



# Monitoring and assessment of wildfires in support to decision making in Europe and globally

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# Outline

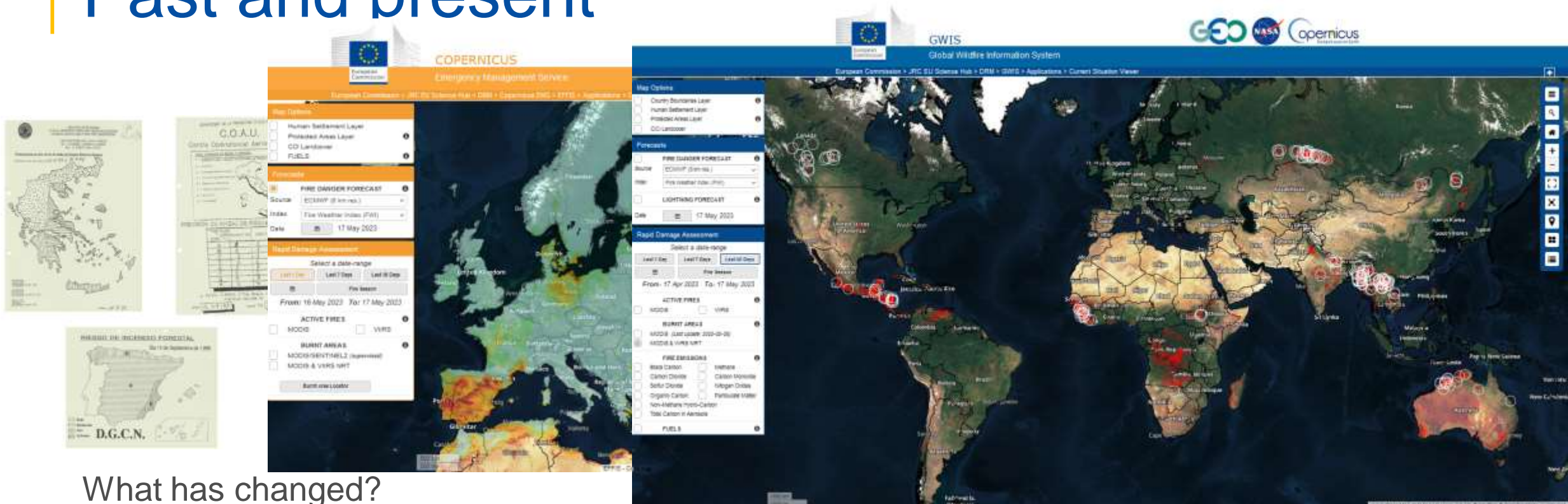
- Wildfire monitoring
- Past and present
- Influence of technology
- EU Policy needs influencing monitoring
- Importance of research and innovation
- Development through cooperation: objectives, goals and key indicators
  - Example of the European Forest Fire Information System for Europe
  - Example of the Global Wildfire Information System for e.g. LAC
  - Challenges and ongoing developments

# Wildfire monitoring

## Requirements for a consistent monitoring for policy support

- Science/experience base of the method for assessment
- Science – policy interface, from the start
- Continuity in data provision linked to policies
- Continuity in science update for base data
- Publication and dissemination of up to date data & information
- Support to user's uptake of data: training, dissemination, media

# Past and present



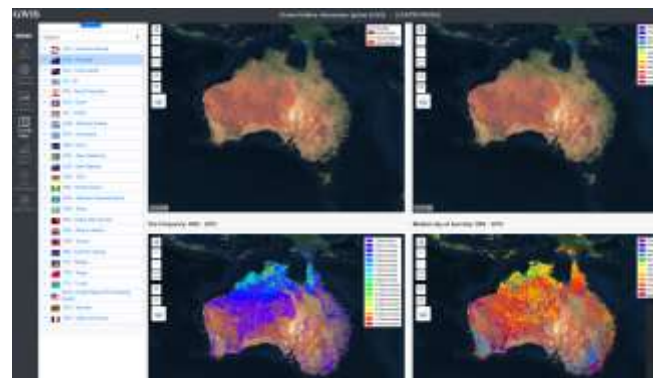
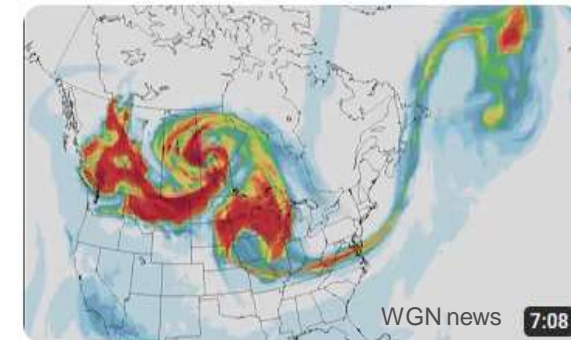
What has changed?

- Technology
- Science – most of the original fire danger indices are not in use any more
- Audience – from fire managers, to multipurpose agencies, scientists, enterprises, insurance, ...
- Policy requirements, now linked from local to global scales
- FIRE behavior & regimes

# Influence of technology

- Data availability from the field, meteorological forecast and through remote sensing
- e.g. satellite data, from 5 m to 2 km, at least 20 different sources from NASA, Copernicus, ESA, JAXA, INPE, INTA, CSA, ....
- Computational power
- Data publication in the form of maps, graphs, tables, shapes, etc. OGC compliant for GIS

- Data dissemination through Web, digital journals, tv, youtube, twitter, linkedin, etc.





# EU Policy needs influencing monitoring

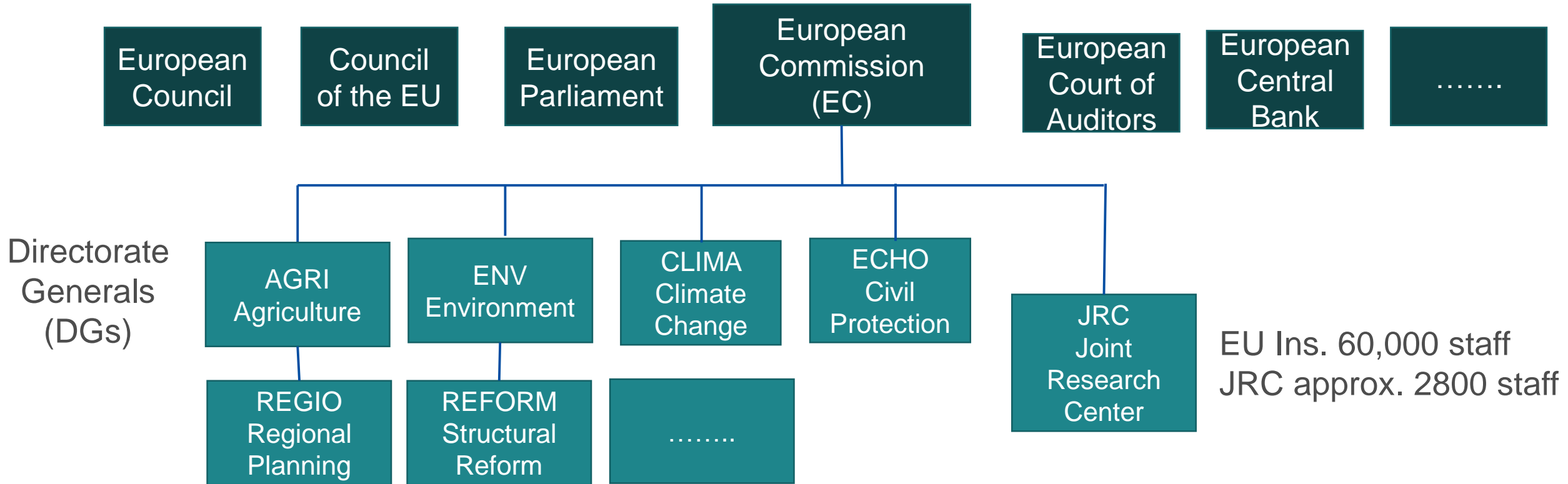
European Union Countries



27 countries  
450 Million people

# EU Policy needs influencing monitoring

## European Union Institutions – European Commission Directorate Generals



# EU Policy needs influencing monitoring

**There is a need to support the wide range of fire related policies in the European Union**

- Union Civil Protection Mechanism
- EU Forest Strategy
- EU Climate Change Adaptation Strategy
- EU Bioeconomy strategy
- EU LULUCF Regulation
- EU Structural and Solidarity Funds
- EU Green Deal
- .....





# Research and innovation

## Need for improved fire management through incorporating research in operations

- Fire danger assessments
- Active fire detection
- Burnt area mapping from airborne platforms and satellites
- Damage assessment to land cover, emissions, soil erosion, etc.
- Economic valuation of losses from wildfires
- Development of wildfires early warning and monitoring systems from the above

# Development through cooperation

Cooperation among experts in the countries is key to develop efficient measures in all the phases of fire management & monitoring:

- Prevention and mitigation
- Preparedness
- Response
- Damage assessment
- Rehabilitation

# A pan-European example: the European Forest Fire Information System (EFFIS)



## Welcome to EFFIS

EFFIS - European Forest Fire Information System - 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, EFFIS is supported by a network of experts from the countries in what is called the [Expert Group on Forest Fires](#), which is registered under the Secretariat General of the European Commission. Currently, this group consists on 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. A number of specific applications are available through EFFIS.

## 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 >](#)



### Fire news

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 >](#)



## New features

Get up to date countries statistics by the new [Current Statistics Portal](#).

Make your specific requests of data by the new [Data Request Form](#).

## Visit our

[Global Wildfire Information System Viewer](#)

## EFFIS Damage Assessment

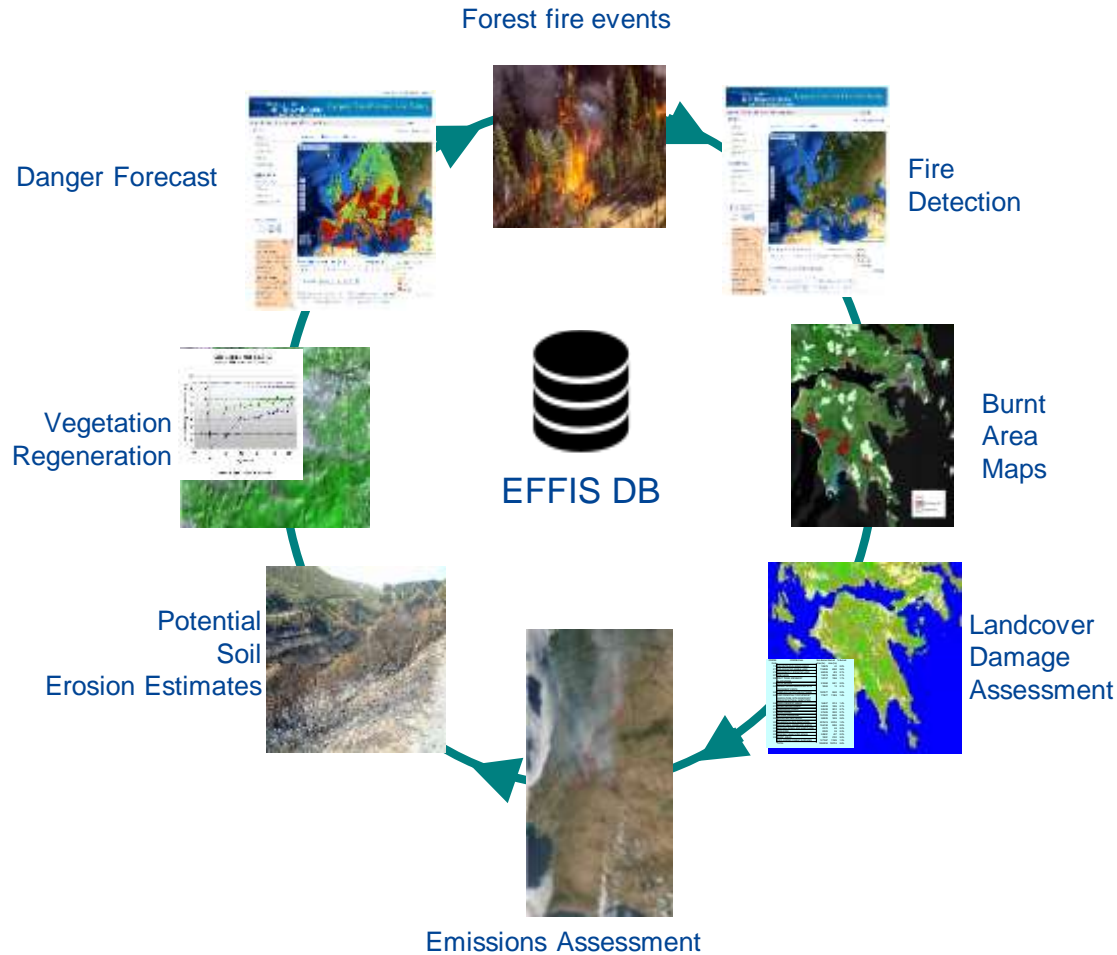
### EFFIS Burned Area (ha)

Total EU Countries	
Mapped (90% forest)	127623
Estimated	134340
Total EFFIS Coverage	
Mapped	158735
Estimated	167093

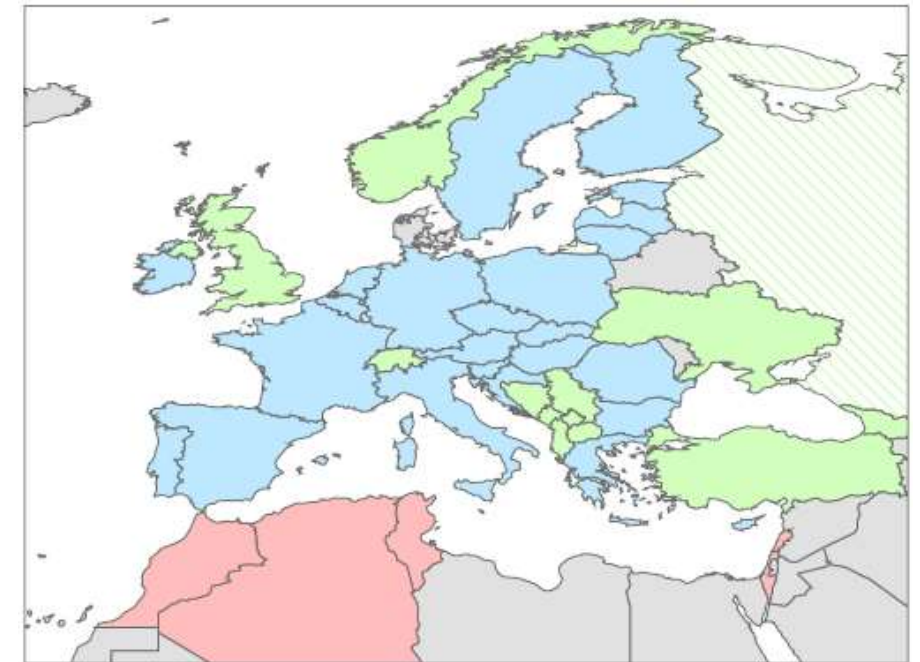
(Daily updated)  
[ISA, Resourcers and User info](#)

## EFFIS Applications

# EFFIS & the Expert Group on Forest Fires (EGFF)



EGFF - EFFIS Network – 43 countries  
46<sup>th</sup> Meeting of the EGFF at the IWFC2023



- EU Countries
- European non-EU countries
- North Africa & Middle East



# Objectives, goals & key performance indicators

- Objective: Support to EU and EU country policies related to wildfire management



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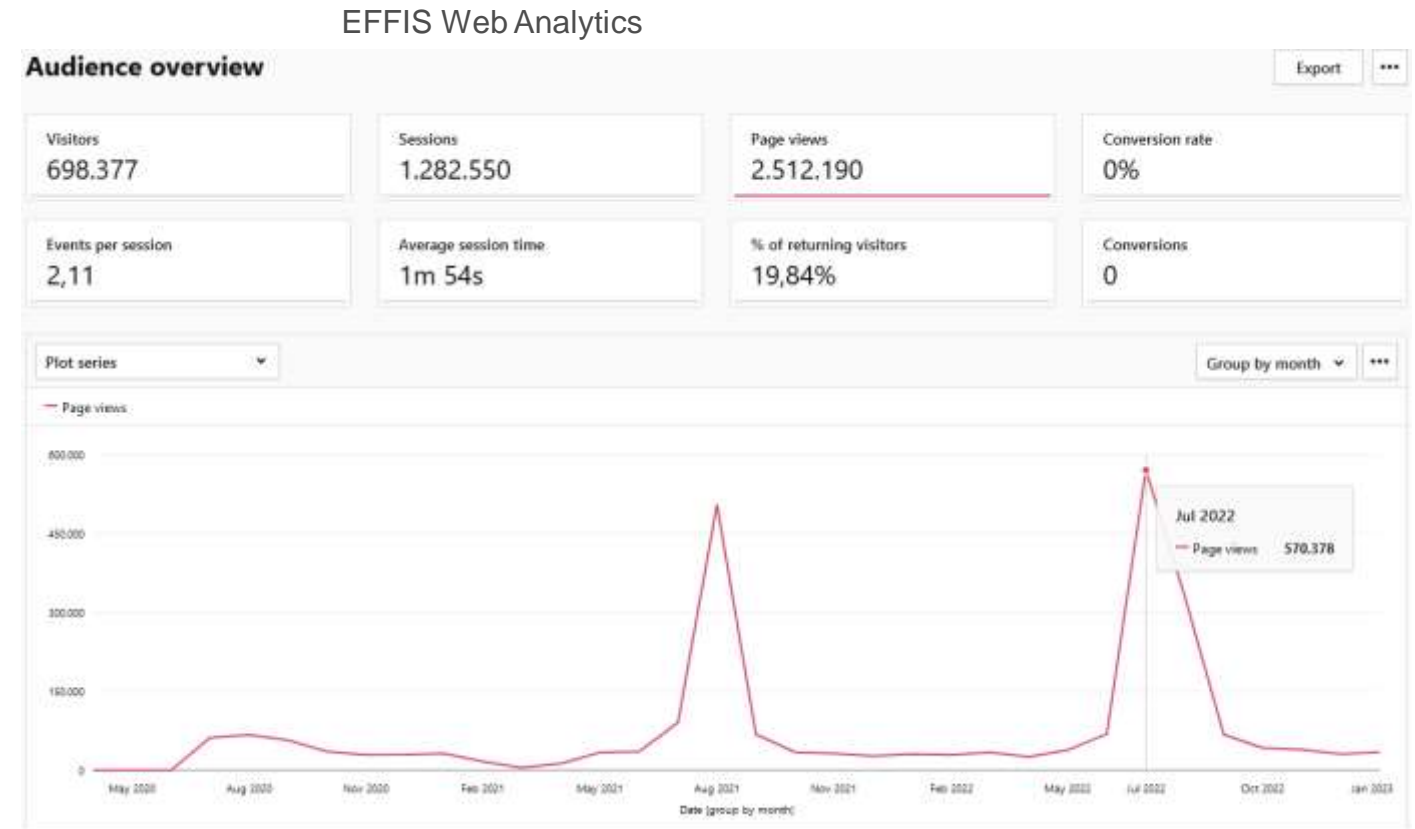
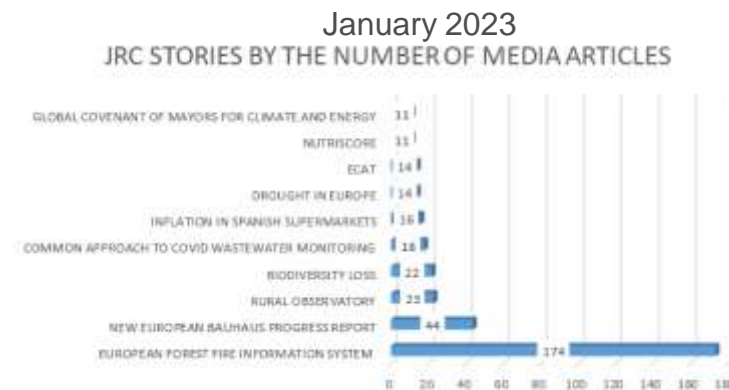


2022



# Objectives, goals & key performance indicators

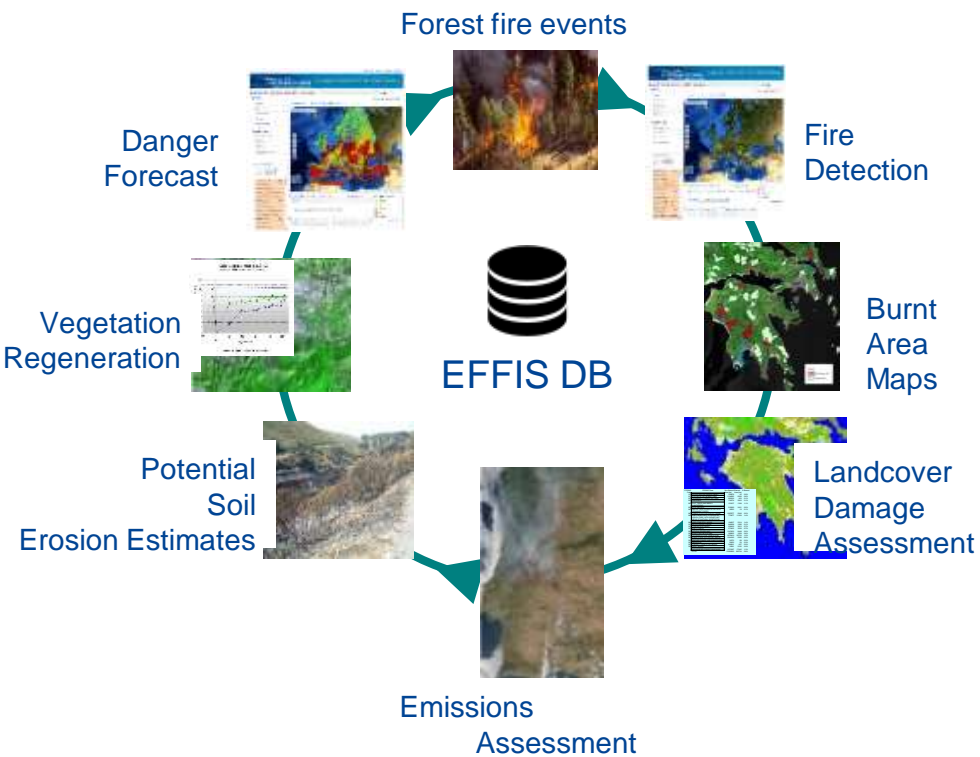
- Provide accurate data and information to support the fully fire management cycle
- Reach policy and decision makers, fire managers, academia, research, enterprises, ...
- About 3500 journal citations in 2022, 90% of all the citations in the Joint Research Center
- Live, recorded, and written interviews in top-tier media (BBC, CNN, Associated Press, Thomson Reuters, DPA, Financial Times, The World Street Journal, SKY News, Politico, Euronews, Deutsche Welle, AFP, Corriere della sera, CGTN, TVE, RTBF, ARTE, Daily Telegraph, etc.).



# Example of the Global Wildfire Information System for e.g. LAC

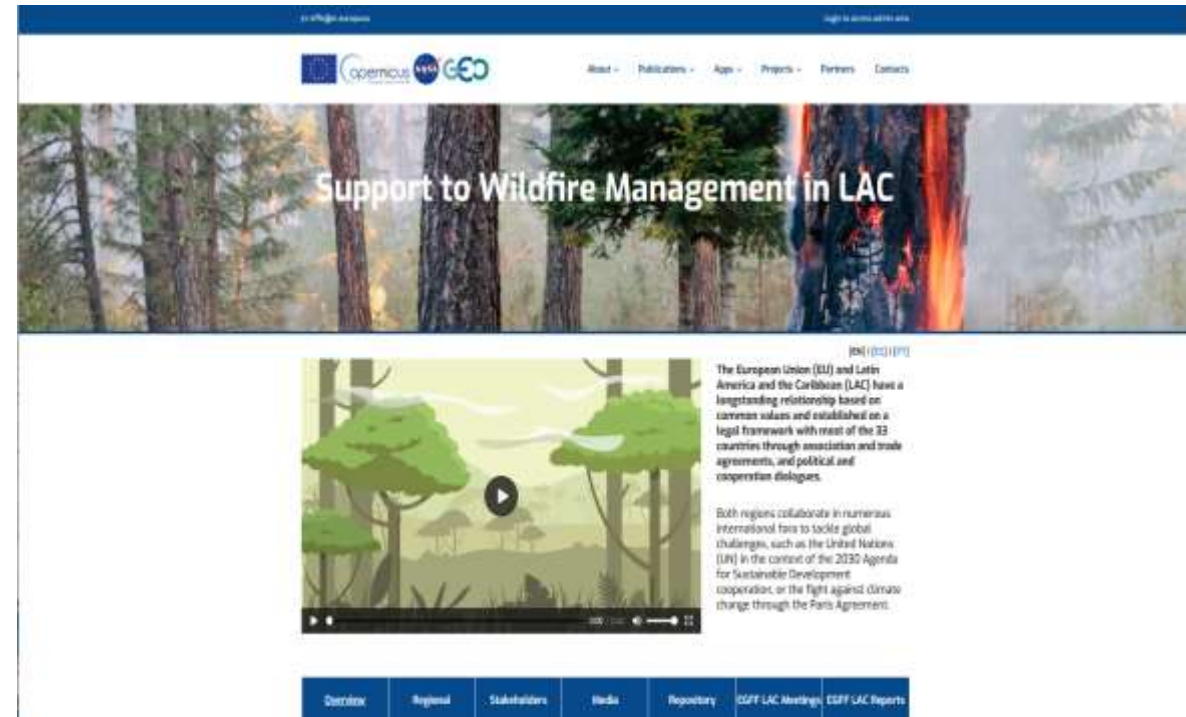
The Expert Group on Forest Fires in Latin America and the Caribbean (EGFF LAC) set in 2021

10 countries in South America and Mexico – 4<sup>th</sup> EGFF LAC meeting at IWFC2023



# Challenges and ongoing developments

- Replicate the success of the collaboration in the pan-European Expert Group on Forest Fires in other world regions, e.g. the Latin American and Caribbean region (LAC) or the ASEAN region
- Consolidate the EGFF LAC in collaboration with fire experts in the countries and international organizations such as UN FAO, UNEP and ACTO (Amazon Cooperation Treaty Organization)
- Promote collaboration on wildfire management among countries, international organizations and interested agencies in the LAC region.
- Support the above through the implementation of the EU Team Europe Initiative – AMAZONIA+ (2023-2027)
- Further develop a Global Wildfire Information System to enable support to regional and global fire management policies in collaboration with experts in the countries and partners, e.g. GEO, NASA, GOFC Fire Implementation Team, etc.



# Thank you



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