EMS Annual Meeting
Utrecht & online | 6 -11 September 2026

EMS2026-593 | Orals | OSA2.5

Spatial and Temporal Patterns of Wildfires in the Basque Country (1995-2022)

Santiago Gaztelumendi

Basque Meteorology Agency (Euskalmet)

Wed, 09 Sep, 17:15–17:30 (CEST) | Room Expedition

Euskalmet
EUSKAL METEOROLOGIA AGENTZIA

Content

1. Context and Motivation

Euskalmet
EUSKAL METEOROLOGIA AGENTZIA

In the Autonomous Community of the Basque Country the Basque Meteorology Agency (Euskalmet) is:

- responsible for providing information on **meteorological wildfire risk**.
- a key component of the Basque Government's special **emergency plan for wildfires**.

Consequently, it operates in various areas, notably:

- ✓ Issuing and disseminating wildfire risk **warnings/alerts/alarms**.
- ✓ Maintaining operational **monitoring and prediction** systems for wildfire risk.
- ✓ Maintaining **information systems** for the Basque Government, Historical Territory Councils, and the general public.
- ✓ **R&D&I**, with a special focus on its operational application within the Basque land.

Brief history of the system:

- Since **2013**, a fire risk assessment system has been in place.
- It underwent its first major update in **2019**, including fully in-house development with new features and operational products.
- and will do so again at the end of this year (**2026**), incorporating numerous improvements and making the leap toward risk monitoring and prediction in a broad sense (moving beyond just meteorological risk).

1. Context and Motivation

For the aforementioned update (scheduled for the end of 2026 beginning of 2027), different lines of action have been carried out, in the context of various internal and external projects (including **INTERREG SUDOE USE4FOREST**), which have enabled or will allow us to achieve:

- ✓ A review of the **needs** of the system's key stakeholders (Basque Government and Historical Territory Councils).
- ✓ **Validation** studies of the current system including cross-referencing it with recorded incidents (any size recorded vegetal fires).
- ✓ A detailed **spatial and temporal characterization** of fires within our territory and compared to other regions and considering their historical evolution.
- ✓ Analysis of natural and human **drivers**.
- ✓ The integration of ignition and burned area **modeling** systems.
- ✓ The incorporation of **satellite data** into the operational system (both for monitoring and for the characterization and availability of live fuel).
- ✓ The implementation of a **sensor network** for dead fuel temp and moisture.
- ✓ Finally, the **evolution** toward a full comprehensive operational fire risk system.

- At **EMS 2025**, we presented **(1)** the USE4FOREST project (EMS2025-491) and **(2)** a comparative characterization of forest fires within different territories of northern Iberian peninsula based on selected indicators (EMS2025-514).
- At **EMS 2026**, we present **(1)** an in-depth analysis of the causes and motivations (EMS2026-583 poster 110), and **(2)** the spatial and temporal characterization of forest fires patterns in our territory (EMS2026-593), which is the focus of this presentation.

2. Methodology and Data

DATA. The raw data is derived from the official EGIF dataset (Spanish General Statistics for Forest Fires) for the Basque Country, encompassing historical vegetation **fire records from 1995 to 2022** with different associated variables

METHODOLOGY. In this case, the **discovery of spatial and temporal patterns** is carried out based on Human Intelligence (HI) through **Visual Data Analytics (VDA)** techniques, using R as in other previous works from the author (e.g., Gaztelumendi et al., 2024, 2025). Conceptually, the framework is structured into four, sequential stages:

1. Data Loading, Curation, Exploratory Analysis (EDA), and Formatting: The process begins with an exploratory data analysis and curation stage, deeply rooted in Tukey's (1977) foundational methodological framework and Wickham's (2014) *Tidy Data* structural principles. This serves as a comprehensive depuration, derived variable generation and preparation of the raw dataset to next steps.

2. The Process of Split-Apply-Combine: The core manipulation for derived data generation is grounded in the *Split-Apply-Combine* strategy (Wickham, 2011). This is implemented through the optimized grammar of data manipulation provided by the dplyr package (Wickham et al., 2026), streamlining data aggregation and maximizing computational efficiency.

3. Graphic Representation: Subsequently, the visual rendering is articulated under the *Layered Grammar of Graphics* (Wickham, 2010) and executed via the ggplot2 package (Wickham et al., 2026). For spatial features operations we use sf package (Pebesma 2018). This framework allows complex analytical and multi-dimensional variables to be mapped onto independent visual scales and geometries in a flexible, scalable manner, including geographic maps generation and manipulation.

4. Visual Analysis, Interpretation, and Cognitive Discovery: Finally, the process culminates in the human interpretation phase. By employing human cognitive perception, the analyst transforms these abstract visual layouts and geometric structures into strategic insights, driving the discovery of patterns.

tidyverse lubridate ggplot2 tidyr

3. Results and Discussion

In 1.stage: Data Loading, Curation, Exploratory Analysis (EDA), and Formatting.

Raw data loading
Auxiliary Variables creation: e.g. duration and total area
Data cleansing phase:

- Fire report number consistent with the declared date.
- Duplicate fires across multiple reports.
- Impossibly high and low duration due to date problems.
- …..

Final data.frame preparation* :

- Start date (day, hour, minute).
- Duration.
- Municipality (smallest spatial unit available for the entire time series).
- Total burned surface.
- Burned area by type: forested, non-forested, and agricultural.
- Simplified causes (4)
- Zones (2)
- …….

In 2 stage: Split-Apply-Combine**

What are the grouping variables ? :

Binned continuous as Size or Hour Factors as Causes, Zones ... etc.

What kind of summaries ? : count, sum, median, percentiles, …..etc.

* Considering small fires (<1 ha) as 'conatos' (initial fire spots) is critical, as their management poses a real operational stress on the Basque Government's 112 emergency system and historical territories fire brigades

** The split-apply-combine strategy alows to:

- break up a big problem into manageable pieces, operate on each piece independently and then put all the pieces back together.
- see the similarly between problems that previously might have appeared unconnected.
- frees up mental efort for the aspects of the problem that are truly unique

3. Results and Discussion

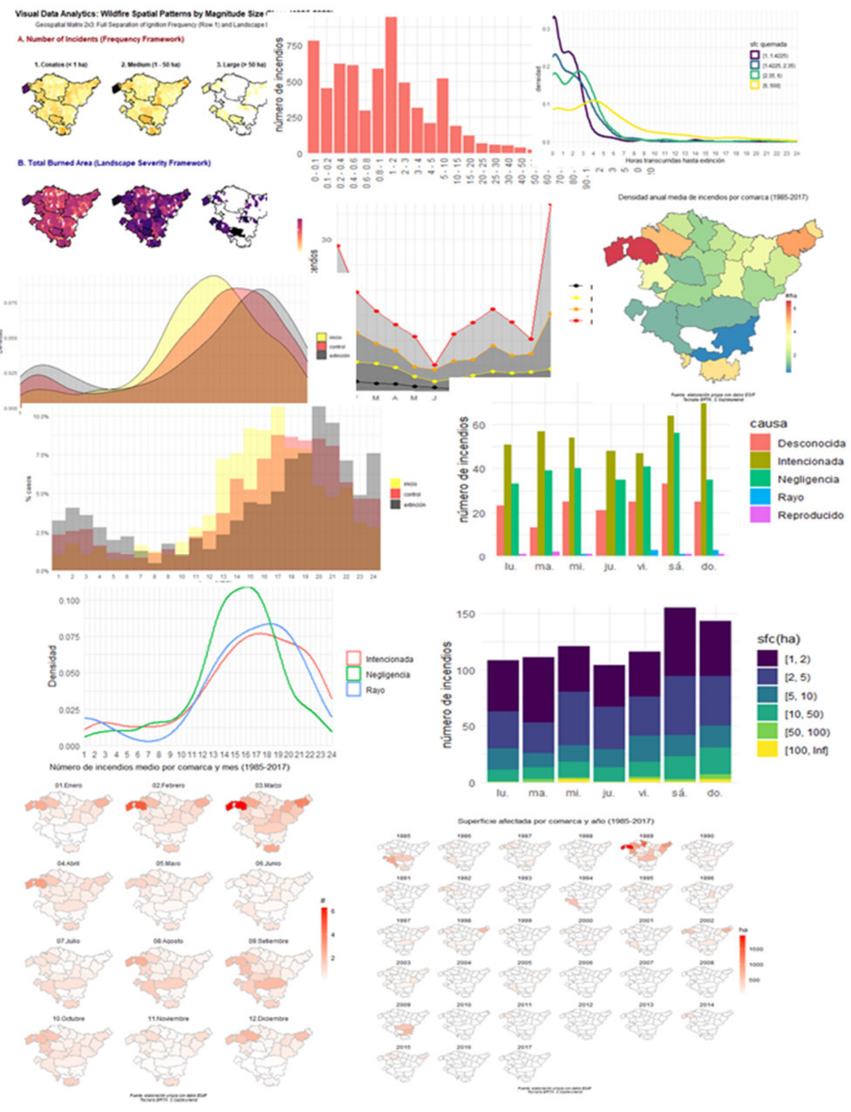
In the 3 stage: Graphic representation

Despite numerous technical challenges during the development process, the final framework utilizes extensive multivariate bar plots, heatmaps, and surface maps

Scope of this Presentation:

Given the obvious impossibility of covering in this presentation all the analytical dimensions considered in our work, here we focus on four graphical examples.

The complete data and whole documentation can be consulted in the technical notes to be released at the end of this year.



3. Results and discussion

Table 1. Descriptive statistics of historical wildfire metrics by size classification (1995–2022).

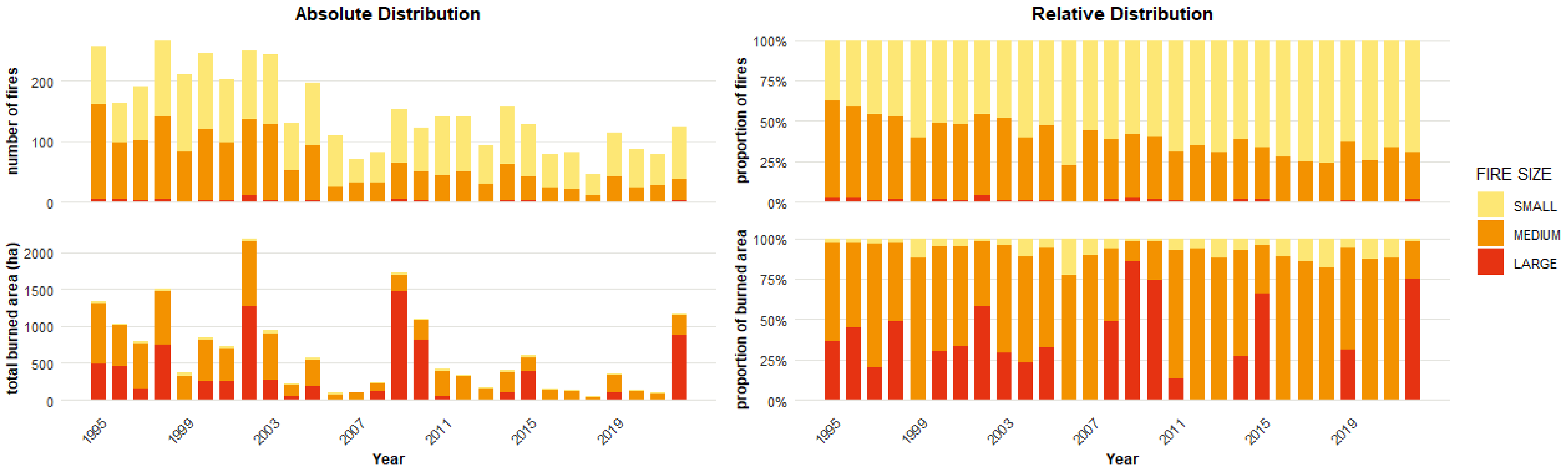
Fire Size Class	Number of Events	Event Share (%)	Burned Area Share (%)	Landscape Impact Role
Small (<1 ha)	2,321	**54.9%**	**3.4%**	High operational frequency / Minimal landscape footprint
Medium (1–50 ha)	1,845	43.7%	47.1%	Balanced frequency / Main baseline structural impact
Large (>50 ha)	60	**1.4%**	**49.5%**	Extreme anomaly / Disproportionate severe landscape driver

The 4,226 events reveal a strict heavy-tailed behavior.
While small fires (<1 ha) account for the absolute majority of ignition frequencies (**54.9%**), their cumulative footprint on the landscape is minimal (**3.4%**). Conversely, the system is fundamentally governed by large-scale anomalies (>50 ha); a critical minority of just **60 events (1.4%)** accounts for nearly half of the multi-decadal burned area (**49.5%**), demonstrating that fire severity and **macro-landscape impacts** are driven by extreme, low-frequency episodes rather than routine fire volume

This figure breaks down the **total and relative burned area by fire size class (<1 ha, 1–50 ha, and >50 ha) and burned vegetation type**.
Non-forested land (light green) dominates smaller fires, while **agricultural areas** (yellow) and forested stands (dark green) significantly increase their share in large-scale events exceeding 50 hectares."

3. Results and discussion

This figure illustrates the **multi-decadal historical evolution** (1995–2023) of wildfire occurrence and burned area, structured by absolute metrics (left) and relative proportions (right).

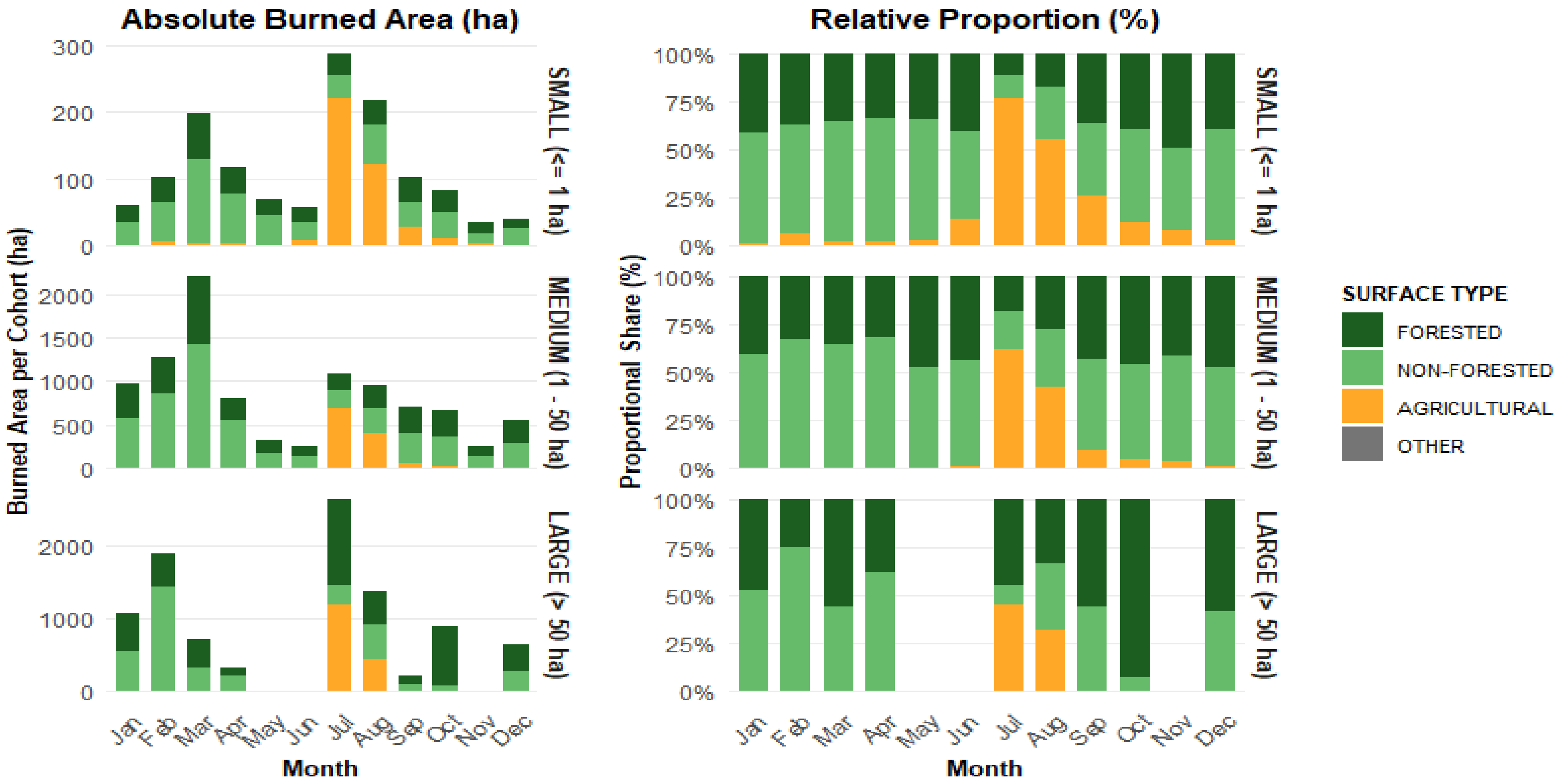


We observed a **clear downward trend in the absolute number of fires over the years** and a relative **increase in proportion of small fires**.

However, the relative distribution highlights that large fires (red), despite being very low in frequency, consistently account for the vast majority of the total burned area in peak years.

3. Results and discussion

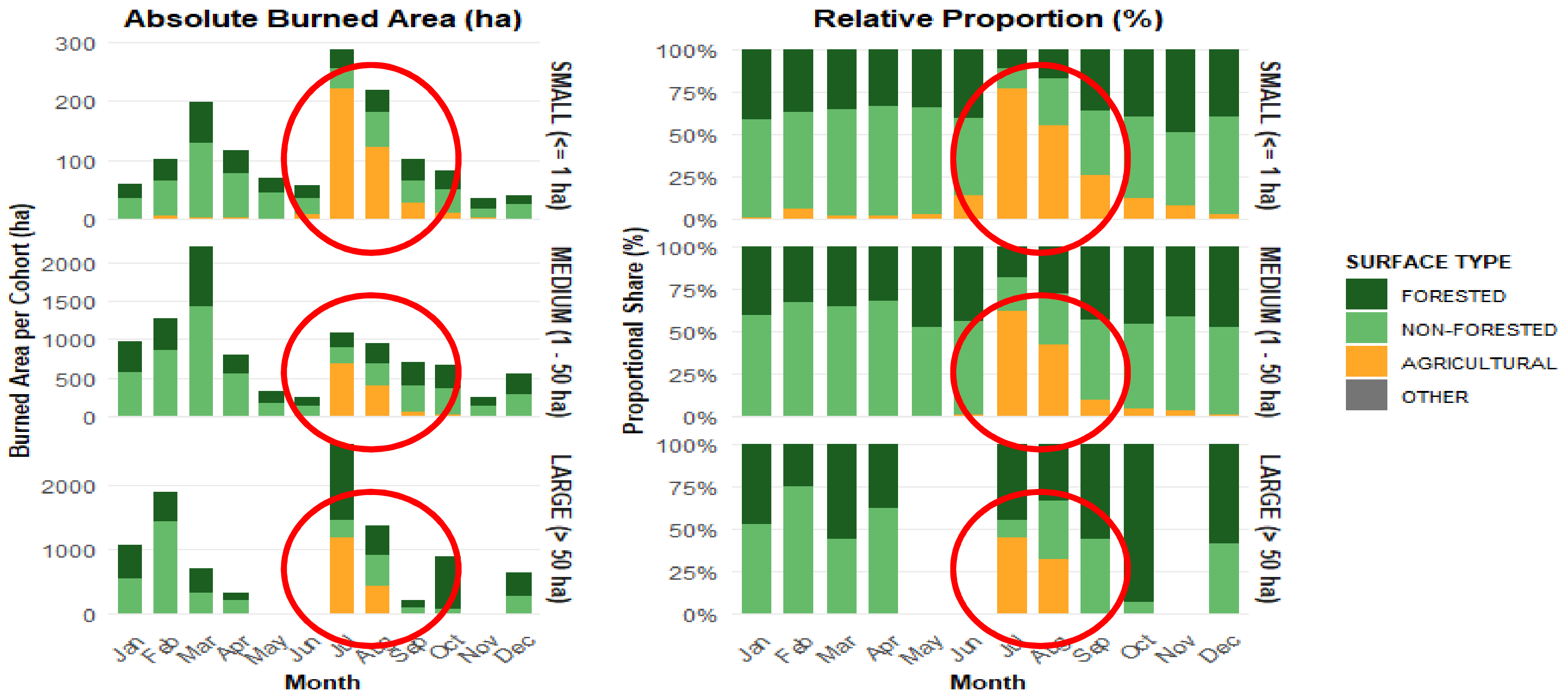
This figure illustrates the **BURNED AREA monthly** analysis by **size** and **type** of burned area.
Cross-referencing Absolute Burned Area (ha) against Relative Proportion (%).



3. Results and discussion

Agricultural land is primarily affected during the **summer** season, especially in July.

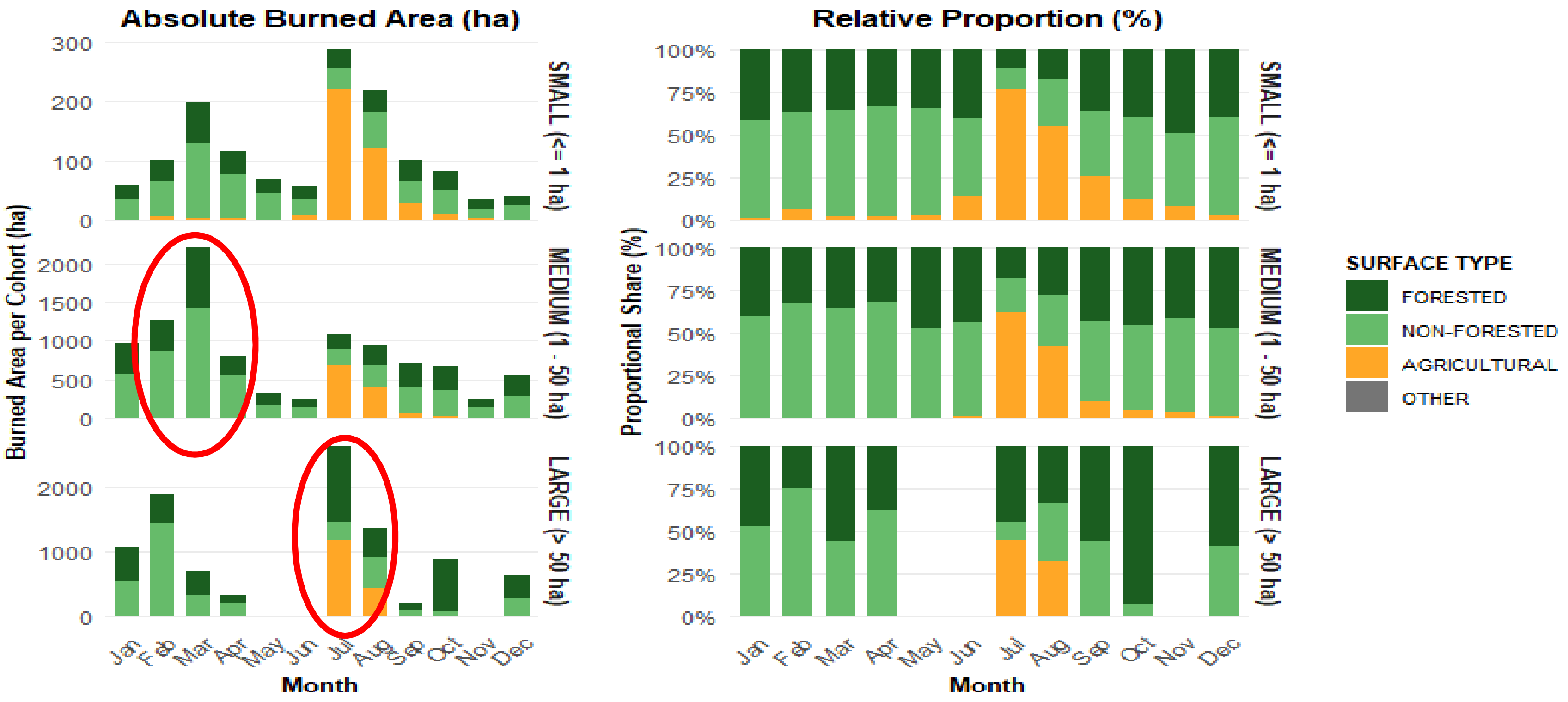
This accounts for a **significant proportion** across all fire sizes, including those exceeding 50 hectares



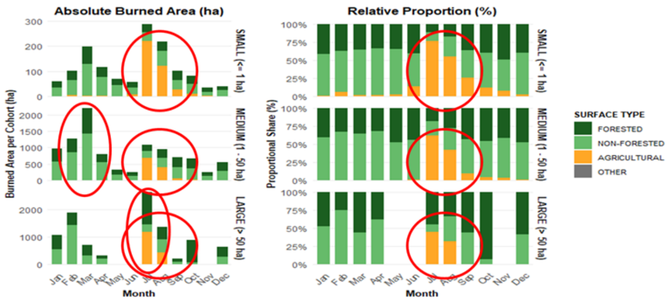
3. Results and discussion

There is a high proportion of **non-forested land (shrubland, pasture, etc.)** that burns throughout the entire year.

March and February stand out in terms of forested and non-forested burned area, while **July and August** are prominent for agricultural land.



3. Results and discussion



As in others parts of Iberian Peninsula and EU this is a consequence of a clear **dual fire regime** driven by different land-use practices, socio-cultural factors and climate conditions across the Atlantic and Mediterranean Zones.

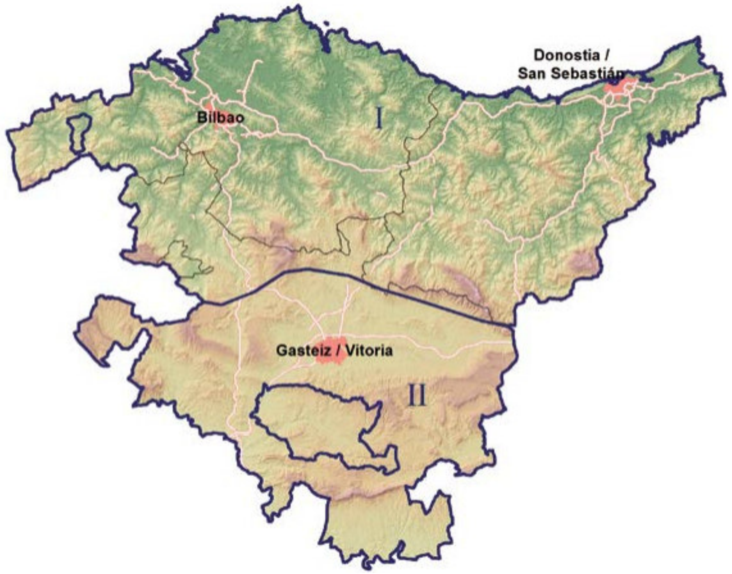
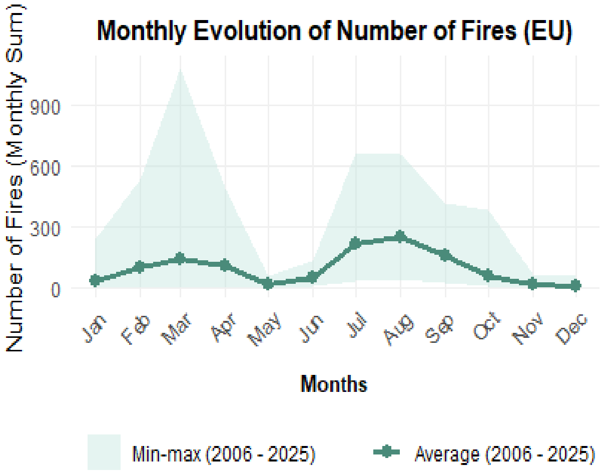
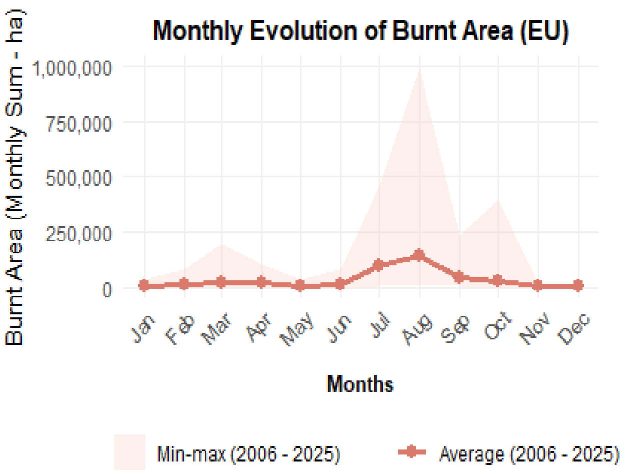
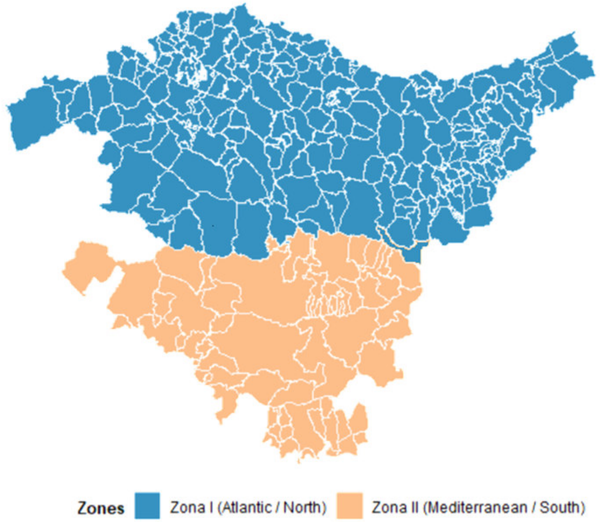


Figure 1. Official zones for fire risk in the Basque Country (I : zone 1; II - zone 2) (GV 2025).



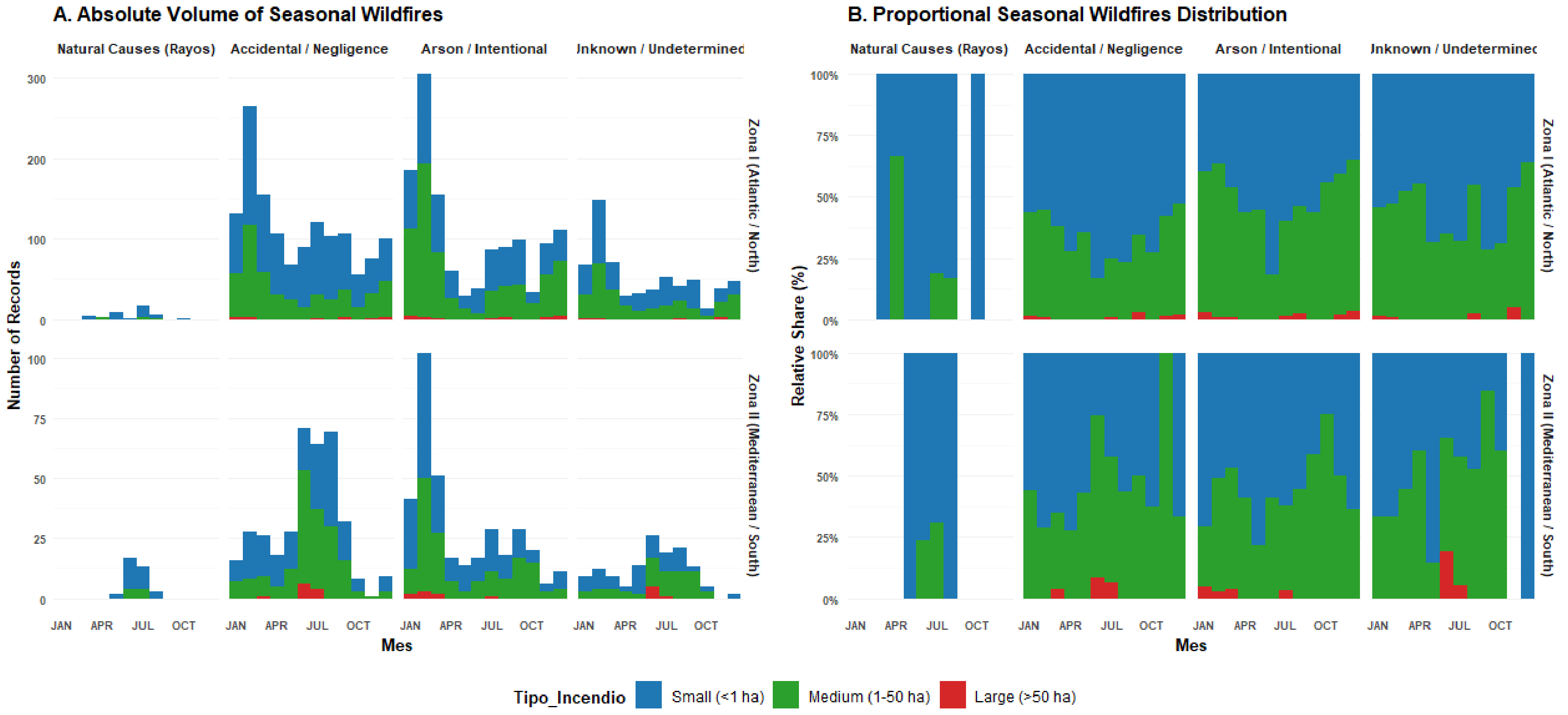


Own elaboration with EFFIS Data

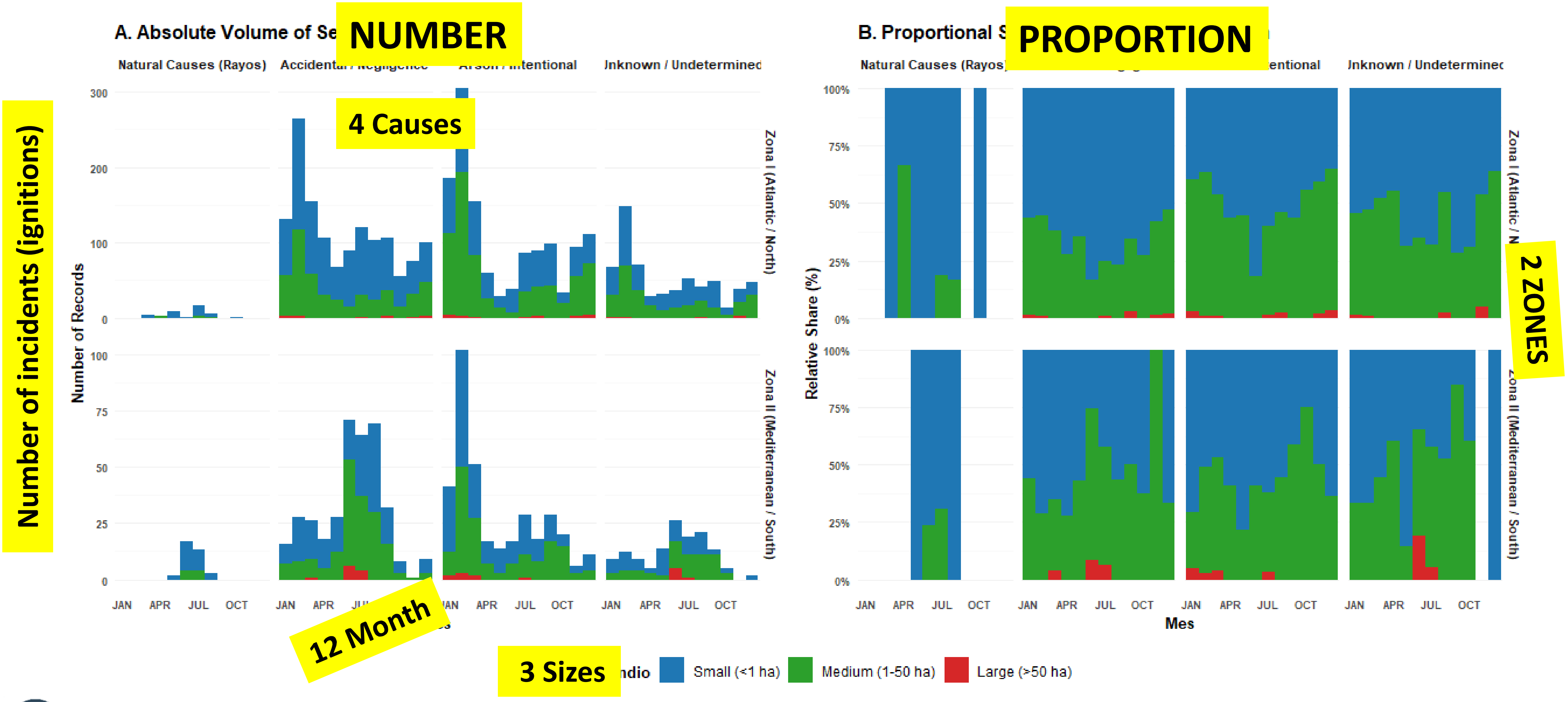


3. Results and discussion

This figure illustrates the temporal and regional analysis of **WILDFIRE OCURRENCE**, cross-referencing the Absolute Volume (Number of Records) against the Proportional Distribution (Relative Share %) by **month** and **fire size** (Small, Medium, and Large) for both **Zones**, Zone I (Cantabrian) and Zone II (Mediterranean)



3. Results and discussion

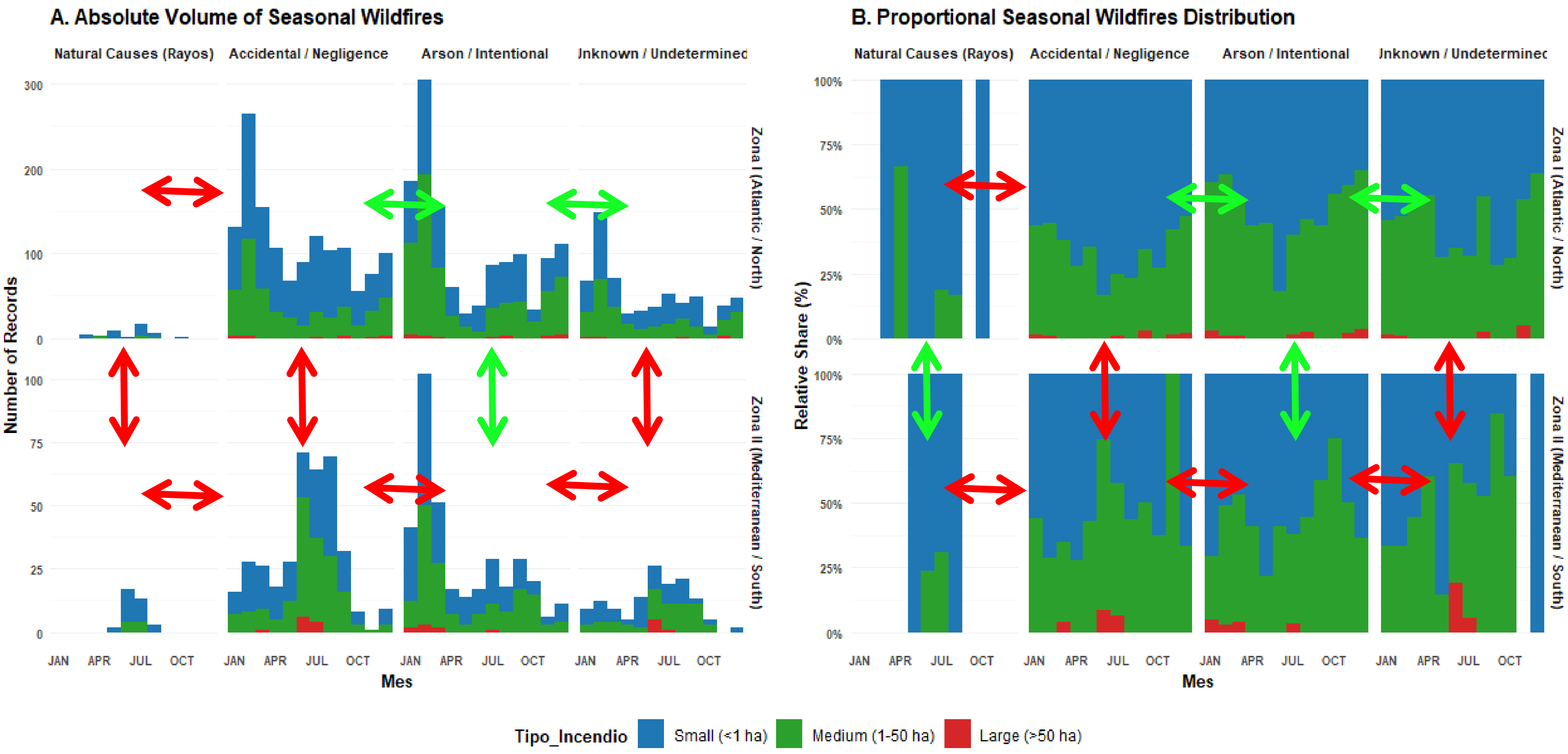


3. Results and discussion

We can identify seasonal and regional variations and **similar or dissimilar behavior**

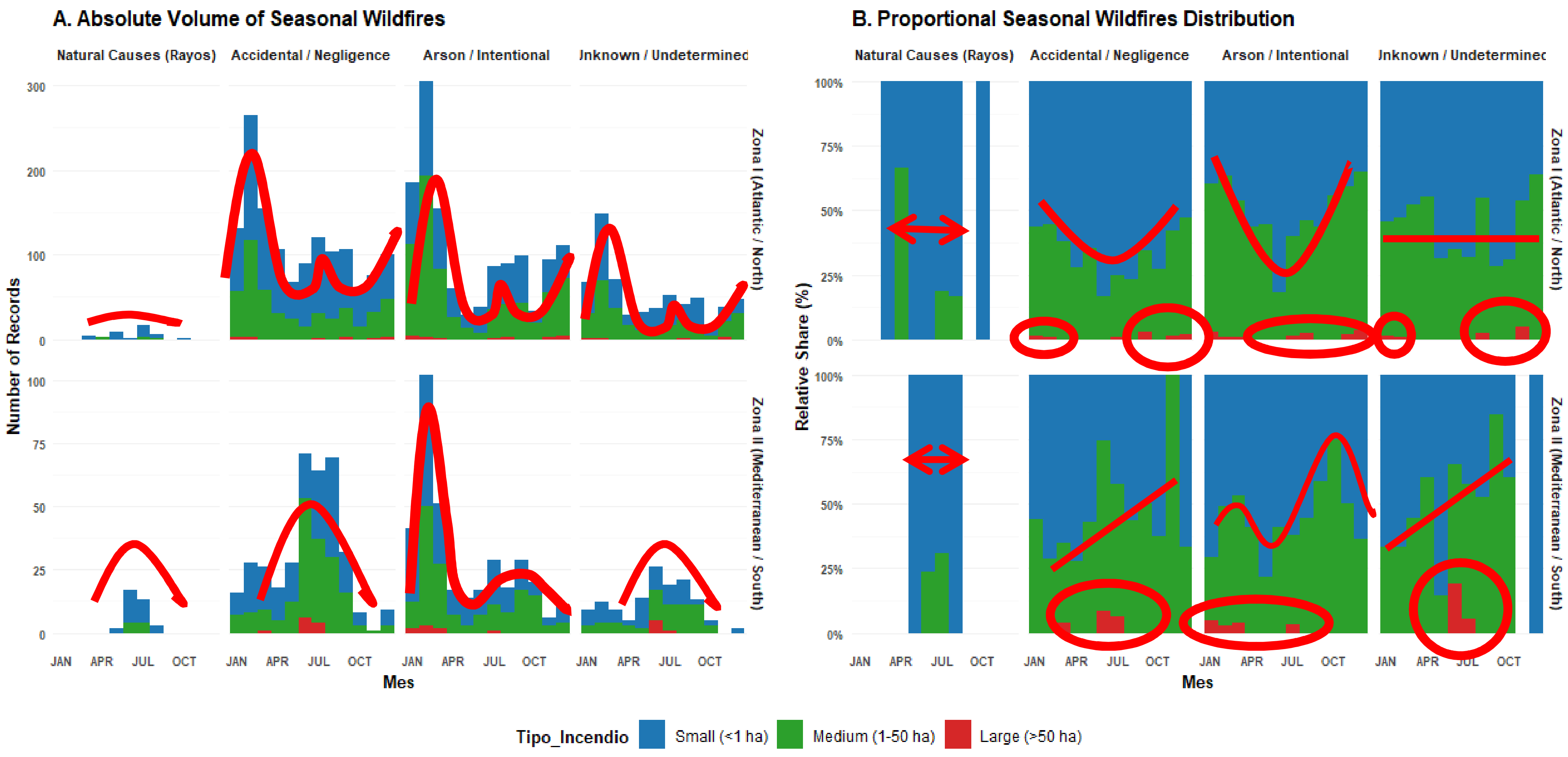
Green arrows indicate similarity or some degree of homogeneous behavior.

Red arrows denote differences and asymmetries



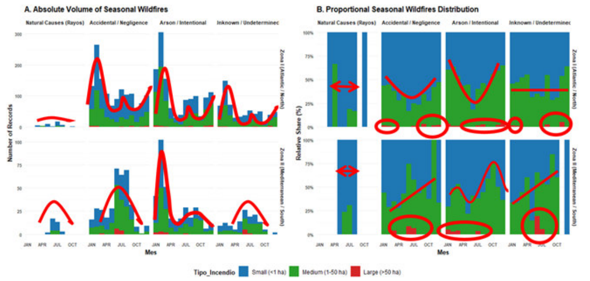
3. Results and discussion

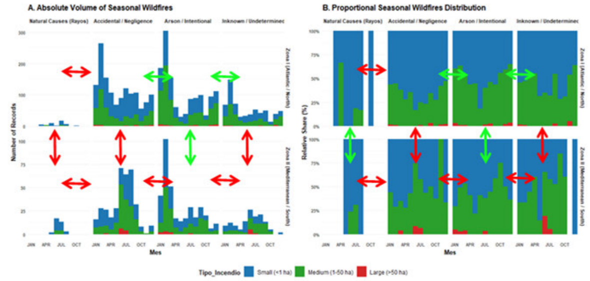
We can identify individual patterns and compare.



3. Results and discussion

When translating a graph to words, plenty of details are missing !!!!





Regional Seasonality Patterns:

The data suggest a clear geographical dichotomy in temporal patterns between the two regions.

In Zone I (Cantabrian), the dominant pattern highlights an absolute fire volume peak during late winter and early spring (February–March), particularly within intentional burning.

Conversely, Zone II (Mediterranean) displays a nearly complete winter suppression pattern, shifting its primary activity profile to the summer months.

Accidental Patterns:

Accidental distributions reveal two completely different anthropogenic patterns.

In the south (Zone II), the accidental pattern is defined by a highly concentrated summer spike linked to agricultural harvesting activities.

In contrast, the pattern in the north (Zone I) is heavily tied to escapes from pasture and stubble management, which explains why these accidents are concentrated in the winter–spring block rather than the summer.

Intentional Patterns:

A major behavioral pattern appears when comparing intentional burning and pasture-related accidents.

The intentional fire patterns show a strong cross-regional similarity between Zones I and II, suggesting a clear relation to pasture management.

Unkwon Patterns:

Zone I exhibits a structure quite similar to both intentional and accidental patterns, suggesting a connection to agro-pastoral practices.

In Zone II, the structure is closer to accidental ones, denoting a relationship with agricultural activities.

Natural Patterns:

Natural ignitions caused by lightning exhibit a pattern restricted to the summer convective window in Zone I.

In Zone II, they are less relevant but more extended over time (compatible with regional lightning activity).

4. Conclusions

1. Wildfire Regime Dynamics & Cause Attribution

Anthropogenic Dominance: The Basque region's fire regime is overwhelmingly driven by human activity.
Accidental/Negligence causes constitute the primary driver, accounting for **41.3% of all events (1,747 fires) and 45.7% of the total burned area (9,673.3 ha)** [Wickham (2014)].
Arson/Intentional fires follow closely, representing **38.8% of incidents (1,641 fires) and 39.6% of the surface impact (8,374.0 ha)**.

Marginal Natural Role: In stark contrast, **Natural Causes (Lightning)** play a marginal role, triggering only **1.77% of incidents (75 fires)** and causing a negligible **0.4% of the total burned area (83.8 ha)** [Wickham (2014)]. Undetermined sources (**Unknown**) remain relevant, grouping **18.1% of events and 14.3% of the burned surface (3,016.0 ha)**.

Containment Capacity & Operational Durations: Out of The system demonstrates high initial attack efficiency, suppressing **4,127 fires under 24 hours (98.1%)**. However, operational metrics vary drastically by size: **Small fires (<1 ha; 2,305 events)** require a mean of **2.66 hours**, and **Medium fires (1–50 ha; 1,840 events)** require **5.35 hours**. Conversely, **Large fires (>50 ha; 60 events)** a significantly longer mean duration of **29.5 hours**.

2. Spatiotemporal & Seasonal Variability

Redefined Seasonal Windows: The audited monthly data reveals a distinct decoupling between ignition frequency and spatial severity. **February** exhibits the absolute maximum in ignition frequency with **859 incidents** (followed by March with 470). However, the absolute peaks in terms of severe spatial degradation occur during **June (4,011.1 ha)** and **January (3,290.1 ha)**, followed closely by February (3,144.3 ha) and July (2,547.4 ha). This highlights a complex, bi-seasonal vulnerability window across the year.

Hourly and Weekly Human Footprint: Ignitions strictly mirror human socio-environmental schedules. Vertically, ignitions peak in a tight late-afternoon window: **16:00 (427 events)**, **15:00 (388 events)**, and **17:00 (386 events)**. Horizontally, while weekdays concentrate 68.0% of events (2,872 fires), **weekends pack a highly disproportionate operational pressure**, accounting for **32.0% of all ignitions (1,354 fires) and 7,032.2 ha of burned area** in just two days.

Zonal Asymmetries: In **Zone I** (Atlantic / North), which accounts for the largest share of historical records, fires are characterized by a higher relative baseline of Small fires (<1 ha), representing **55.6%** of its total (1,851 events), while Large fires (>50 ha) remain restricted to **1.05%** (35 events). Conversely, **Zona II** (Mediterranean / South) exhibits a far more severe escalation profile; although Small fires still lead with **52.5%** (470 events), Large fires jump to a striking **2.79%** of its total footprint (25 events). This nearly threefold increase in the proportion of large-scale disasters in the south confirms that when an ignition escapes containment in the Mediterranean watershed, fuel and climate conditions trigger significantly higher landscape-level degradation.

4. Conclusions

3. Operational Paradigms and Lessons Learned

Small fires and simultaneity need to be in the system - partiular: Although small fires (<1 ha) have a marginal ecosystem impact (accounting for 55.6% of events but <3.5% of total ha), their operational impact is crucial. Managing them in real time poses severe operational stress on the Basque Government's 112 emergency network and provincial fire brigades—a pressure that escalates exponentially when multiple fires occur simultaneously.

The Trap of Infinite Dimensions – Maintaining Focus: The field of wildfire analysis has so many potential ramifications that it is remarkably easy to lose focus. While uncovering variations is a vital first step, future operational systems will fail if they suffer from analytical drift; we must select variables strictly, understanding that attempting to capture every dimension at once dilutes practical utility.

The Non-Stationarity Paradox – When the Past No Longer Explains the Present: A critical takeaway of our temporal analysis is that when designing data-driven systems for operational real-time risk assessment, considering historical evolution is imperative. Because of rapid climate and socio-environmental shifts, the historical patterns we decoded may no longer fully explain the present or the future. Relying blindly on past stationarity risks creating blind spots against emerging fire behaviors.

Territorial Knowledge as an Indispensable First Step: A deep, multi-scale knowledge of local territorial features and fire behavior is paramount, but it is merely a foundational baseline. Developing advanced operational metrics or predictive tools for meteorological centers cannot be done in a vacuum; this characterization is just the first step of a longer operational architecture.

Moving Beyond Fire Weather – Multi-Factorial Daily Aggregations: Transitioning from this historical study to the operational reality of a meteorological center requires a shift in how we process risk. Wildfire characterization cannot rely on isolated atmospheric indexes; it must be multi-factorial and structurally incorporate daily temporal aggregations, linking meteorological stress with the human schedules.

The Small-Scale Constraint – Embracing Transboundary Dynamics: Analyzing a small and geographically fragmented territory like the Basque Country has taught us a definitive lesson: we cannot model or manage risk by staring only at our own borders. Fire ignores administrative lines. To build future, resilient operational systems, it is essential to account for transboundary fire dynamics and consider in our hazard models neighboring territories.

4. References

- Dimitrakopoulos, A.; Gogi, C.; Stamatelos, G.; Mitsopoulos, I. Statistical analysis of the fire environment of large forest fires (>1000 ha) in Greece. Pol. J. Environ. Stud. 2011, 20, 327–332.]
- Ganteaume, A.; Camia, A.; Jappiot, M.; San-Miguel-Ayanz, J.; Long-Fournel, M.; Lampin, C. A review of the main driving factors of forest fire ignition over Europe. Environ. Manag. 2013, 51, 651–662.
- Gaztelumendi, S., Gomez de Segura, J. D., Otxoa de Alda, K., & Egaña, J. (2019). A 21st century synoptic climatology of fire-weather conditions in Basque Country. EMS2019-373. 16th EMS Annual Meeting 2019, Lyngby, Dinamarca.
- Gaztelumendi, S., Gómez de Segura, J. D., Otxoa de Alda, K., Gelpi, I. R., Hernández, R., Ruiz, R., & Díaz de Arcaya, A. (2020). Sistema de Información de riesgo de incendios forestales de la CAPV. Entregable proyectos impacto. DAEM.
- Gaztelumendi, S., Gomez de Segura, J. D., Hernandez. R (2024). An analysis of Satellite products for a regional fire information system: the case of Basque Meteorology Agency. EUMETSAT Meteorological Satellite Conference. Würzburg, Germany, 30 September - 4 October 2024.
- Gaztelumendi, S. and Aranda, J. A. (2025a). Characterization of wildfires in Basque Country and comparison with other Iberian Peninsula Regions., EMS Annual Meeting 2025, Ljubljana, Slovenia, 7–12 Sep 2025, EMS2025-514, https://doi.org/10.5194/ems2025-514, 2025.
- Gaztelumendi, S. and Aranda, J. A. (2025c). Artificial Intelligence and Machine Learning at Basque Meteorology Agency, EMS Annual Meeting 2025, Ljubljana, Slovenia, 7–12 Sep 2025, EMS2025-523, https://doi.org/10.5194/ems2025-523, 2025.
- Gaztelumendi, S., Cantero, A., Gerenabarrena, I., and Aranda, J. A. (2025b). Interreg Sudoe Use4Forest Project: the Basque partners' contribution, EMS Annual Meeting 2025, Ljubljana, Slovenia, 7–12 Sep 2025, EMS2025-491, https://doi.org/10.5194/ems2025-491, 2025.
- Gaztelumendi, S. (2026a): Human and Natural Drivers of Wildfires in the Basque Country: Causes and Motivations (1995–2022), EMS Annual Meeting 2026, Utrecht, Netherlands, 6–11 Sep 2026, EMS2026-586, https://doi.org/10.5194/ems2026-586, 2026.
- Gaztelumendi, S. (2026b). Usability analysis of a dead fuel moisture sensor after a multi-year exposure cycle (2020–2025). WMO Technical Conference on Instruments and Methods of Observation (TECO-2026). Amsterdam, Netherlands, 5 - 8 October 2026.
- Gaztelumendi, S., Otxoa de Alda, K., Hernandez, R., Cantero, A., Gómez de Segura, J. D., Ansorena, L. (2026a). Deployment of a High-Resolution Dead Fuel Status Monitoring Network in the Basque Country. WMO Technical Conference on Instruments and Methods of Observation (TECO-2026). Amsterdam, Netherlands, 5 - 8 October 2026.
- Gaztelumendi, S., Cantero, A., Egaña, J., Otxoa de Alda, K. (2026b). Characterizing the evolution of dead fuel moisture and temperature responses to atmospheric forcing: A multi-year integrated study (2020–2025) in the Basque Country. WMO Technical Conference on Instruments and Methods of Observation (TECO-2026). Amsterdam, Netherlands, 5 - 8 October 2026.
- Gaztelumendi, S., Otxoa de Alda, K (2026c). Empirical Analysis of Meteorological Drivers on Wildfire Dynamics in the Basque Country. Advances on Forest Fire Research – 2026 D. X. Viegas & L.M. Ribeiro (Ed.) ICFFR 26, Coimbra, Portugal.
- Gaztelumendi, S., Otxoa de Alda, K (2026d). Evaluation of Meteorological Fire Danger Indices in the Basque Country. Advances on Forest Fire Research – 2026 D. X. Viegas & L.M. Ribeiro (Ed.) ICFFR 26, Coimbra, Portugal.
- GV. Plan especial de emergencias por riesgo de incendios forestales en la comunidad autonoma vasca (2025). Servicio central de publicaciones de Gobierno vasco. Administración de la Comunidad Autónoma del País Vasco Departamento de Seguridad . ISBN: 978-84-457-3811-5
- Pebesma, E., Bivand, R., Racine, E., Sumner, M., Cook, I., Keitt, T., Lovelace, R., Wickham, H., Ooms, J., Müller, K., Pedersen, T. L., Baston, D., Dunnington, D., & Courtiol, A. (2026). sf: Simple Features for R. R package version 1.1-2. Available at: CRAN sf.
- R Core Team (2026). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. Available at: R Project Website.
- Tukey, J. W. (1977). Exploratory data analysis. Addison-Wesley.
- Vieira, I.; Russo, A.; M. Trigo, R. Identifying Local-Scale Weather Forcing Conditions Favorable to Generating Iberia's Largest Fires. Forests 2020, 11, 547. https://doi.org/10.3390/f11050547
- Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T. L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D. P., Spinu, V., Takahashi, K., Vaughan, D., Wilke, C., Woo, K., & Yutani, H. (2019). Welcome to the tidyverse. Journal of Open Source Software, 4(43), 1686.
- Wickham, H., François, R., Bryan, J., & Barrett, M. (2023a). dplyr: A Grammar of Data Manipulation. R package version 1.1.4. Available at: CRAN dplyr.
- Wickham, H. (2010). A layered grammar of graphics. Journal of Computational and Graphical Statistics, 19(1), 3–28. doi 10.1198/jcgs.2009.07098.
- Wickham et al., (2019). Welcome to the tidyverse. *Journal of Open Source Software*, 4(43), 1686
- Wickham, H. (2011). The split-apply-combine strategy for data analysis. Journal of Statistical Software, 40(1), 1–29. doi 10.18637/jss.v040.i01.
- Wickham, H. (2014). Tidy data. Journal of Statistical Software, 59(10), 1–23. Doi 10.18637/jss.v059.i10 .
- Wickham, H., Chang, W., Henry, L., Pedersen, T. L., Takahashi, K., Wilke, C., Woo, K., Yutani, H., & Dunnington, D. (2026). ggplot2: Create Elegant Data Visualisations Using the Grammar of Graphics (R package version 3.6.0). doi 10.32614/CRAN.package.ggplot.
- Wickham, H., François, R., Henry, L., Müller, K., & Vaughan, D. (2026). dplyr: A Grammar of Data Manipulation (R package version 1.2.1). doi 10.32614/CRAN.package.dplyr.
- Pebesma, E. (2018). Simple Features for R: Standardized Support for Spatial Vector Data. The R Journal, 10(1), 439–446. https://doi.org/10.32614/RJ-2018-009
- Wickham, H., Vaughan, D., & Girlich, M. (2023b). tidyr: Tidy Messy Data. R package version 1.3.0. Available at: CRAN tidyr.

Acknowledgements

This study has been partially funded by the European Union through the **Interreg Sudoe Project USE4FOREST** (Project Code: SO2.4/1.1/E0024).

Additionally, this research was supported by the **Directorate of Natural Heritage and Climate Change Adaptation** (Vice-Ministry of Environment) and the **Directorate of Emergency Attention and Meteorology** (Vice-Ministry of Civil Protection) of the **Basque Government.**

The author expresses his gratitude to the global **open-source and open-data communities** for providing accessible, high-utility datasets and shared platforms of public utility.

Special recognition is extended to **the R developers, contributors, and package maintainers**, whose shared frameworks significantly advance data science and foster the democratization of code, enabling the reproducibility of complex computational pipelines and spatial workflows in environmental research.

EUSKO JAURLARITZA
GOBIERNO VASCO

Interreg Sudoe
Co-funded by the European Union
USE4FOREST

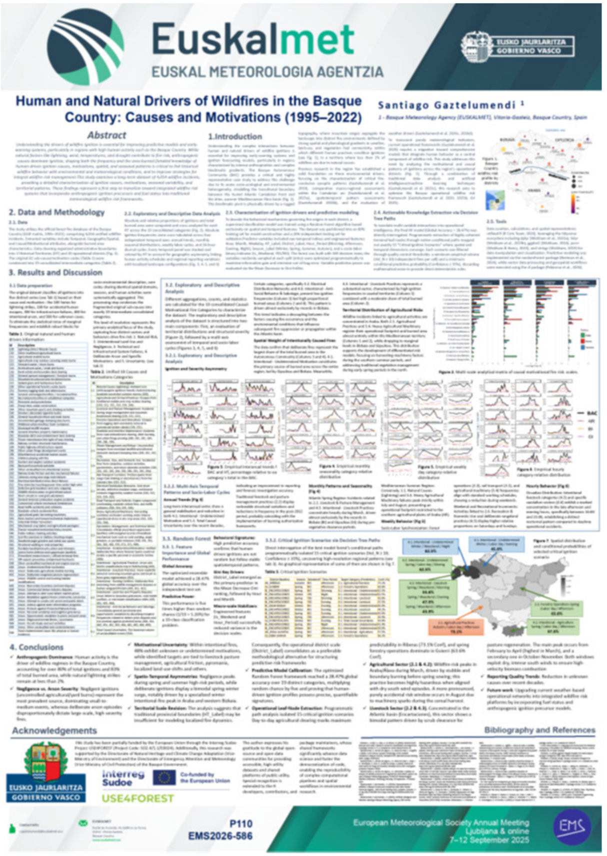
Eskerrik Asko
Thank you

Questions ?

VISIT POSTER P110

[Human and Natural Drivers of Wildfires in the Basque Country: Causes and Motivations (1995–2022)]

Thu, 10 Sep, 16:30–18:00   TransitZone | P110



Contact:

Santiago Gaztelumendi

Director of strategy and coordination

Basque Meteorology Agency (Euskalmet)

Portal de Foronda, 41 (Edificio La Torre), Vitoria-Gasteiz.
Araba, Basque Country (Spain)

E-mail:

s-gaztelumendi@euskalmet.eus