

Creating a Google API Landuse Tool for ArcMap

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GIST Settlement Mapping: ASTRO
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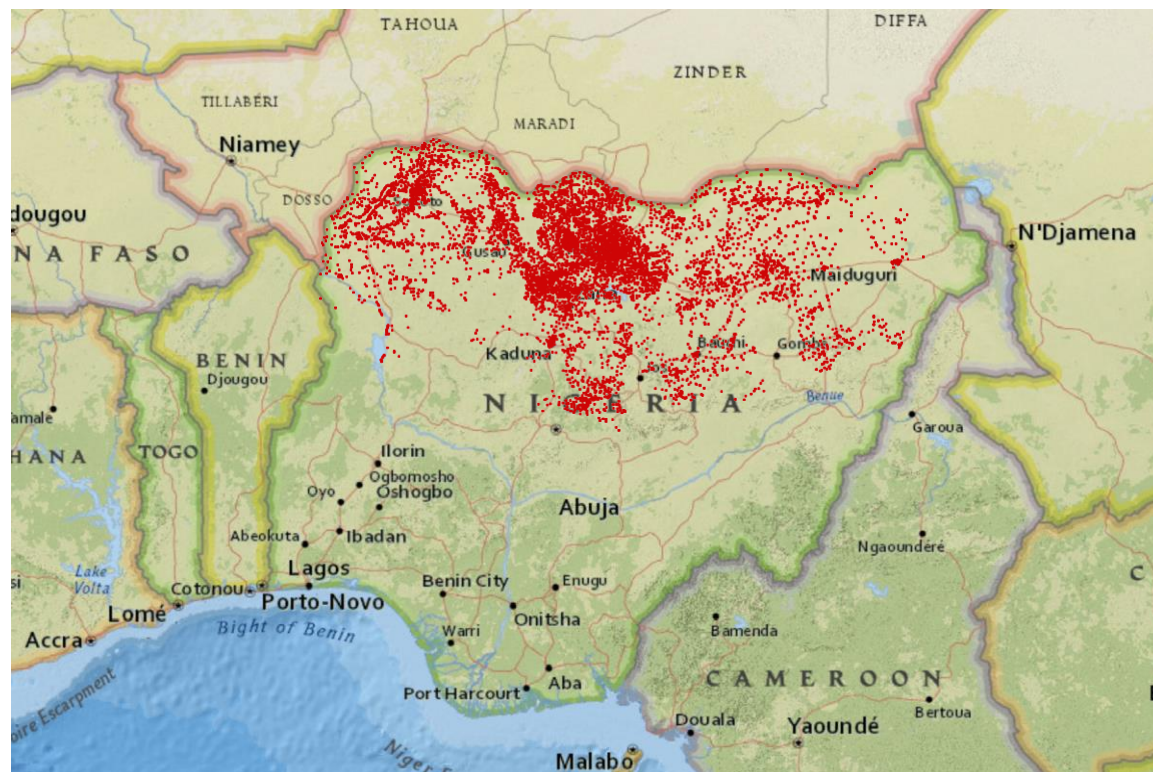
Issue

- Identifying non-Res Land Use
 - Schools
 - Hospitals
 - Churches
 - etc.



Issue

- Current Datasets only Available in Certain Areas



Issue

- Current Workaround: Google Maps

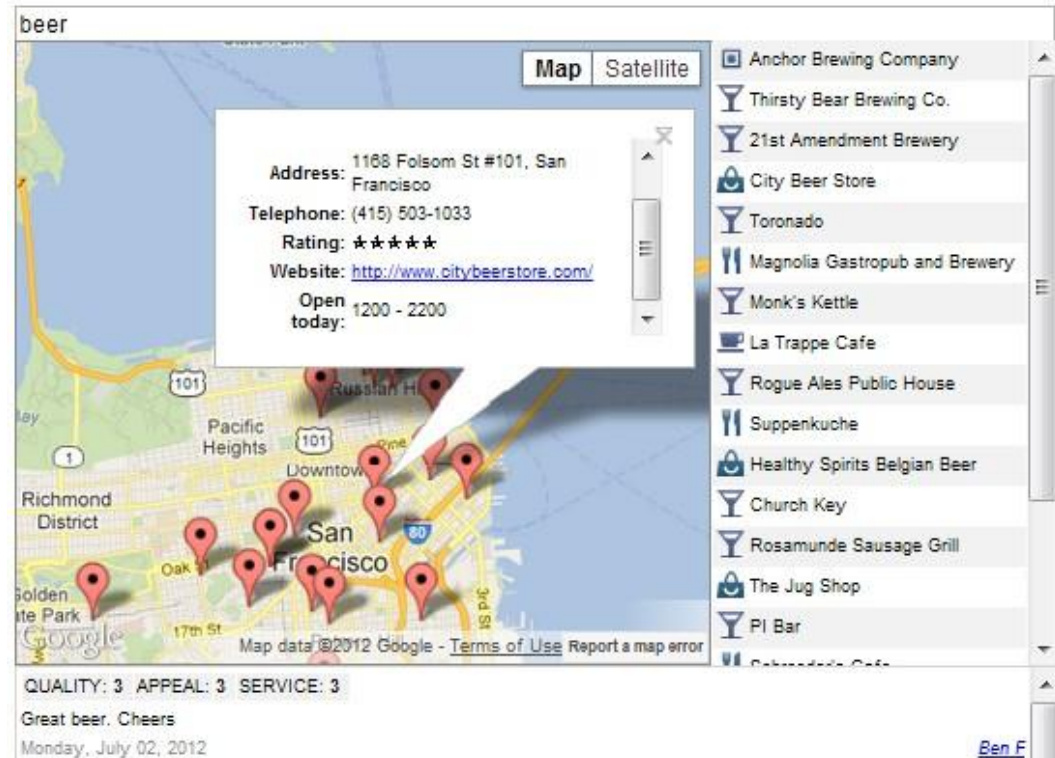


Solution:

- Google Places API Capabilities

Retrieve places data from Google Maps for a variety of types such as Churches, Parks, Transit, etc.

- Limitations
 - Search Area is by Radius
 - Limit of 60 Results per Request
 - 3 Second Delay Per Request

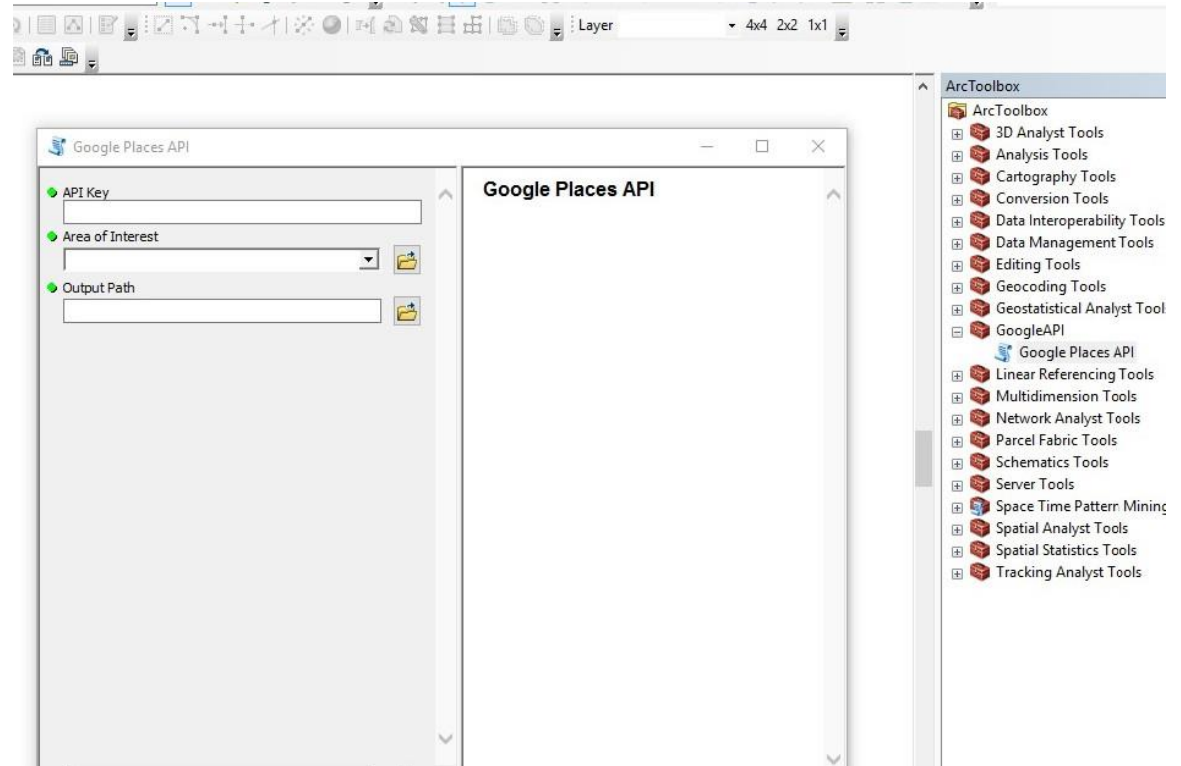


https://maps.googleapis.com/maps/api/place/nearbysearch/xml?types=school&location=lat,lng&key=YOUR_API_KEY

Solution:

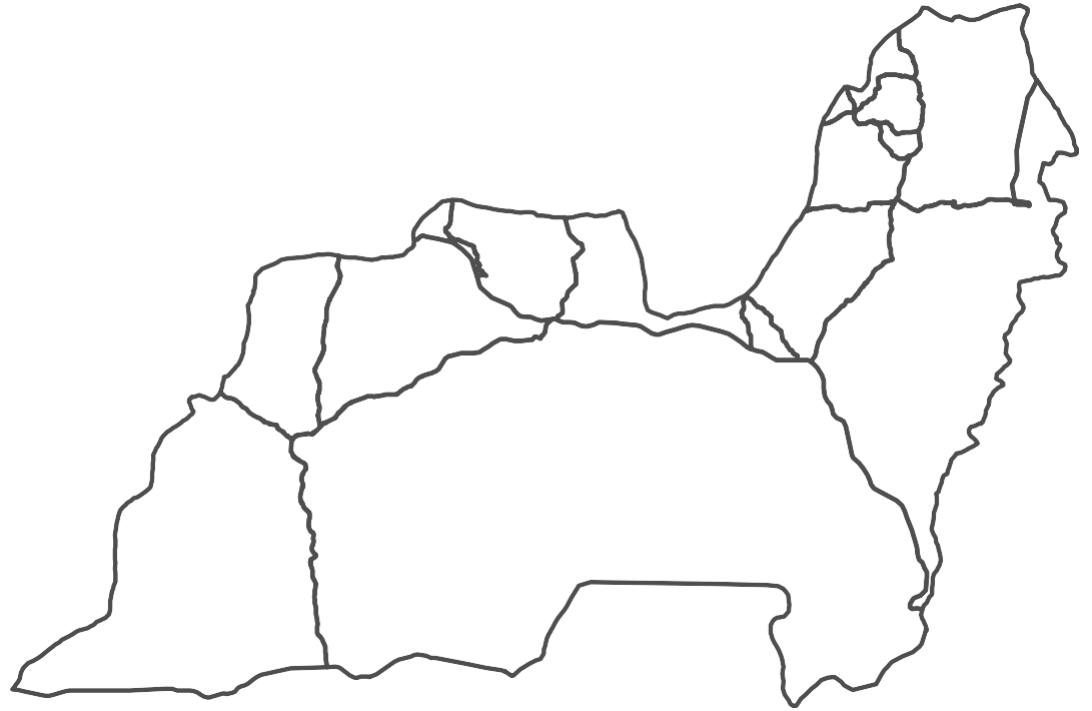
- ArcMap Python Script and Toolbox Inputs:

1. Google API Key
2. Area of Interest
3. Output File



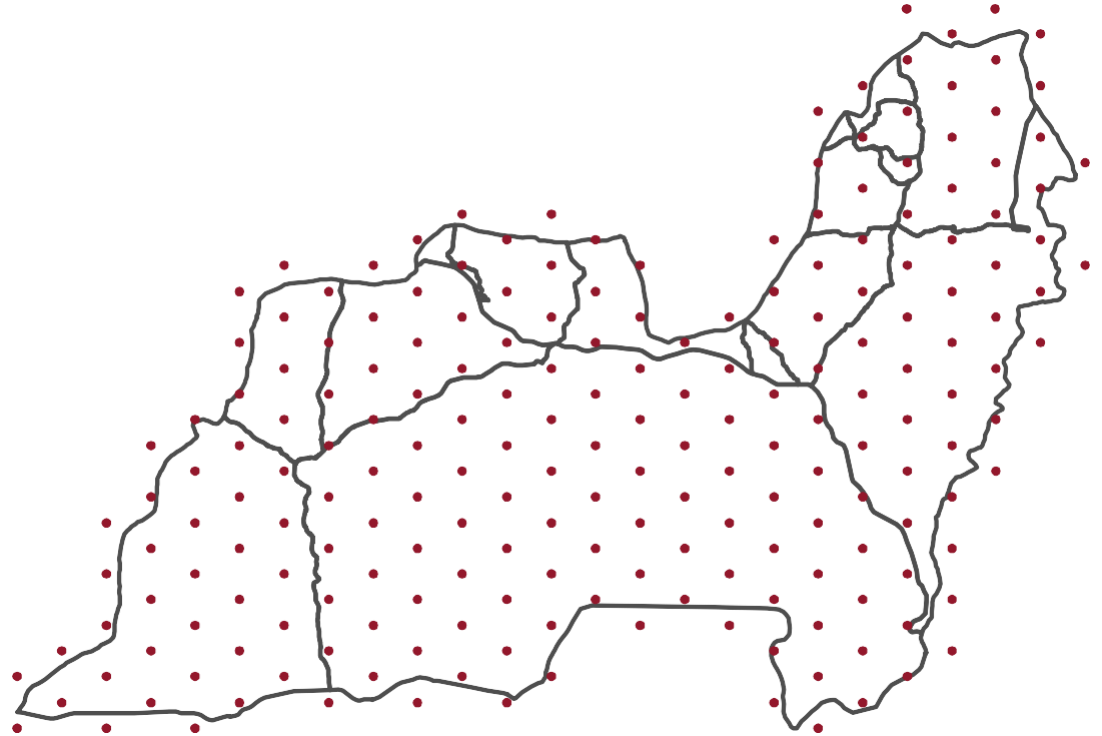
Process:

- Input Boundary Layer



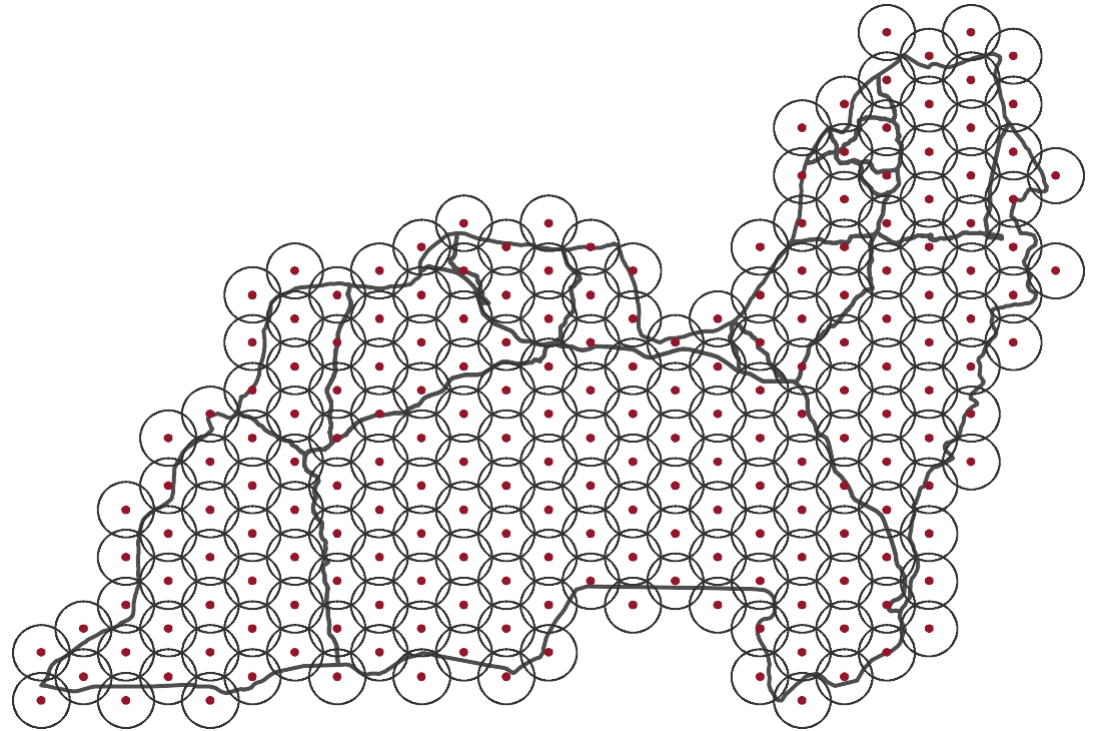
Process:

- Generate Offset Fishnet Array



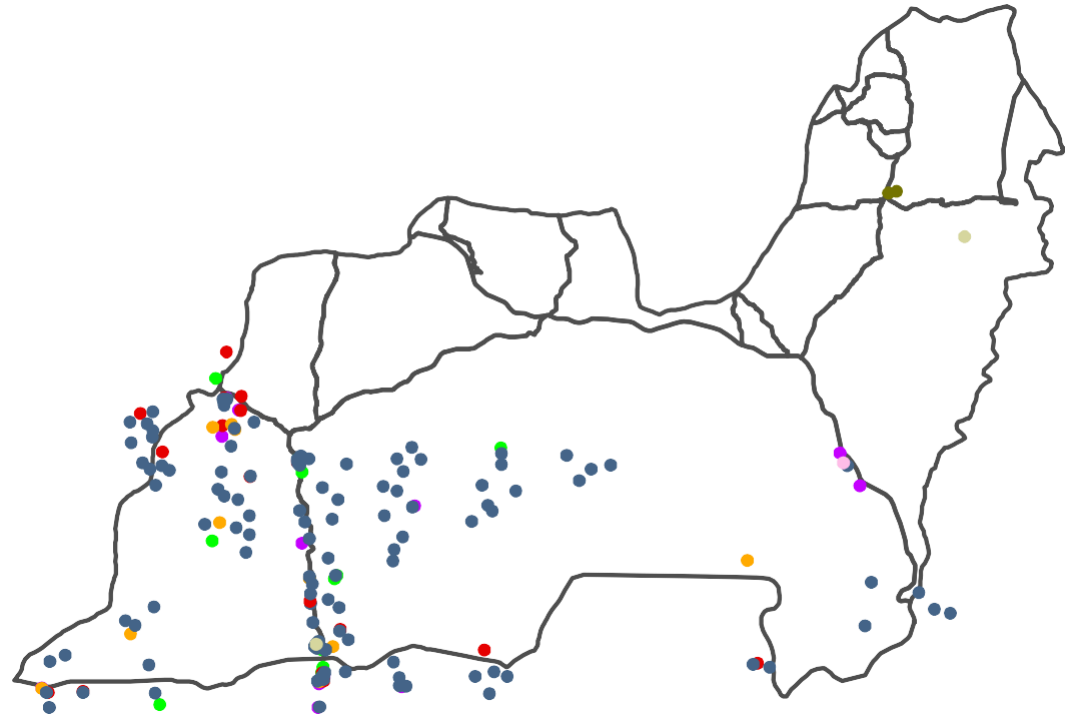
Process:

- Send API Request w/ 5 km Radius for Each Point and Place Type



Process:

- Import Results into ArcMap as a Point Shapefile for Reference



Ondo, Nigeria
200 Search Points
181 Results

Place Type:

- | | |
|----------|-----------------|
| ● School | ● Mosque |
| ● Church | ● Shopping Mall |
| ● Hotel | ● Library |

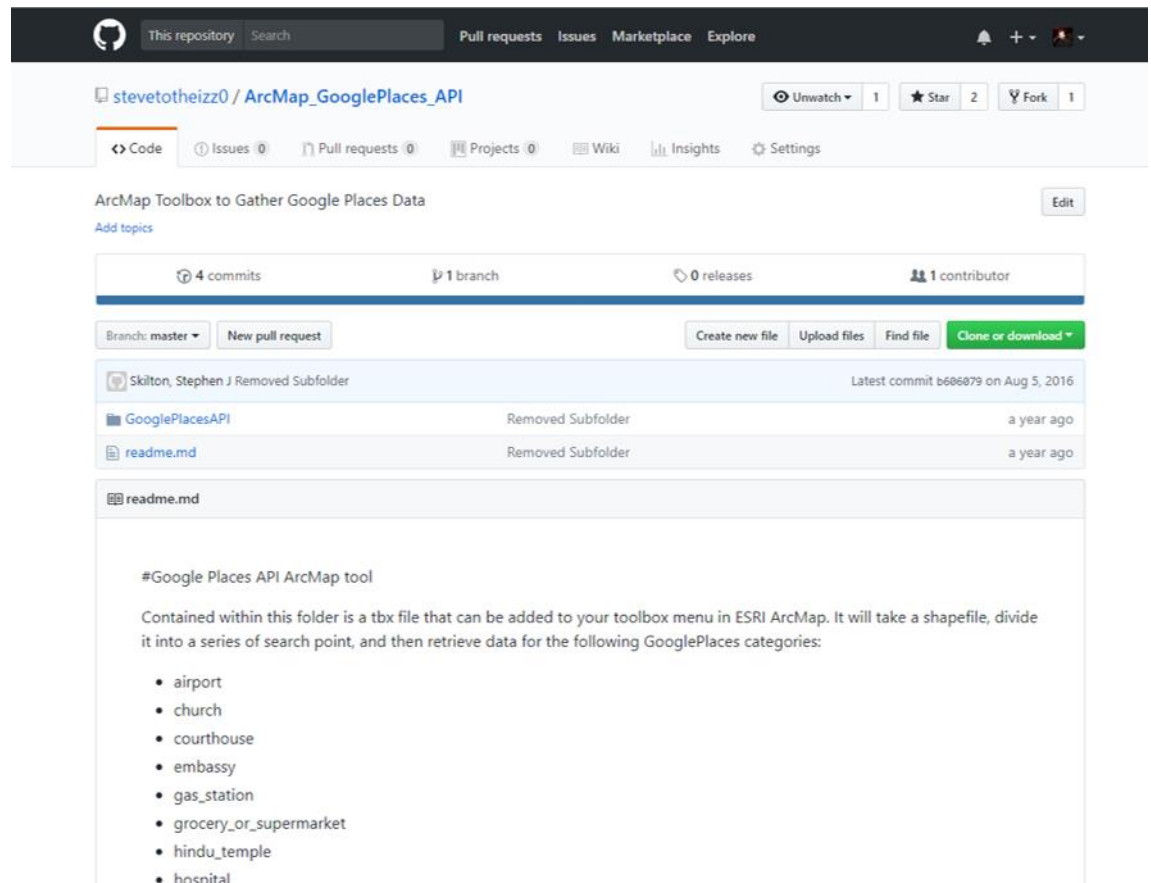
Availability:

- GitHub repo:

https://github.com/stevetotheizz0/ArcMap_GooglePlaces_API

- Future Possible Enhancements:

- Different Search Intensity for Urban/Sub/Rural
- Layer File for Style
- Variable Search Radius



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