



## Compound Extremes and Their Role in Wildfire Dynamics: Insight from Portugal

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Compound extremes are a very important problem that is observed in various areas. Whenever several hazards occur, jointly or in cascade, their independent extreme effects may not be very relevant, while their simultaneous impact(s) may be quite devastating. The occurrence of wildfires in Portugal is a major societal and environmental concern, which happens every year from June to October. The high temperatures which are observed in the late Spring/early Summer, associated with low values of humidity, is known to enhance the fire prone conditions. The association between high temperatures and wind speed is also believed to play a very important part in wildfire spreading although that has not really been established yet. Several recent wildfires lead in that direction. For instance the event which occurred in Portugal in October 2017 when fires concurred with the winds associated to the passage of the Ophelia storm is such an example.

In this work, extreme value theory will be used to analyze the concurrent effect of temperature and windspeed on the severity of large wildfires in Portugal, measure by means of the frequency radiation power.