USDA United States Department of Agriculture

Riparian Areas Vegetation Classification

USFS-NASA Pitch
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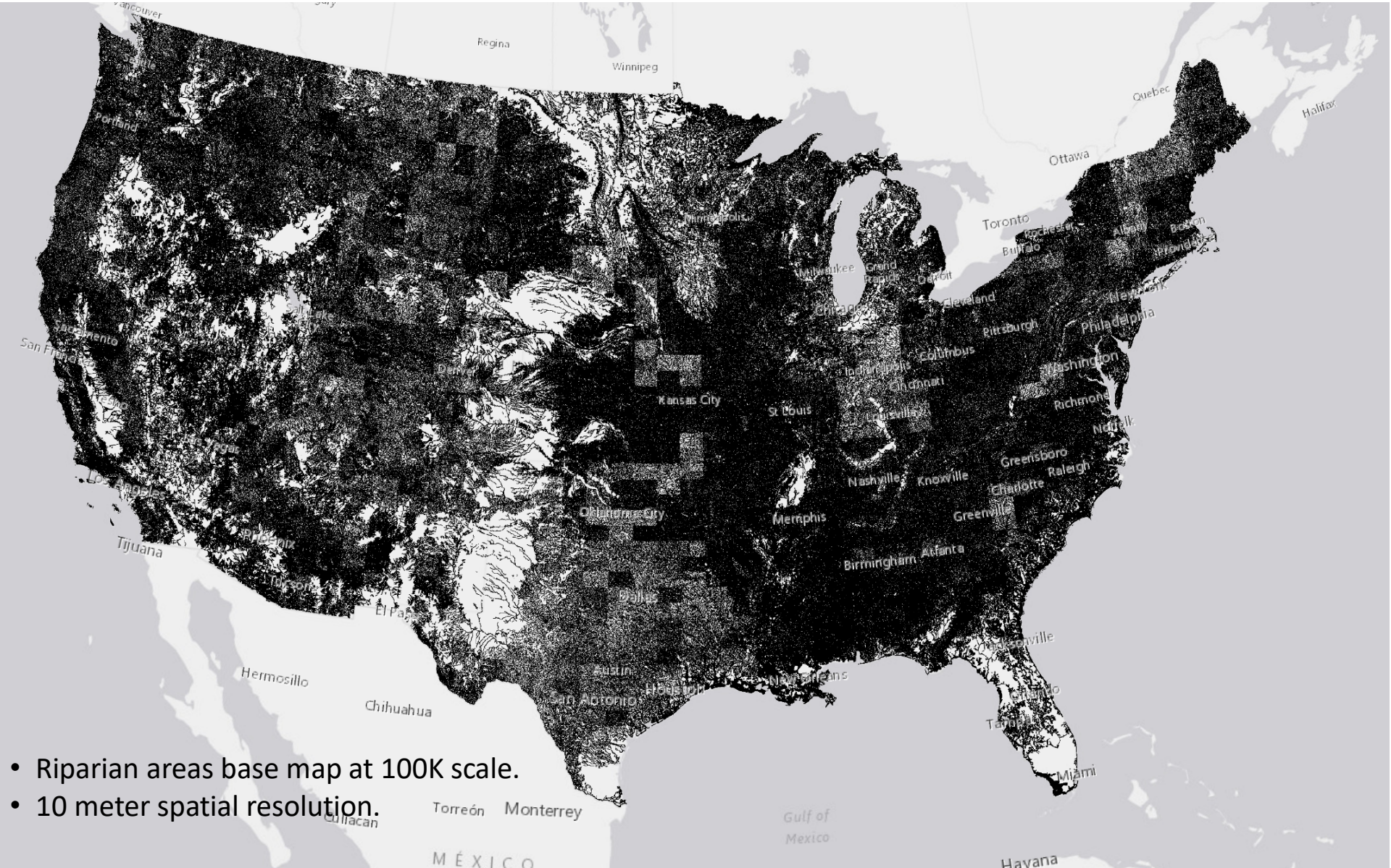
Introduction

- Riparian areas are an important natural resource that are rich in biodiversity and ecological and hydrological functions. These ecosystems contain specific vegetation and soil characteristics that play important roles in protecting water quality and stream ecosystem health and are very responsive to changes in land management activities. Delineating and quantifying riparian areas is an essential first step in monitoring, planning, management, and modeling for these areas.
- “the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity” **FH 1909.12-Land Management Planning Handbook, Chapter 20-Land Management Plan.**
- In 2015, the Forest Service Watershed, Fish, Wildlife, Air, & Rare Plants **(WFWARP)** staff and Rangeland Management & Vegetation Ecology **(RMVE)** staff funded the development and implementation of the Riparian Buffer Delineation Model (RBDM) to obtain a national inventory of riparian areas.
- This product would inform the Agency on national riparian resource conditions with multi-scale approach, and support other landscape projects such as the **Terrestrial Condition Assessment (TCA)**, **Watershed Condition Classification (WCC)**, and **Forest to Faucet**.
- There is no available riparian areas inventory (Acreage and Land cover) within the United States since 1981 (Benson et al., 1981) and (Swift et al., 1984).

Riparian Areas Dataset



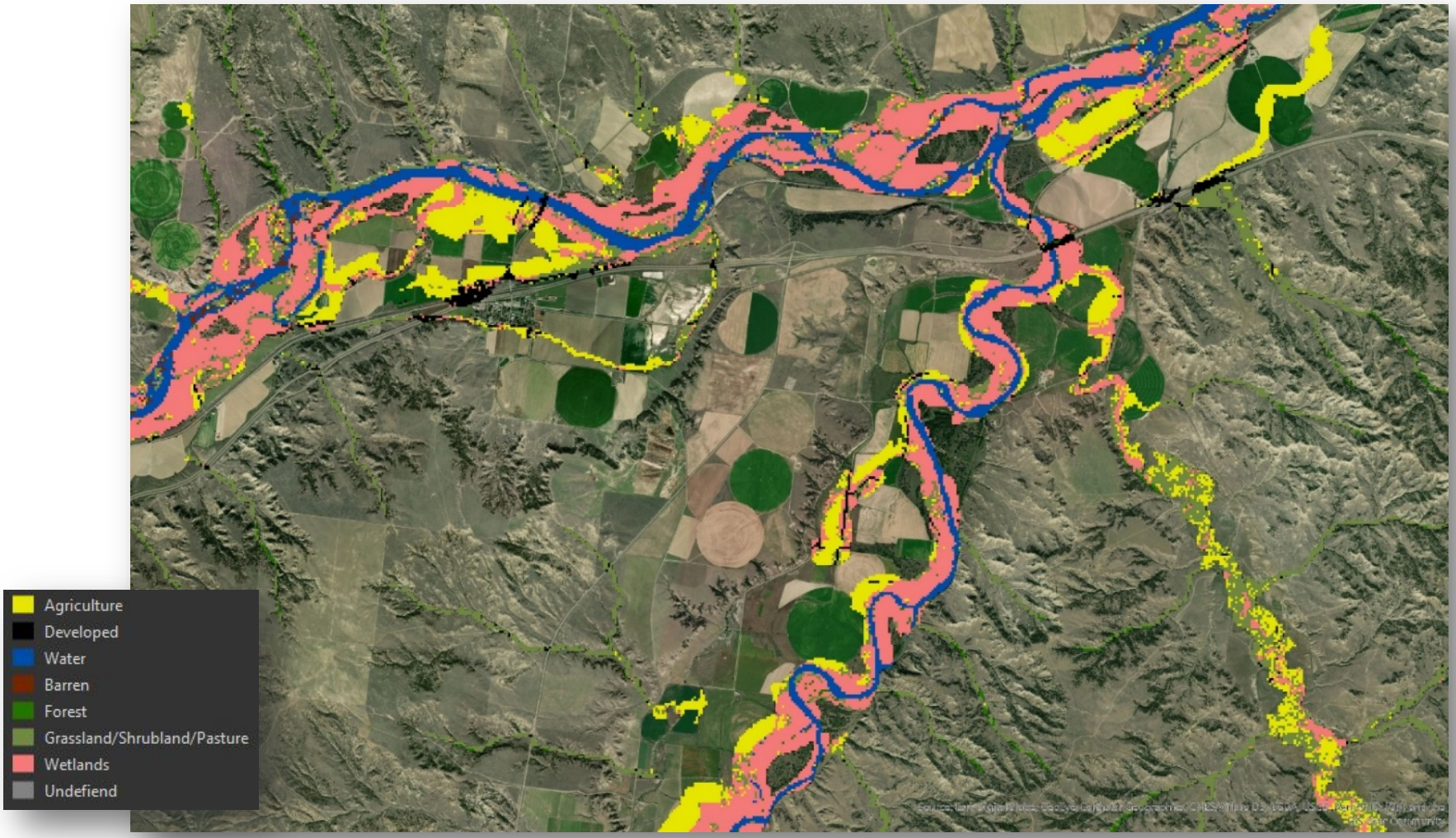
- Riparian areas base map at 100K scale.
- 10 meter spatial resolution.

Achieved Objectives

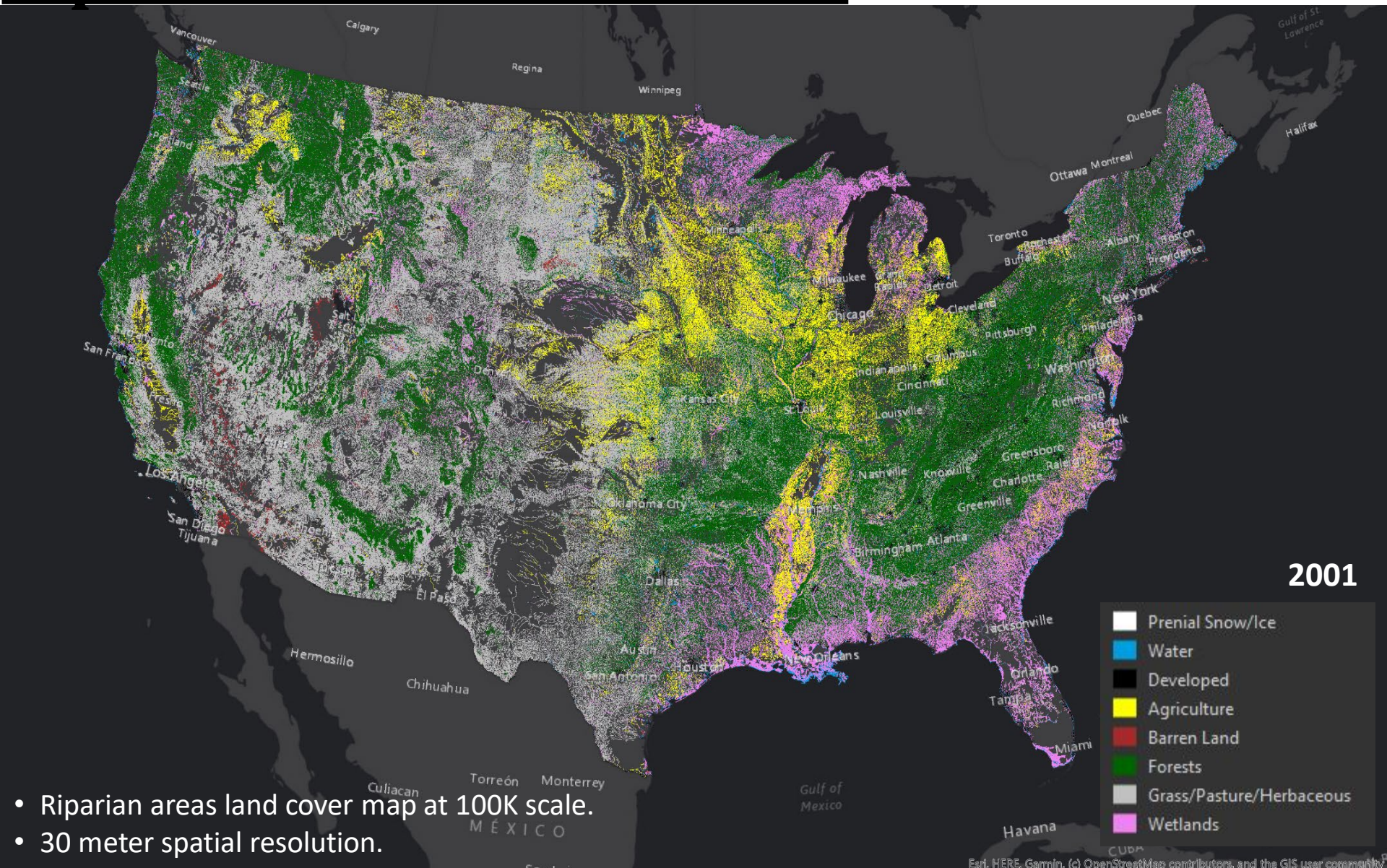
- Spatial extent.
- Location.
- Size (multi-scale).
- Cost effective.
- Use available data.
- Technology transfer.

Achieved Objectives

- General land cover composition (30-meter spatial resolution).



Riparian Areas Land Cover



- Riparian areas land cover map at 100K scale.
- 30 meter spatial resolution.

My Pitch

1. Develop a classification algorithm using google earth engine geospatial and machine learning technology and design a simple GUI utilizing Sentinel-2 imagery, riparian dataset extent and field collected training data if available with USGS level 10 digits HUC-10 or level 12 digits HUC-12 watersheds as AOI.
2. Develop a classification algorithm using google earth engine geospatial and machine learning technology and design a simple GUI utilizing Sentinel-2 imagery, riparian dataset extent and field collected training data if available with USFS national forest boundary as AOI.

For More Information

https://storymaps.arcgis.com/stories/8cd69adaaaf541c78f8d867f0ec6b6ef