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Changes in the timing and length of the fire season in Spain

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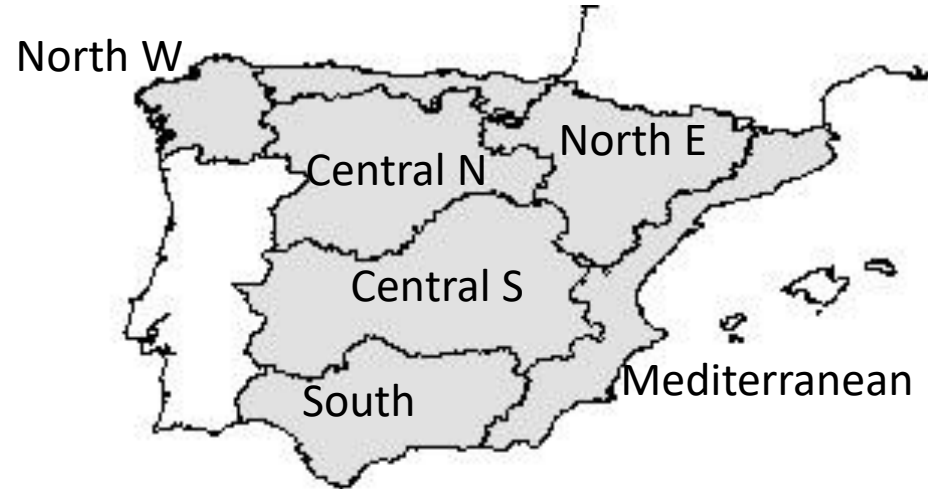
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<https://blog.uclm.es/grupofuego/>

Objective



To study inter-annual variation in **fire season** peak, timing, and length in Spain (1980-2013) based on fire statistics of **regions**



Methods

We studied annual time series of burned area by fitting GAMs (Generalized Additive Models) to establish

→ the **start**, **end** and **length** of the fire season

We applied trend analysis (Modified Mann-Kendall) to these parameters

Fire Season definition



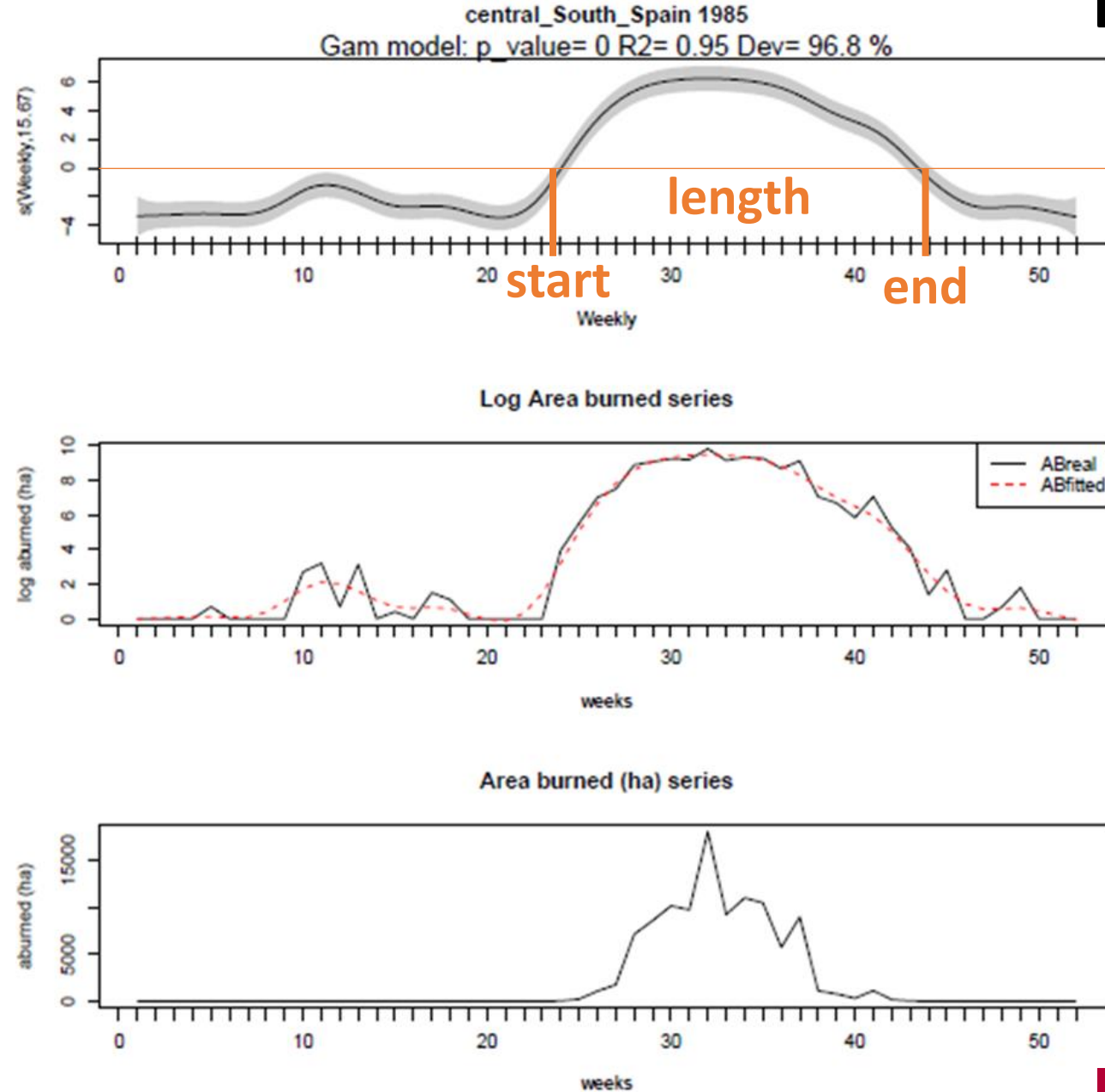
GAM model
S parameter



Log Area burned series
(observed and fitted)

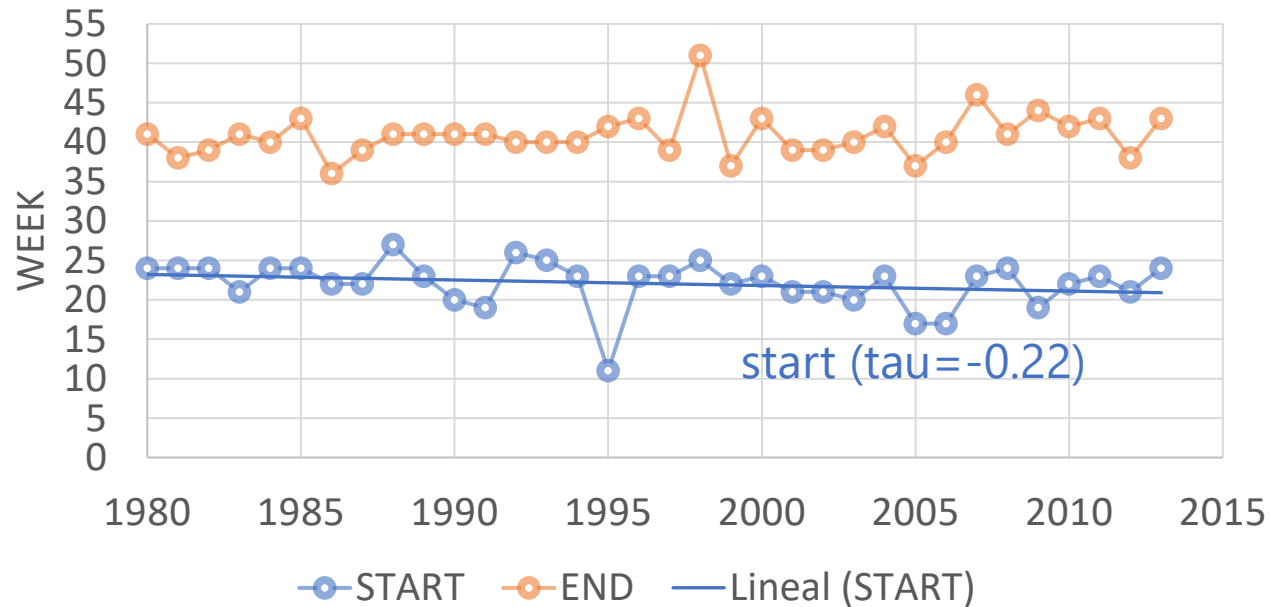


Area burned
annual series (ha)



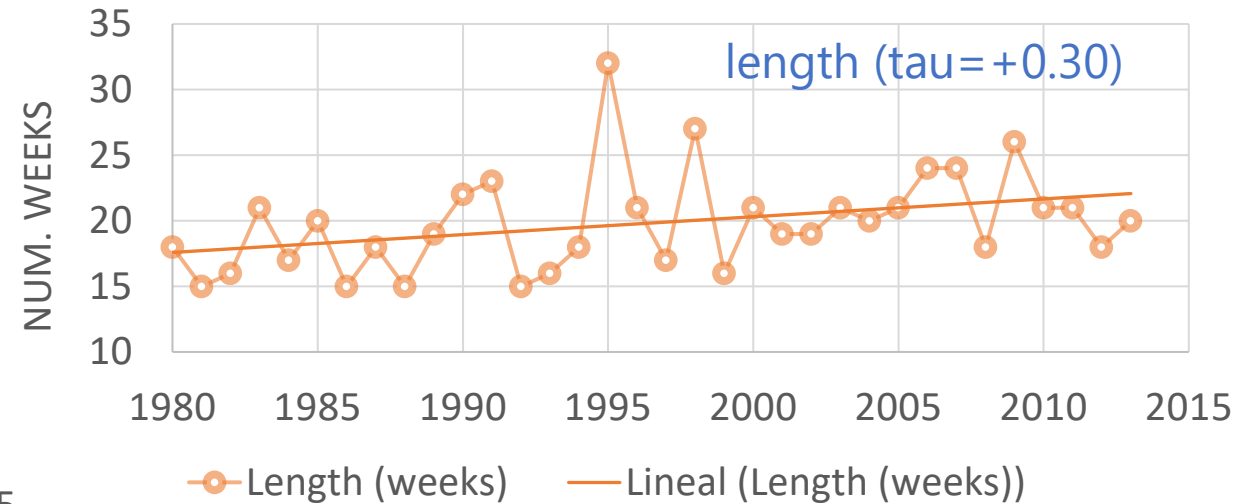
Central South Spain

Summer peak (start-end)



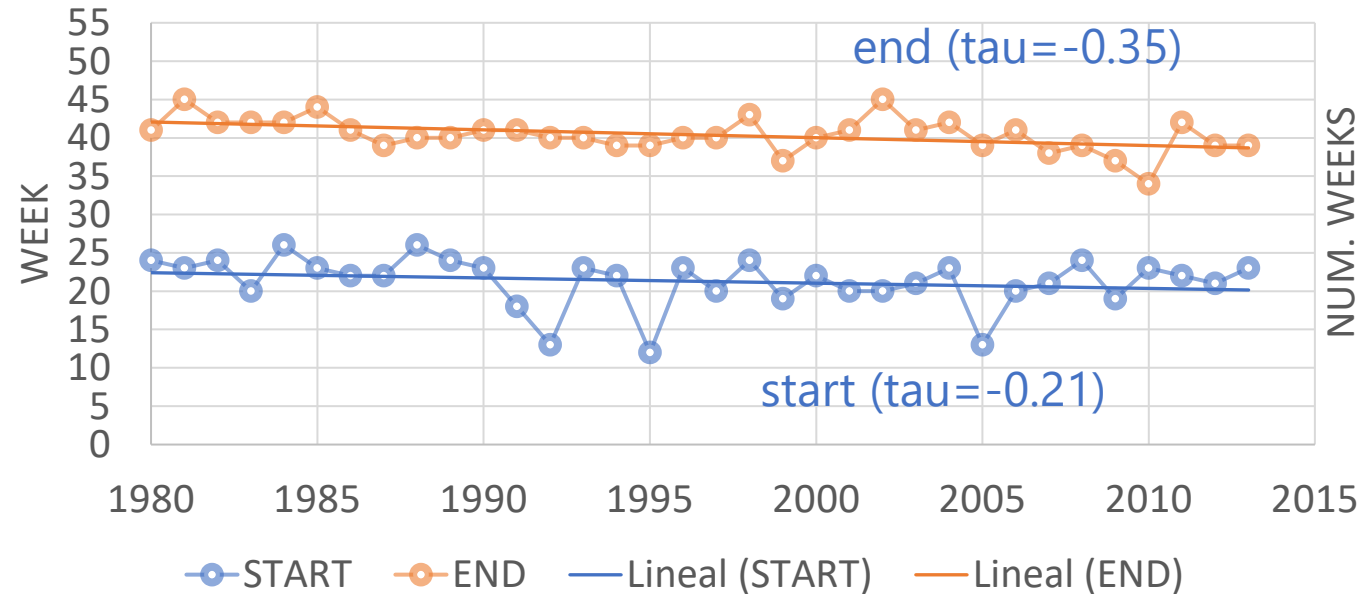
Earlier start

Summer peak length



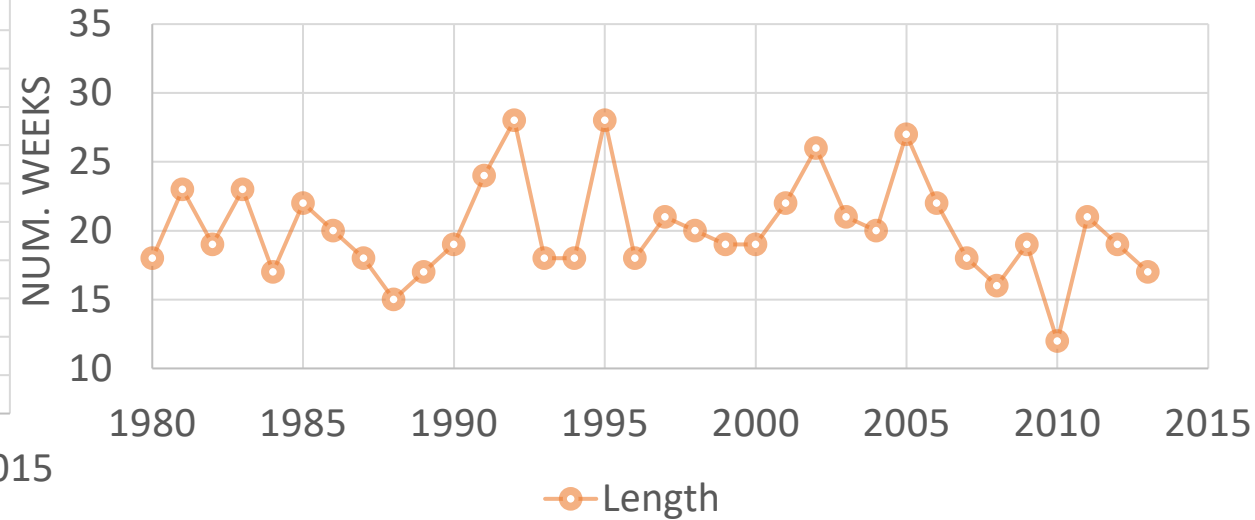
Longer season

Summer peak (start-end)



Earlier start and end

Summer peak length



No significant trend in the length

Summary Regions

Regions	start	end	length
North West	n.s.	n.s.	n.s.
North East	n.s.	n.s.	- tau (shorter)
Central North	n.s.	n.s.	n.s.
Central South	- tau (earlier)	n.s.	+ tau (longer)
South	- tau (earlier)	- tau (earlier)	n.s.
Mediterranean	- tau (earlier)	- tau (earlier)	n.s.

Conclusions



1. Trends are not general, and not aligned to an increase in fire seasonal severity.
2. Trends are being detected more in southern and Mediterranean regions than in northern ones.
3. The fire summer season is starting earlier but is also ending earlier.
4. No strong support for a longer fire season.



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Thanks!
¡Gracias!