



# Portugal's 2017 Pedrogao Grande Wildfire Disaster



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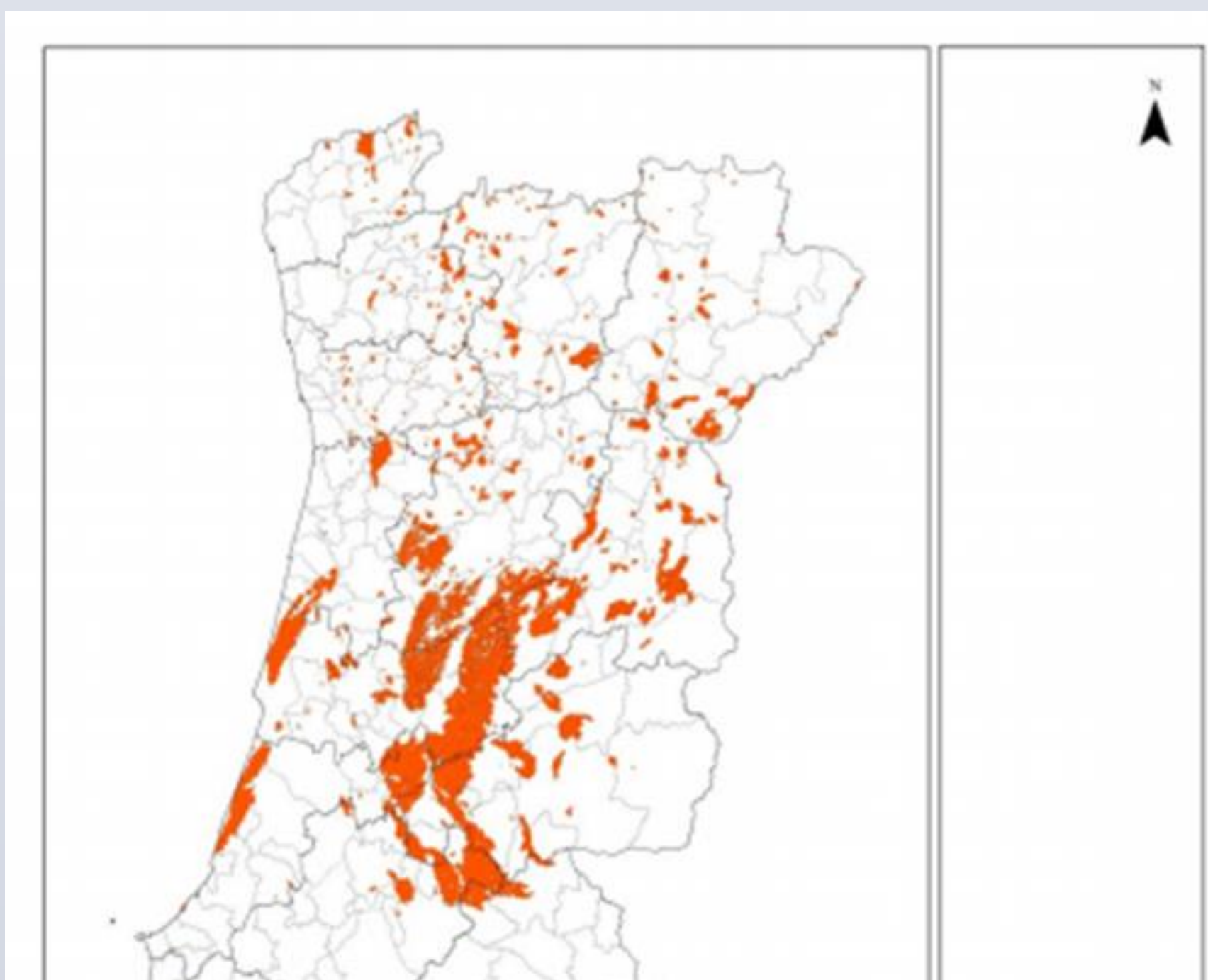
## ABSTRACT

The 2017 fire season saw the highest number of deaths by wildfire in Portugal's history. The Pedrógão Grande wildfire disaster took 65 lives in Portugal in June 2017. This is not only one of the greatest disasters occurred in the country but it also represents one of the highest toll of fatalities in a single wildfire event at the world level. This fire complex burned 73,000 acres and left the Portuguese society incredulous and in shock. Most of the victims died running away from the wildfire and only 4 died inside their houses because had problems of mobility. A severe heat wave, a prolonged severe drought, and high fuel loads rendered a fire of high intensity (Fireline intensities between 20,000 and 60,000 kWm<sup>-1</sup>) were in large periods the control had been impossible. Lack of coordination, collapse of communications, and lack of awareness among people – many of them nonresidents – explain the high level of fatalities and property losses.

The land area of Portugal is 1/6 larger than the State of Maine.



## Fires of 2017

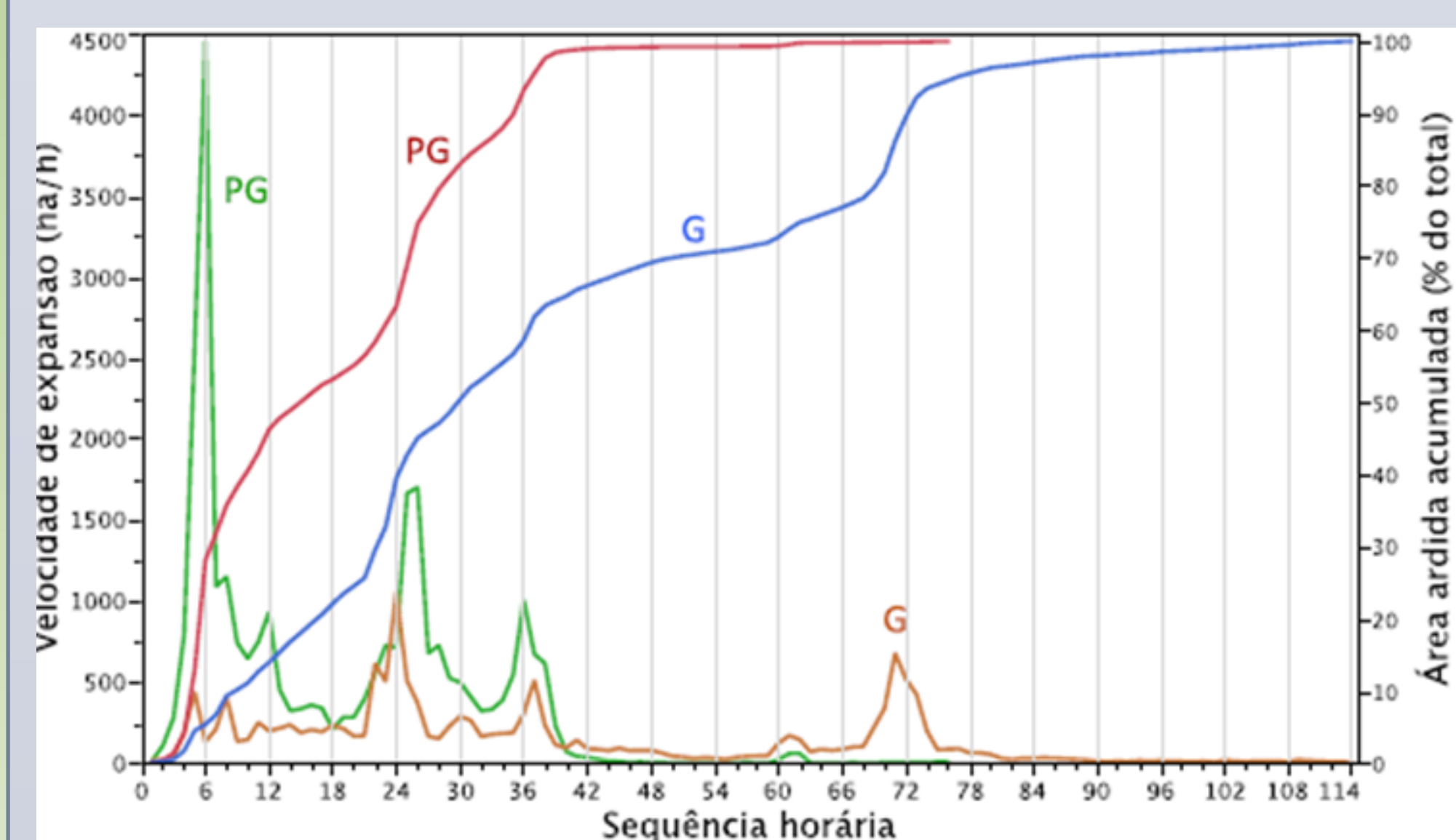
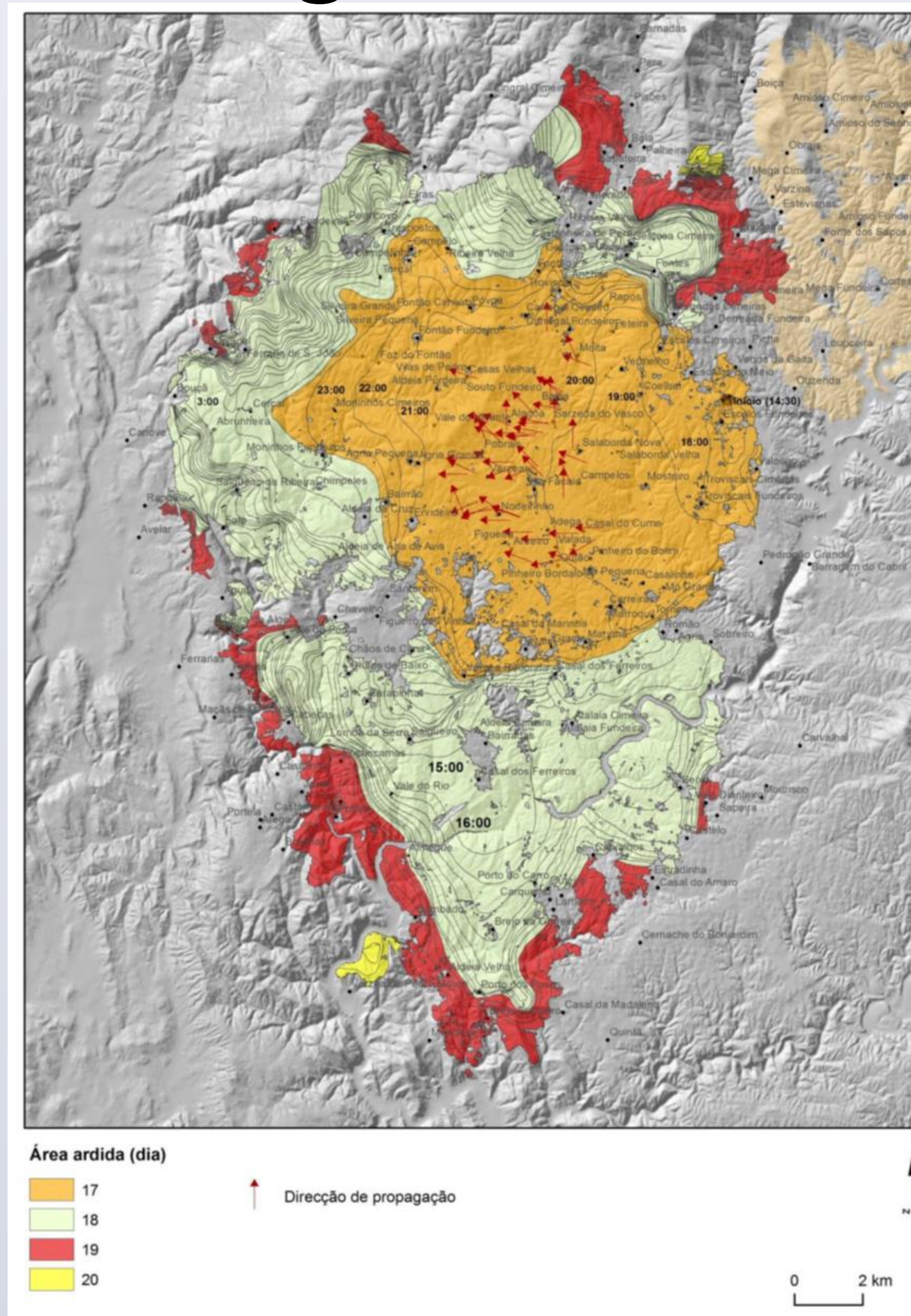


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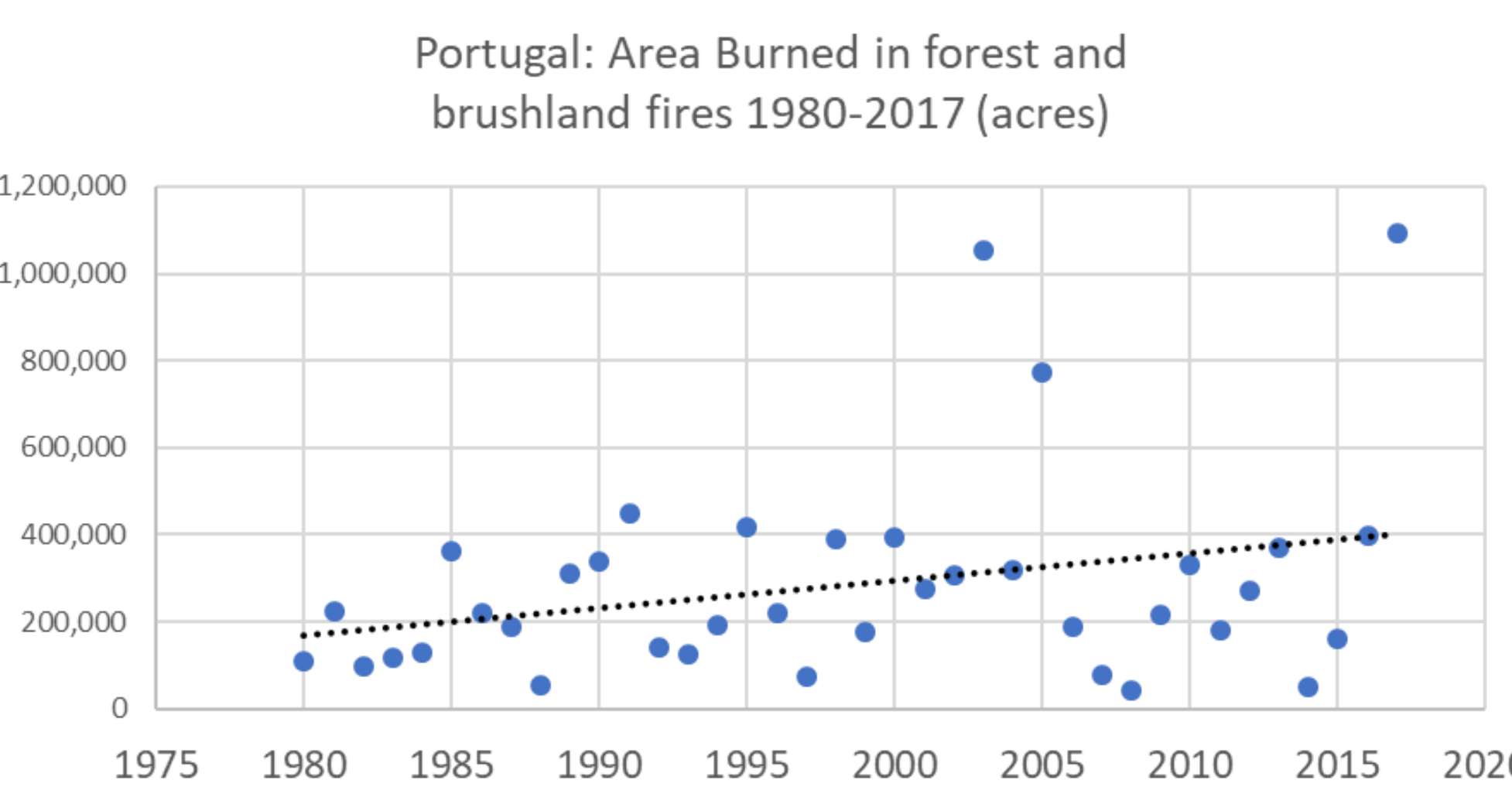
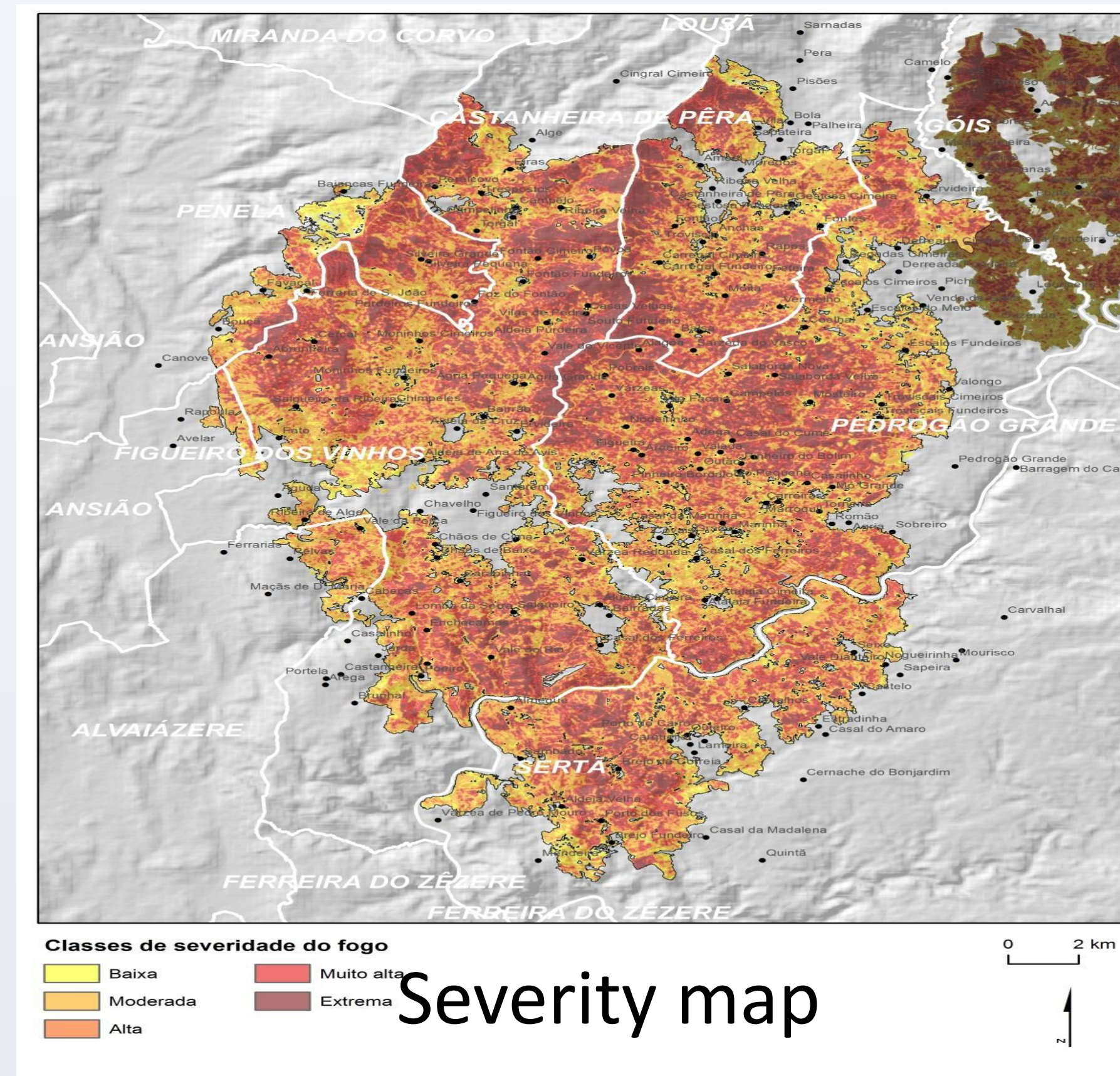
## Basic Conditions

- A Mediterranean climate, with long hot summers, and increasingly severe droughts and heat waves
- Fragmented landownership and accumulated fuel loads
- Plantings of fire prone eucalyptus also increase hazard
- Landscape connectivity

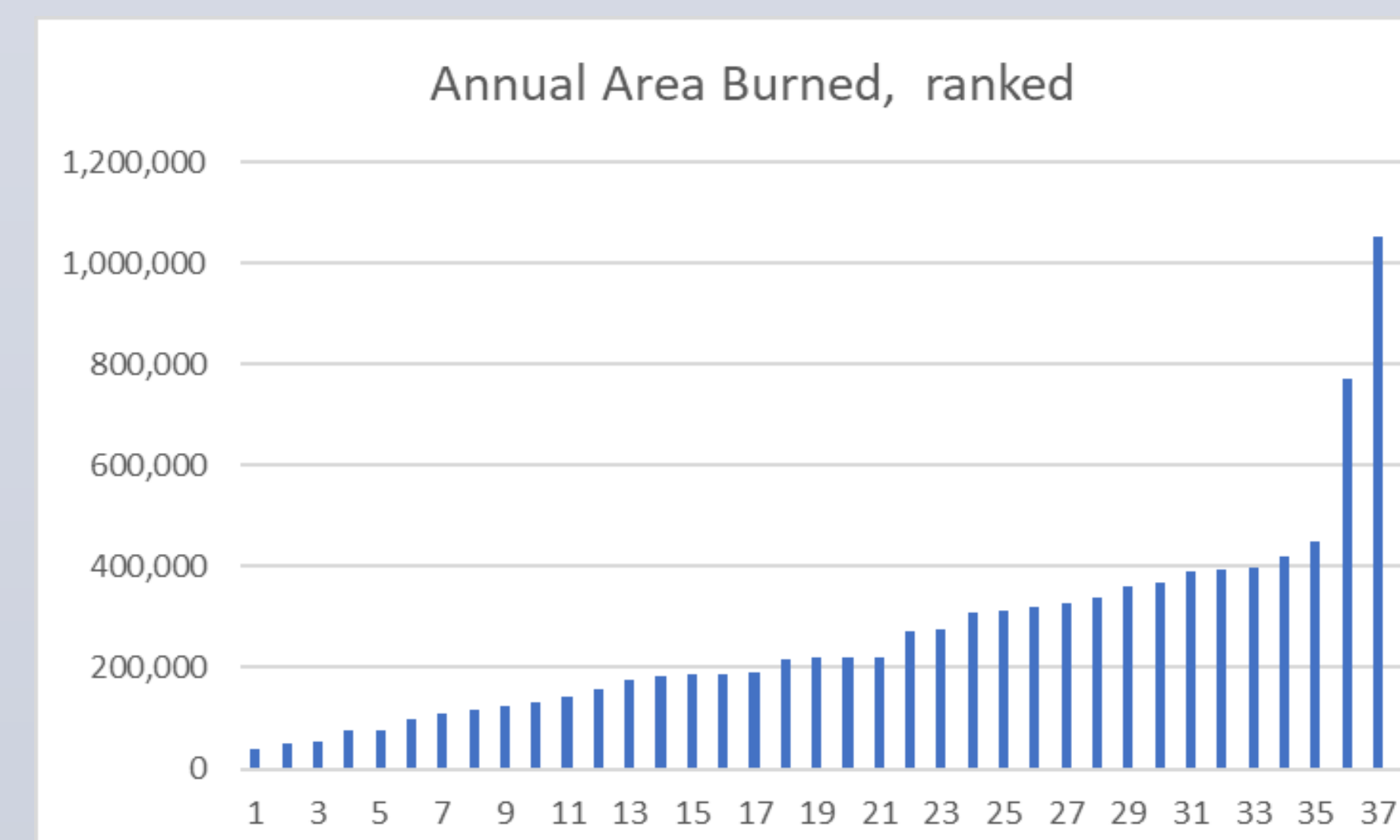
## Pedrógão Fire



PG-Pedrógão Grande



The fire seasons of 2003, 2005, and 2017 were 2 standard deviation events. Without the three worst years, the base level of annual fire increased by about 25% over these years. Over 2007-2017, 68% of area burned was in shrubland, remainder in forest. The 3 worst years accounted for 17% of all area burned 1980-2017.



## Key Points:

Pedrógão Grande fire was an extreme wildfire event with FLI from 20,000 to 60,000 kWm<sup>-1</sup> and a rate of spread of 3.9 km h<sup>-1</sup>). This type of fire are impossible to control. So, it is crucial to prevent its occurrence and decrease its intensity and ROS.

Despite its extreme behavior this fire should not have become a disaster. Its impacts resulted from the complex interplay among macro processes (e.g., atmosphere and fire interaction) and local processes and conditions (e.g. poor initial attack, inadequate risk perception, very strong and variable winds, rough topography, low fuel moisture content, fuel load, landscape connectivity, poor preparedness, and vulnerable communities).

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