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CALCULATION OF THE DEATH INDEX OF THE MOST CATASTROPHIC WILDFIRES

**Abstract**

Marialina Tsinidis February 28, 2023 Abstract A case study of Portugal's greatest wildfires, derives and creates the Death Index, which is the magnitude that predicts the deaths by wildfires on that specific area, implying the severity of a potential wildfire in the future, on a region that has experienced recent wildfires, aiming to provide information on the high danger regions. Using the QGIS software, a multi-layer approach is implemented. Satellite and vector data Data regarding, temperatures, population density, vegetation and altitude are imported as separate layers focusing on the area of the wildfire. Using a color scale layer, the spots with the higher death index are displayed as red and the spots with the lower death index are displayed as blue. It is observed that the area closest to the area of impact, has considerably higher death index, supporting the researcher's hypothesis. Wildfires have effects on climate change, people's lives, flora and fauna, hence the death index may be used as a preventative approach in order to mitigate the devastating effects of severe wildfires.