



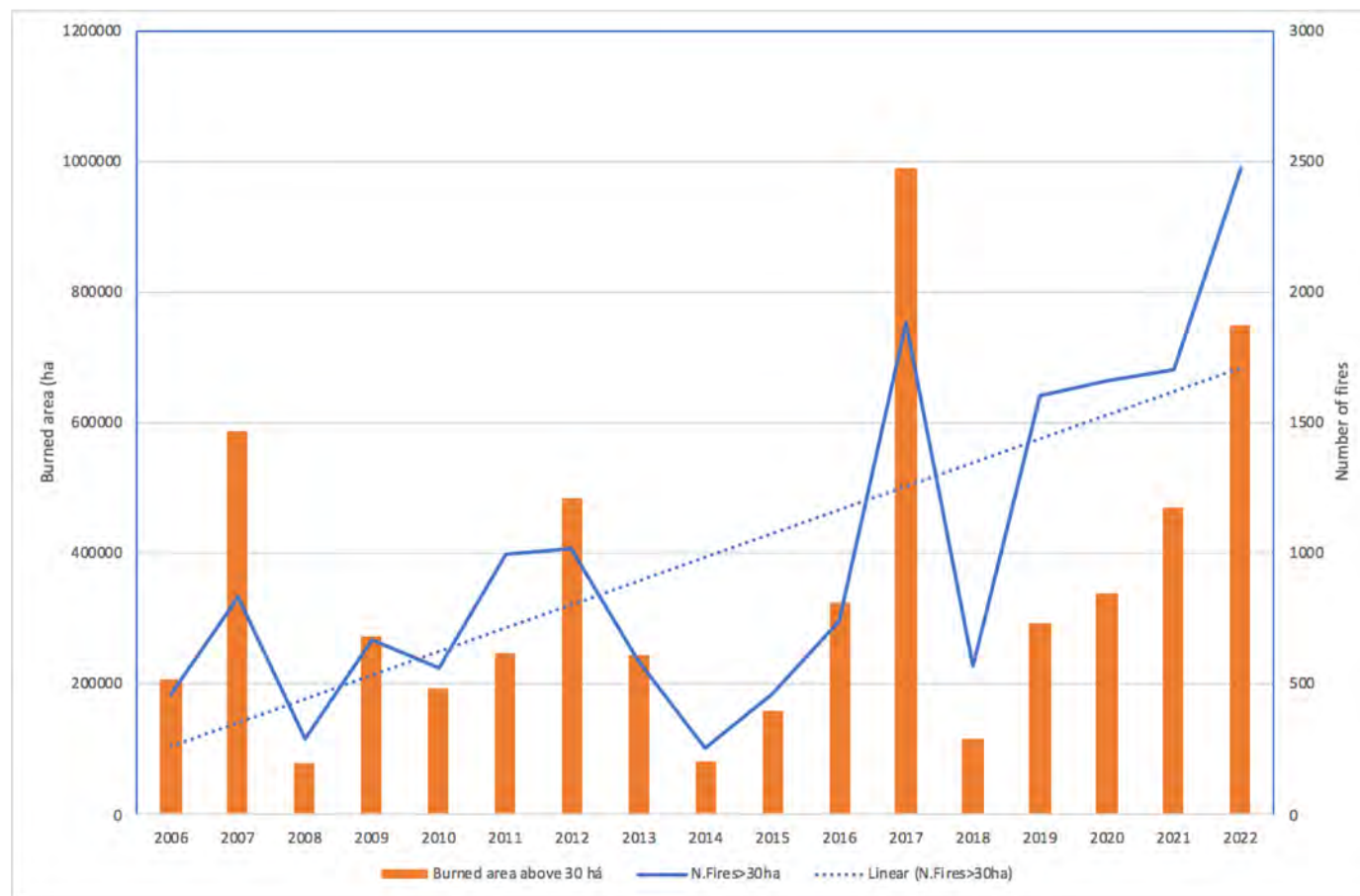
# **Wildfires in the European Union**

## **Situation in the 2022 wildfire season**

## Outline

1. General trends of burnt areas and number of fires
2. Trends of fires by fire size
3. Contribution of fires of different sizes to the total burnt area
4. Trends of number of fires, burnt areas and fire danger in northern, central and southern EU
5. Wildfires larger than 100 ha mapped in EFFIS in 2022 – current situation in the EU
6. Wildfire emissions
7. Wildfire landcover damage
8. Area burnt in Natura 2000 sites
9. Economic losses by wildfires
10. Wildfire risk analysis in the pan European region
11. Fire danger and climate change
12. Influence of fire danger on fire size/intensity
13. Summary

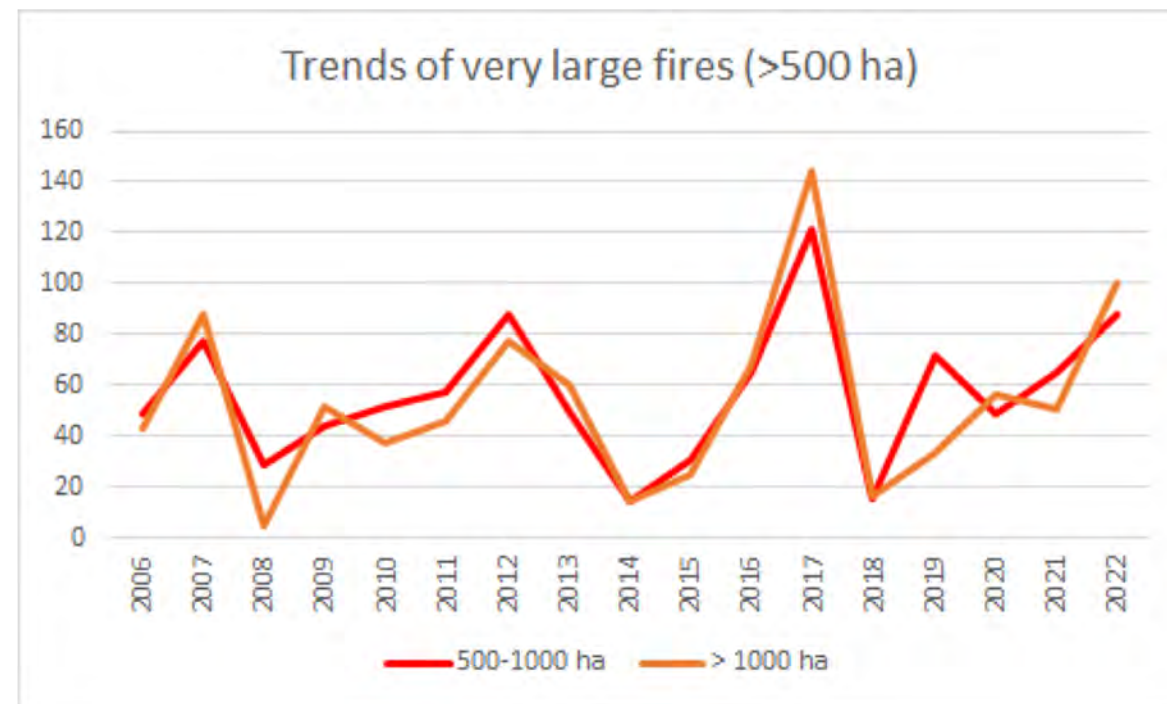
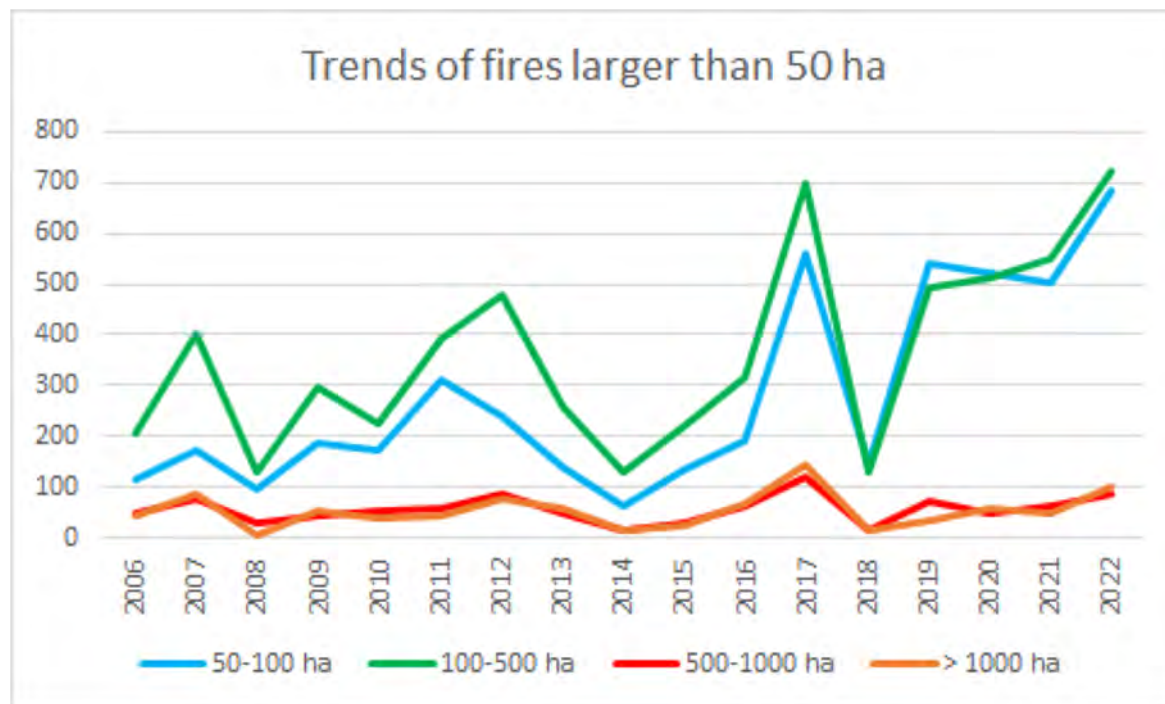
## General trends in the period 2006-2022



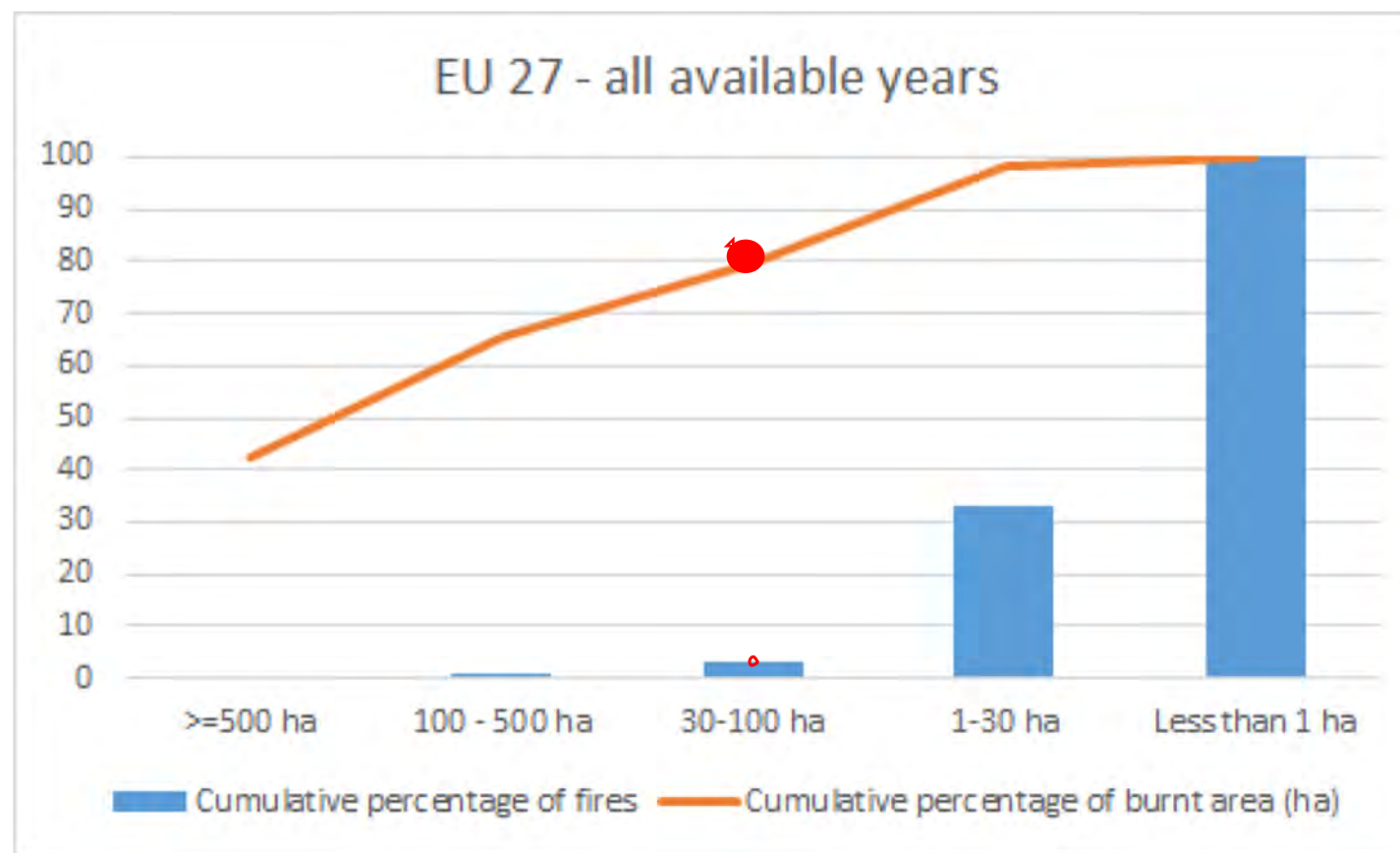
Source: Joint Research Center (JRC) / European Forest Fire Information System (EFFIS)

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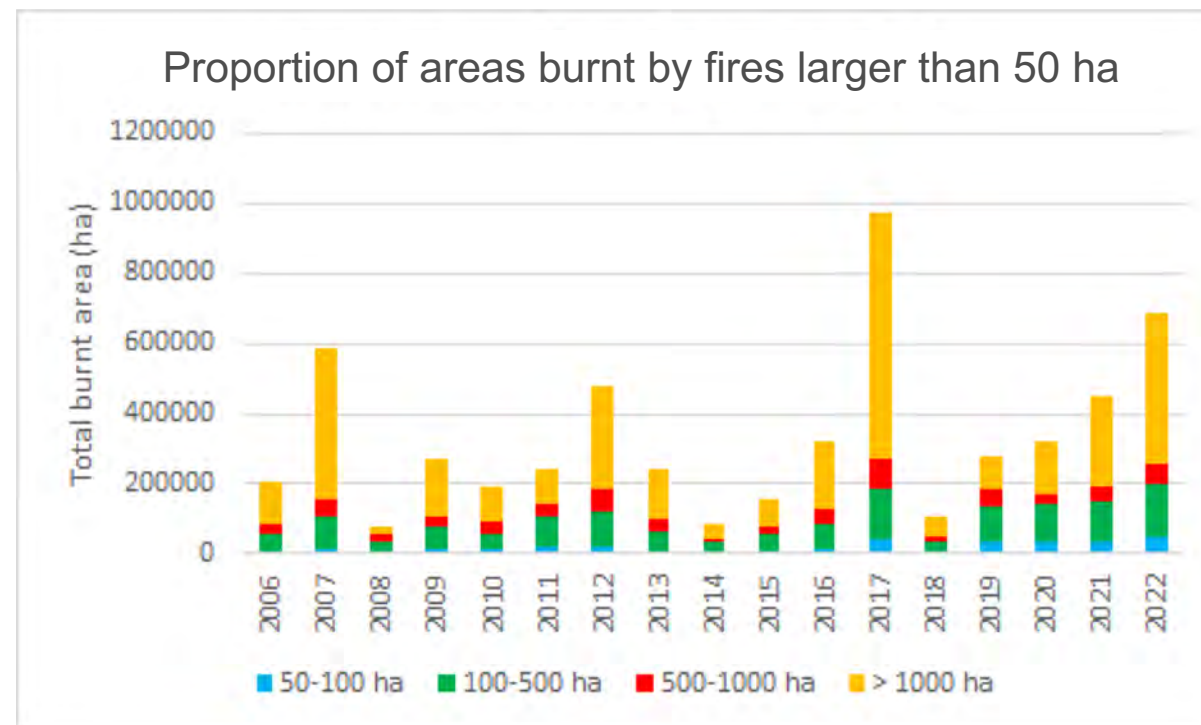
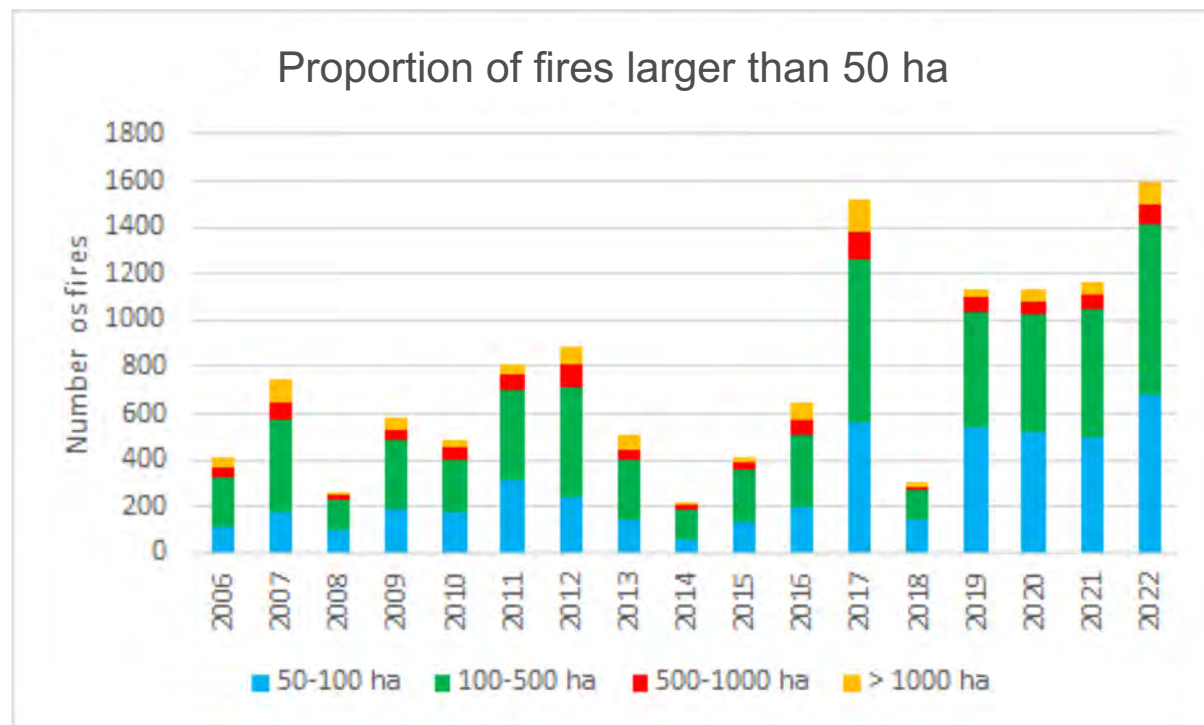
## General trends in the period 2006-2022



## General trends in the period 2006-2022 -- Areas burnt by fires of different sizes

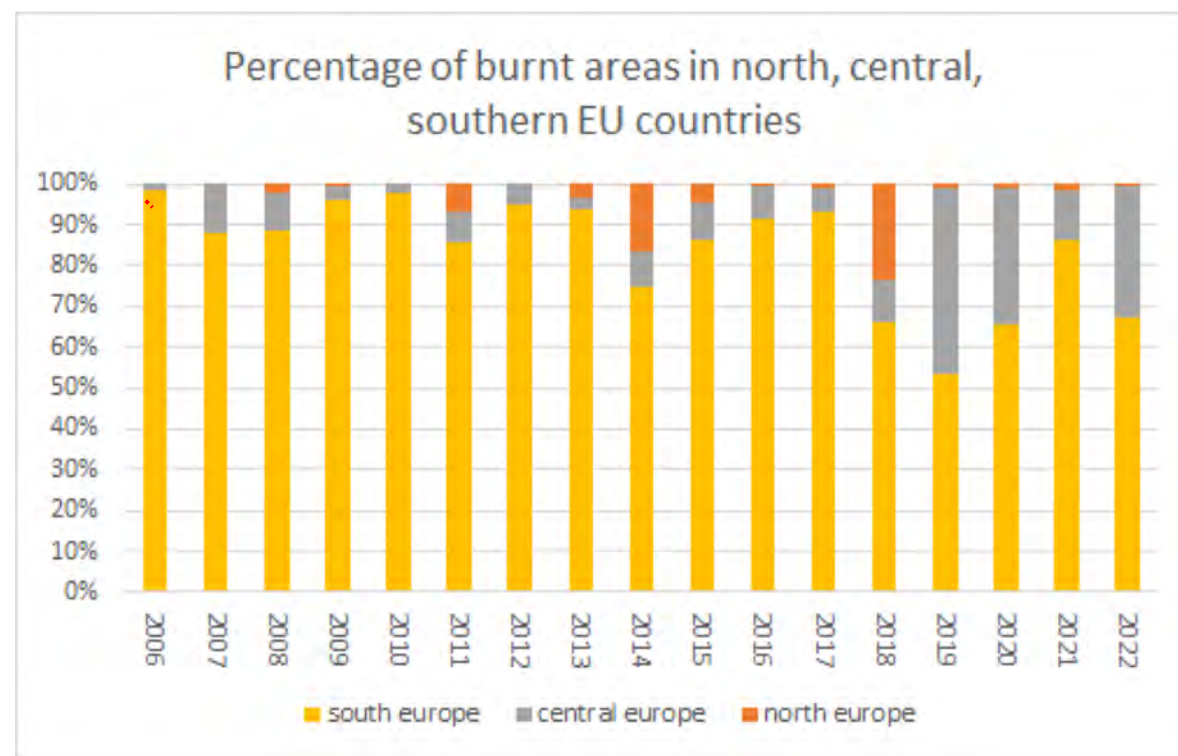
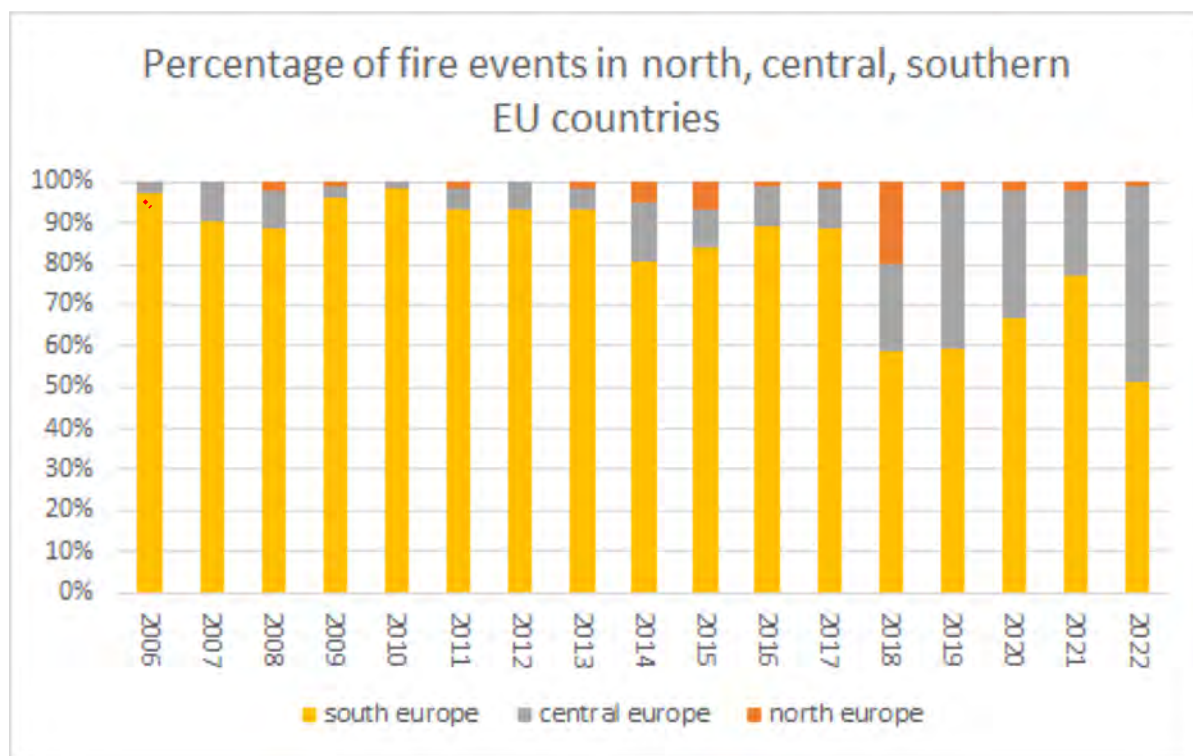


## Wildfire by size in the period 2006-2022

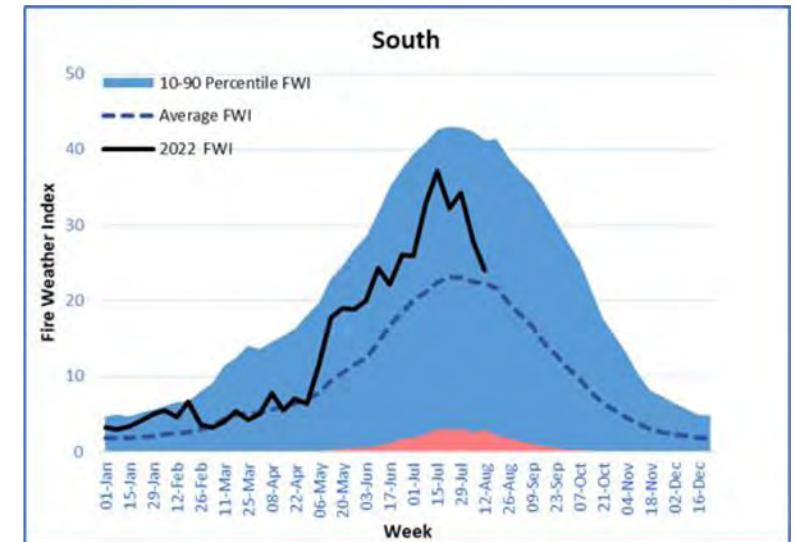
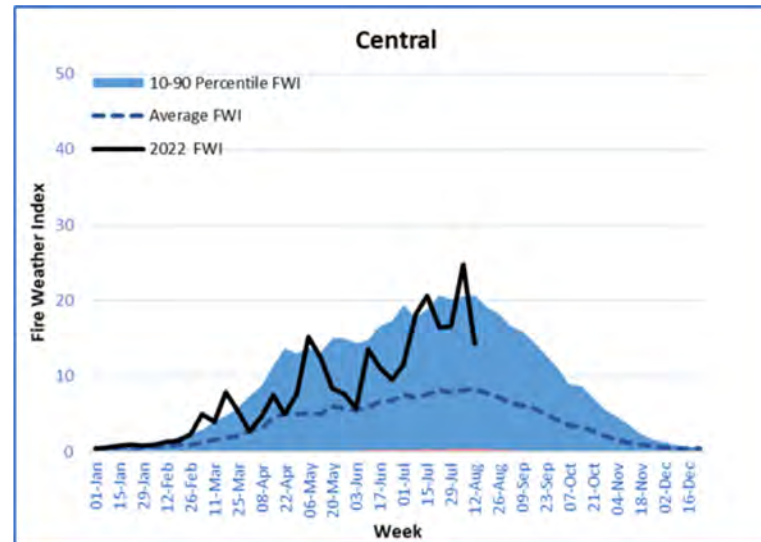
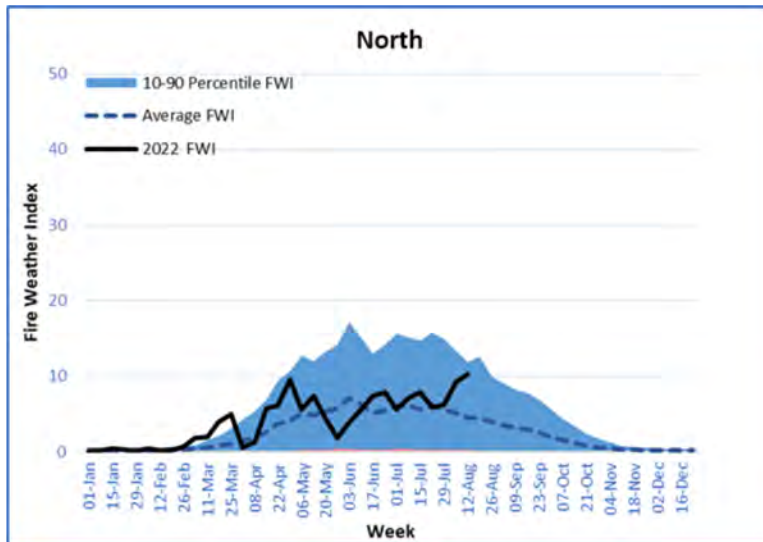




## Number of fires and burnt areas in northern, central and southern EU 2006-2022

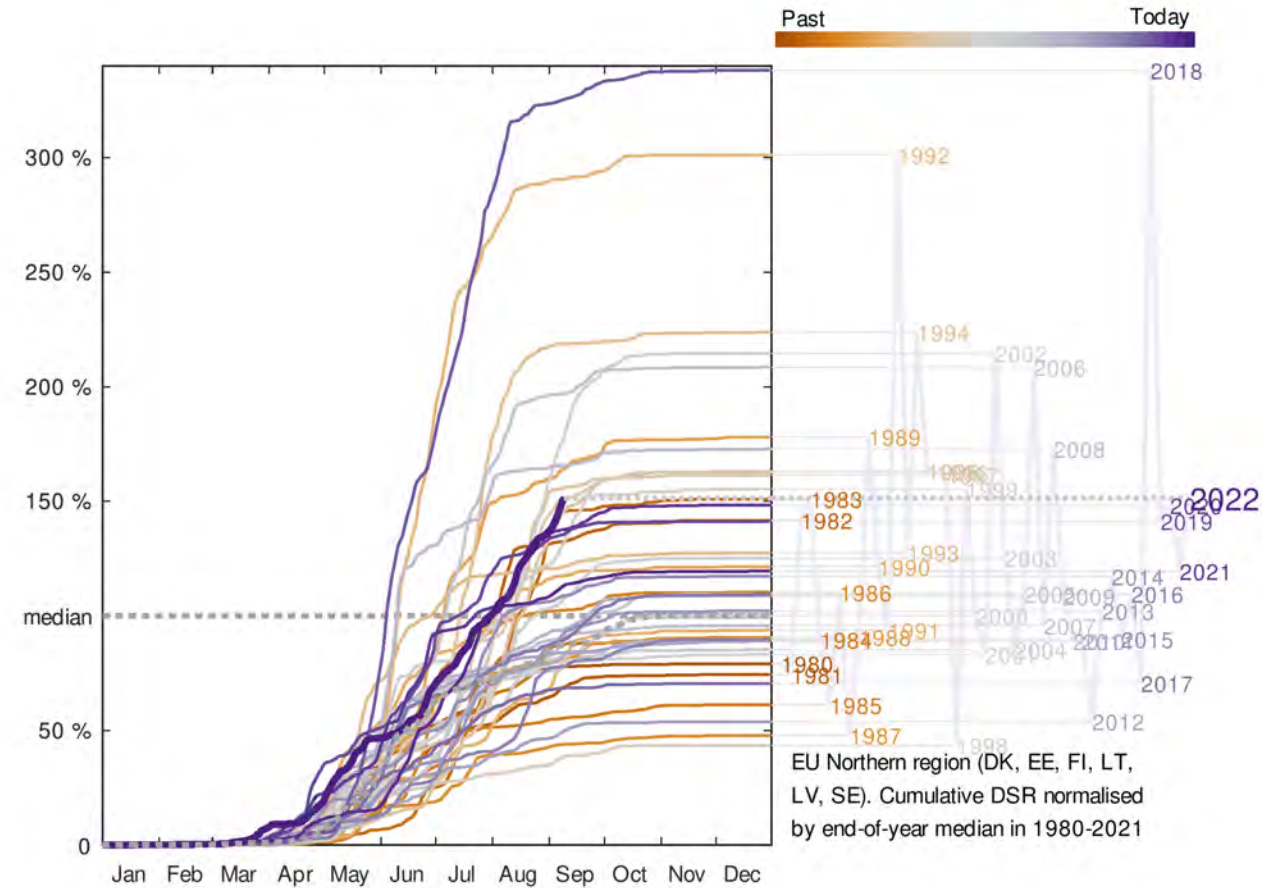
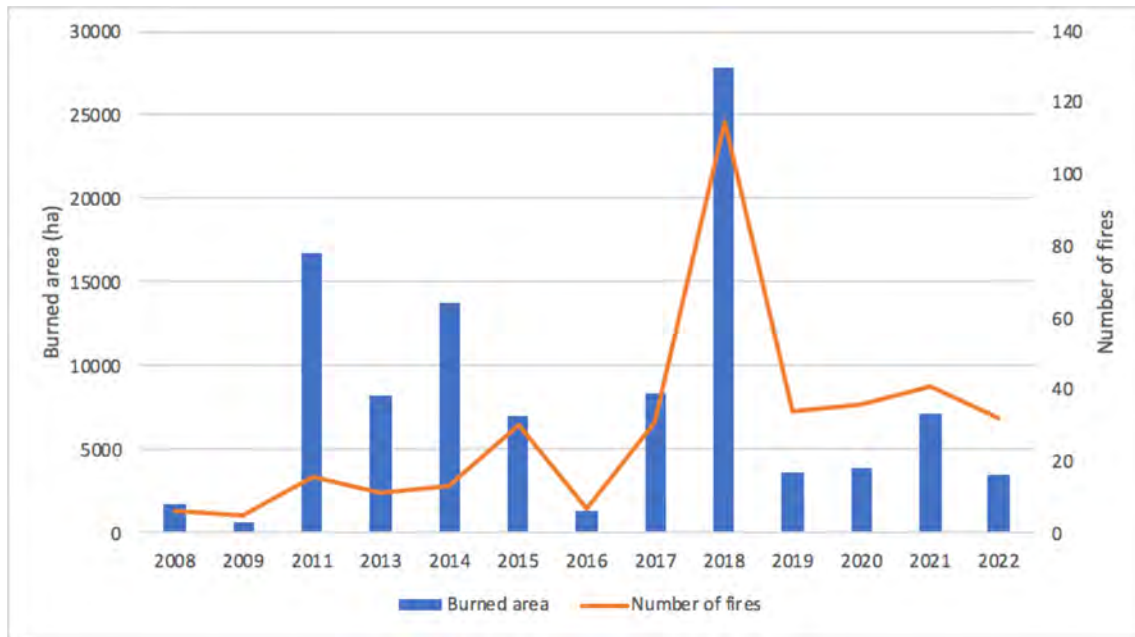


## Fire danger in northern, central and southern EU 2022 vs historical data (1980 – 2021)

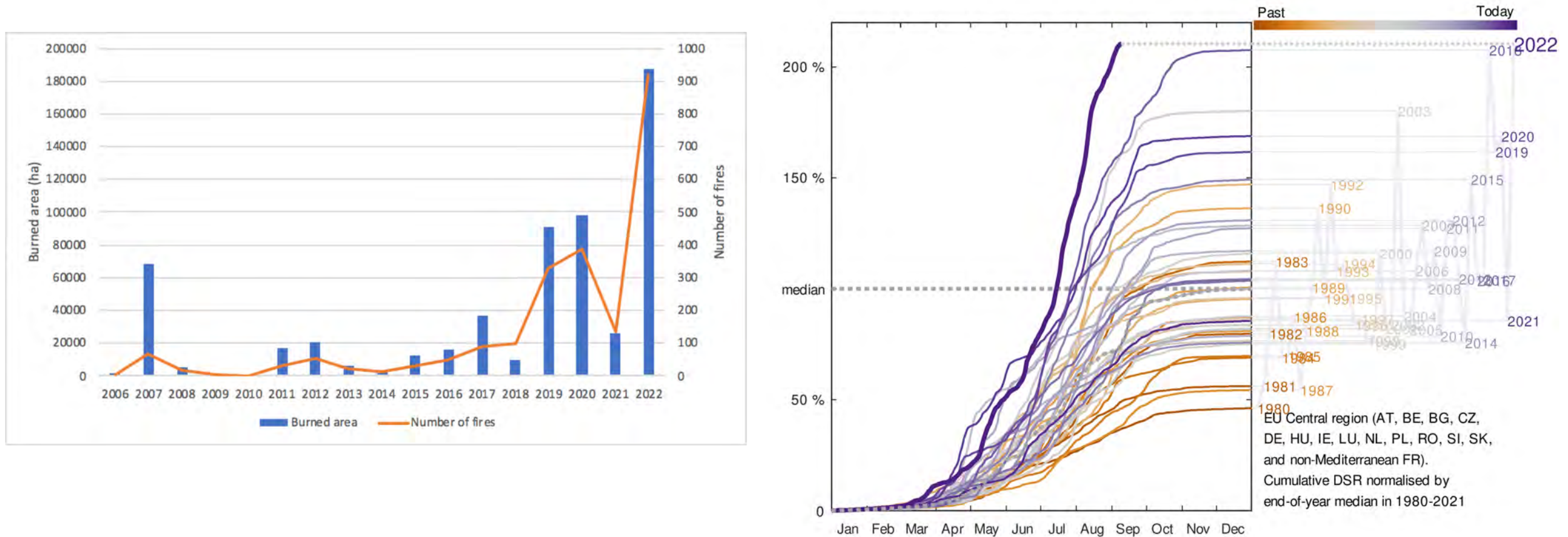




## Number of fires, burnt areas and fire danger in **northern**, central and southern EU 2006-2022



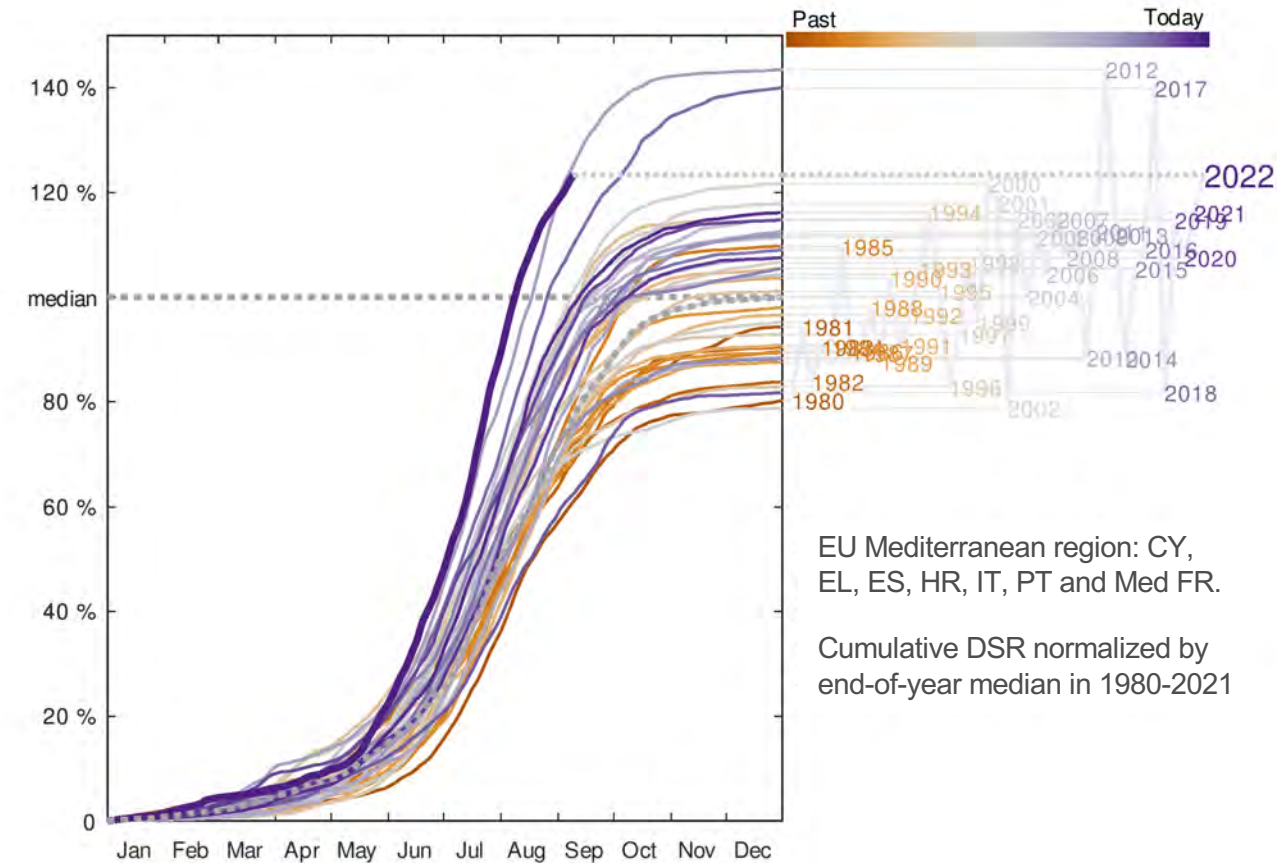
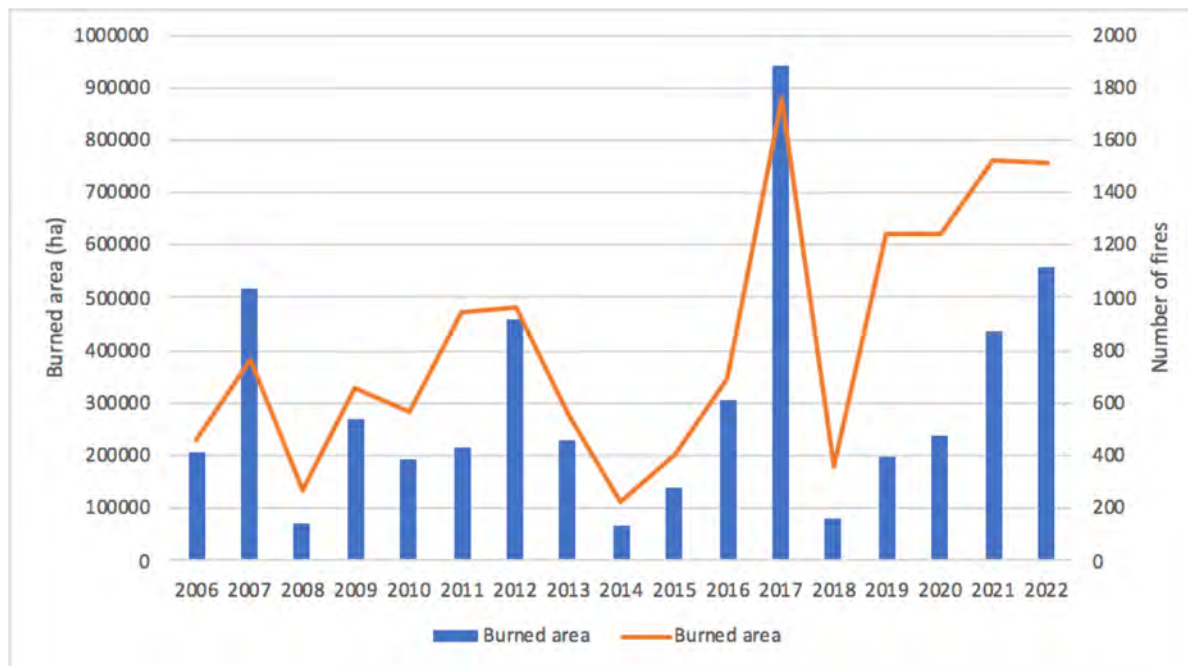
## Number of fires, burnt areas and fire danger in northern, **central** and southern EU 2006-2022



Source: Joint Research Center (JRC) / European Forest Fire Information System (EFFIS)

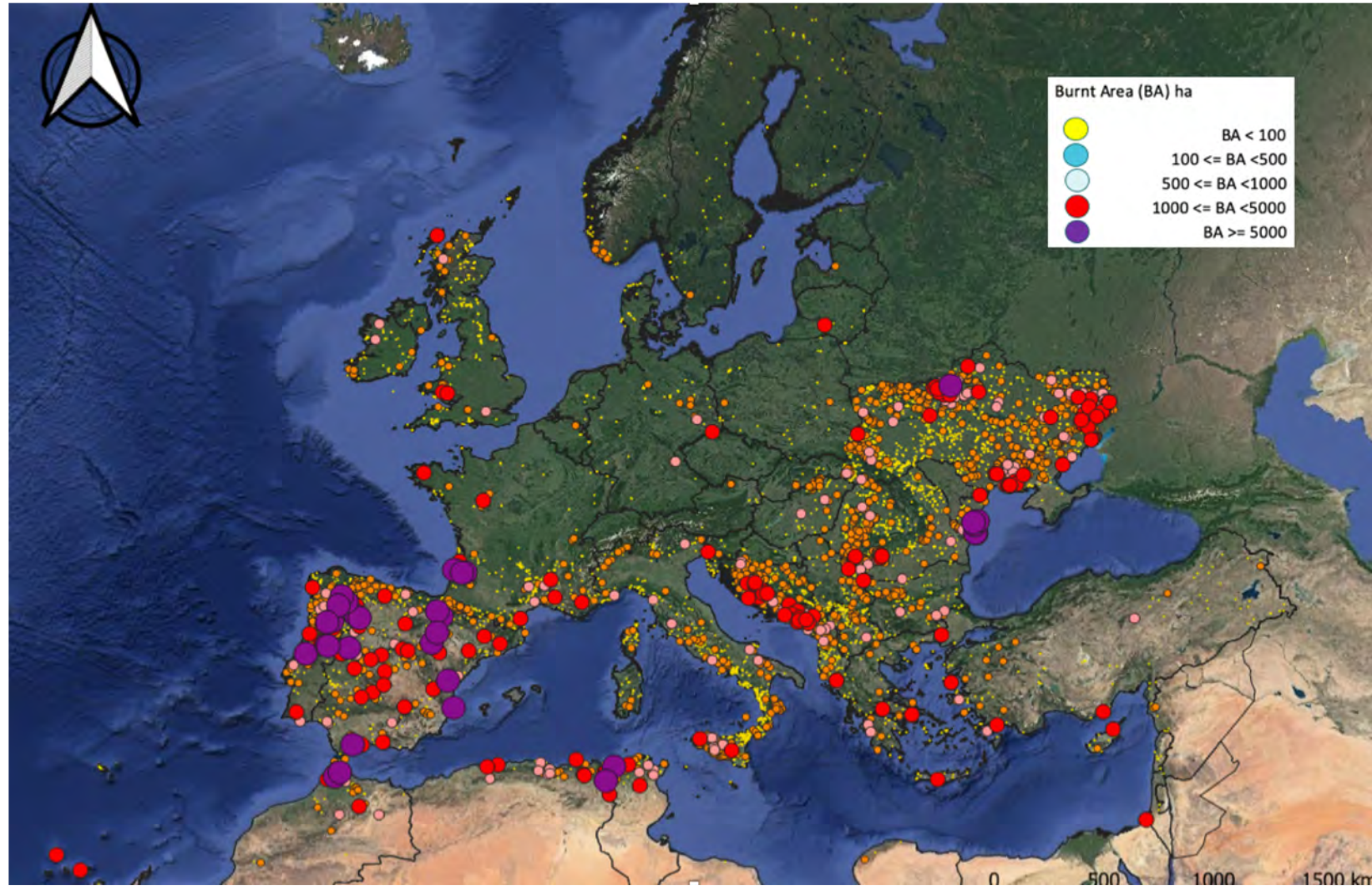
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## Number of fires, burnt areas and fire danger in northern, central and **southern** EU 2006-2022





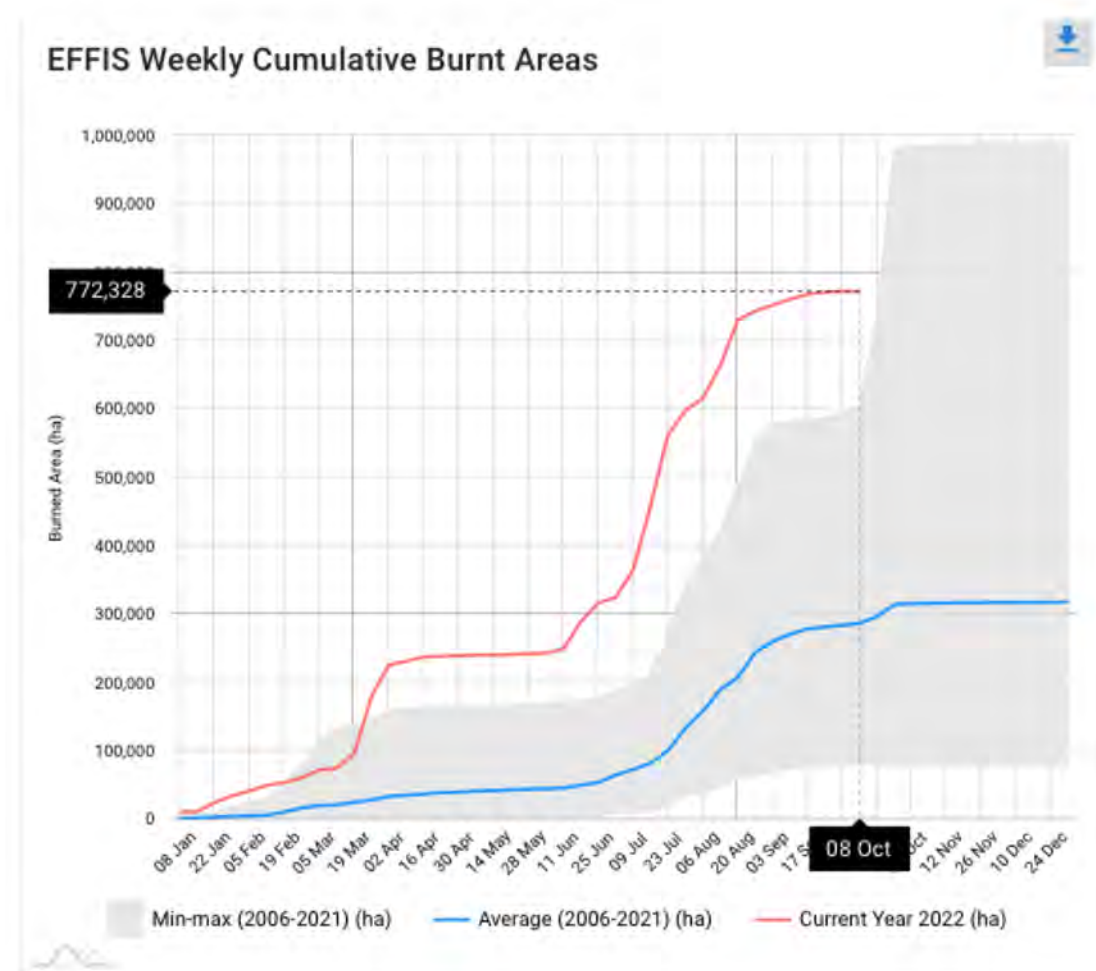
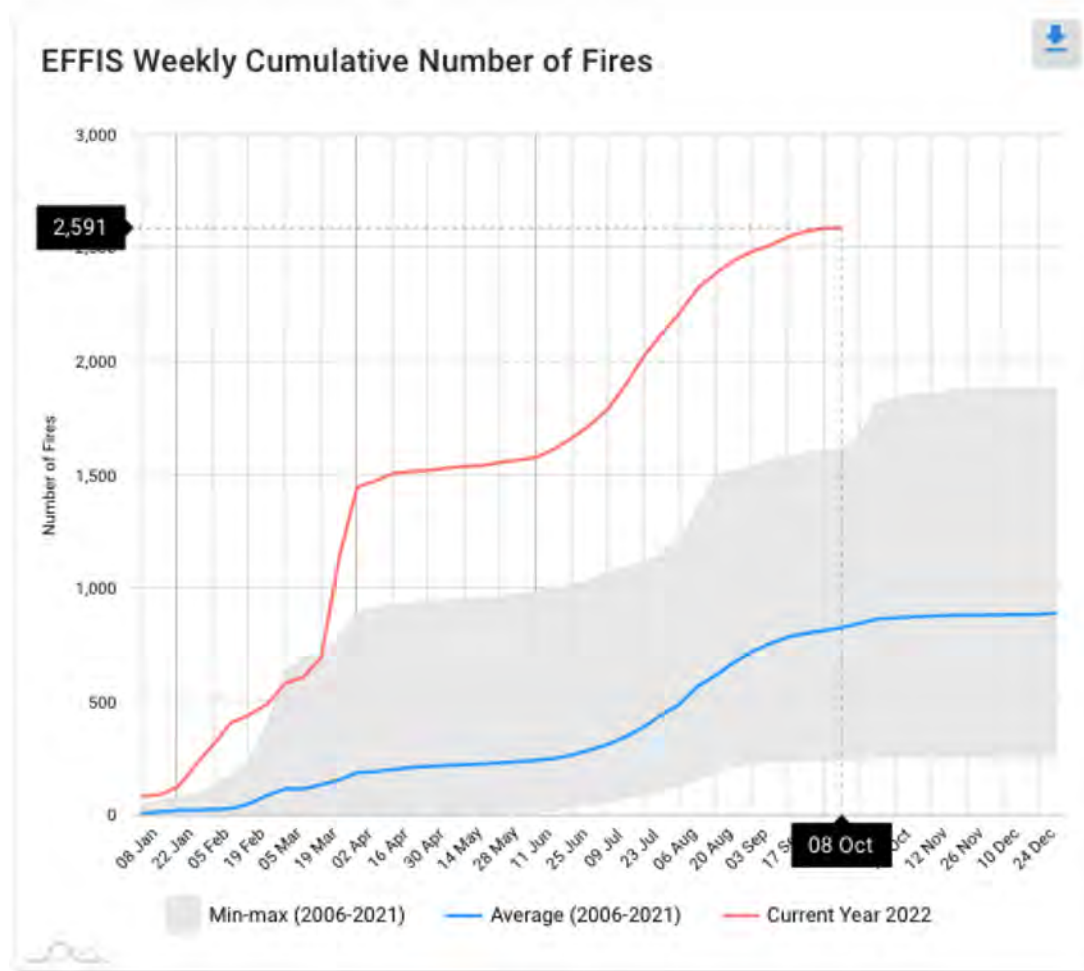
## Burnt areas mapped by EFFIS in 2022



Source: Joint Research Center (JRC) / European Forest Fire Information System (EFFIS)

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## Number of fires and burnt areas in 2022



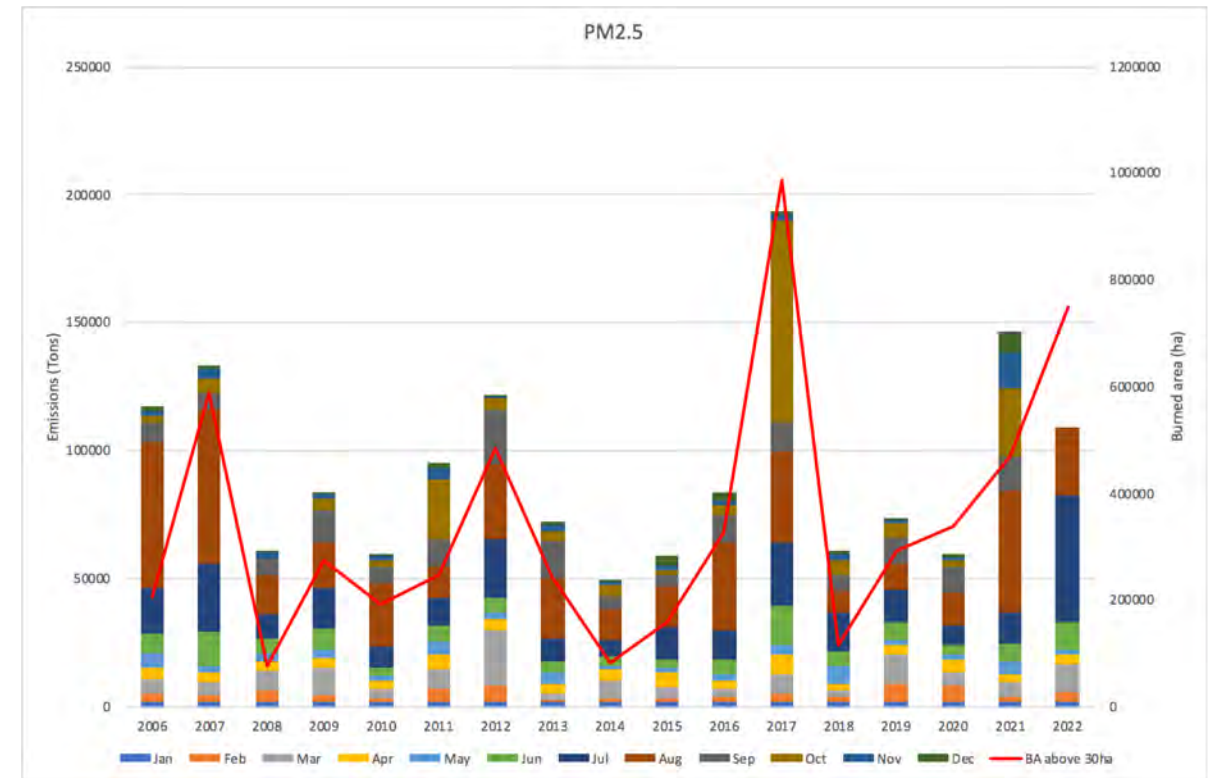
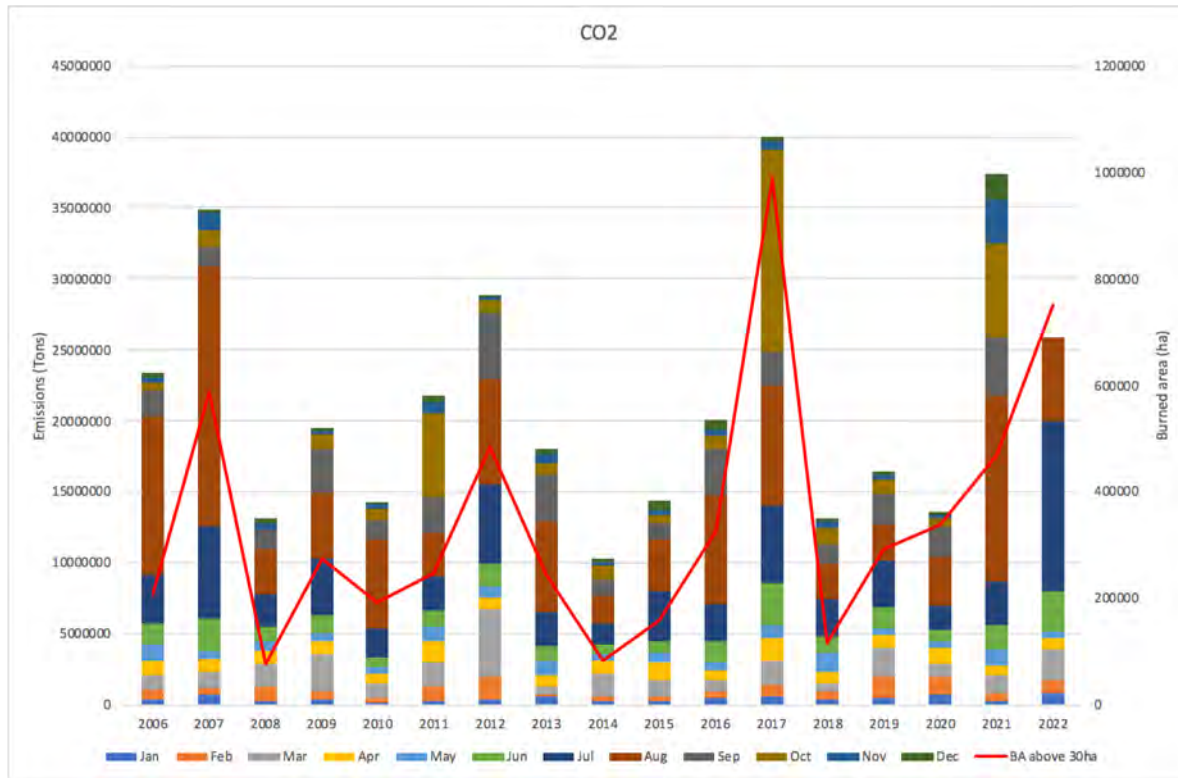
<https://effis.jrc.ec.europa.eu/apps/effis.statistics/seasonaltrend>

Source: Joint Research Center (JRC) / European Forest Fire Information System (EFFIS)

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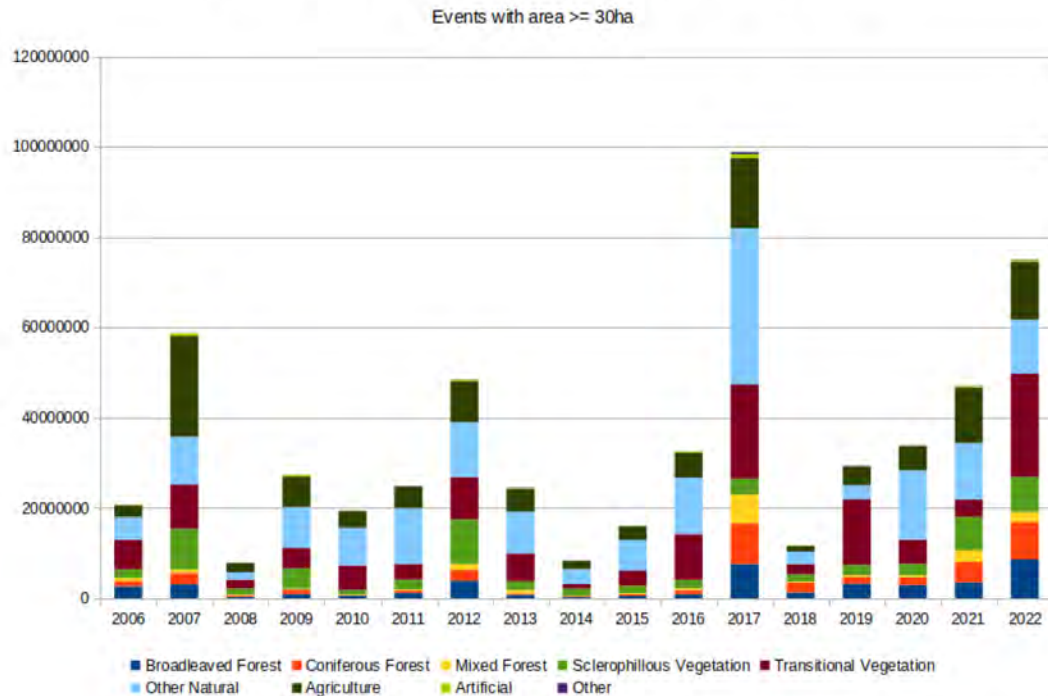


## Emissions from forest fires in the period 2006-2022

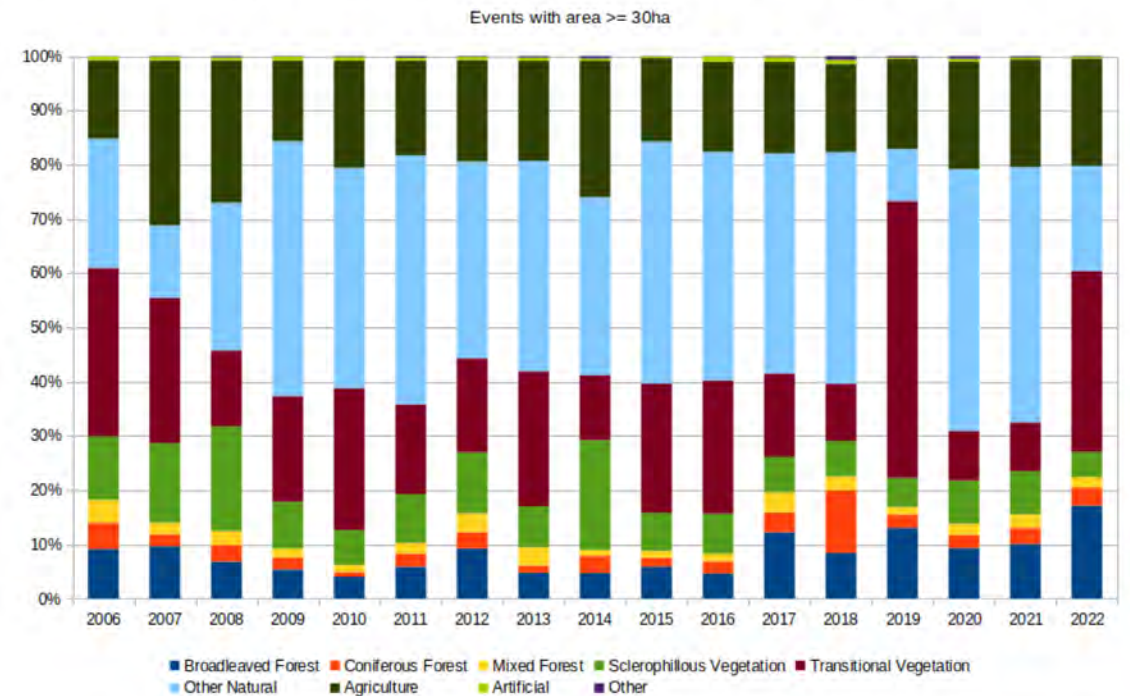


## Landcover damage from forest fires in the period 2006-2022

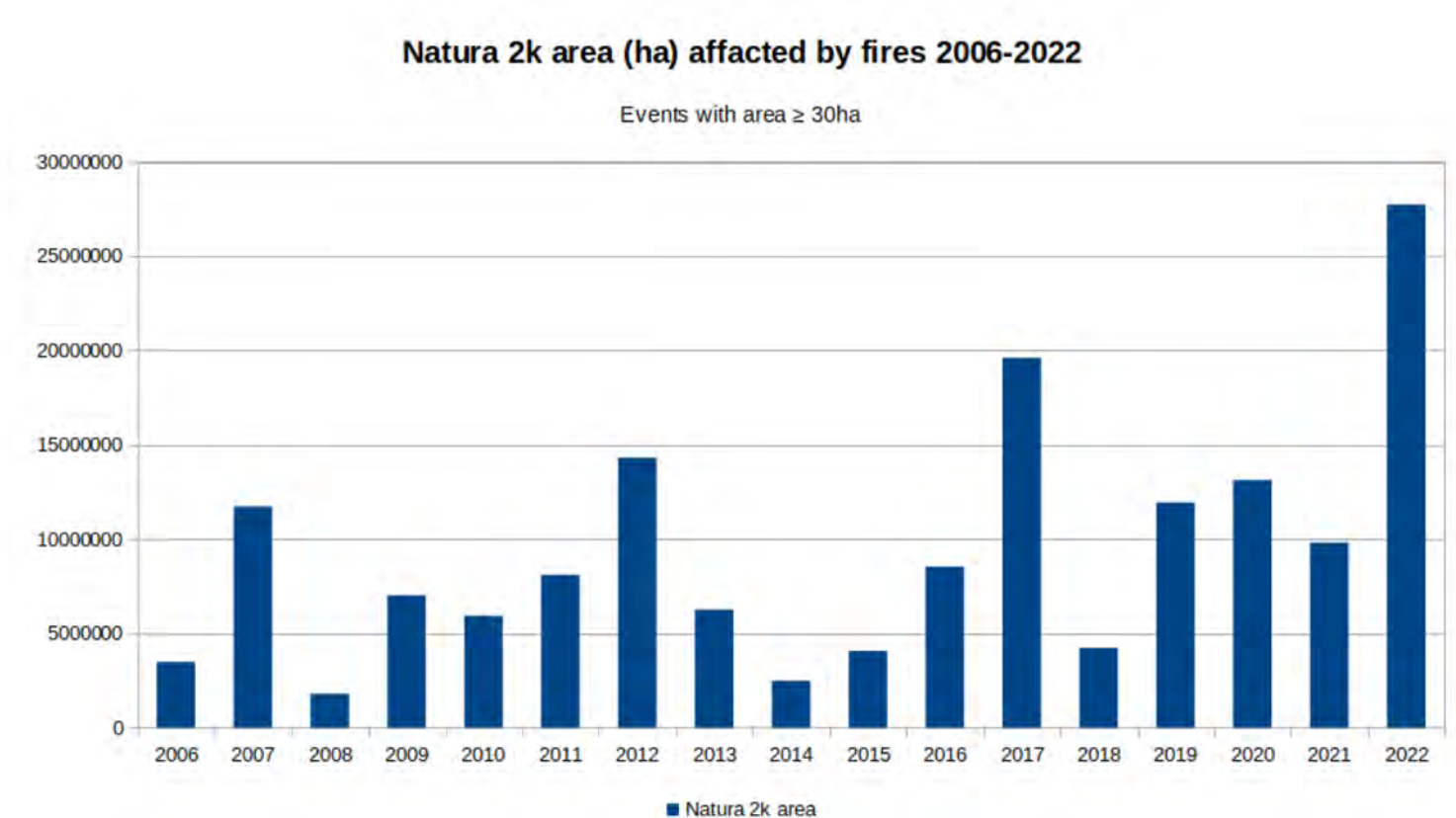
Different land cover area (ha) affected by fires 2006-2022



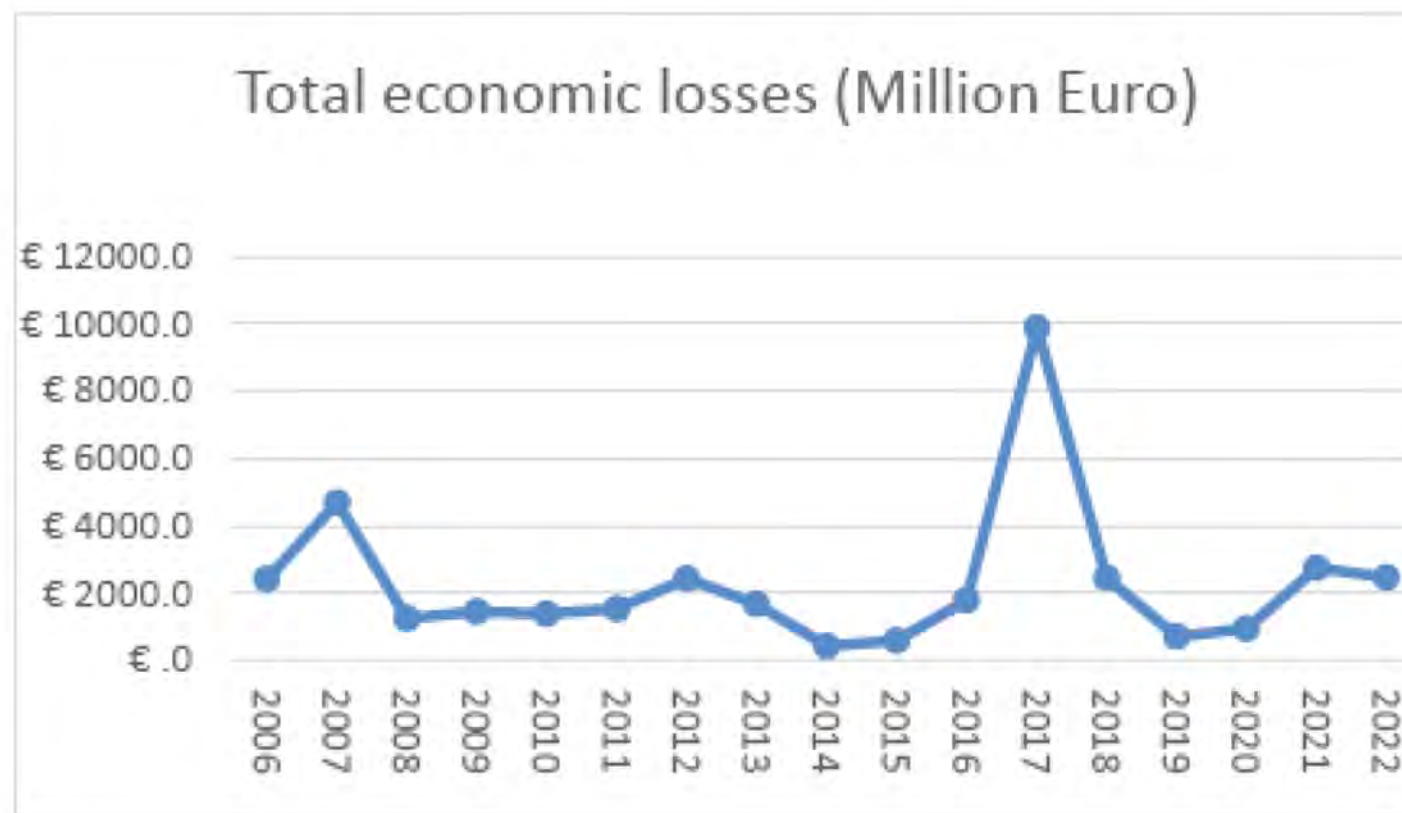
Different land cover percentage affected by burnt areas 2006-2022



Natura 2000 damages from forest fires in the period 2006-2022. About 330000 ha burnt in 2022.

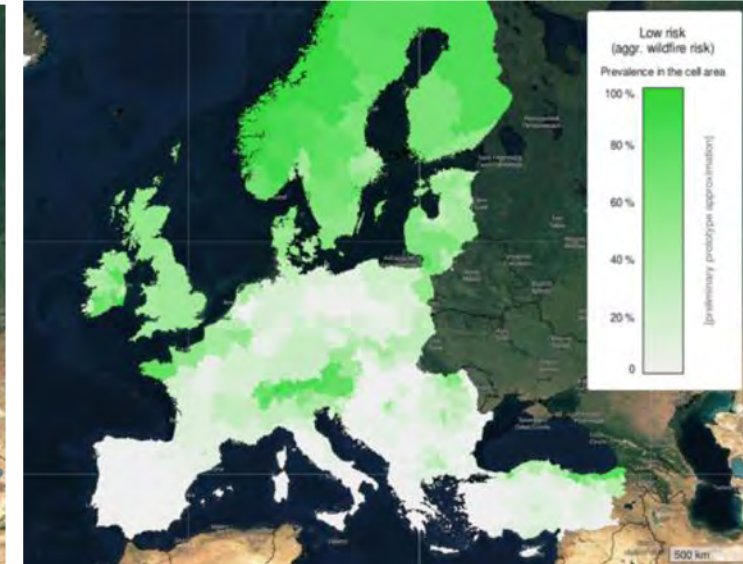
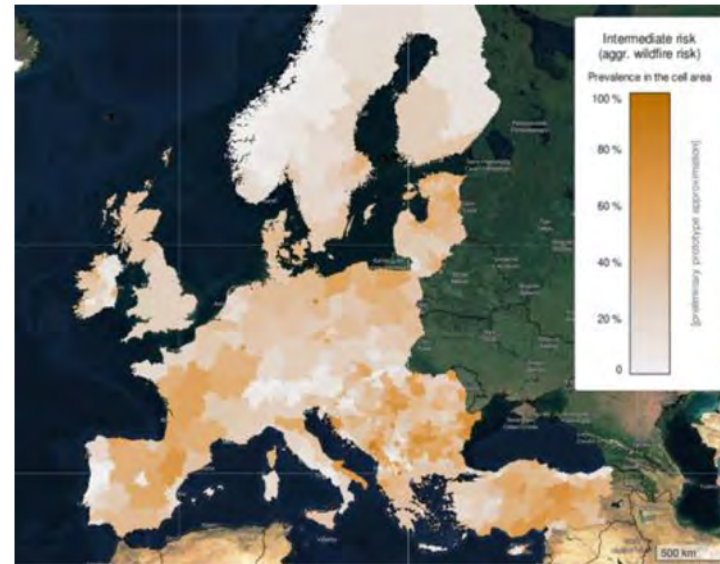
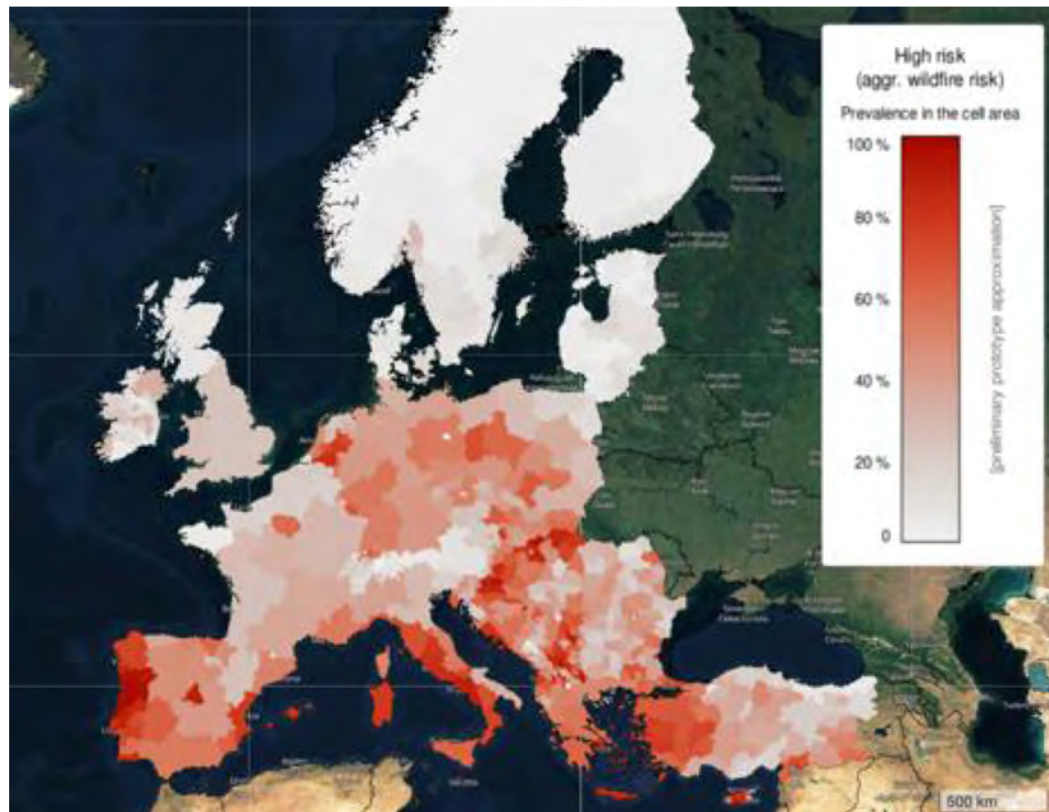


## Economic losses from wildfires in the period 2006-2022





## Areas at risks of wildfires in the EU



<https://effis.jrc.ec.europa.eu/apps/fire.risk.viewer/>

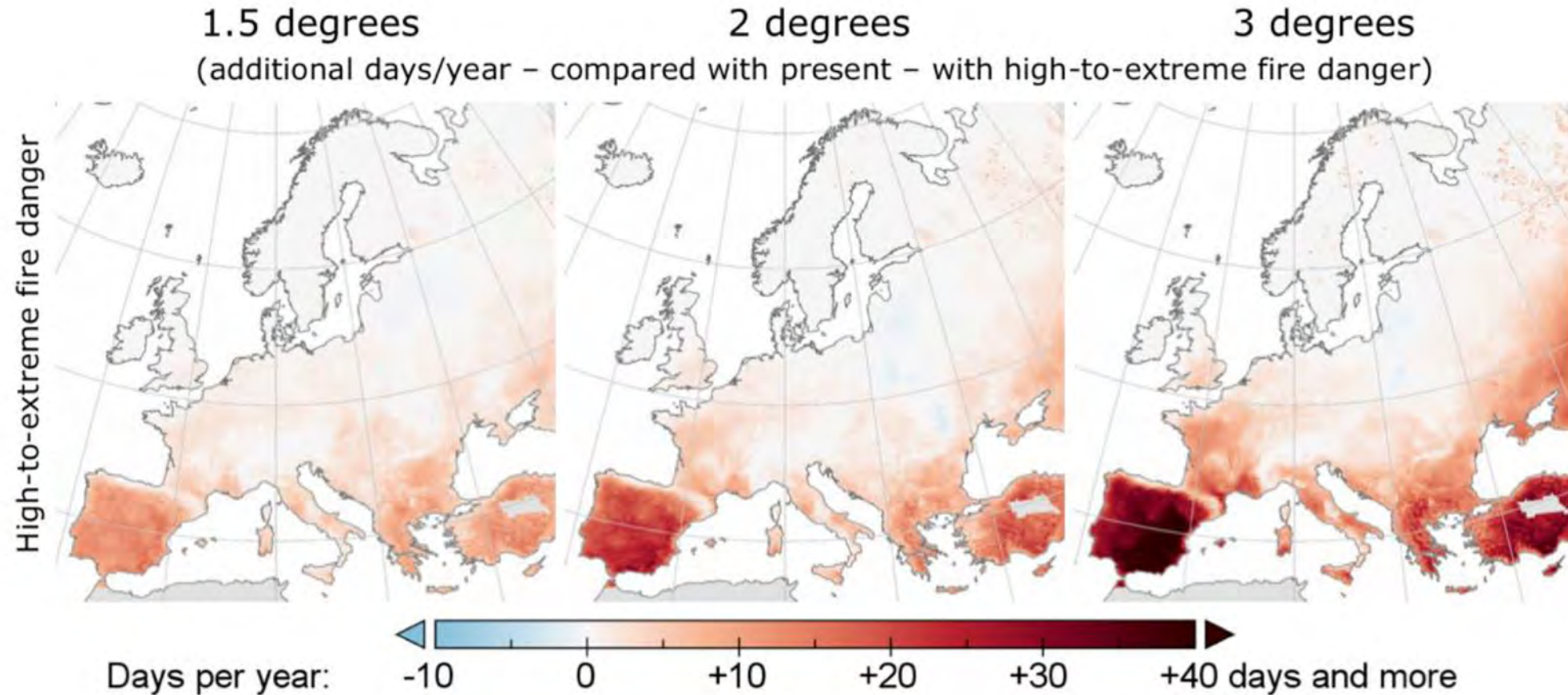
Oom, D., De Rigo, D., Pfeiffer, H., Branco, A., Ferrari, D., Grecchi, R., Artes Vivancos, T., Durrant, T., Boca, R., Maianti, P., Liberta`, G. and San-Miguel-Ayanz, J., **Pan-European wildfire risk assessment**, EUR 31160 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-55138-6, doi:10.2760/437309, JRC130136.

Source: Joint Research Center (JRC) / European Forest Fire Information System (EFFIS)

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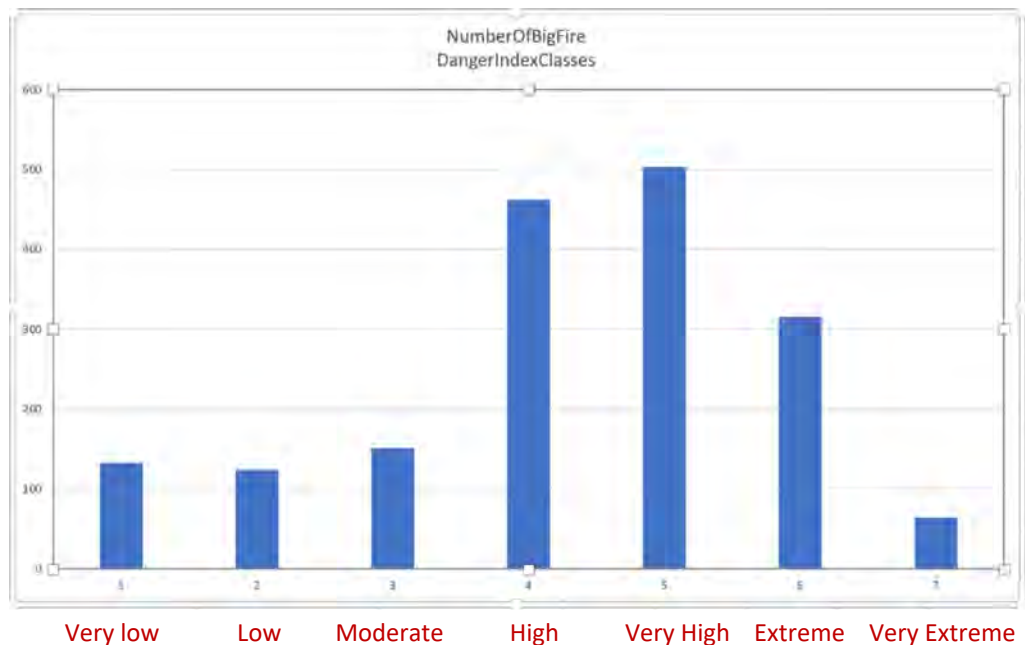


## Fire Danger and Climate Change

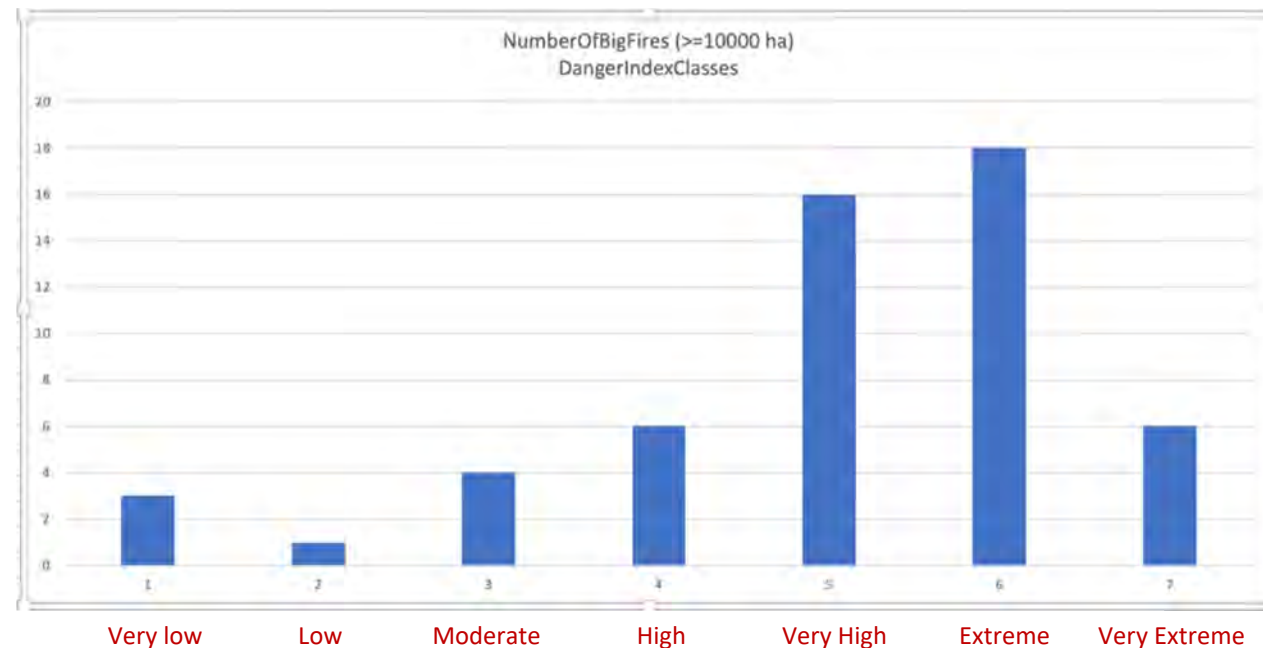


Peseta IV report - Costa, H., de Rigo, D., Libertà, G., Houston Durrant, T., San-Miguel-Ayanz, J., **European wildfire danger and vulnerability in a changing climate: towards integrating risk dimensions**, EUR 30116 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN: 978-92-76-16898-0, doi:10.2760/46951, JRC119980

## Influence of fire danger on fire size/intensity



Distribution of large fires ( $\geq 500$  ha) according to fire danger classes



Distribution of very large fires ( $\geq 10000$  ha) according to fire danger classes.



## SUMMARY

- Since 2006, there is a general increasing trend in the number of fires and burnt areas in the EU, with recent critical years such as 2017, 2021 and 2022.
- 2022 is, so far, the worst year in terms of burnt areas (above 800000 ha) and number of fires since 2006, by this time of the fire season.
- In the last years, the number of wildfires and burnt areas in central and northern Europe has increased. The amount of burnt areas has increased in countries not commonly affected by wildfires in the past.
- The length of the fire season has increased beyond the traditional months of July, August and September, with many wildfires and critical events outside that period.
- The level of wildfire emissions, which is highly correlated with that of burnt areas, became noticeable in critical years like those mentioned above.
- The economic losses due to wildfires in 2022 are already above 2.4 billion Euro.
- Over 308,926 (close to 38% of the burnt area) is within Natura 2000 protected areas.
- Future climatic projections indicate higher fire danger levels in Europe; higher fire danger values will likely lead to more intense fires and larger burnt areas.



# Additional information at:

<https://effis.jrc.ec.europa.eu>

<https://gwis.jrc.ec.europa.eu>

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