BlueSky Project Topic

Problem Statement:
Wildfires pose a significant risk to ecosystems, communities, and economies worldwide. In order to manage this risk effectively, a comprehensive assessment is necessary. The objective is to develop a global wildfire risk score by collecting data on fire occurrences, emissions, and population.

Project Objectives:
1. Integration of Fires and Emissions Data: Collect data on fire occurrences with information on emissions to identify hotspots. Explore the correlation between fires in different vegetation types, such as cropland, forest, and shrubs, and their emissions. Use GIS tools to perform spatial analysis and identify areas with a higher frequency of wildfires.

2. Gathering Neighborhood Information: Collect and analyze relevant socio-economic data for the neighborhoods around identified hotspots. Key socio-economic factors include population density, land use, and infrastructure.

3. Development of a Risk Score Model: Integrate the collected data into a comprehensive model that calculates a Wildfire Risk Score (WRS). Assign appropriate weights to different variables that are at risk due to wildfires.

4. User-Friendly Visualization: Develop effective visualizations, such as maps and graphs, to clearly communicate the risk assessment results.

Project Deliverables:
1. An integrated wildfire risk assessment model.
2. Easy-to-understand visualization.
3. Technical documentation detailing the methodology and algorithms used.

Data Sources:

1. Download the fire and emissions data from https://github.com/blueskyanalytics/GHG-emissions/tree/master
2. Population Data from https://www.worldpop.org/datacatalog/
3. World GDP data from IMF: https://www.imf.org/external/datamapper/NGDPD@WEO/WEOWORLD
4. Administrative Boundaries from GADM: https://gadm.org/
5. Global landcover map: https://esa-worldcover.org/en
6. *Please feel free to utilize any other relevant data sources, but kindly provide the necessary citations to avoid plagiarism or copyright issues.*