Public Wildfire GIS Resources

1) Title: Fighting California forest fires using spatial analysis https://developers.arcgis.com/python/samples/fighting-california-forest-fires-using-spatial-analysis/
    a. Uses Esri, Pandas library, Conda environment and ArcGIS API for Python
    b. **Summary:** This notebook describes a scenario wherein an analyst automates the process of identifying facilities at risk from forest fires and sharing this information with other departments such as the fire department, etc..
        i. spatial analysis tools such as buffer and overlay.
    c. **What I like:** Straight and easy to follow coding. The actual geoprocessing makes sense and yields interesting results
    d. **What I dislike**: The layers and data are all public and taken from a group on Python API Playground so could easily be corrupted or outdate
    e. **Potential decision-making use**: Firefighters could use the output to prioritize certain facilities and delegate resources differently according to the risk level of each facility.

Fighting California forest fires using spatial analysis

The state of California has had a dangerous fire season in 2015 and 2016. A standard procedure while fighting these fires is identifying facilities that are at risk and evacuating them. Tasks such as this can be accomplished easily using **spatial analysis** tools available on your GIS. Spatial analysis tools allow overlaying the extent of fire and the locations of the facilities on a map and identifying the ones that fall within the fire's extent.

Thus, this sample demonstrates the application of spatial analysis tools such as **buffer and overlay**.

This notebook describes a scenario wherein an analyst automates the process of identifying facilities at risk from forest fires and sharing this information with other departments such as the fire department, etc.

Note: To run this sample, you need the `pandas` library in your conda environment. If you don't have the library, install it by running the following command from cmd.exe or your shell

```
conda install pandas```
```

Input

```
import datetime
import arcgis
from arcgis.gis import GIS
from IPython.display import display
import pandas as pd

# create a Web GIS object
gis = GIS('https://pythonapi.playground.esri.com/portal', 'arcgis_python', 'amazing_arcgis_123')
```

On this page

Using groups t collaborate
Visualize the fir
Create a buffer fire boundaries
Perform overla facilities that fal buffers
Read analysis r dataframe for a
Mapping the in
Sharing the res a web map

Try it live
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Yes No

2) Title: California wildfires 2017 - Thomas Fire analysis

https://developers.arcgis.com/python/samples/california-wildfires-2017-thomas-fire-analysis/

    a. Uses Esri and ArcGIS API for Python

b. **Summary**: A California wildfire in 2017 was the worst in the state's history. This notebook visualizes the damage using image analysis, side by side comparisons, and quantitative assessment. Burnt areas are calculated and visualized via maps
c. **What I like**: The notebook does a good job at visualizing what is being calculated, what the results look like, and the analysis behind it
d. **What I dislike**: Its coding is a bit length for anyone who is still getting comfortable with python. The data is also accessed through a group which requires logging in to.
e. **Potential decision-making use:** Scientists and firefighters could use this data in preparing for the next big fire. The burnt areas and calculations can show us how quickly the wildfire spreads according to the wind, and what damage it can cause to infrastructure.