PAKSTELLARS: COMMUNITY MAPPING

EVERGLADES NATIONAL PARK IN SOUTHERN FLORIDA, USA

TEAM PAKSTELLARS

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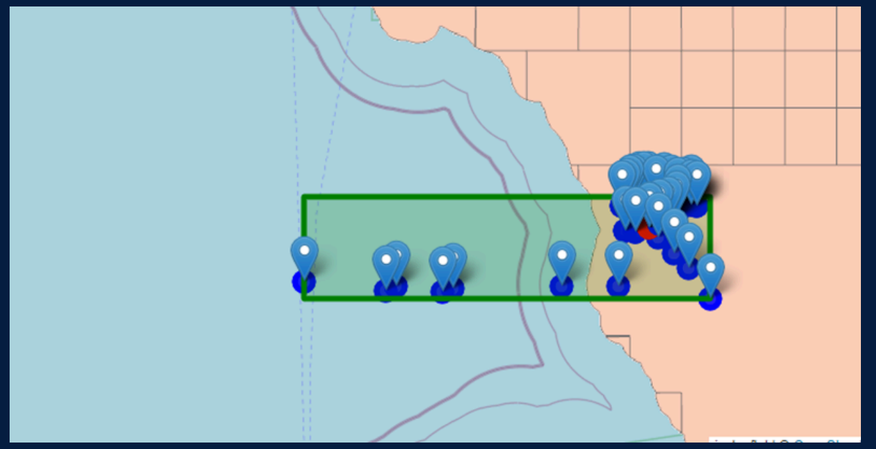
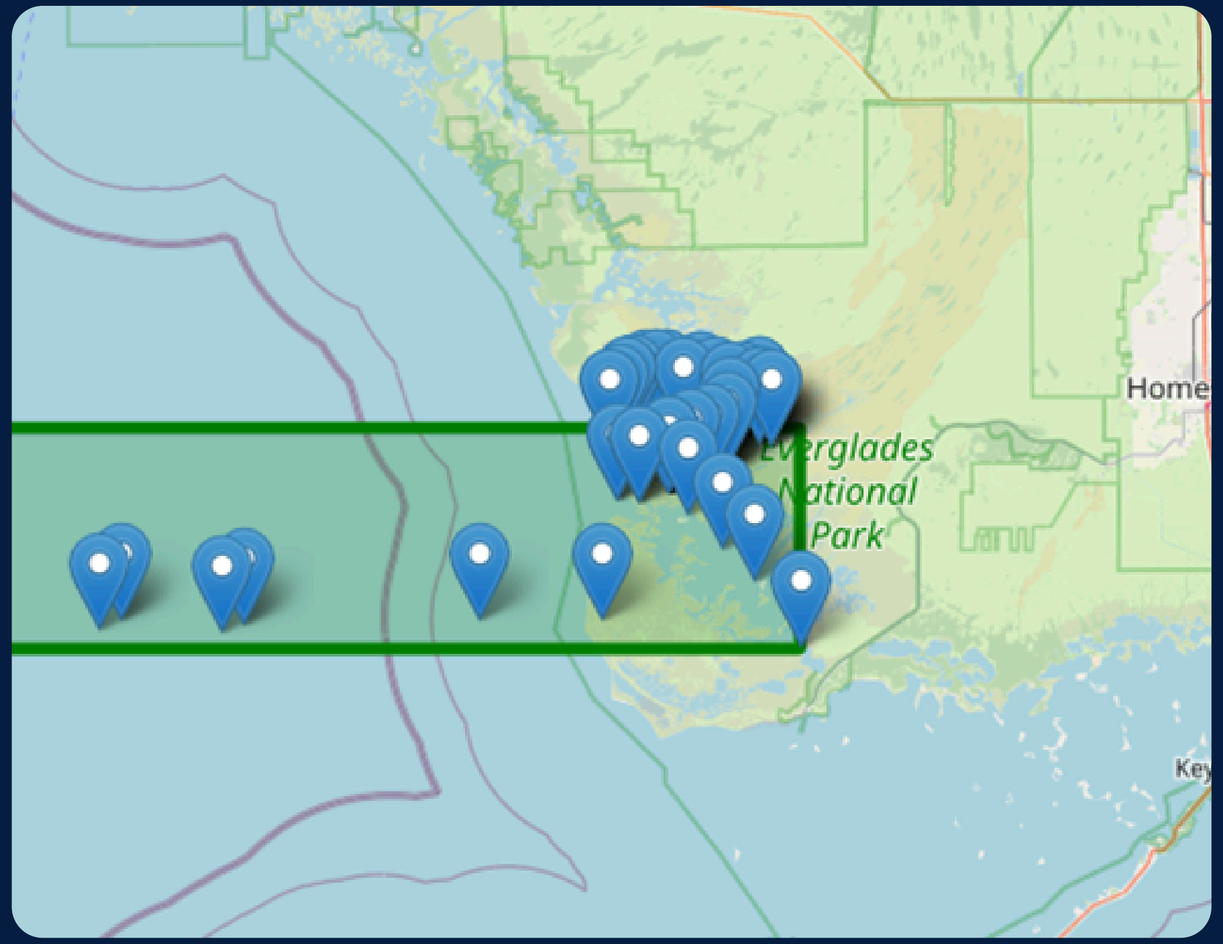


Communiy Mapping: Imagine a Map That Reveals the Hidden Connections Between Your Community and Its Geography

Our Community:

Everglades National Park
in southern Florida, USA



MAPPING FOR EVERYONE!

Our GIS initiative isn’t just about data; it’s about empowering communities. By using open-source tools like Python, Colab, Leafmap, and Geopandas, we create interactive maps and easy-to-understand visuals, making geography and open data accessible to all.

OPENLY ACCESSIBLE TOOLS :

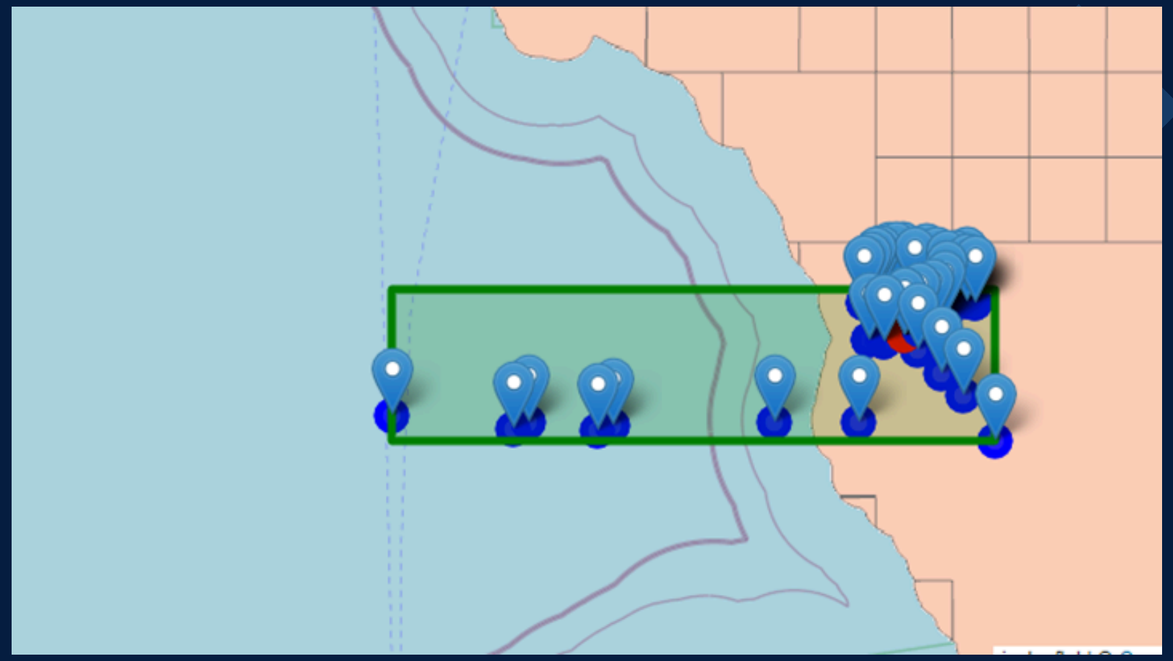
colab

leafmap

In-Depth Visualization with GIS!

Enhancing Map Visualization through WMS Layers

- We not only visualized geographical maps but also enriched them by adding multiple layers using Web Mapping Service (WMS).
- Two key layers were integrated:
  - Westlands Layer
  - Population-Count-2024 Layer
- These layers were sourced directly from:
  a. SEDAC
  b. USGS Wetlands Map Service



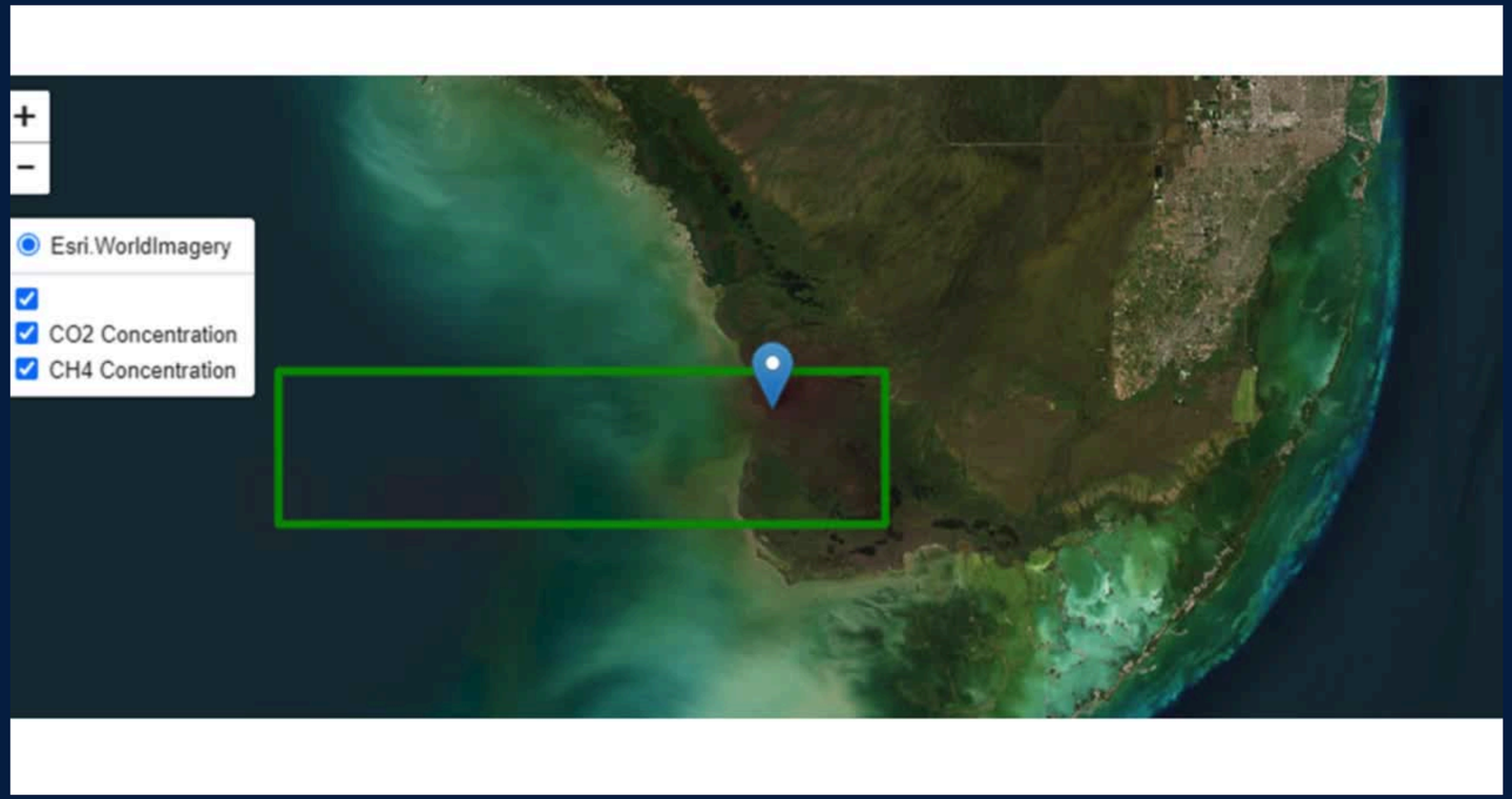
Visualizing Temperatures with Basemap

Visualizing Temperature Intensity on Esri.WorldImagery"

- Temperature Mapping: Displaying temperature data as yellow circles to represent different intensity levels.
- Layering for Clarity: Circles vary in shade and size to effectively show temperature variations across the map.
- Base Map Integration: The data is layered on Esri.WorldImagery for a high-resolution, realistic background, enhancing visual context and understanding.

Visualizations

Heatmaps for CH_4, CO_2, and N_2O concentrations were plotted based on latitude and longitude. Each point includes popups showing temperature and pH, with the area of interest highlighted using a polygon.



Summary

- Leverages Python, Colab, Leafmap, and Geopandas to layer open data for visual insights on community issues.
- Integrated thematic layers like temperature intensity and population data using Web Mapping Services for clearer understanding.

Future Work

- **Expand data sources to include real-time feeds for comprehensive mapping.**
- **Create customizable map interfaces for diverse user needs, along with multilingual support.**