net risk work

Funded by European Union Humanitarian Aid and Civil Protection

CTFC

EFI

FVA Forest Research Institute Baden-Württemberg

PAU COSTA FOUNDATION

PROTEZIONE CIVILE Regione Autonoma della Sardegna

VALABRE

EMERGENCY MANAGEMENT AND RISK GOVERNANCE TOWARDS RESILIENT SOCIETIES

Cagliari (Sardinia, Italy), 10-13th April 2018

Human factor and community involvement. The case of wildfires in NW Spain

Juan Picos Martín

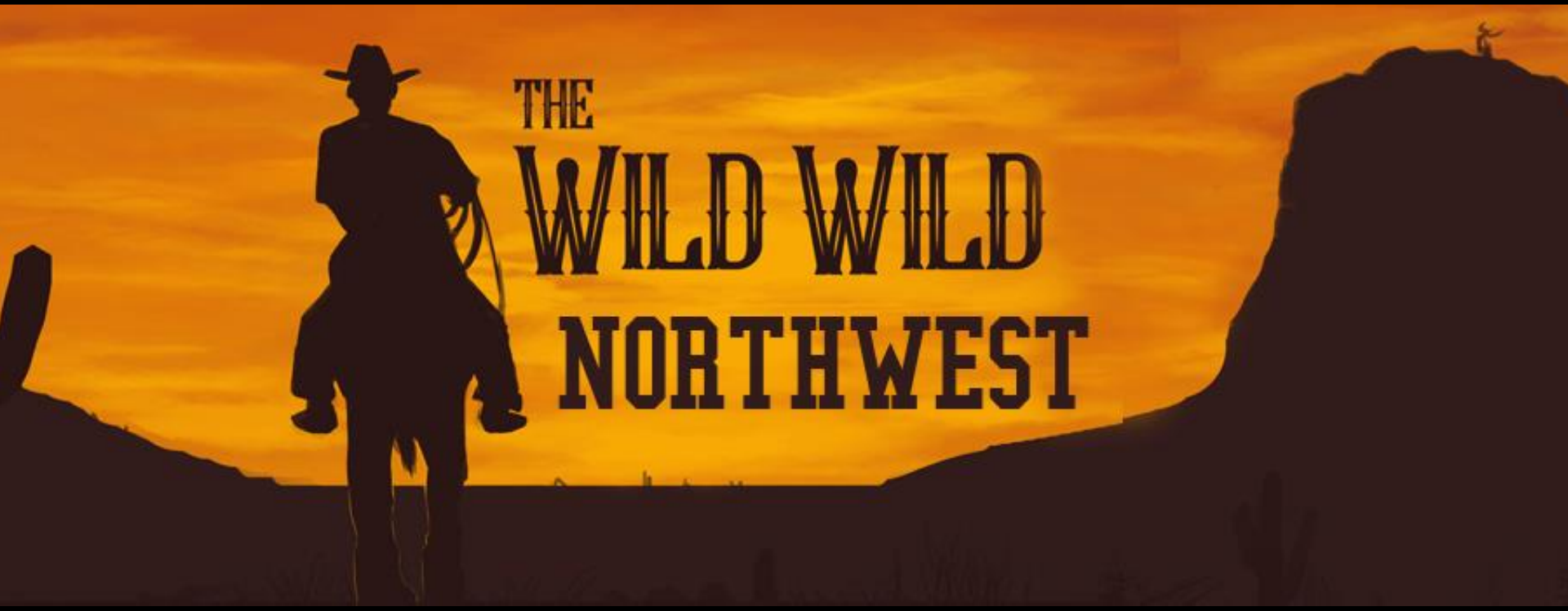
jpicos@uvigo.es / @jpicos13

Escola de Enxeñaría Forestal

Universidade Vigo

CREA S2i

Social and Sustainable Innovation


THE
WILD WILD
NORTHWEST

INCENDIOS PENÍNSULA IBÉRICA 2017-2018

En imagen puntos calientes detectados por sensores VIIRS y MODIS de NASA en península ibérica durante todo 2017 y 2018, a 27 de febrero

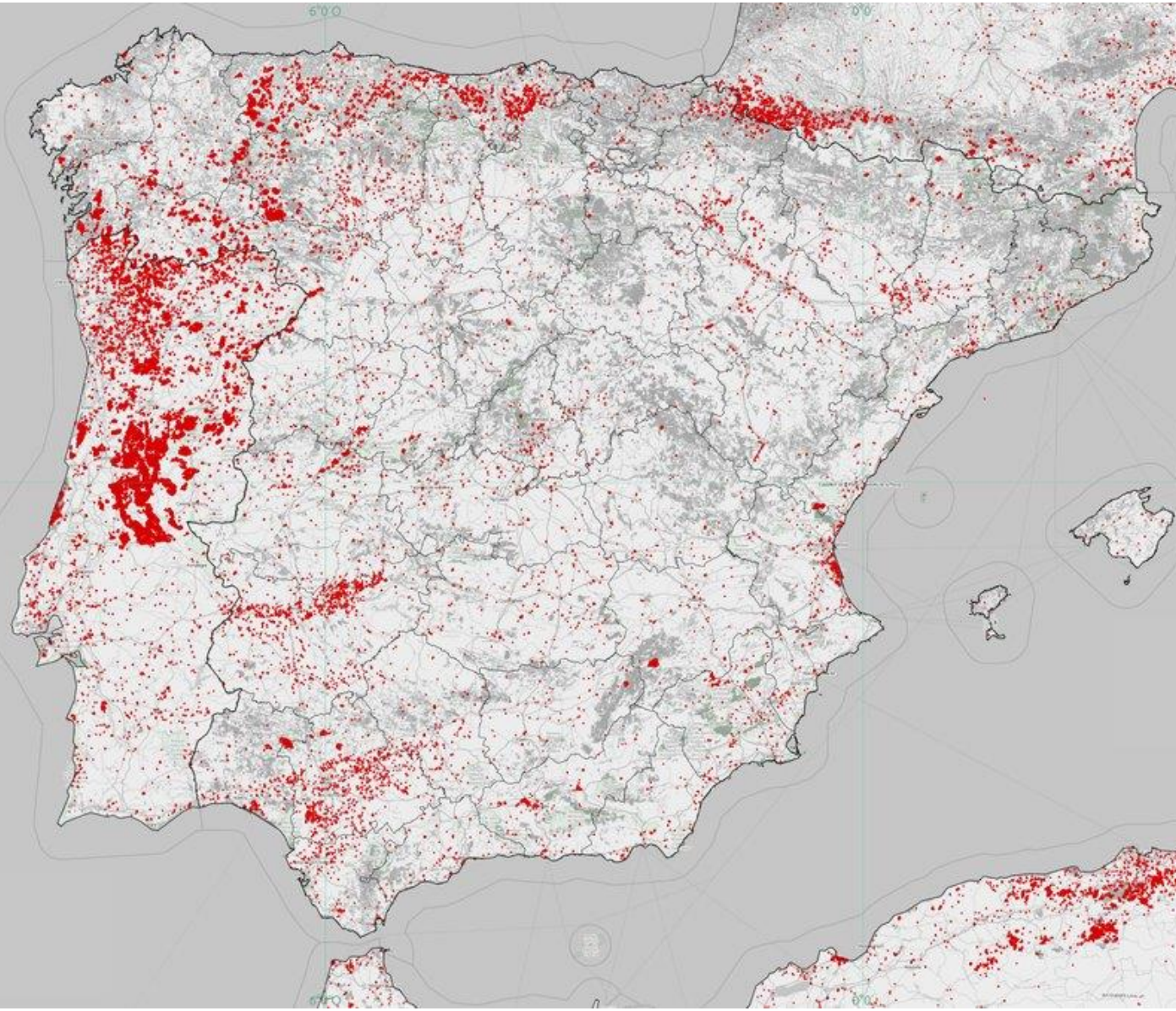
Leyenda

- Incendios/puntos calientes

N

0 100 km

DATUM: WGS 1984
PROJECTION: Pseudo Mercator



NRT VIIRS 375 m Active Fire product VNP14IMGT. Available on-line [https://earthdata.nasa.gov/firms]. DOI:10.5067/FIRMS/VIIRS/VNP14IMGT.NRT.001.

MODIS Collection 6 NRT Hotspot / Active Fire Detections MCD14DL. Available on-line [https://earthdata.nasa.gov/firms]. DOI:10.5067/FIRMS/MODIS/MCD14DL.NRT.006

Imagen fondo: Open Street Map

Editado por @eforestal

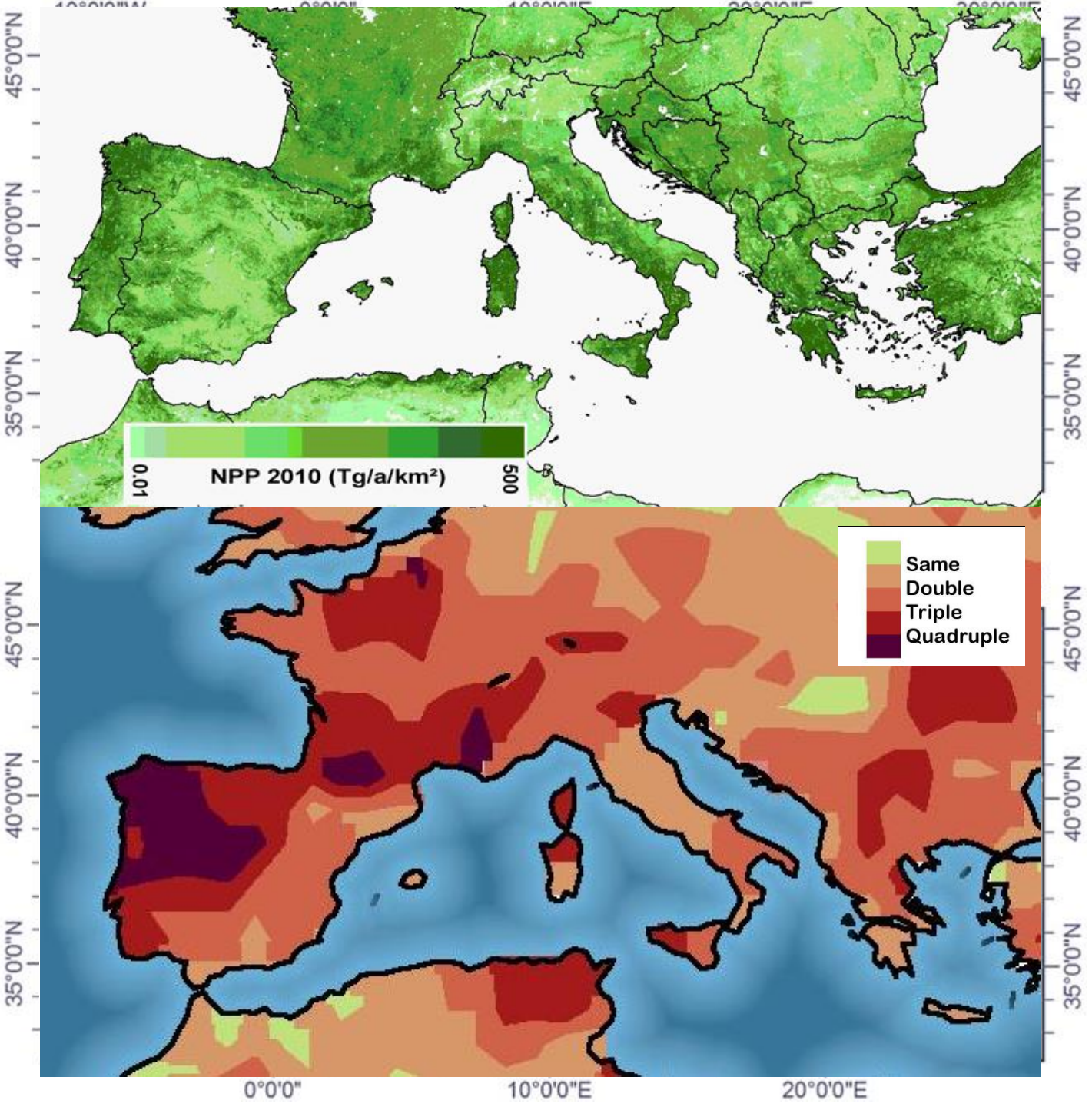
Copernicus Academy

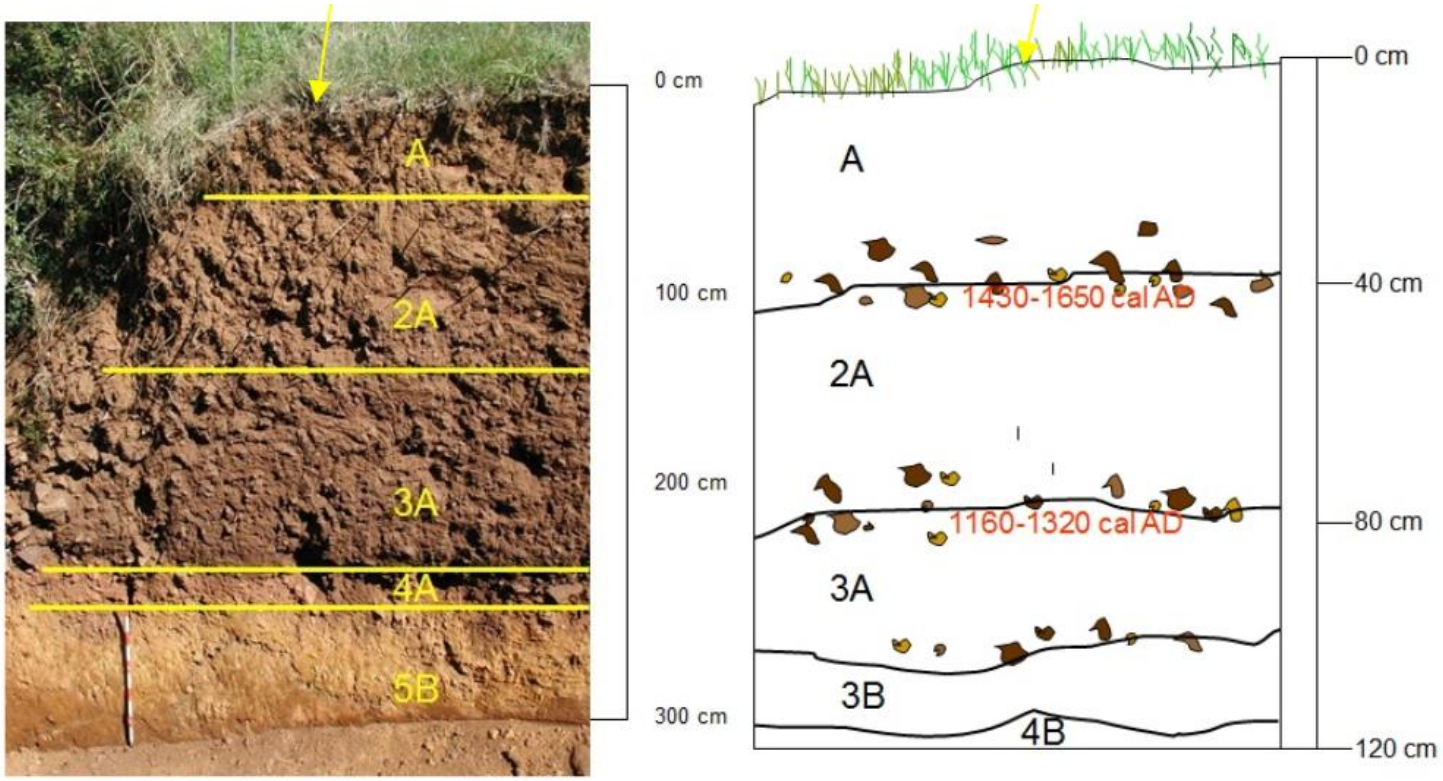
Koutsias et al. 2015
doi: 10.3832/ifor1513-008
Fire occurrence zoning from local to global scale in the European Mediterranean basin: implications for multi-scale fire management and policy

World Data Center for Remote Sensing of the Atmosphere
Annual NPP of Europe for 2010 in $Tg*a^{-1}*km^{-2}$.
Sum over all vegetation types.

Köppen climate classification Europe
Csb - Oceánico mediterráneo (verano suave)

Dirmeyer 2011
Change in the likelihood of summer season drought (defined as a once in ten years event for the late 20th century) by the end of the 21st century, according to multi-decade simulations with the operational model of the European Centre for Medium-range Weather Forecasts (ECMWF) based on the A1b scenario of the IPCC.

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200 cm
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1430-1650 cal AD
2A
1160-1320 cal AD
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3B
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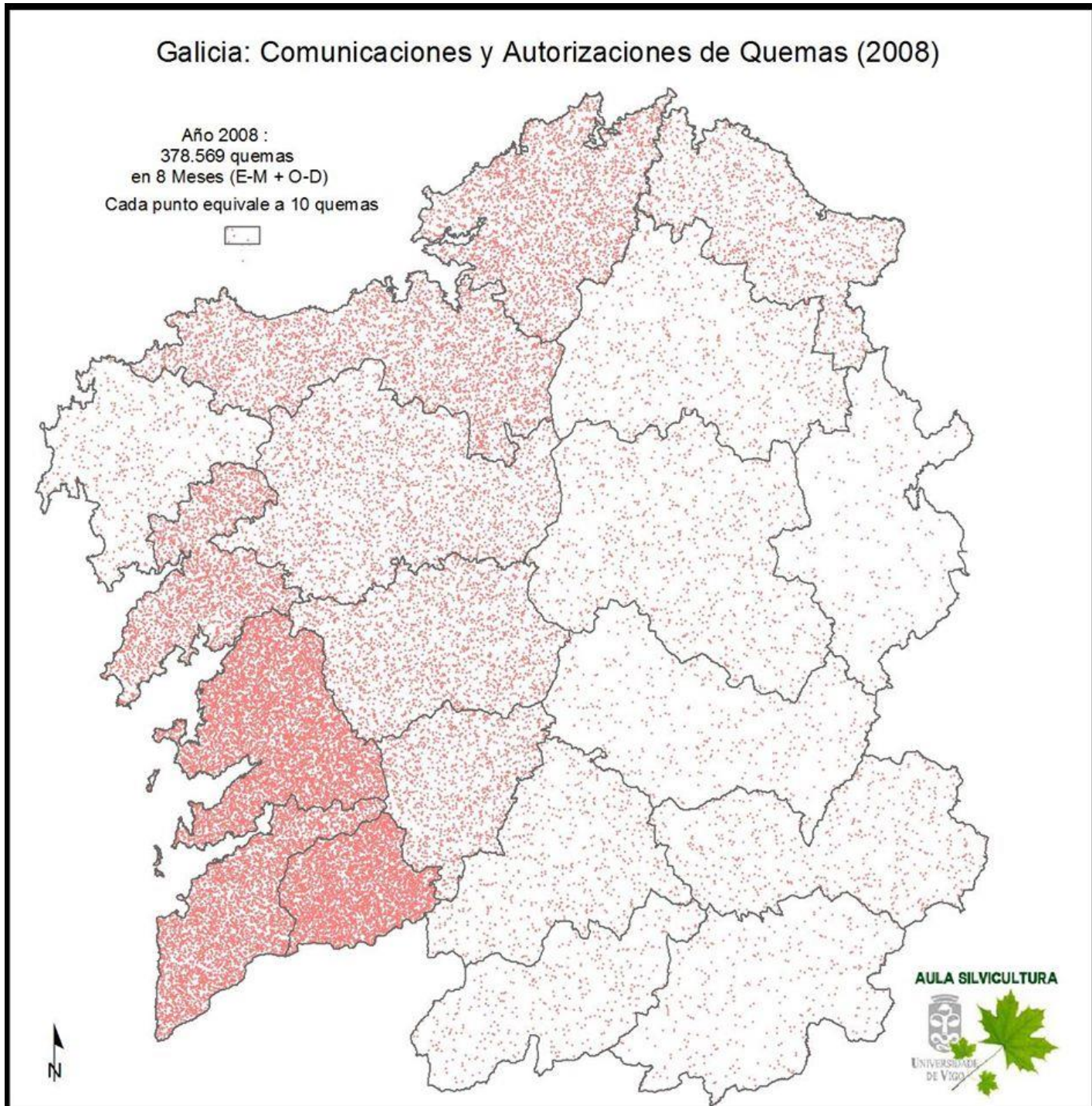
120 cm

400.000 burning permits are issued in Galicia each year (out of the risk season)

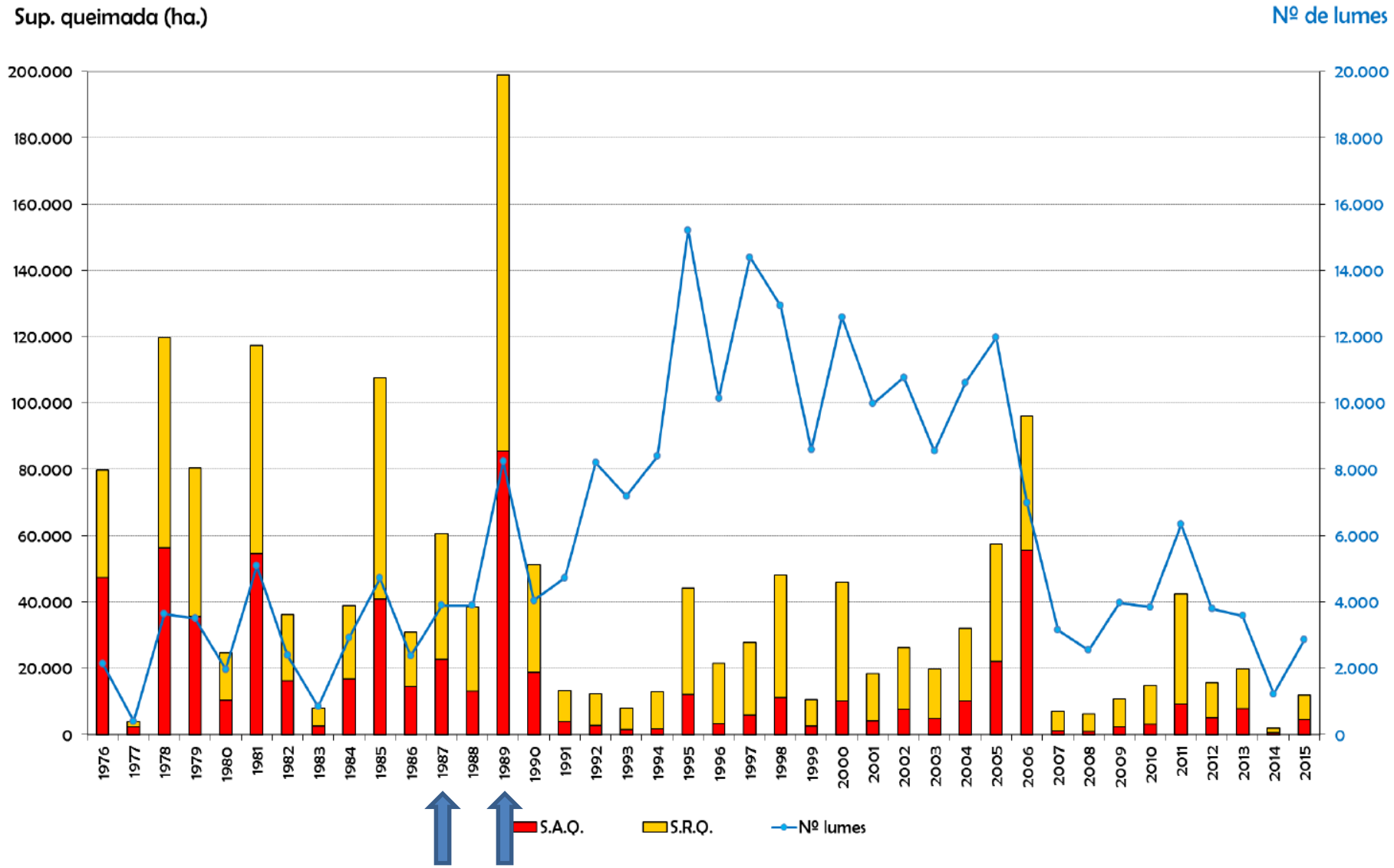
Each point represent 10 burning permits



La Voz de Galicia 05/12/2017 05:00 H

Concedidos en seis días casi 40.000 permisos de quema tras el levantamiento de la suspensión

Más de la mitad de las solicitudes, 22.721, corresponden a la provincia de Pontevedra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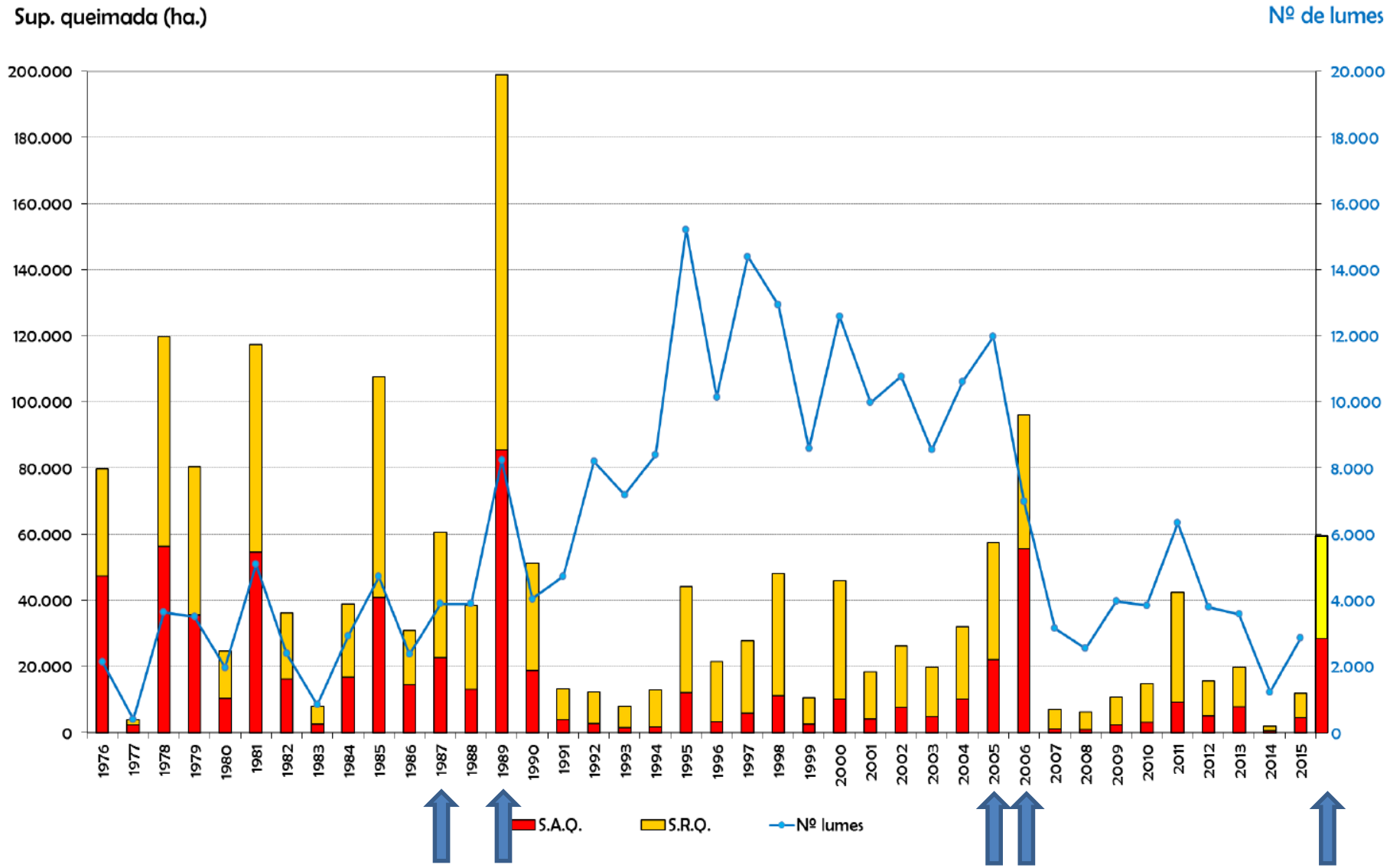
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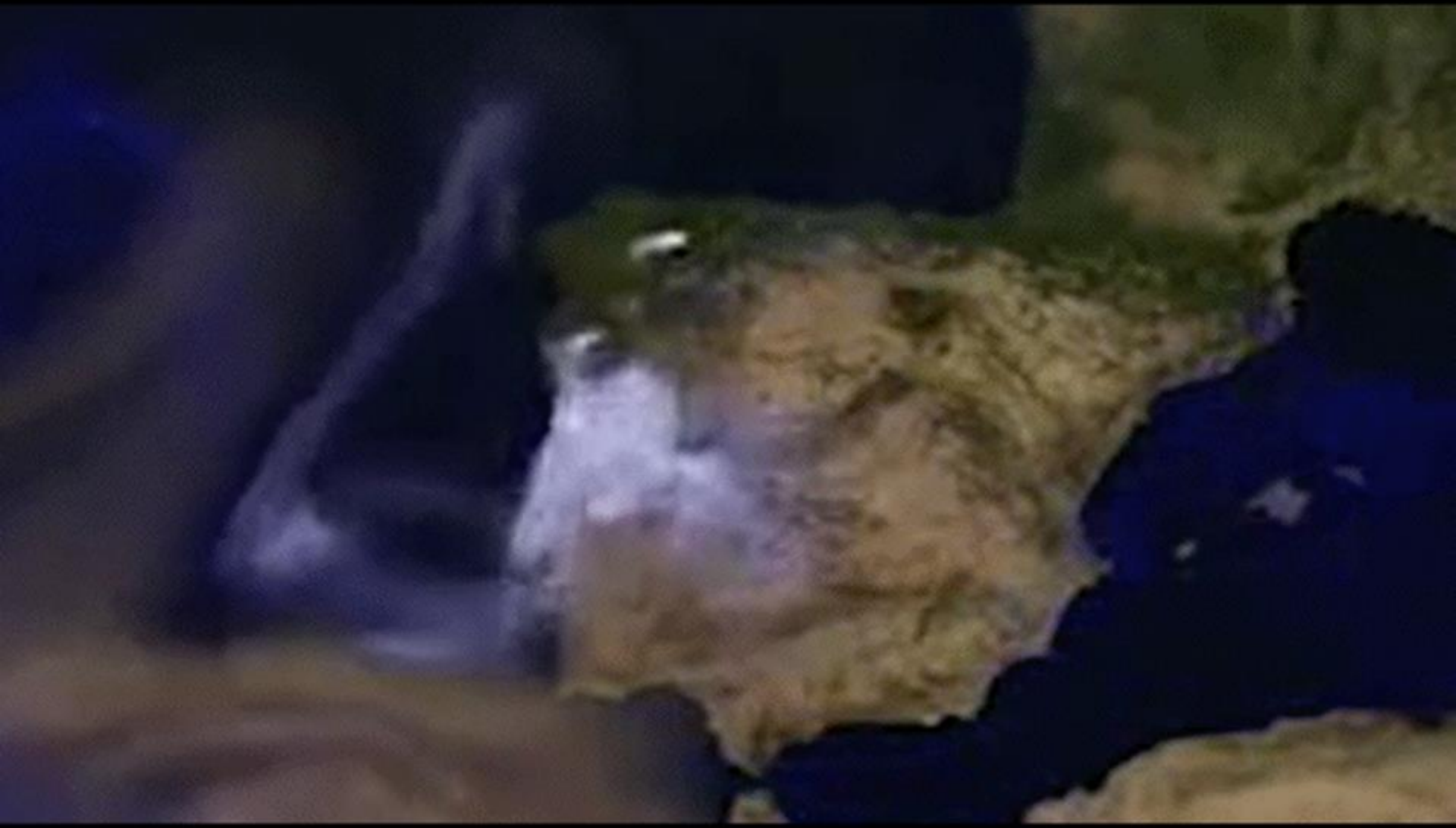
Nº lumes

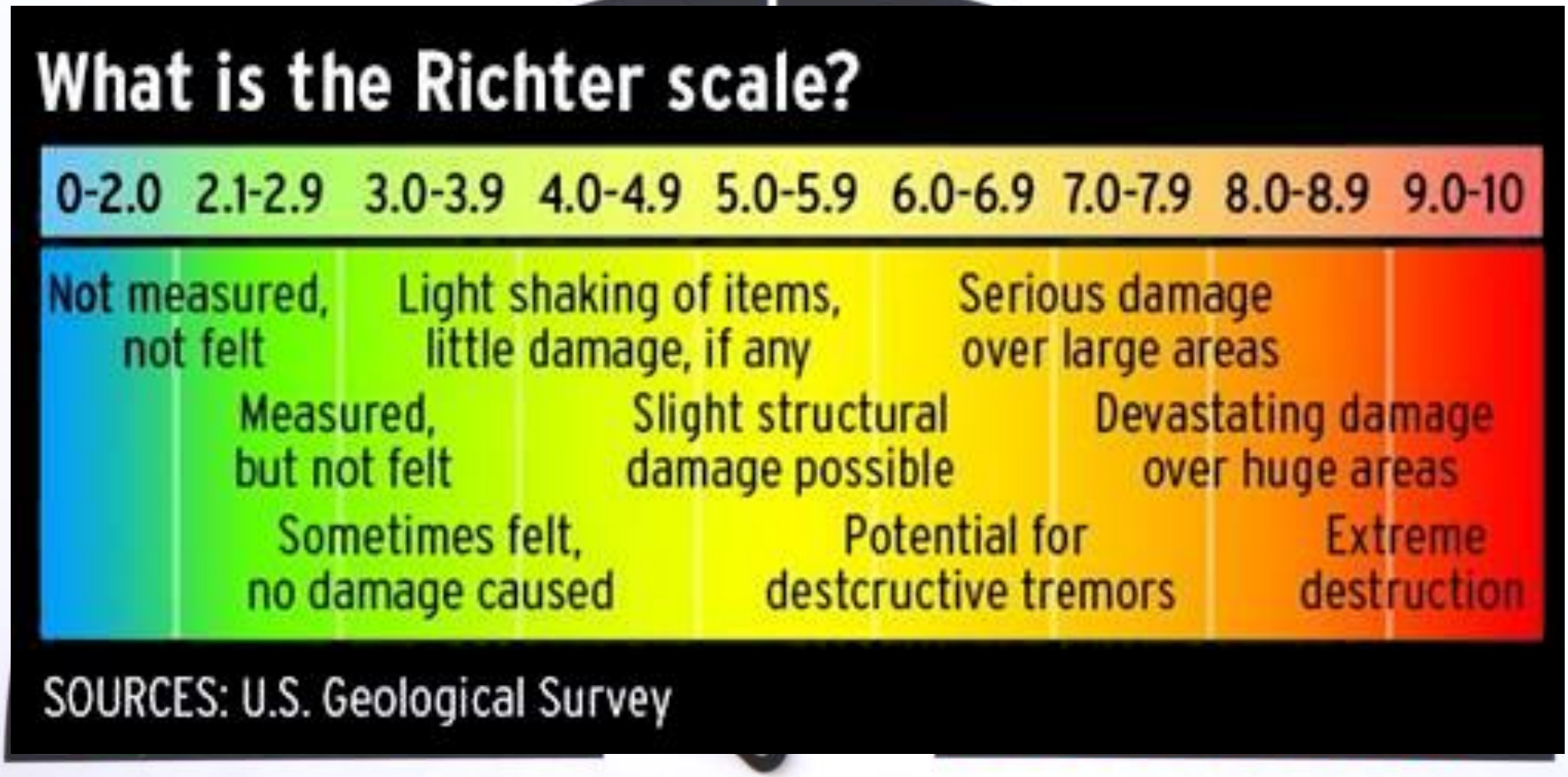
“IT NEVER HAPPENED LIKE THIS BEFORE”

Animación Aerosoles Sobre Península Ibérica 10 Octubre – 20 Octubre 2017 ©NASA

(azul = sal marina, marrón = polvo, blanco = humo)



FIRE DANGER RATING



COMPLEX PROBLEMS IN COMPLEX TERRITORIES

Corbelle e Crecente (2014)

43,2% of Galician land changed its use between 1985 and 2005

Transicions entre clases (en ha)

Clase do ano 1985	Clase do ano 2005				
	1.	2.	3.	4.	5.
1. Agriculture	520.505	106.571	74.814	158.253	67.834
2. Shrubland	130.901	504.851	90.623	235.249	17.554
3. Non-Productive forest	25.047	22.244	68.797	32.349	2.482
4. Productive forest	94.931	131.497	32.516	551.264	23.745
5. Unproductive	10.690	12.146	2.401	8.031	34.298

Stable Surface for each class (1985-2005)

Clase do ano 1985 e superficie		Superficie estable	
Agriculture	927.977 ha	520.505 ha	(56,1%)
Shrubland	979.178 ha	504.851 ha	(51,6%)
Hardwoods	150.919 ha	68.797 ha	(45,6%)
Productive forest	833.953 ha	551.264 ha	(66,1%)
Unproductive	67.566 ha	34.298 ha	(50,8%)
Total	2.959.593 ha	1.679.715 ha	(56,8%)

Table 1
Main characteristics for WUI and non-WUI in the study area.

	Area (km^2)	Area (%)	Buildings (%)	Buildings per km^2	Built area (%)	Ignition points (%)	Ignition points per km^2
WUI	2441.9	8.3	69.7	279.1	62.4	14.6	0.76
WUI by spatial arrangements of buildings							
Isolated	571.6	23.4	12.2	145.6	11.9	14.7	0.48
Dispersed	534.6	21.9	14.5	184.8	13.3	22.8	0.79
Dense clustered	1139.6	46.7	59.8	357.6	59.9	51.9	0.84
Very dense clustered	196.1	8.0	13.5	468.5	14.9	10.6	1.00
WUI by forest fragmentation							
High	365.1	15.0	3.2	58.9	1.9	19.1	0.97
Low	134.7	5.5	2.3	117.0	1.6	4.5	0.62
Non-forest	1942.1	79.5	94.5	331.7	96.5	76.4	0.73

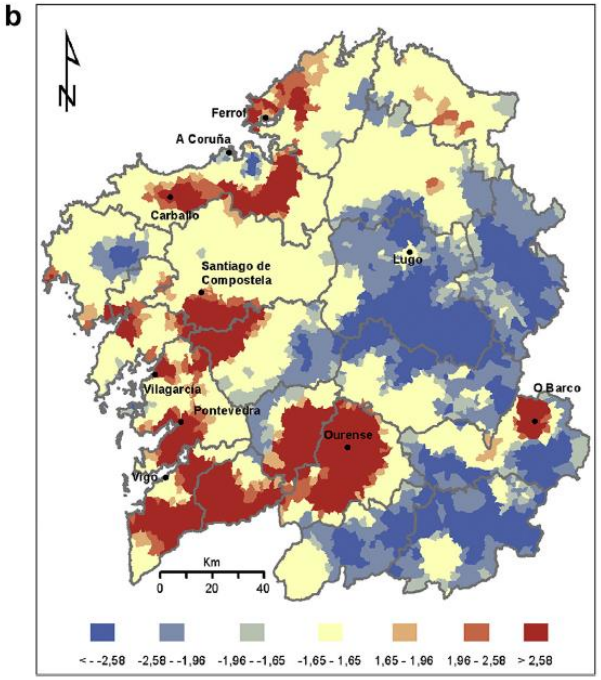


Fig. 3. (a) WUI at parish level as a percentage of parish area, (b): *Z* scores from Gi* statistics for WUI at parish level as a percentage of parish area.

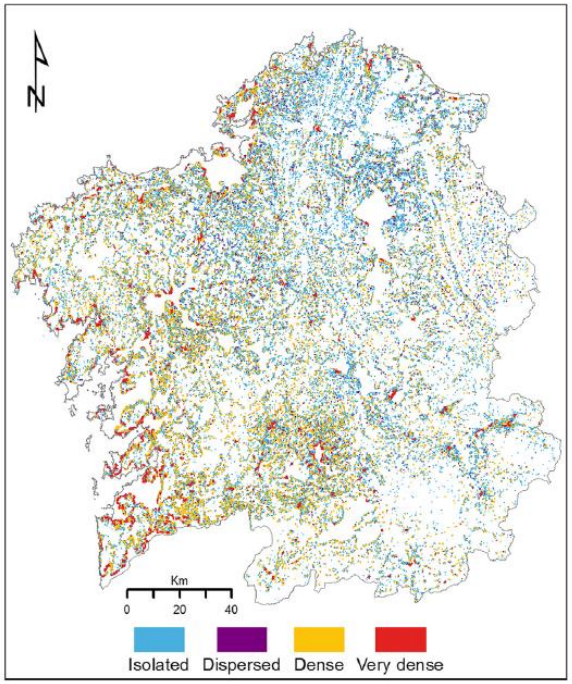


Fig. 4. WUI areas classified by spatial arrangements of building (isolated buildings, dispersed buildings, dense clustered buildings, and very dense clustered buildings).

Forest Ecology and Management xxx (2012) xxx–xxx

Contents lists available at SciVerse ScienceDirect

Forest Ecology and Management

journal homepage: www.elsevier.com/locate/foreco

Methodological approach to assess the socio-economic vulnerability to wildfires in Spain

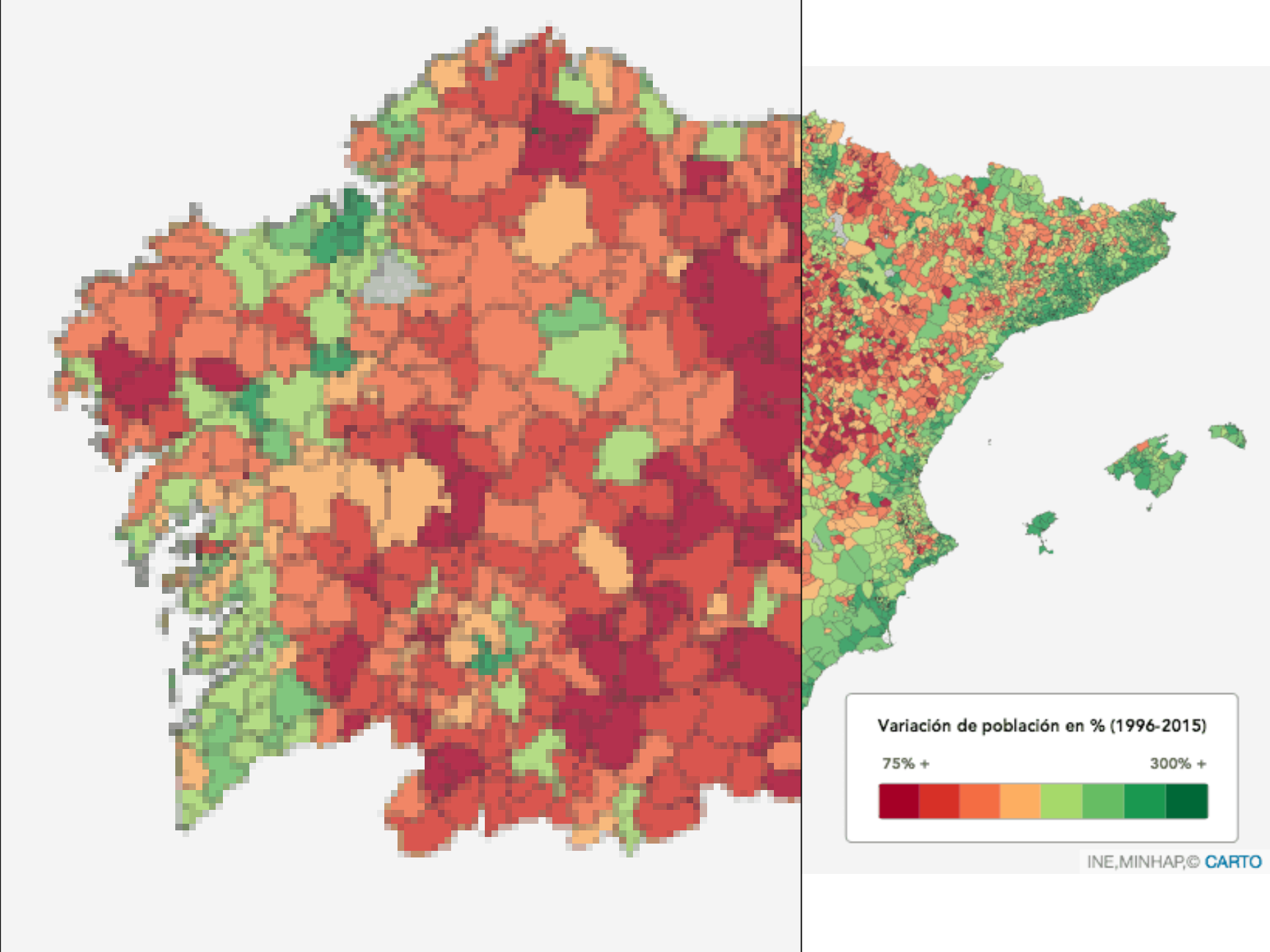
María Victoria Román [a,*], Diego Azqueta [a], Marcos Rodrígues [b]

[a] Departamento de Fundamentos de Economía e Historia Económica, Universidad de Alcalá, Plaza de la Victoria s/n, Alcalá de Henares, Madrid 28801, Spain
[b] Departamento de Geografía y Ordenación del Territorio, Universidad de Zaragoza, Calle Pedro Cerbuna 12, Zaragoza 50009, Spain

Table 8
Losses by type of impact. *Source*: Self elaboration.

Type of impact	Average (TEUR km^{-2})	Aggregate (TEUR)
Buildings	376,584	2,400,346,504
Wood	6.28	345,001
Firewood	0.80	9779
Cork	48.36	241,822
Pine nuts	3.40	26,137
Big-game hunting	0.23	56,230
Small-game hunting	0.47	97,648
Fishing	1.81	11,851
Recreational services	3.71	687,596
CO_2 stock	20.53	4,054,930
Human life	9.17	3,457,950

Román, M.V., et al. Methodological approach to assess the socio-economic vulnerability to wildfires in Spain. Forest Ecol Manage. (2012), http://dx.doi.org/10.1016/j.foreco.2012.07.001


Variación de población en % (1996-2015)
75% +
300% +
INE,MINHAP,© CARTO

ABANDON THE BLACK (and the GREEN)

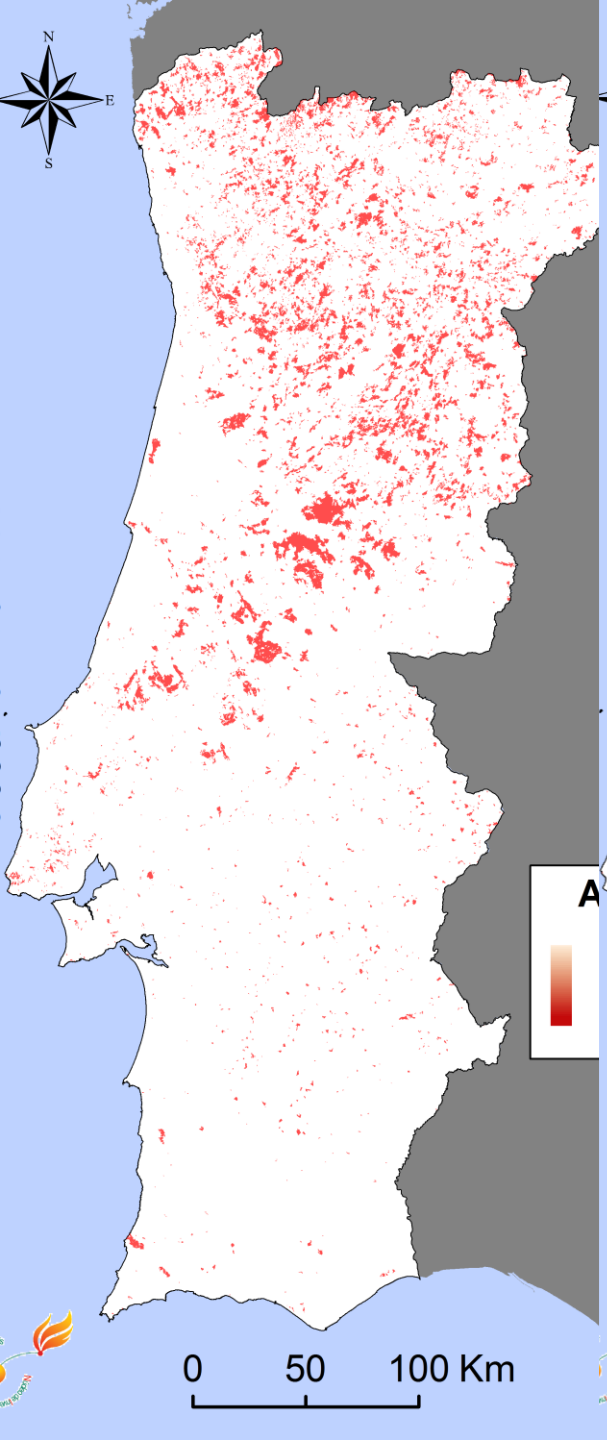
“Green burning”


SE
VENDE
TLF. 23 81 83


UGA1137015

- DIGNITY (don’t treat affected as culprits)
- ALTERNATIVES (Diverse and profitable)
- EMPATHY (prevent erosion –of people-)
- RESPONSABILITY (take right decisions on a daily basis)

WILDFIRES HAVE MEMORY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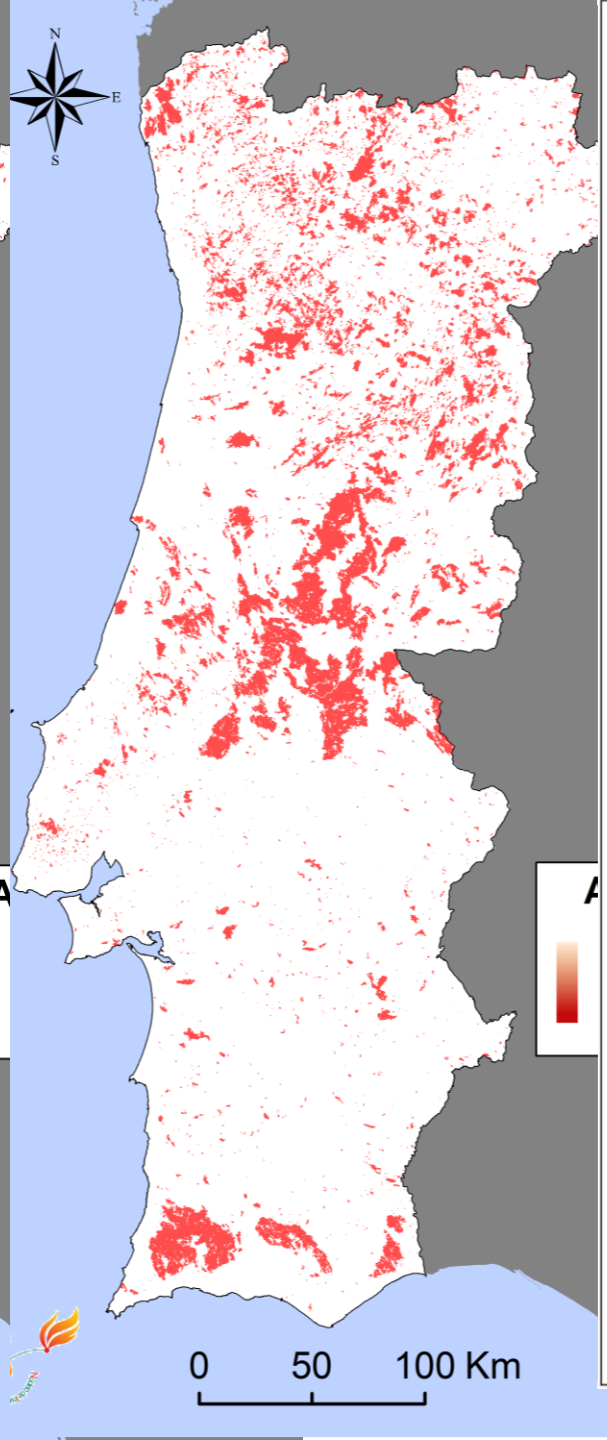
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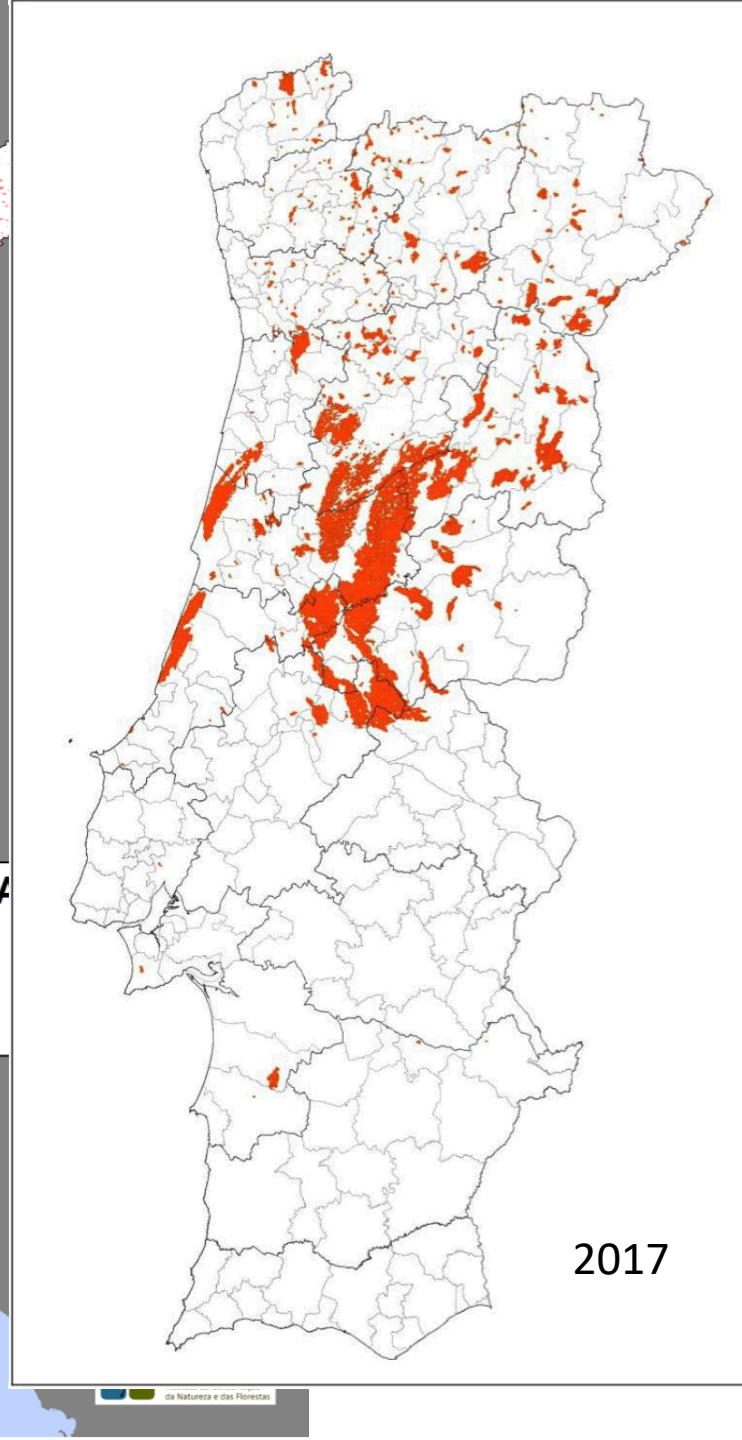
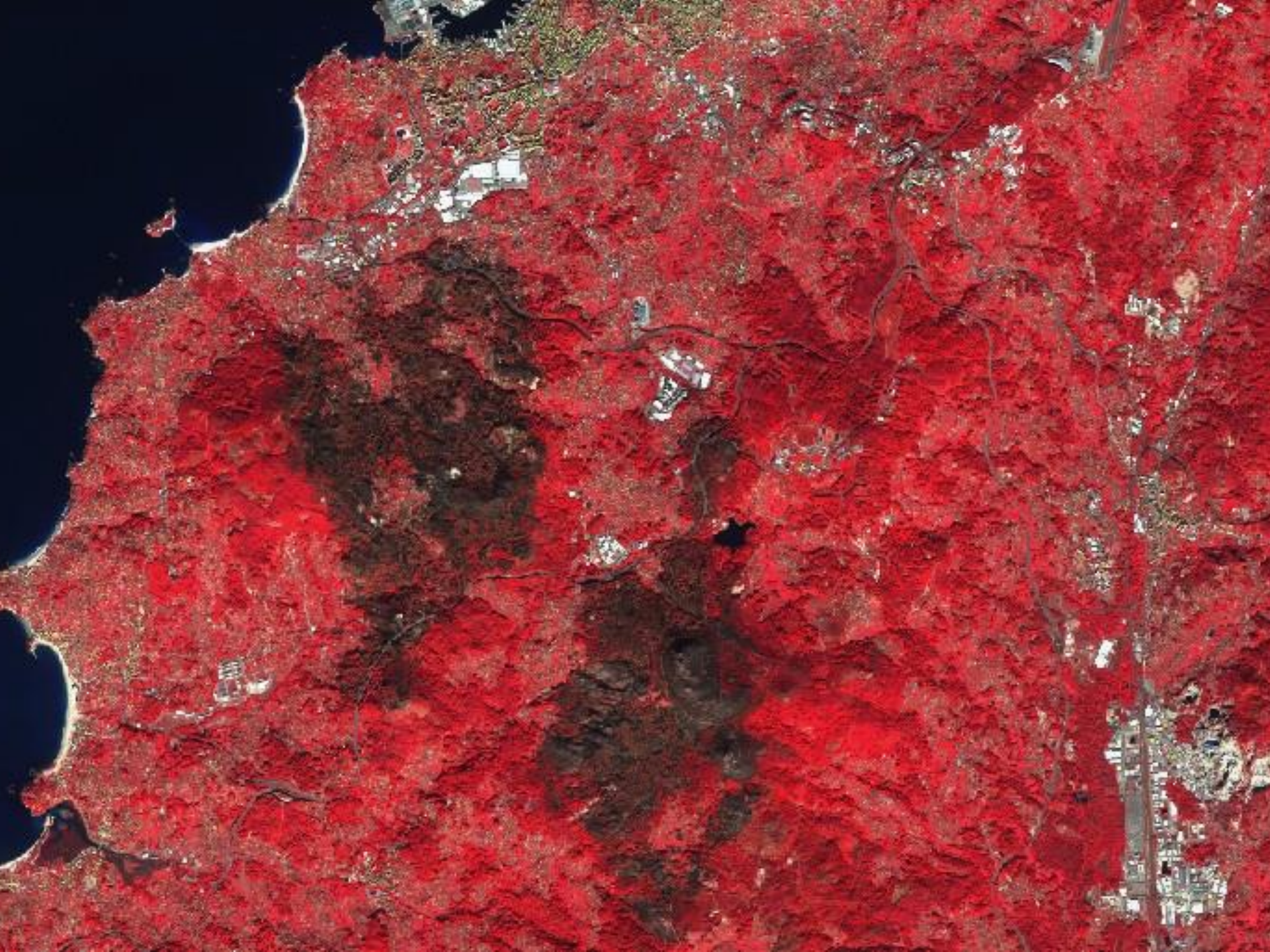
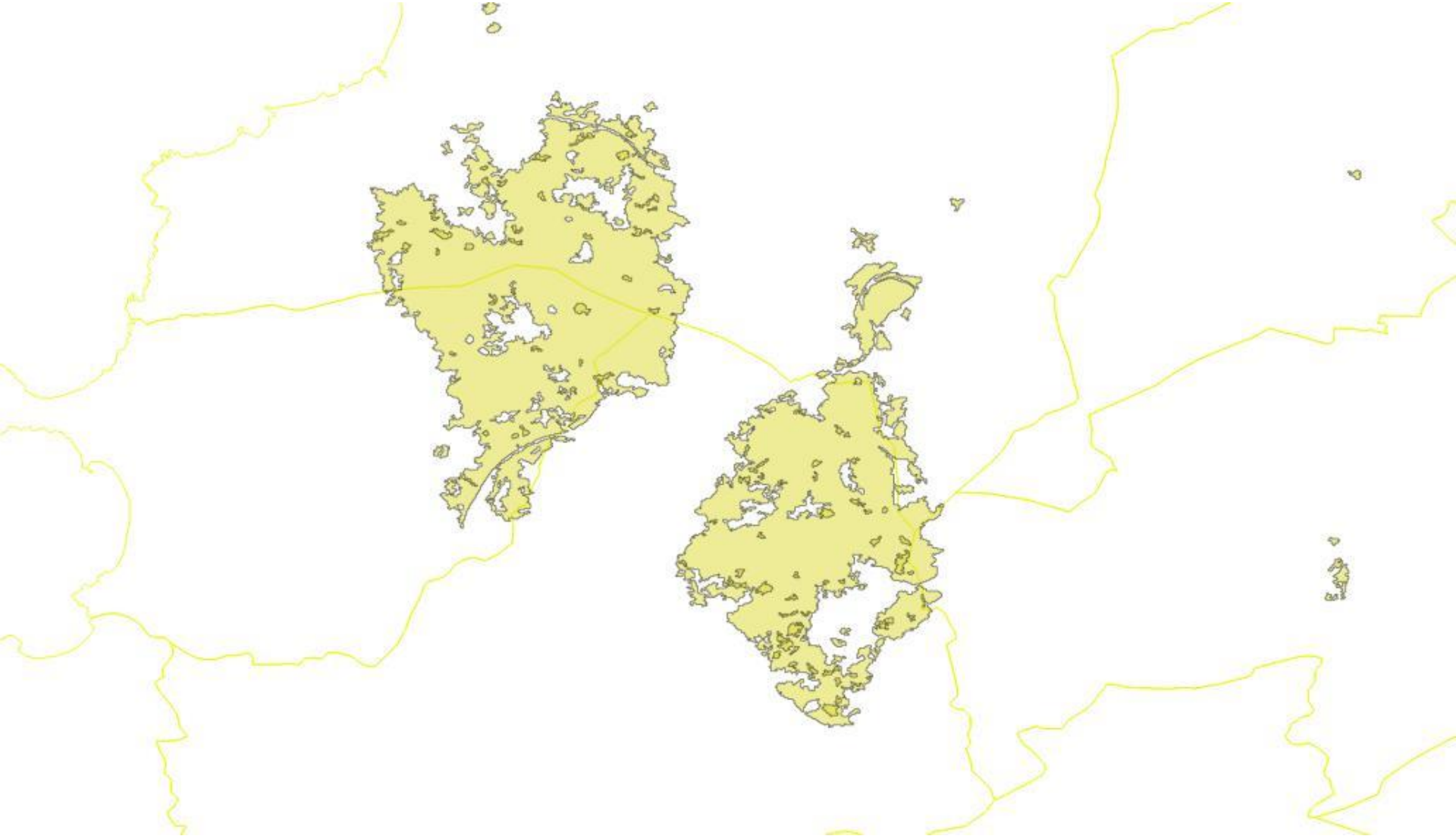
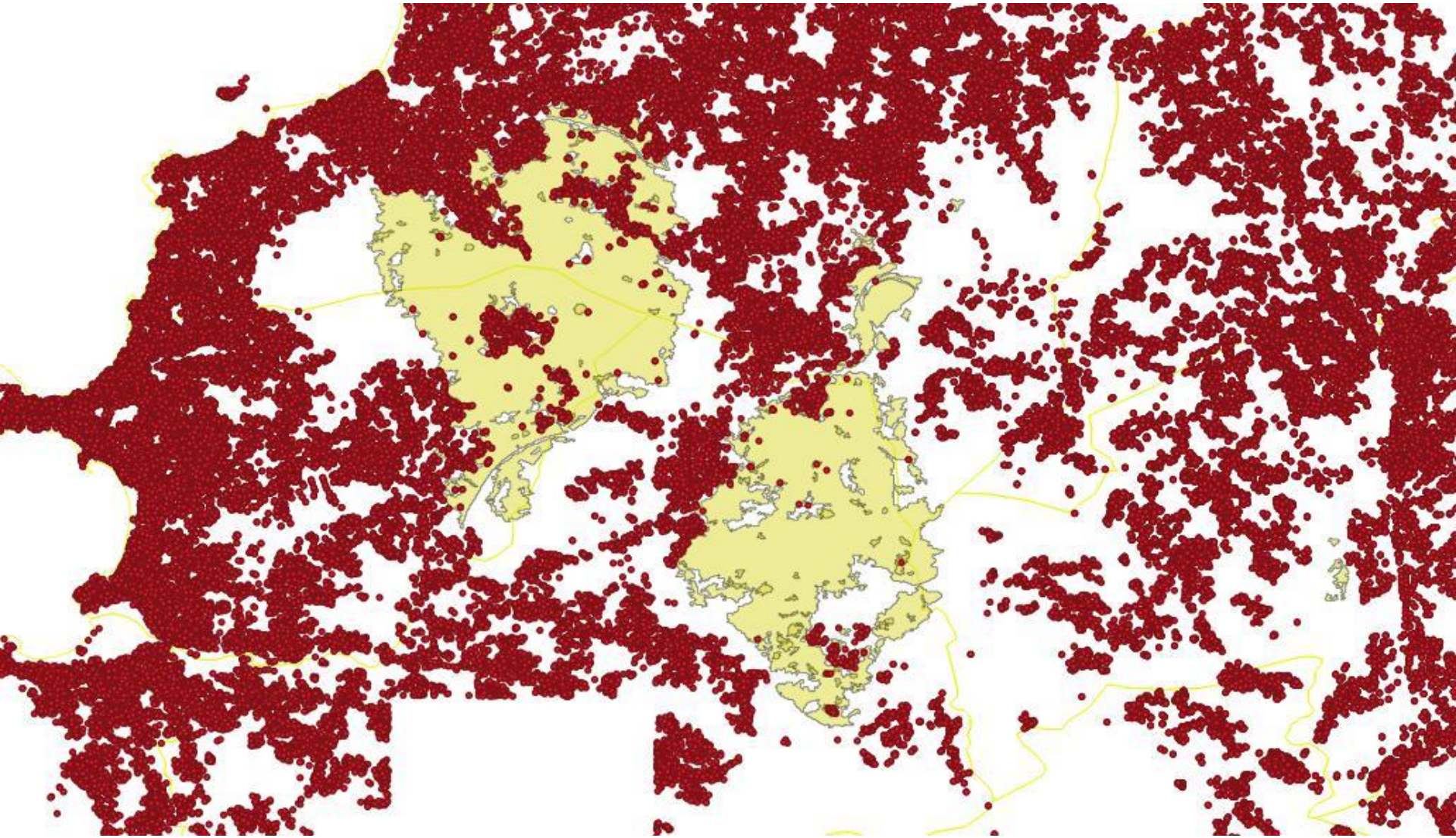

2017

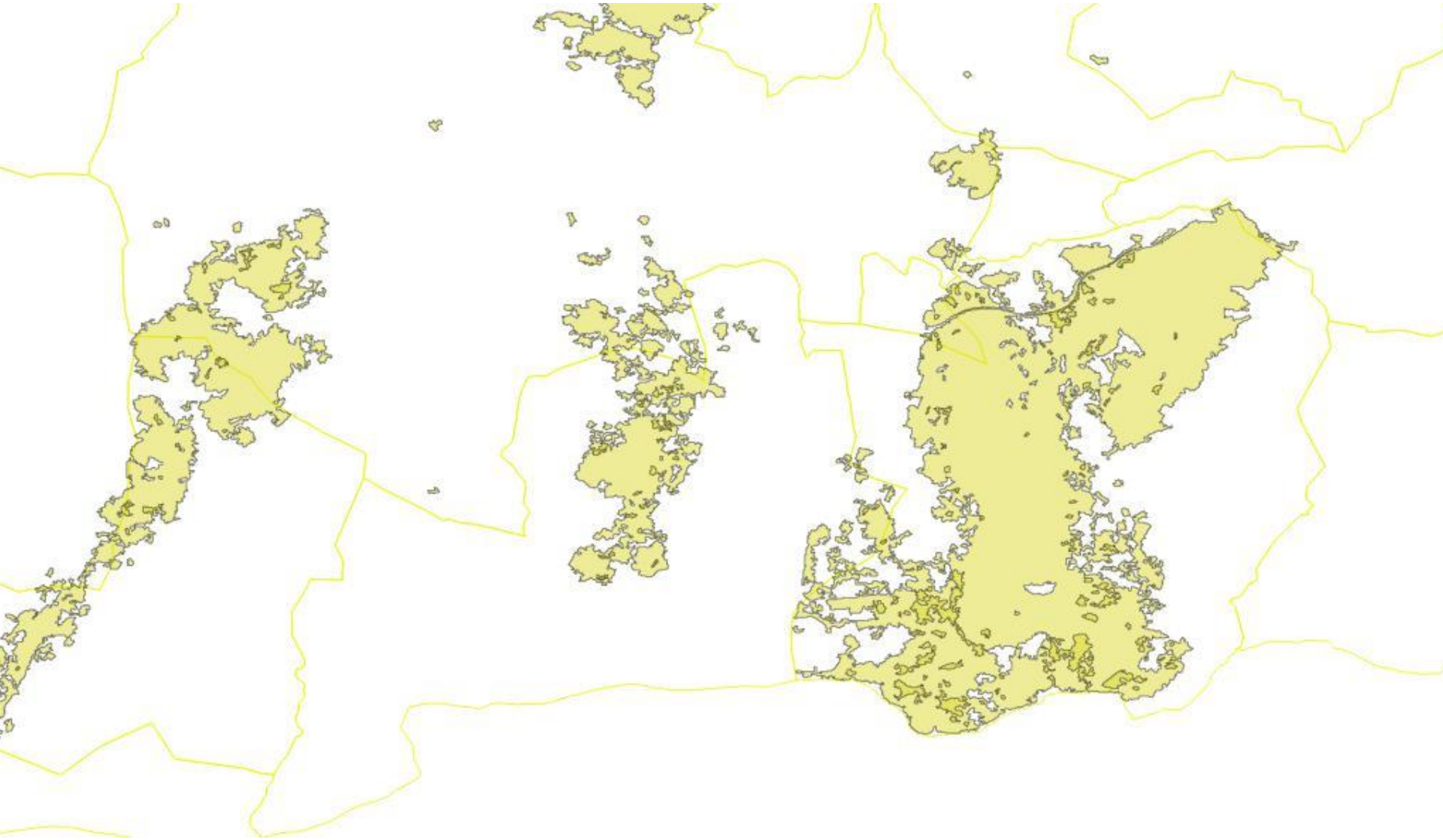
WILDFIRE IS AN EMERGENCY
THAT TRIGGERS OTHER EMERGENCIES
“CHAIN REACTION”

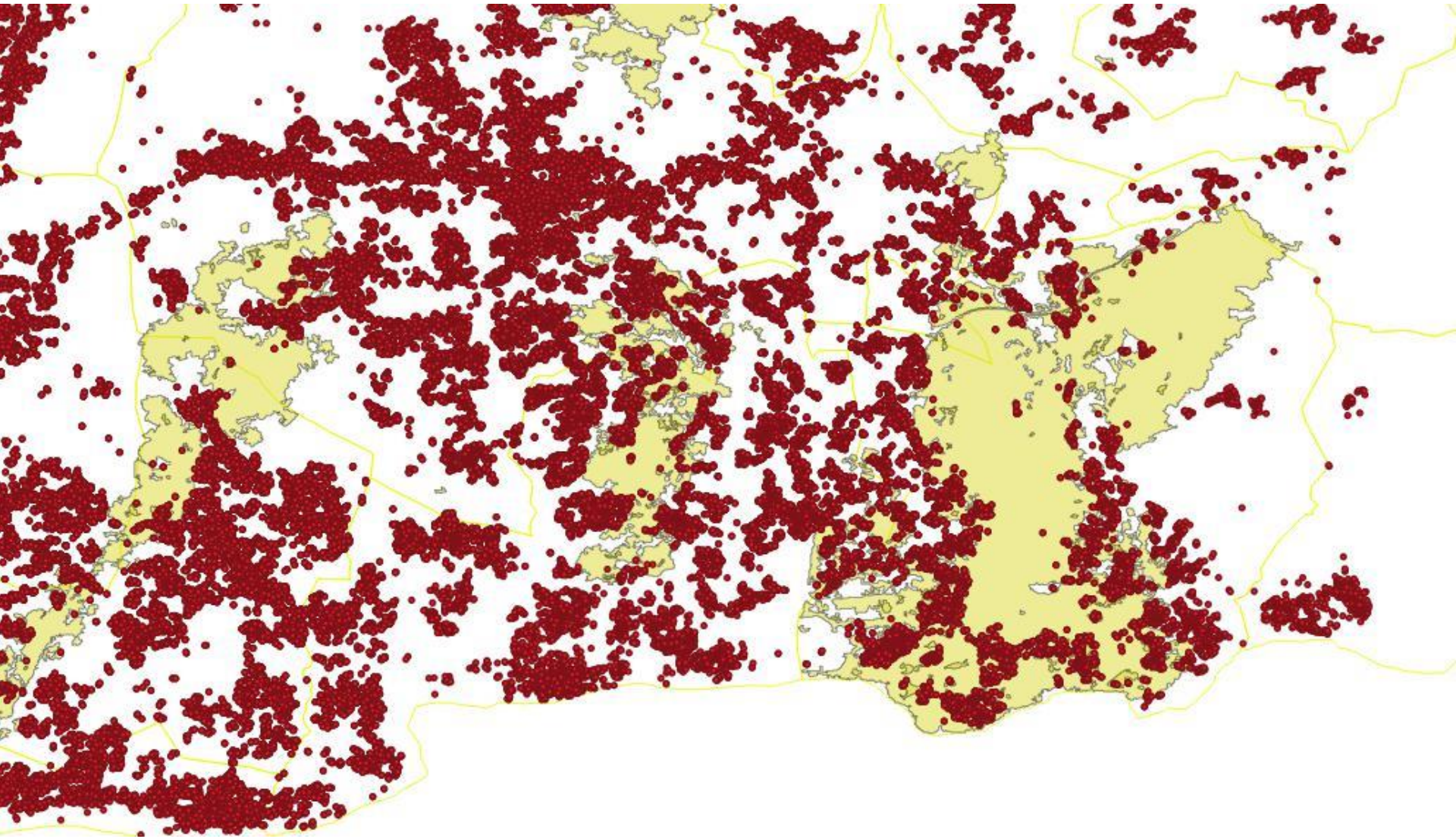
ARE WE READY FOR SIMULTANEOUS BIG FIRES?
“CHAIN REACTION” OF “CHAIN REACTIONS”











WILDFIRES IN DENSE POPULATED AREAS IN THE AGE OF SOCIAL MEDIA

ARDE GALICIA

EN DIRECTO

EN DIRECTO | El terrorismo incendiario golpea el Sur de Galicia

► Una oleada de incendios en Vigo y su entorno obliga a cortar las tres de las principales vías de comunicación (A-52, VG-20 y AG-57) y al desalojo de vecinos El terrorismo incendiario golpea el Sur de Galicia ► El tráfico en la A-52, obligado a dar la vuelta antes de As Neves ► Uno de los fuego se declaraba en el concello de Ponteareas y se unía con Redondela y Pazos de Borbén hasta calcinar más de **1.500 hectáreas** ►Las llamas continúan avanzando sin control y **el frente alcanza ya cuatro kilómetros**►**Baiona y Gondomar** también registran fuegos **que han obligado a cortar la AG-57**►En las últimas horas **Galicia ha registrado otros 80 fuegos** especialmente complicados en San Cristovo de Cea y Cervantes

A. C. | 15.10.2017 | 19:32

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A. C. | 15.10.2017 | 19:32

"No es un ciudadano esporádico que ha salido y ha decidido" prender fuegos, ha remarcado, a pesar de lo que ha mantenido que, de momento, no se sabe cuántos focos hubo. Así las cosas, ha avanzado que se ha iniciado una investigación "muy seria, muy profunda", y la Policía Científica se ha desplazado hasta el lugar para tratar de encontrar elementos que pudieron originar los fuegos.

En cuanto a los posibles autores, ha incidido en que "no hay ninguna explicación", y ha recalcado que detrás hay "**alguien que se movía con mucha rapidez**", a pesar de los controles policiales establecidos en distintos puntos de la ciudad.

Según ha manifestado, hasta el momento han sido identificadas cuatro personas, a las que, tras su declaración en sede policial, se ha dejado de asociar con la comisión de los incendios. Dos de ellas aparecían referencias en las redes sociales, pero dieron las justificaciones correspondientes.

ÚLTIMA HORA

18:17:34

MVT

La Guardia Civil encuentra varios globos de helio que podrían actuar como bengalas para incendiar

DECRETO DE ARQUIVAMENTO DAS DILIXENCIAS DE INVESTIGACIÓN PENAL DA FISCALÍA DA COMUNIDADE AUTÓNOMA DE GALICIA NÚM. 33/2017 (NXF 324/2017)

A situación descrita xerou unha alarma que se ía estendendo á vez que a nube de fume cubría a cidade. A chegada de noticias sobre persoas falecidas como consecuencia dos incendios e casas ardendo en zonas próximas provocou que multitude de persoas se implicasen nos labores de extinción do lume, dando lugar, ao mesmo tempo, a unha infinidade de informacións non contrastadas que derivaron en rumores e malos entendidos, que xeraron unha forte e estendida alarma social e pánico.

Rumores e boatos non confirmados

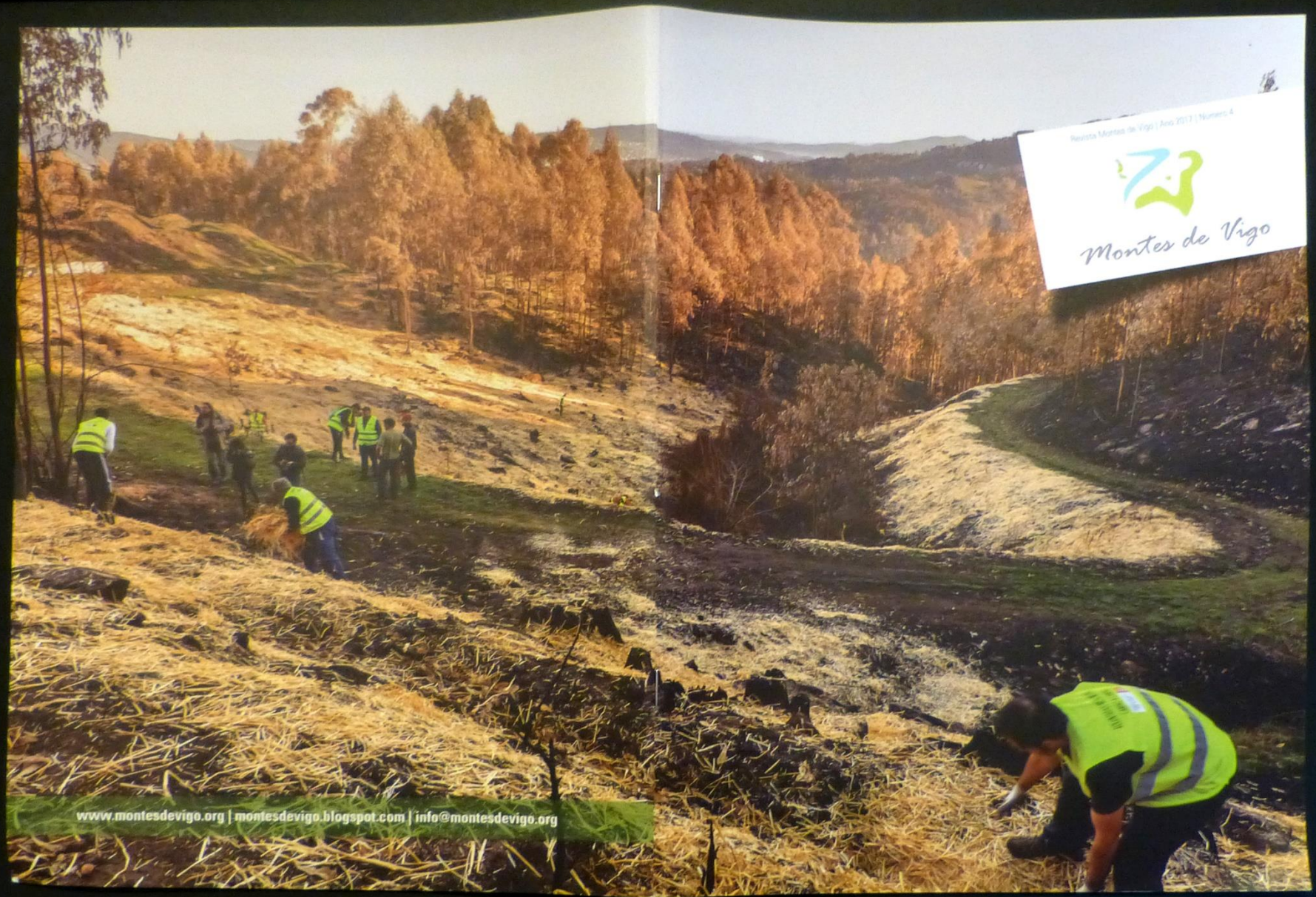
Durante o desenvolvemento dos diversos incendios foron estendéndose polas redes sociais e demais medios de difusión particulares certos rumores e boatos non confirmados:

CONCLUSIÓNS

1ª) Tras a análise e valoración das investigacións realizadas, especialmente os informes policiais e técnicos, a forma de se produciren os incendios, intensidade, métodos empregados, simultaneidade en períodos temporais, espazos afectados, patróns de conduta e outros parámetros, así como as informacións recollidas dos cidadáns e demais xestións realizadas polos investigadores, non se puido determinar que os numerosos incendios ocorridos na semana do 8 ao 15 de outubro de 2017, especialmente durante o sábado 14 e domingo 15, en total 352 lumes cunha superficie queimada global de 47.043 hectáreas, obedezan a unha iniciativa criminal complexa de grupos de persoas ou organizacións que actúen de forma coordinada ou planificada e que persigan obxectivos supraindividuais.

6ª) A investigación non achegou ningún factor determinante na vaga de lumes de 2017 diferente aos manexados en anos anteriores, e non se constataron novas tipoloxías, en canto aos artefactos incendiarios. A recollida de obxectos en diferentes lugares, principalmente Ourense e Pontevedra, como globos, bengalas ou bombas de palenque permite afirmar que ningún elemento dos recuperados puidese conformar un artefacto incendiario.

PEOPLE HEALING. SOCIAL MOBILISATION


Revista Montes de Vigo | Ano 2017 | Número 4
Montes de Vigo
www.montesdevigo.org | montesdevigo.blogspot.com | info@montesdevigo.org

HOW LASTING ARE THE IMPACTS?

Caamano-Isorna *et al. Environmental Health* 2011, **10**:48
http://www.ehjournal.net/content/10/1/48

ENVIRONMENTAL HEALTH

RESEARCH **Open Access**

Respiratory and mental health effects of wildfires: an ecological study in Galician municipalities (north-west Spain)

Francisco Caamano-Isorna[1*], Adolfo Figueiras[1], Isabel Sastre[1,2], Agustín Montes-Martínez[1], Margarita Taracido,[1] and María Piñeiro-Lamas[1]

Abstract

Background: During the summer of 2006, a wave of wildfires struck Galicia (north-west Spain), giving rise to a disaster situation in which a great deal of the territory was destroyed. Unlike other occasions, the wildfires in this case also threatened farms, houses and even human lives, with the result that the perception of disaster and helplessness was the most acute experienced in recent years. This study sought to analyse the respiratory and mental health effects of the August-2006 fires, using consumption of anxiolytics-hypnotics and drugs for obstructive airway diseases as indicators.

Methods: We conducted an analytical, ecological geographical- and temporal-cluster study, using municipality-month as the study unit. The independent variable was exposure to wildfires in August 2006, with municipalities thus being classified into the following three categories: no exposure; medium exposure; and high exposure. Dependent variables were: (1) anxiolytics-hypnotics; and (2) drugs for obstructive airway diseases consumption. These variables were calculated for the two 12-month periods before and after August 2006. Additive models for time series were used for statistical analysis purposes.

Results: The results revealed a higher consumption of drugs for obstructive airway diseases among pensioners during the months following the wildfires, in municipalities affected versus those unaffected by fire. In terms of consumption of anxiolytics-hypnotics, the results showed a significant increase among men among men overall -pensioners and non-pensioners- in fire-affected municipalities.

Conclusions: Our study indicates that wildfires have a significant effect on population health. The coherence of these results suggests that drug utilisation research is a useful tool for studying morbidity associated with environmental incidents.

Conclusions:

Our study indicates that wildfires have a significant effect on population health.

Accordingly, there is a strong likelihood that many of the people exposed to the Galician forest fires developed acute or post-traumatic stress disorder and that they were initially treated with benzodiazepines

In our study, DOAD consum ption increased signifi- cantly among pensioners (men and women) (Table 4). This result is coherent with the fact that a recent stress- ful event, and emotional stress in general, constitutes a risk factor for poor asthma control [41]. It is also line with the conclusions reached in the most significant study published to date regarding the impact of a large- scale forest fire on cardio-respiratory morbidity, namely, that the strongest association between exposure to parti- cles smaller than 2.5 micra and hospital admissions due to asthma is to be found in the population aged 65-99 years (an increase of 10.1%