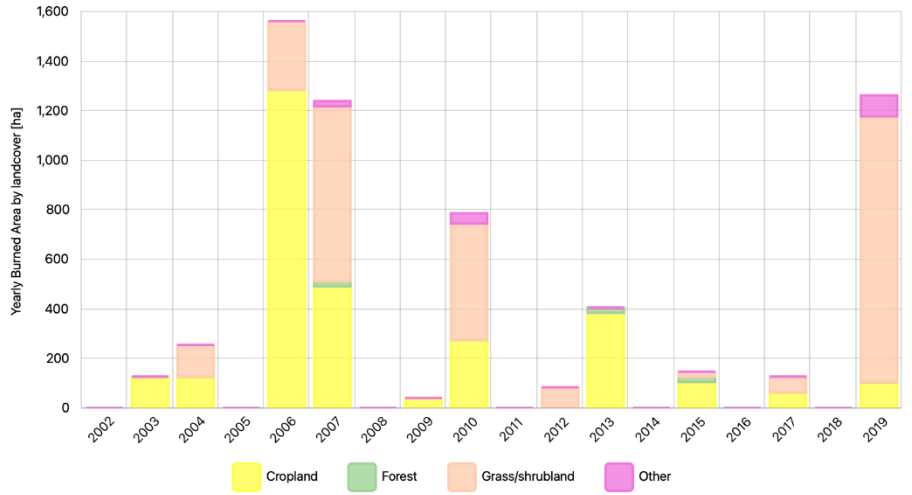
Yearly Burned Area & Number of Fires - [2002-2019]



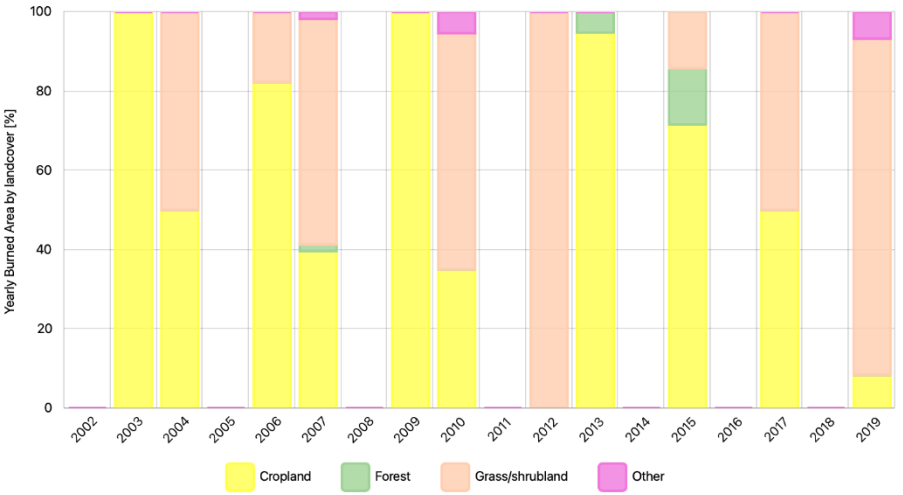
Yearly Burned Area Seasonality - [2002-2019]



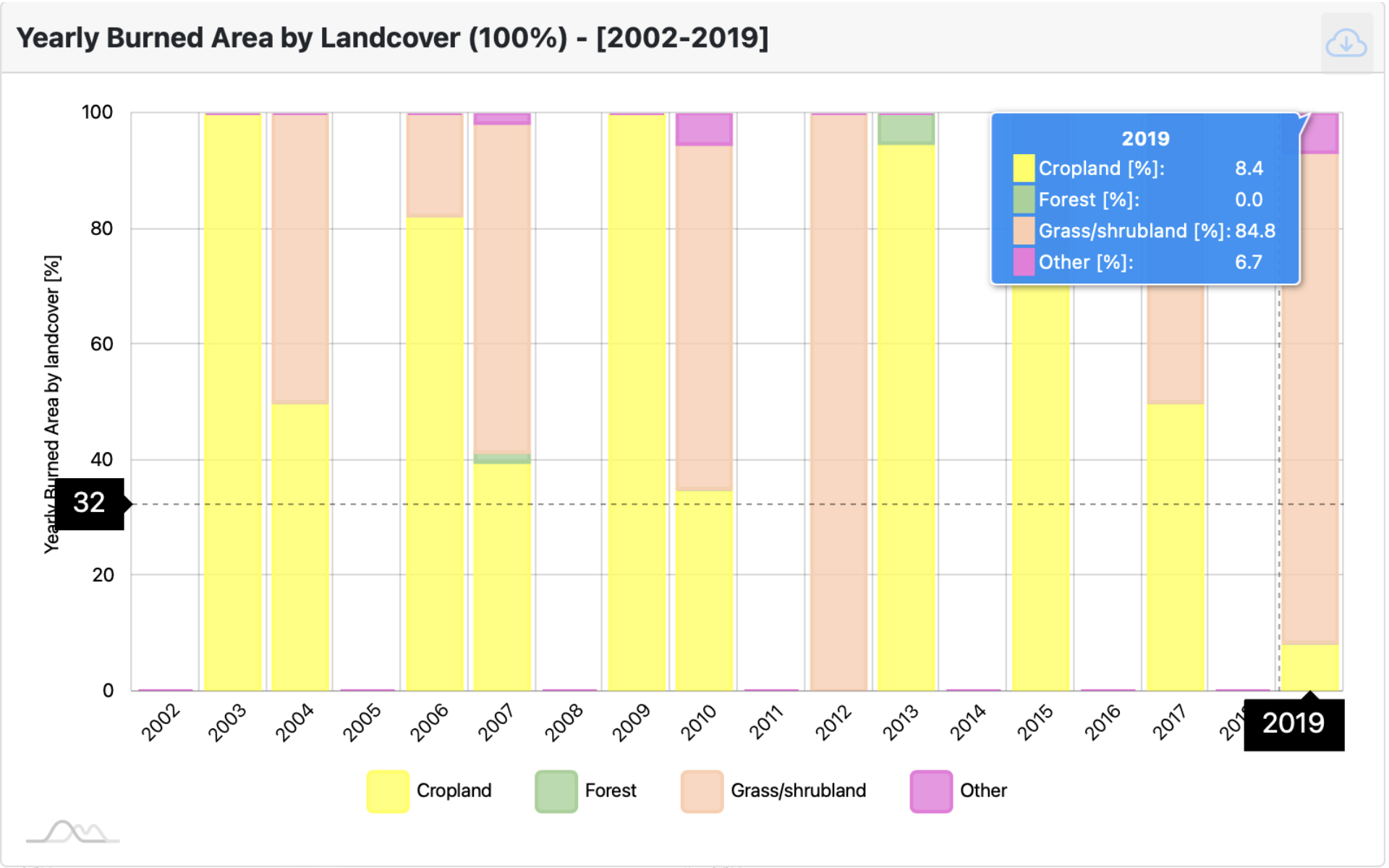
Yearly Burned Area by Landcover - [2002-2019]



Yearly Burned Area by Landcover (100%) - [2002-2019]

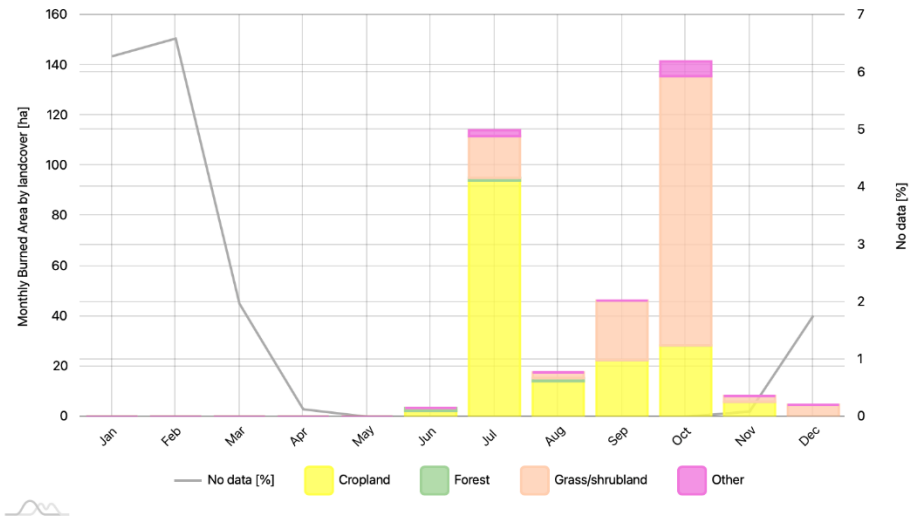


GWIS : Country profile

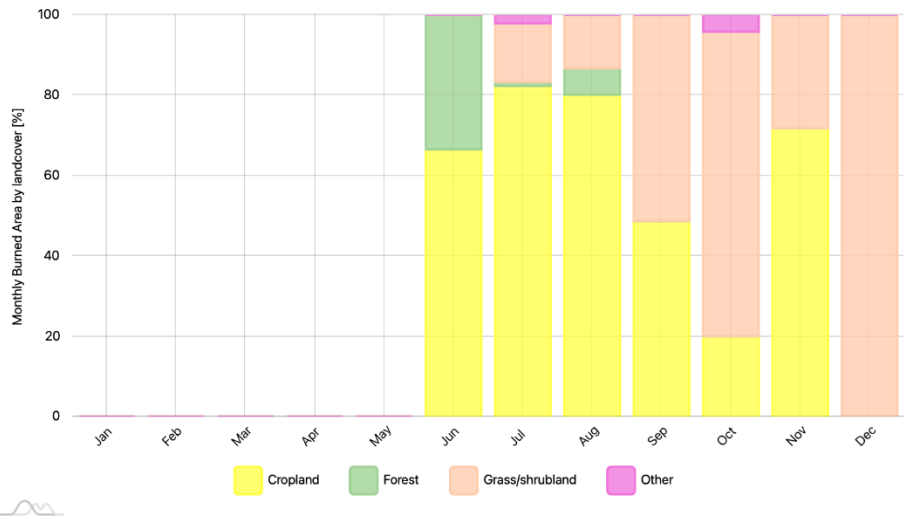


GWIS

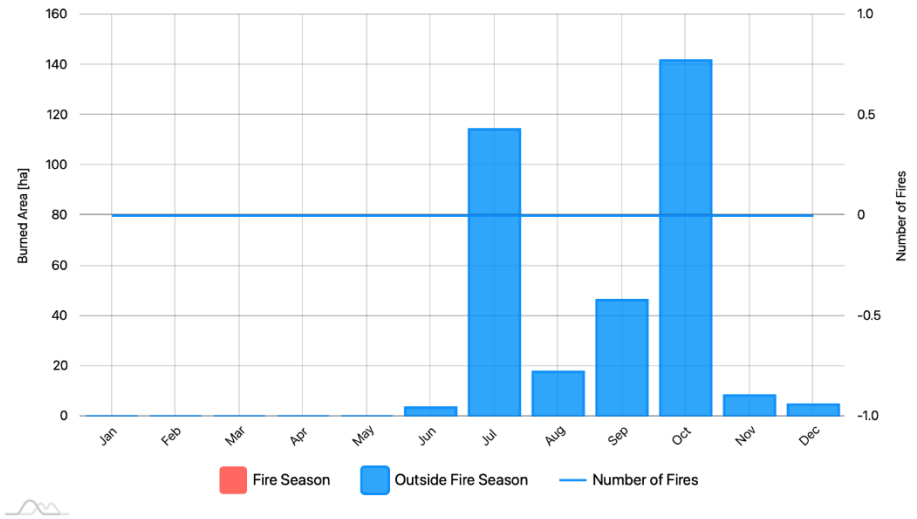
Average Monthly Burned Area by Landcover & No Data - [2002-2019]



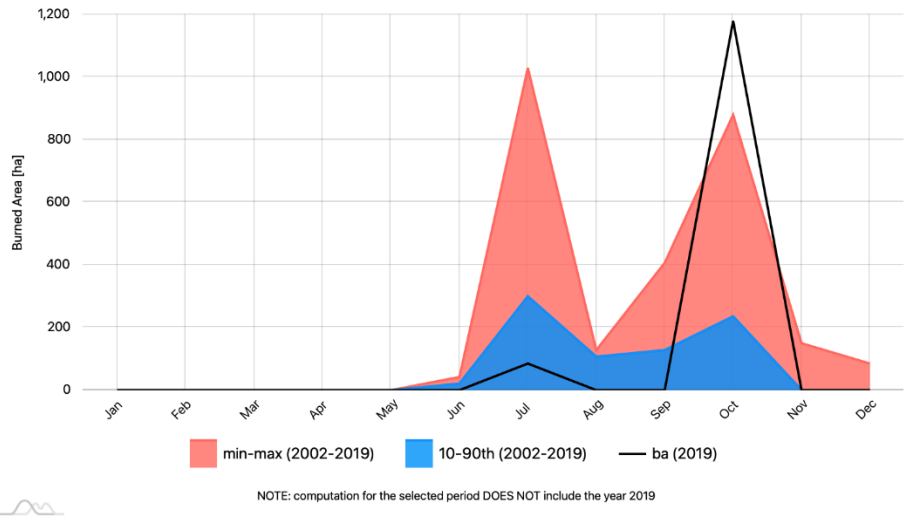
Average Monthly Burned Area by Landcover (100%) - [2002-2019]



Average Monthly Burned Area Seasonality & Number of Fires - [2002-2019]

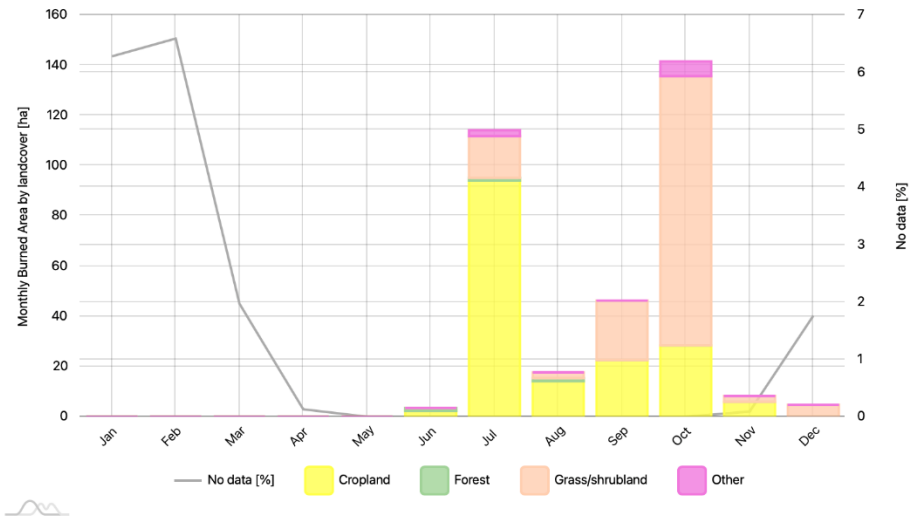


[2002-2019] → 2019 Monthly Burned Area vs Historical

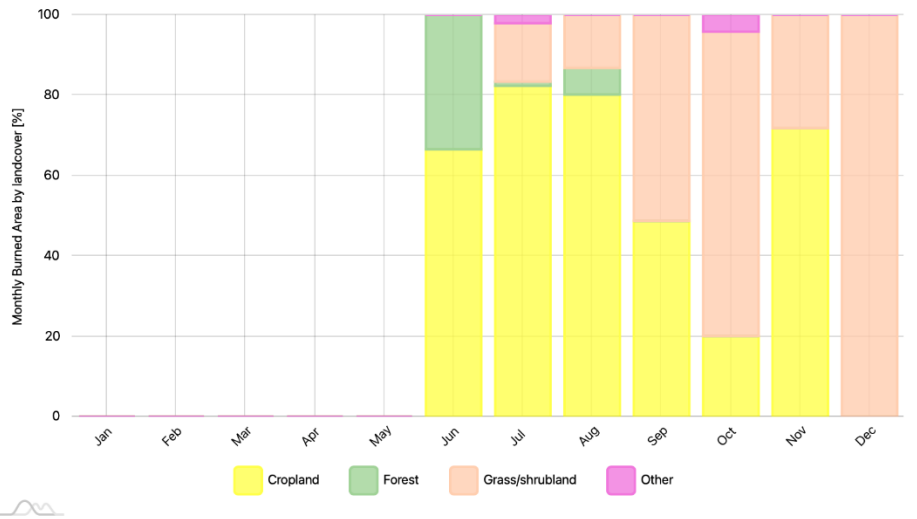


GWIS

Average Monthly Burned Area by Landcover & No Data - [2002-2019]



Average Monthly Burned Area by Landcover (100%) - [2002-2019]



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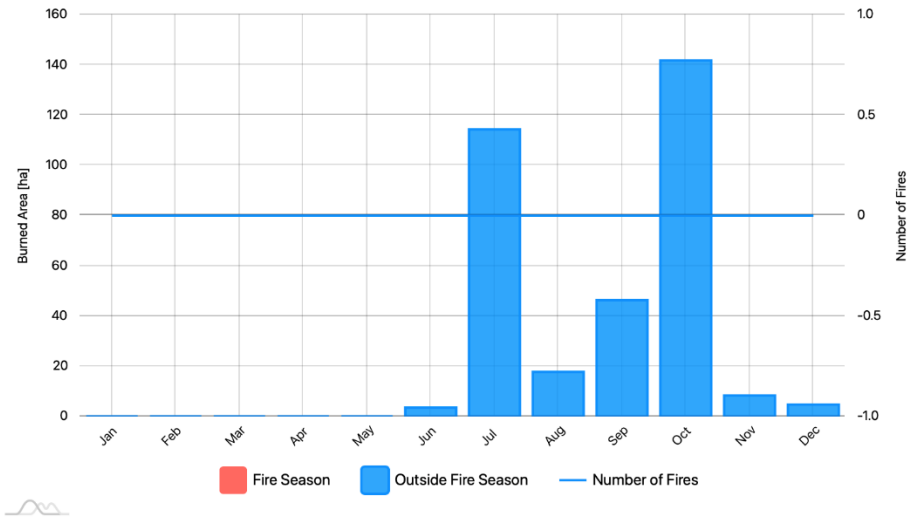

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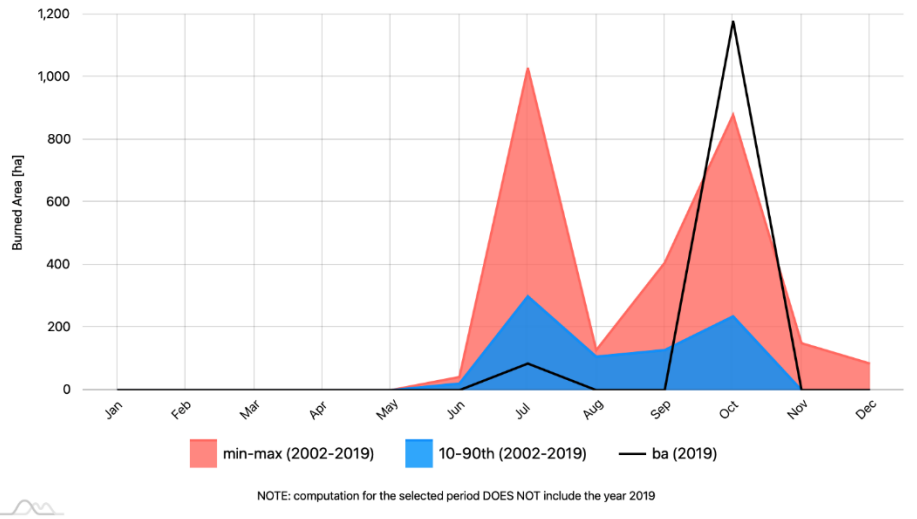
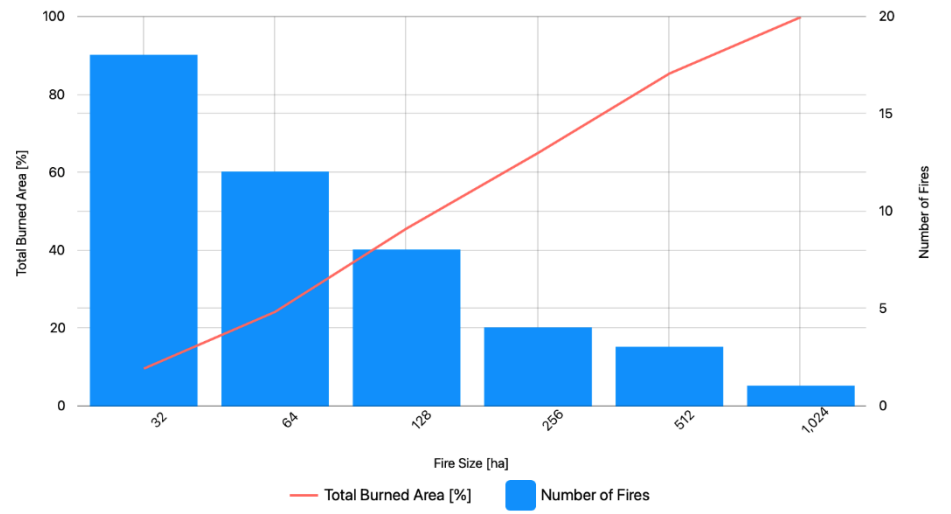
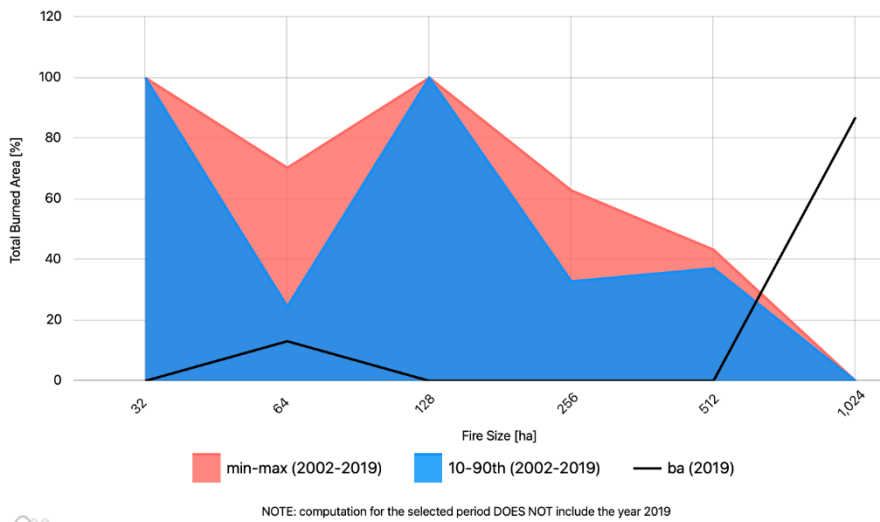


GWIS

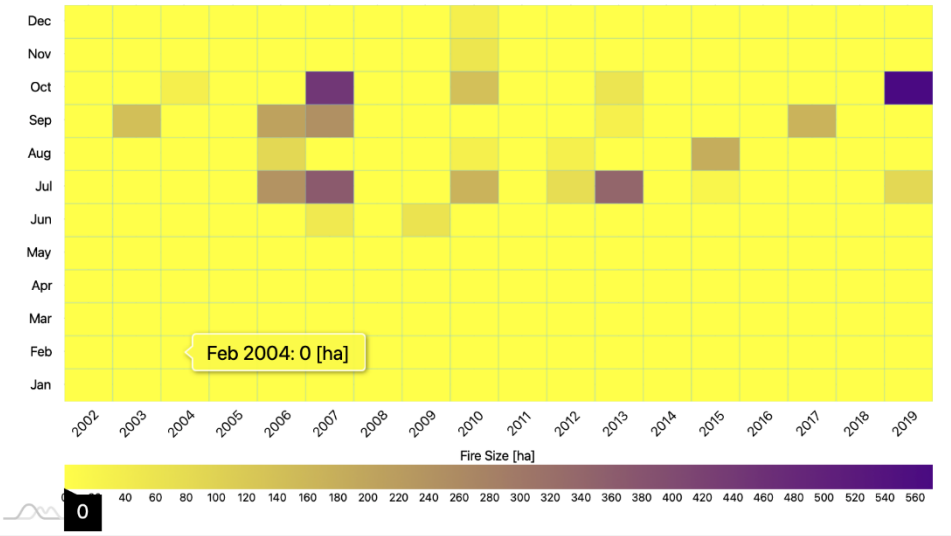
Fire Size Distribution and % Contribution to Total Burned Area - [2002-2019]



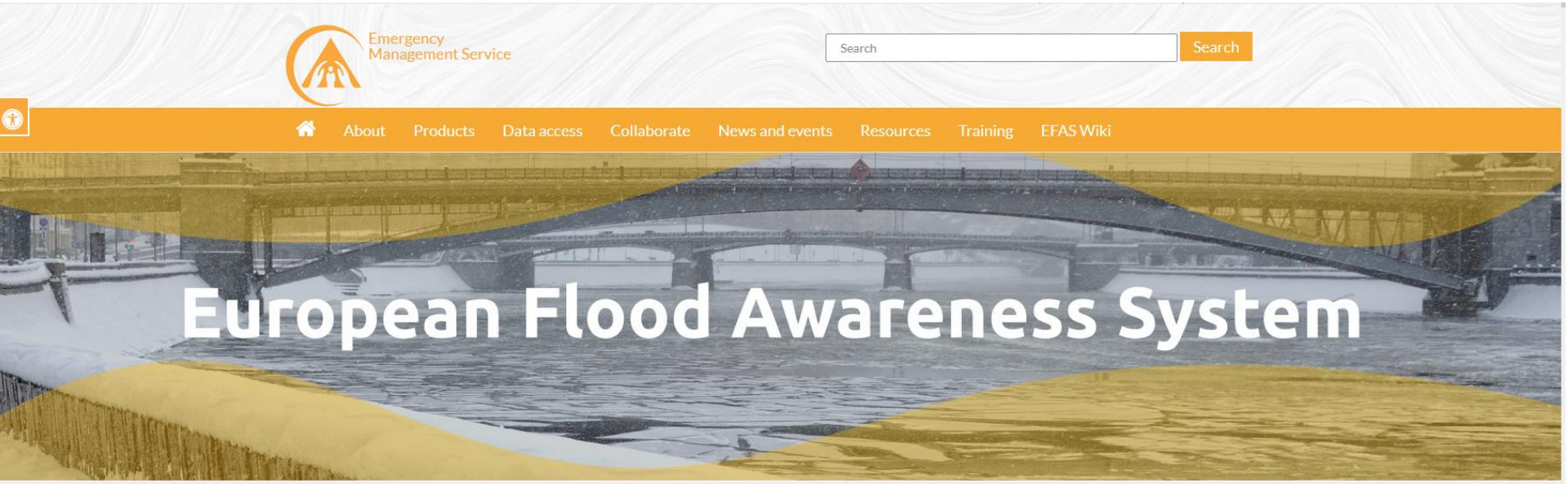
[2002-2019] → 2019 Average Monthly Fire Size Distribution vs Historical



Average Monthly Fire Size per Year - [2002-2019]



EFAS



The aim of the European Flood Awareness System (EFAS) is to support preparatory measures before major flood events strike, particularly in the large trans-national river basins and throughout Europe in general

EFAS

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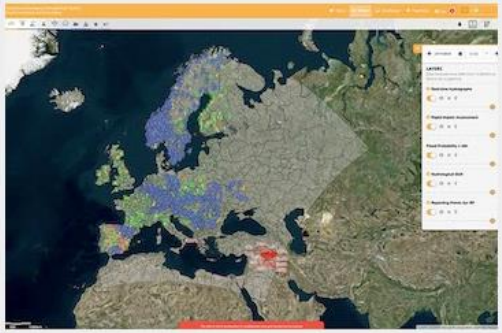
European Flood Awareness System

Latest events

CEMS MDCC integrated NWP data of DWD's ICON model to cover data gaps in the Ukraine during the war

Access the map viewer



Live map

Latest news

Southern and Central Spain flooding, early May 2022

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Southern and Central Spain flooding, early May 2022

2022-05-09

Flooded tunnel in Valencia, 03 May 2022. Credit: Policía Local Valencia

Record rainfall fell in the metropolitan area of Valencia, Spain on 03 May 2022, causing flooding across the city and surrounding areas

Agencia Estatal de Meteorología (AEMET) reported a total of 232.4 l/m² of rain in Valencia in 24 hours, which is a record amount for the month of May and one of the highest totals on record for the city.

Figures from Associació Valenciana de Meteorologia (AVAMET) show the weather station at Camins al Grau in the city recording 260.9 l/m².

AEMET added that in the 2-month period from 03 March to 03 May, the city of Valencia accumulated 488.6 l/m², an amount higher than the normal value for an entire year (474.9 l/m²).

Firefighters rescued several occupants of vehicles trapped in floodwaters in Paterna municipality to the north of the city, and in Carlet municipality to the south.

In total firefighters carried out over 50 interventions, including clearing flooded roads and removing downed trees. Local police said their officers responded to 94 rain-related interventions in 2 hours late on 03 May. At least four road tunnels in the city were flooded at one point. Some schools were closed and rail services were interrupted or suspended.

A city official pointed out that investment in the Cano de la Molinera pumping station and clearing of drainage systems, together with natural drainage systems in the city such as the Turia riverbed, helped control the flooding at times of greatest intensity.

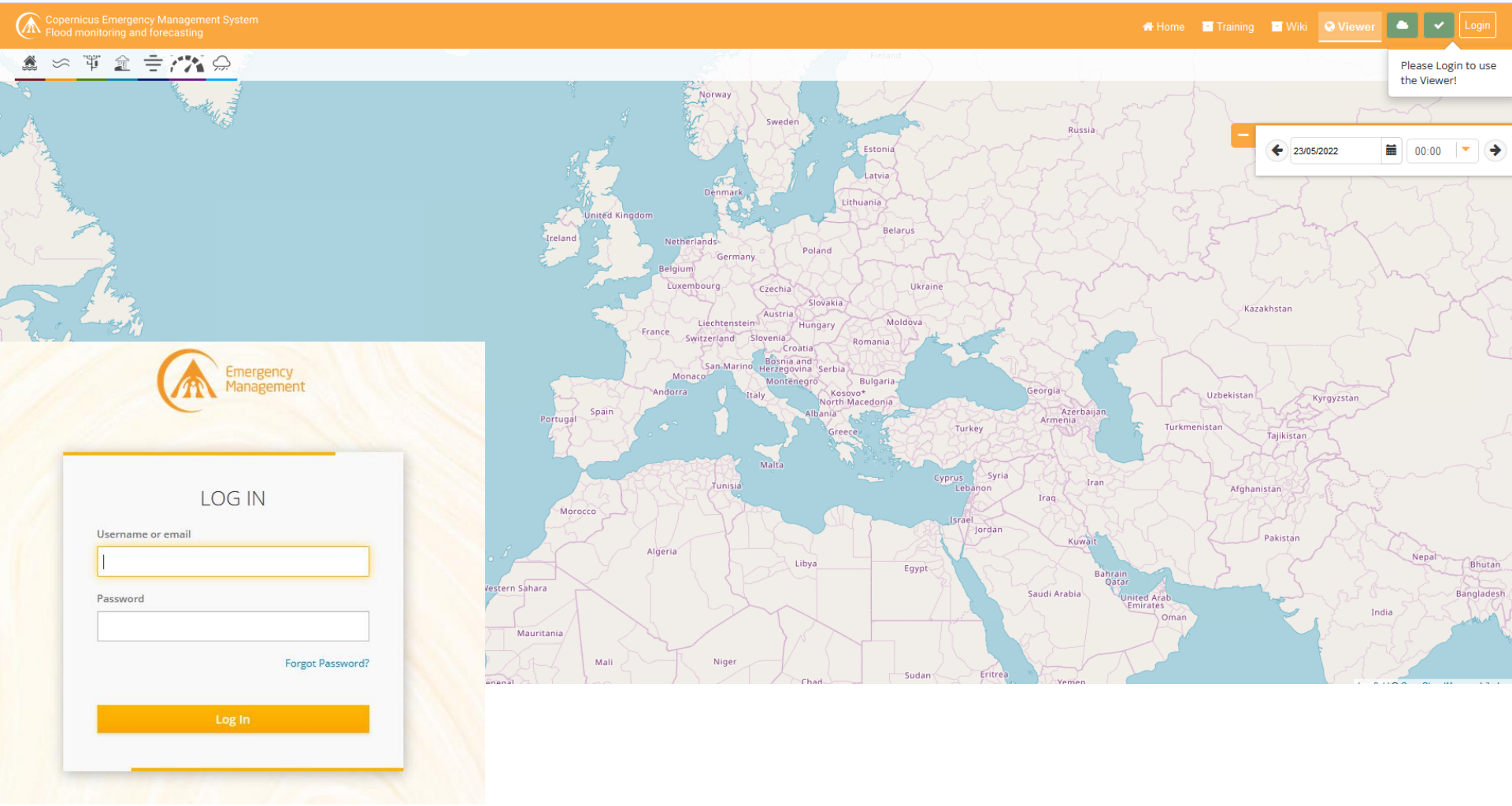
Other areas of the country also saw severe weather around this time. On 02 May, hail and heavy rain caused flooding and damage in parts of the Murcia Region. Murcia emergency services (112 Murcia) said around 30 mm of rain fell in 1 hour on 02 May 2022, causing floods in Caravaca de la Cruz. Emergency crews responded to 48 weather-related incidents, including 6 rescues. An intense hailstorm caused damage in Bullas, Mula, and Yecla.

Hail and heavy rain also affected areas further north, including parts of the capital, Madrid. Madrid 112 reported 29 incidents, including 16 interventions for flood water clearance, mostly in Leganés and Móstoles.

Social Media

https://twitter.com/BombersValencia/status/1521648587280683008
https://twitter.com/AEMET_CValencia/status/1521757771544375297
https://twitter.com/112rmurcia/status/1521207262680920070

EFAS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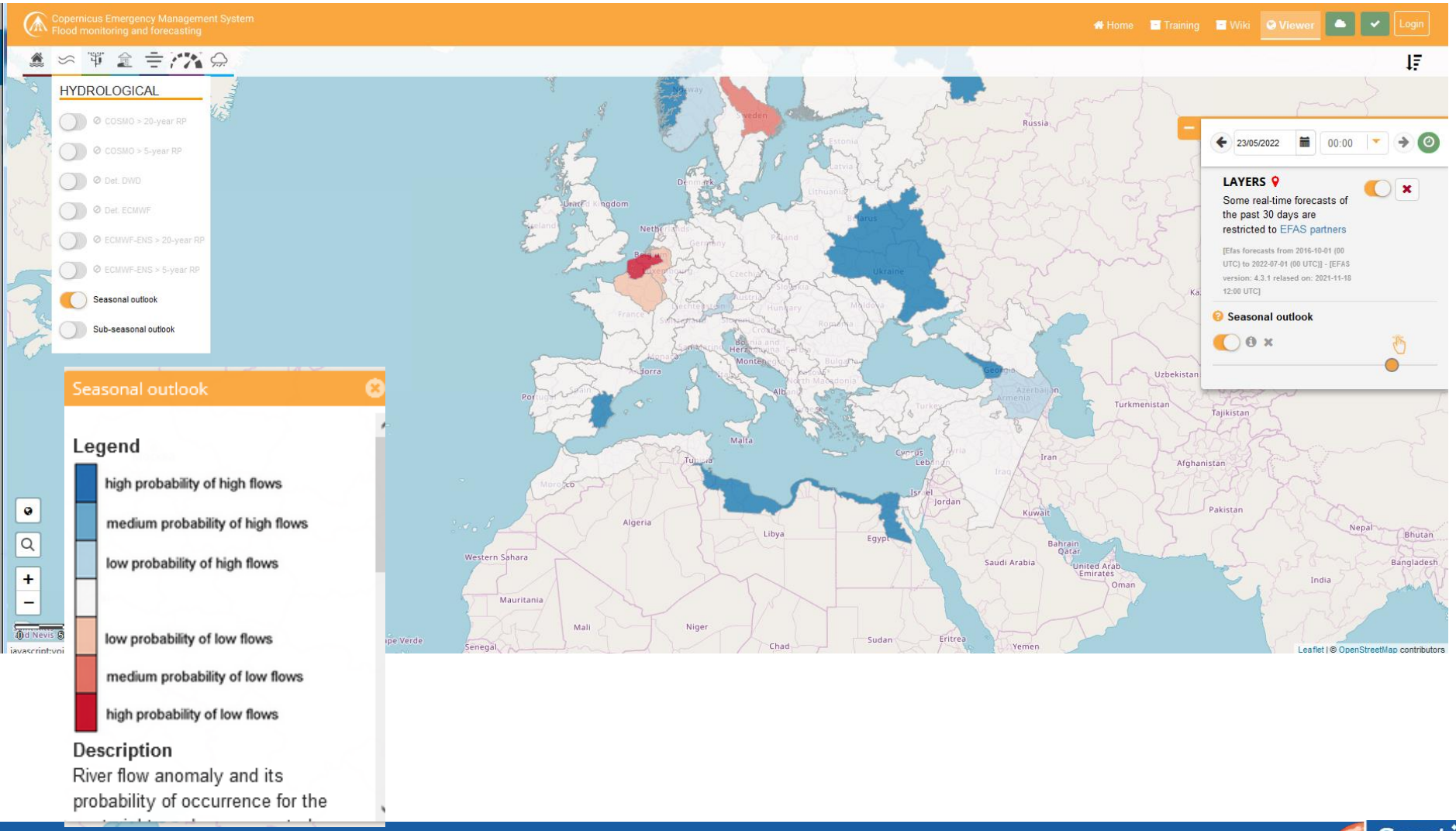
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Det. DWD
Det. ECMWF
ECMWF-ENS > 20-year RP
ECMWF-ENS > 5-year RP
Seasonal outlook
Sub-seasonal outlook
23/05/2022
00:00
LAYERS
Some real-time forecasts of the past 30 days are restricted to EFAS partners
[Efas forecasts from 2016-10-01 (00 UTC) to 2022-07-01 (00 UTC)] - [EFAS version: 4.3.1 relased on: 2021-11-18 12:00 UTC]
Seasonal outlook
Seasonal outlook
Legend
high probability of high flows
medium probability of high flows
low probability of high flows
low probability of low flows
medium probability of low flows
high probability of low flows
Description
River flow anomaly and its probability of occurrence for the
Leaflet | © OpenStreetMap contributors

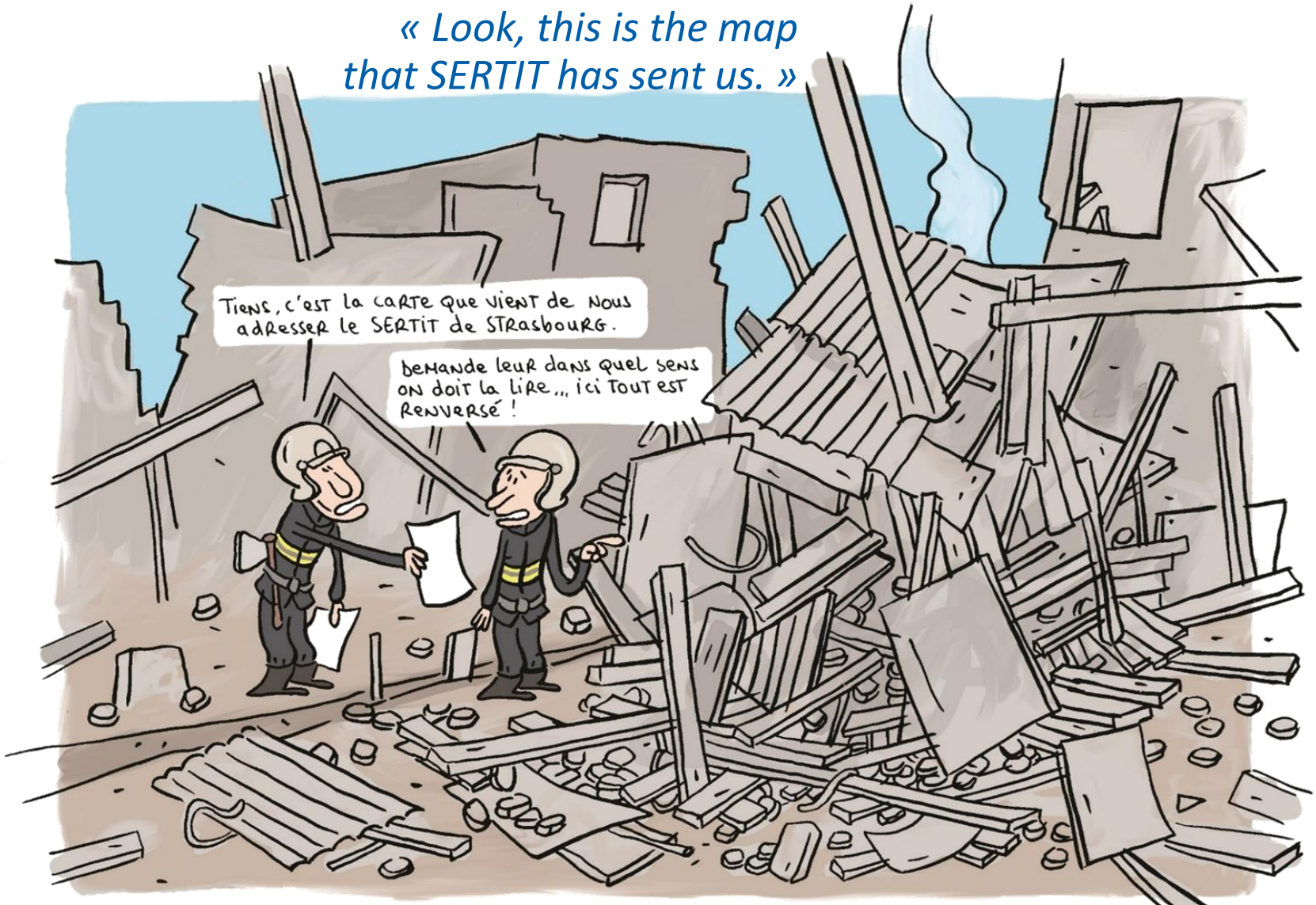
Thank you for your attention

Merci pour votre attention

http://sertit.unistra.fr/

herve.yesou@unistra.fr

« Look, this is the map that SERTIT has sent us. »



« Ask them how to look at it … everything here is upside down ! »