

Big Data Big Impact Datathon

Topic: Wildfires

Description:

Wildfires are defined as an unplanned fire in a natural area with combustible vegetation. Wildfires have different classifications based on region and ecosystem such as brushfire, bushfire, forest fire, grass fire, etc. While there are generally several natural causes for wildfires such as lightning strikes, a [recent study](#) from Carnegie Institution for Science found that 84% of all wildfires are caused by human activity.

The effects of wildfires are costly for the US government and economy. Approximately \$2 billion is spent on fighting wildfires just in the United States. According to US Agriculture Secretary Sonny Perdue, the US Forest Service spending on fire suppression has gone up from 15% of its budget to 55% of its budget. This means that funds intended for other departmental activities such as prescribed fires or insect treatments must be borrowed from, which magnifies potential wildfire activity.

Given that this is the case, it is essential to find how to reduce the number of wildfires caused by human activity and be better prepared for dealing with wildfires swiftly. Many factors contribute to a wildfire's intensity and severity, including changing weather patterns, drought conditions, wind speeds, and land management. As such, it is essential to monitor contributing factors to predict the formation of a fire and how it may move through its environment.

Objective:

Find how different conditions in the environment may affect the likelihood and severity of wildfires.

Utilize this data to determine who this would be valuable to and quantify how it may aid them in fighting and preventing wildfires.

Summary:

Finding the right data, at the required spatial and temporal resolution for your interest, is key. NASA has several datasets that may help you in your prediction. Think about how geography and climate may affect wildfires and firefighting tactics, such as changing weather patterns, land cover, vegetative health, etc. We have provided wildfire map data to help you narrow your research. Feel free to add more data to make your solution stronger.

Context Links:

[Wildfires: CDC](#)

[Wildfires: NASA](#)

[Wildfires and Climate Change](#)

Scoring Rubric

Metric	Description	Weight
Viability	Does the proposal have a realistic potential to succeed?	25
Capital Requirements and Financial Forecast	Does the operational cost of this solution match the target audience's capital capabilities?	25
Data Driven Proposition	Does this solution utilize data in an accurate and comprehensive manner?	25
Fit	Does the solution address the prompt?	10
Presentation	Did the team present the plan in a prepared, logical, and persuasive manner?	15
Total Score: ____ / 100		

Sources:

<https://www.reuters.com/article/us-usa-wildfires/cost-of-fighting-u-s-wildfires-topped-2-billion-in-2017-idUSKCN1BQ01F>

<https://www.ready.gov/wildfires>

<https://www.cdc.gov/disasters/wildfires/index.html>