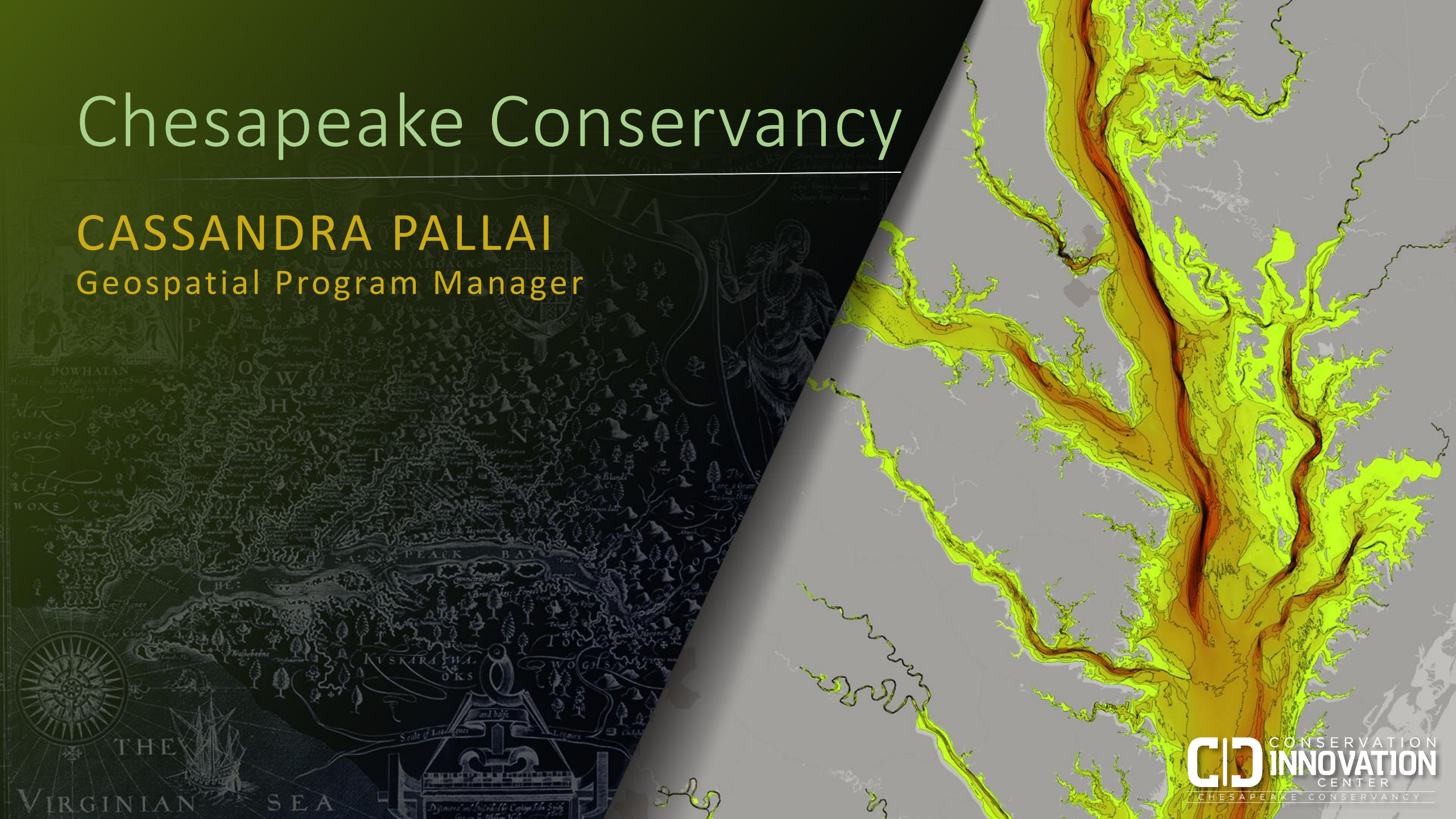
# Chesapeake Conservancy


## CASSANDRA PALLAI

Geospatial Program Manager


CONSERVATION INNOVATION CENTER
CHESAPEAKE CONSERVANCY

Connect

Innovation

Conserve

Restore



U.S.
FISH & WILDLIFE
SERVICE
DEPARTMENT OF THE INTERIOR


NATIONAL
PARK
SERVICE


Chesapeake Bay Program
A Watershed Partnership


NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE


WILDLIFE MANAGEMENT INSTITUTE
ESTABLISHED IN 1911


CONSERVATION
INNOVATION
CENTER
CHESAPEAKE CONSERVANCY


intel


NRCS
Natural Resources Conservation Service


esri


dessc
digital energy & sustainability solutions campaign


NATIONAL
GEOGRAPHIC

# Conservation Innovation Center

## Data

Land Cover/Use

Stream Maps

## Web-based tools

Access

Products

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## Data

Land Cover/Use

Stream Maps



## Web-based tools

Access

Products

What's on the landscape?

How much pollution is contributed, and how much could be reduced from projects?

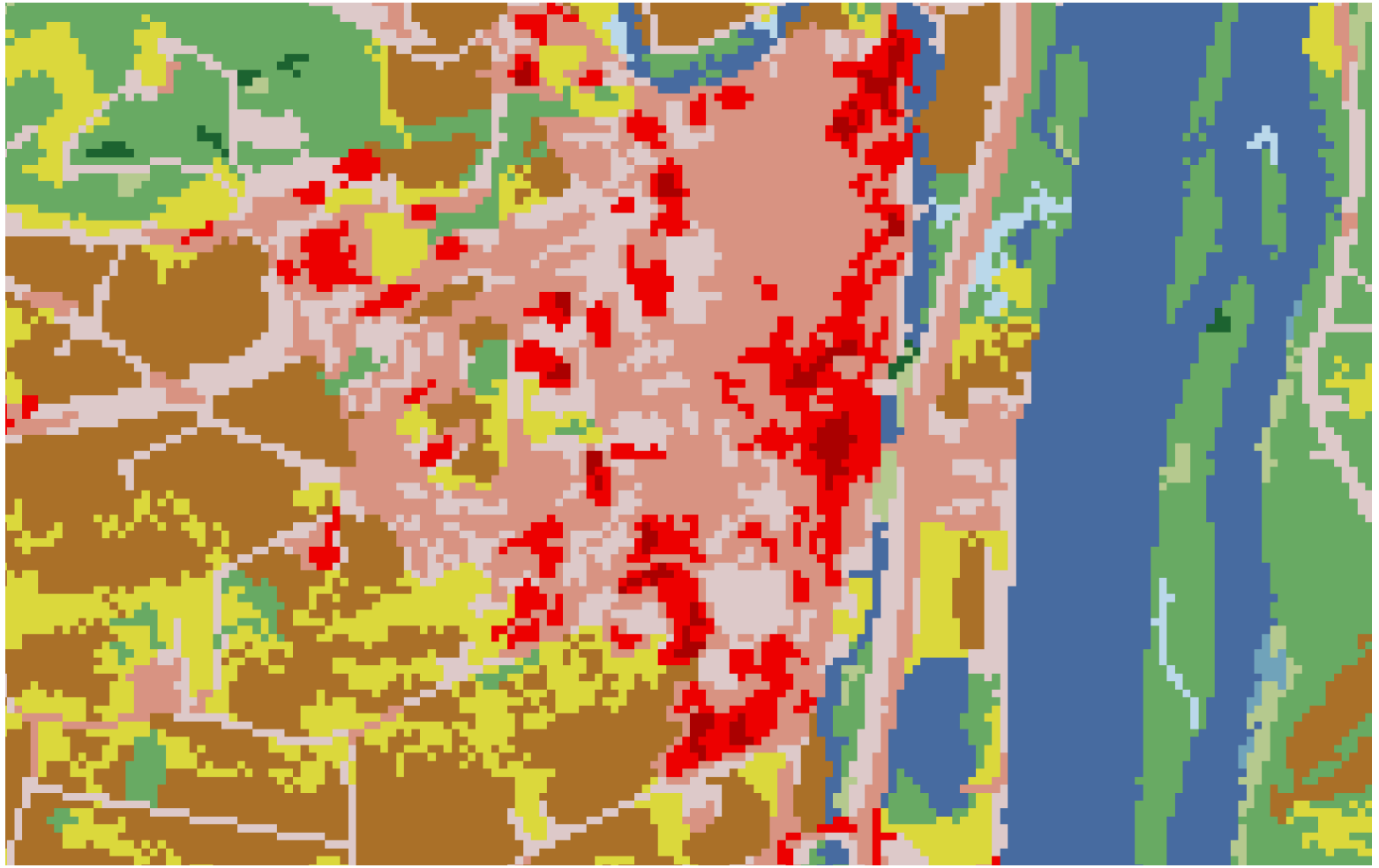
How do we standardize project reporting?

# Data Motivation

**National Land Cover Data**

30-meter resolution

Regional planning information



# Data Motivation and Partners

Chesapeake Bay Program
*Science. Restoration. Partnership.*

## TMDL and 2025 Pollution Reduction Goals

### Chesapeake Conservancy

- Maryland
- Washington D.C.
- New York
- West Virginia

### University of Vermont SAL

- Delaware
- Pennsylvania

### WorldView Solutions

- Virginia

NASA Satellite Imagery

York County Planning Commission

CONSERVATION INNOVATION CENTER
CHESAPEAKE CONSERVANCY

UVM SPATIAL ANALYSIS LABORATORY

WorldView SOLUTIONS

# Remote Sensing Workflow

2013-2014 NAIP

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Leaf-off imagery

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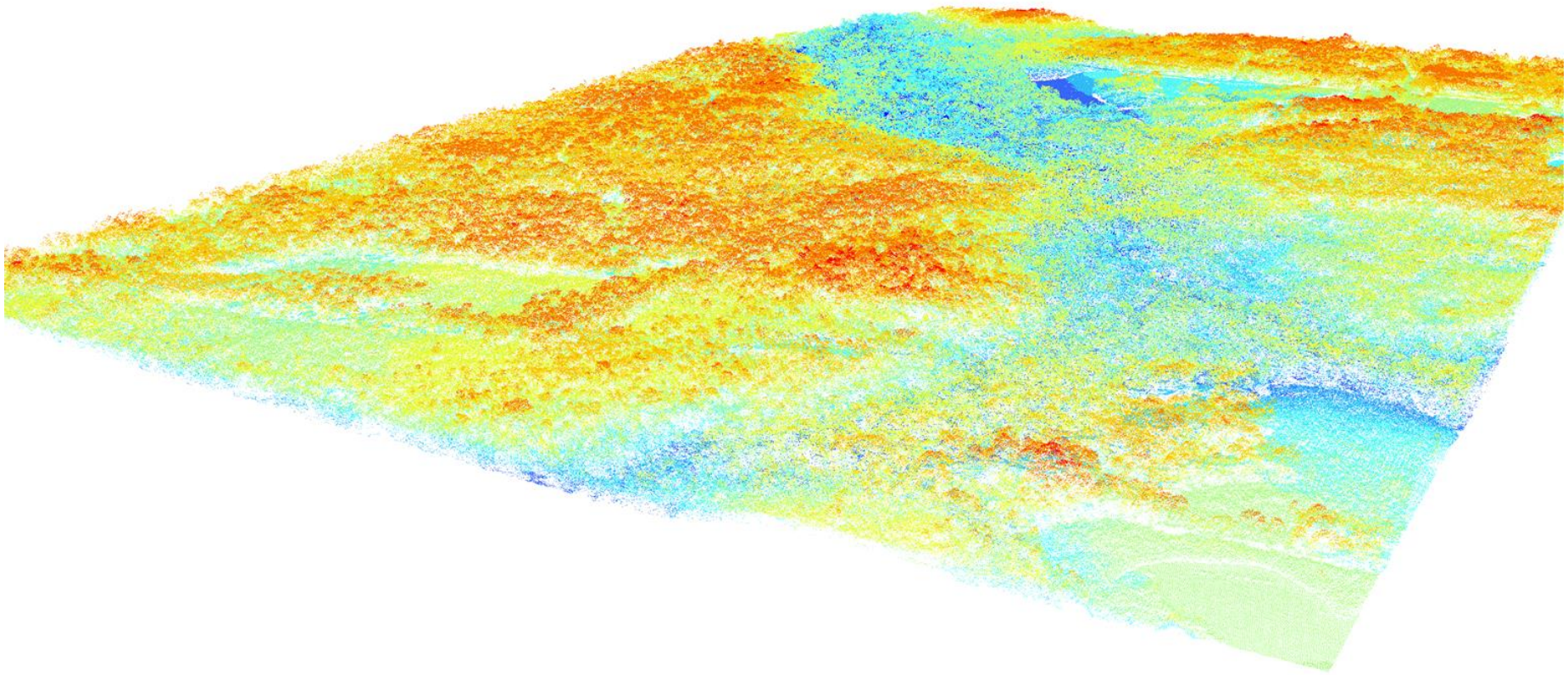
Leaf off imagery

LiDAR

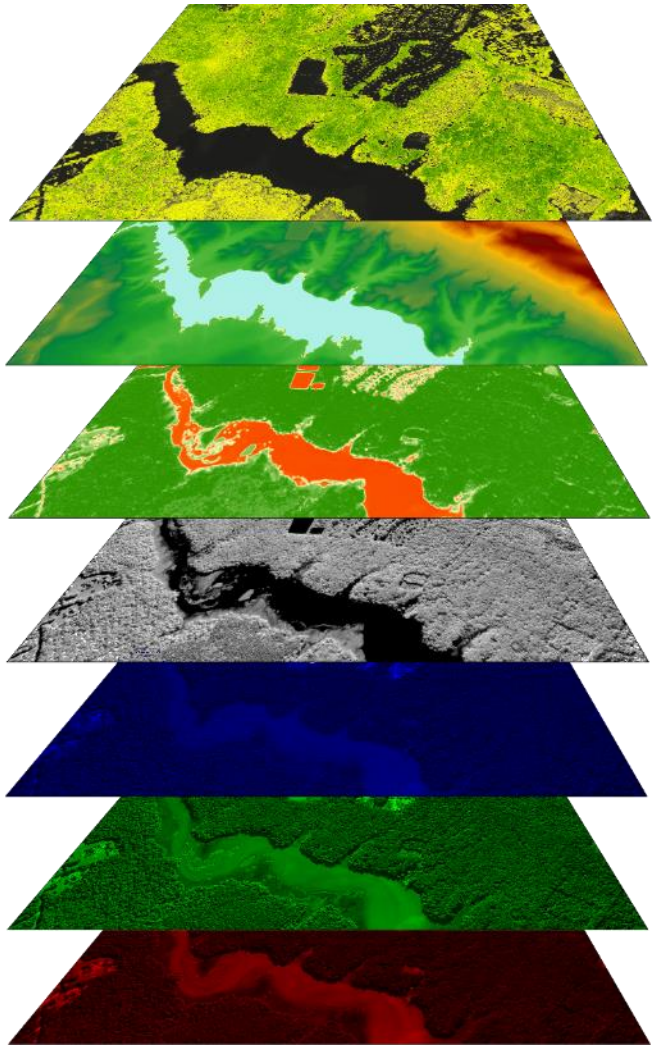


# Remote Sensing Workflow

2013-2014 NAIP

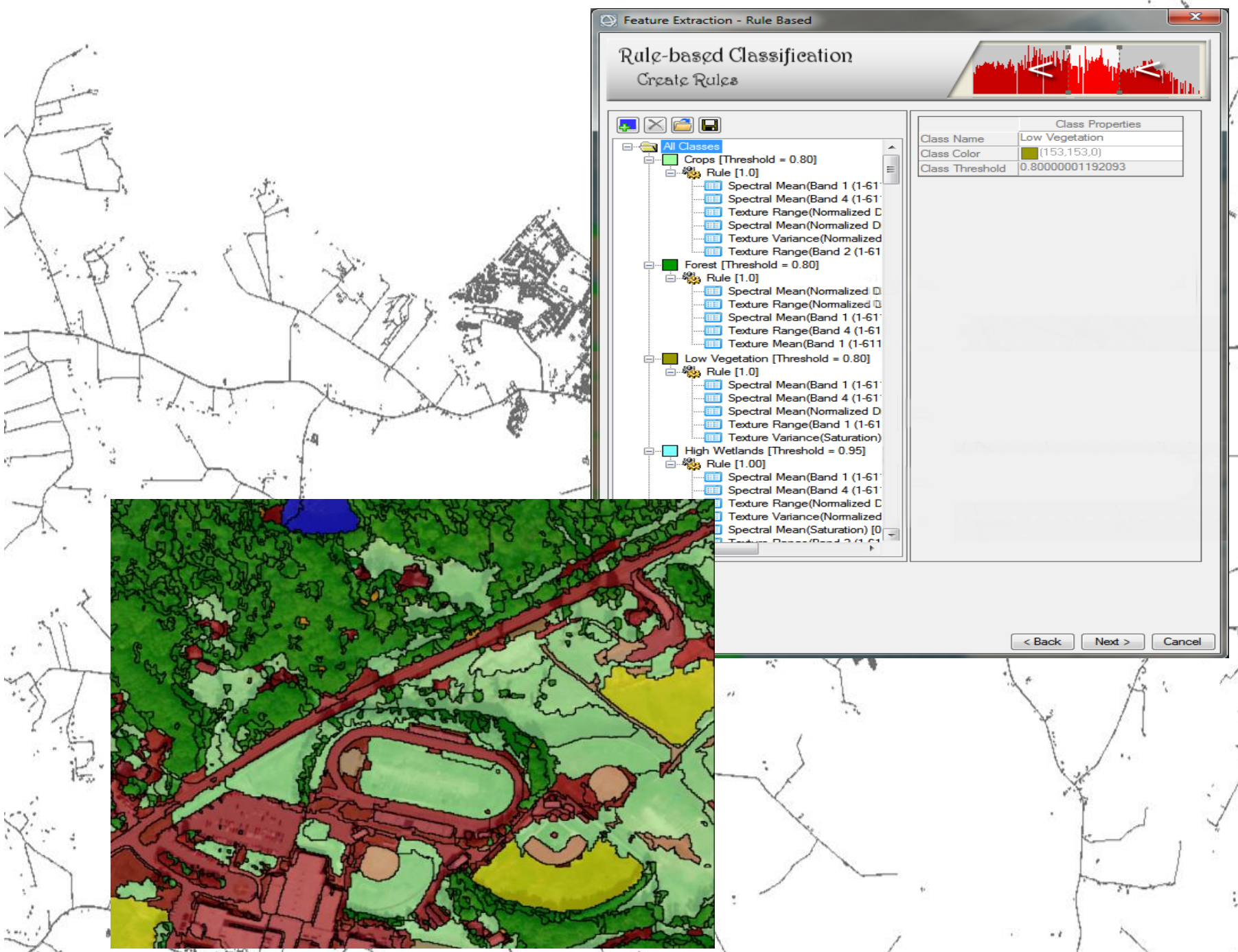
Leaf off imagery

LiDAR



Four-step process:

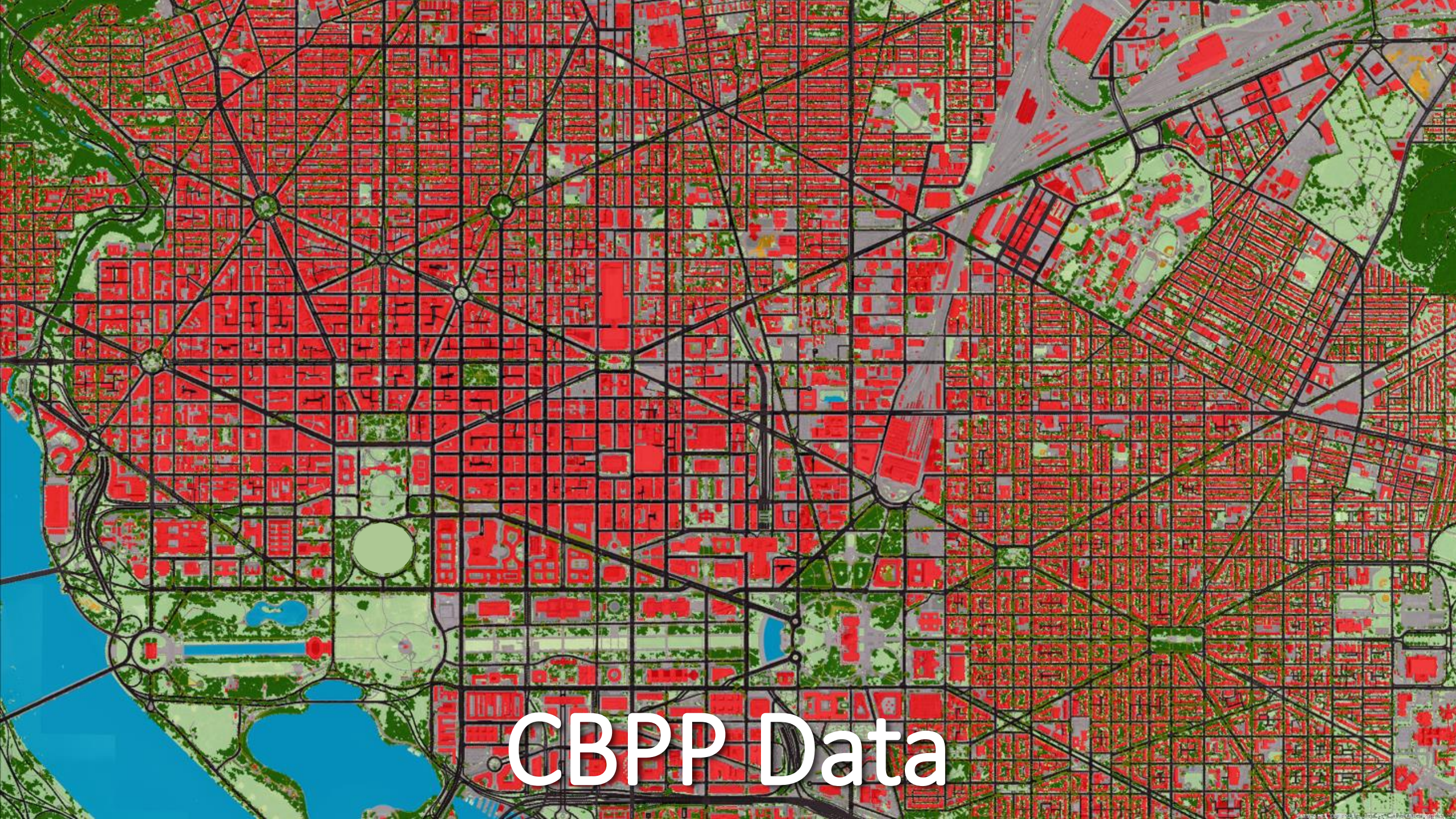
1) Divide image into segments of like pixels
2) Create rules to group segments into classes
3) Manually correct misclassified segments
4) Integrate county planning data

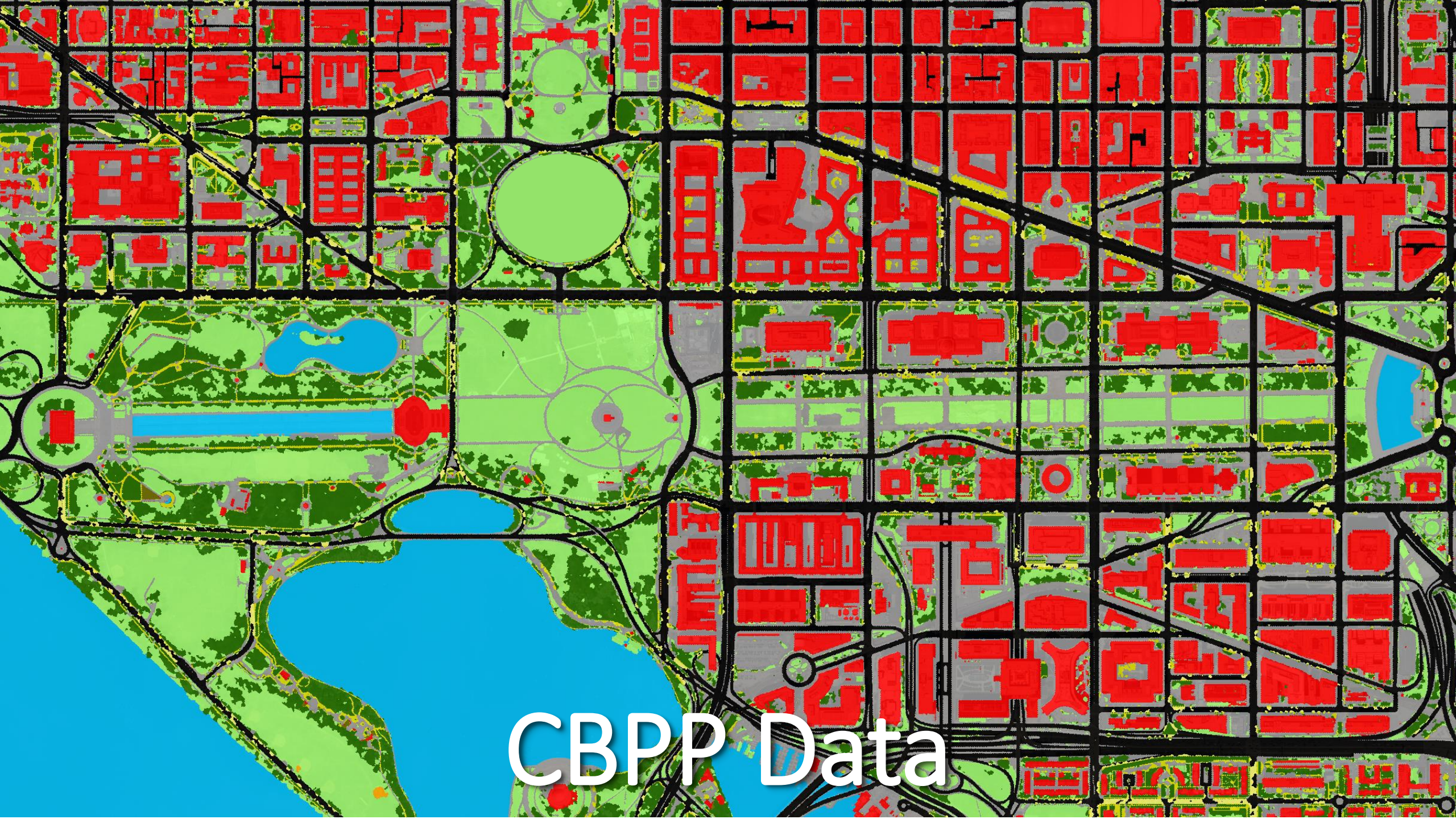


Local Data with Land Cover

National Agricultural Inventory Program 2013 Image


National Land Cover Database


CBPP Data


CBPP Data

# CBPP High-Resolution Land Cover Data

Incorporates stakeholder review

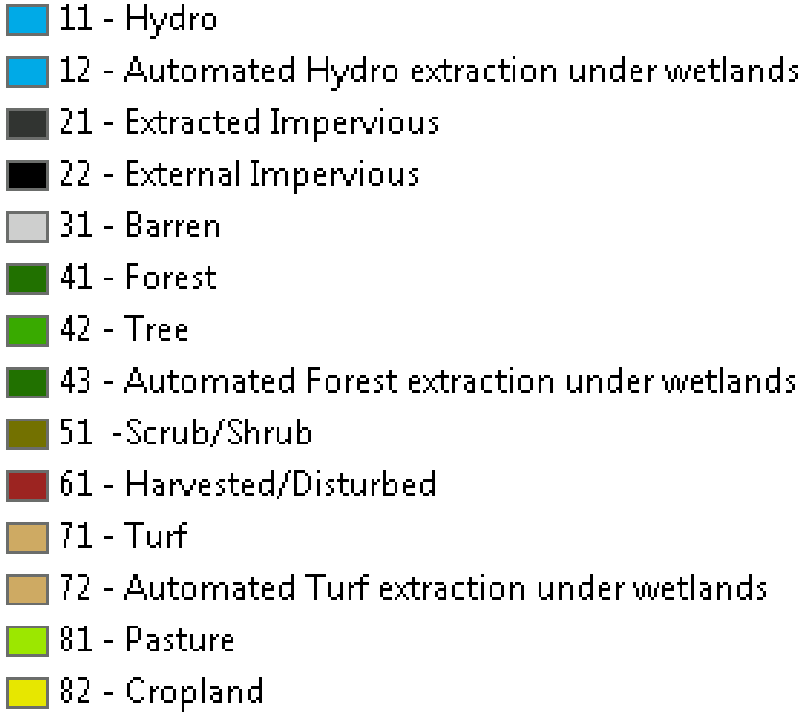
Raster format

1 meter pixel size

*Projection:*
Albers Equal Area – USGS version

## MD, WV, PA, NY, DE, D.C.


## VA



# CBPP High-Resolution Land Cover Data

# Significance to CBPP Management Efforts

Provides higher-resolution inputs for the Chesapeake Bay Program's Phase 6 models

Serves as a baseline for tracking:

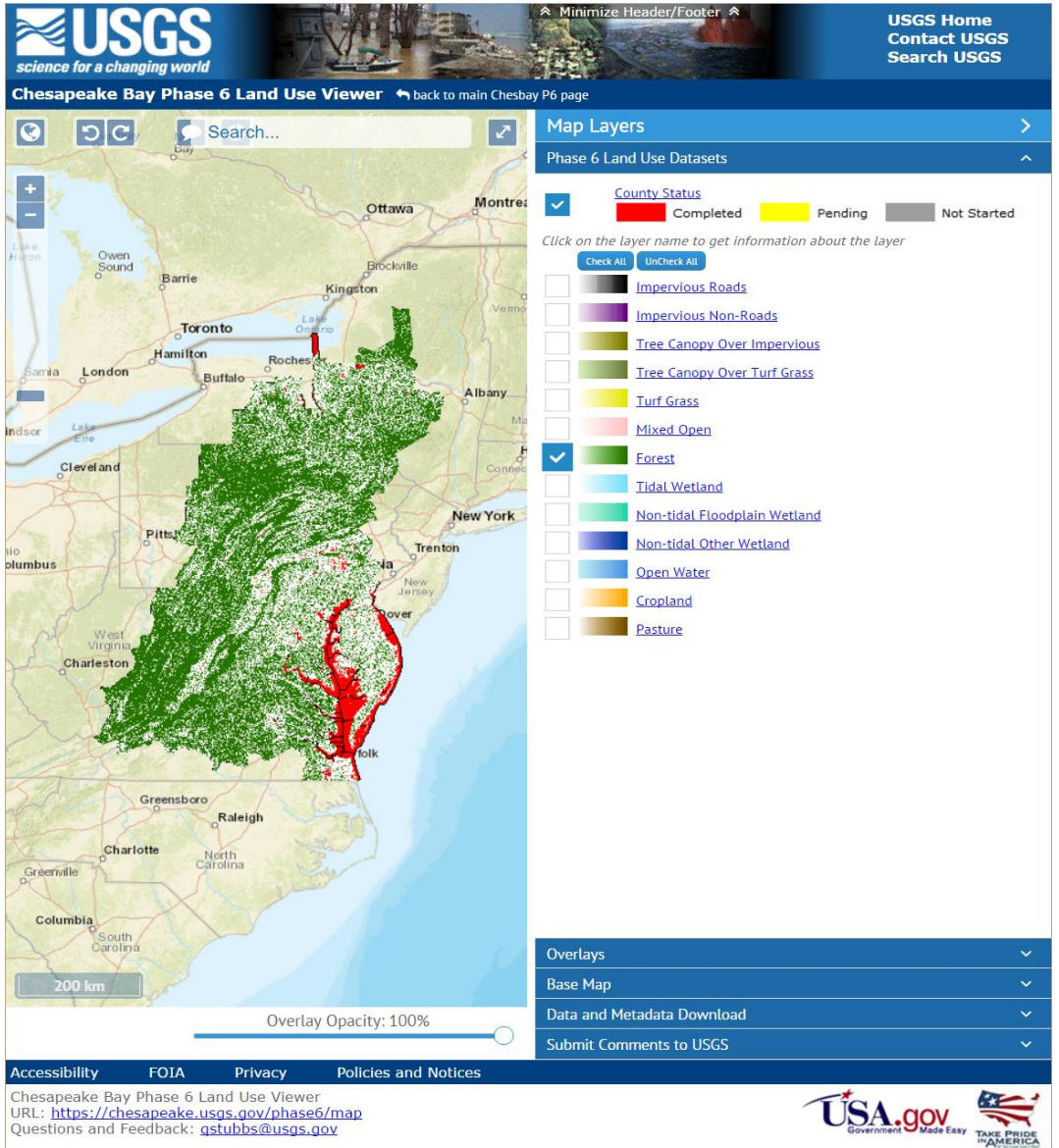
*Development trends*

*Conversion of forest and agricultural lands*

*Wetland loss*

Increases the resolution of GIS-based management and prioritization efforts

Engages local governments through the review process and provides them with actionable data products



# Significance to Buffer Management Efforts

**Will facilitate:**

Buffer gap identification

Goal setting

Prioritization

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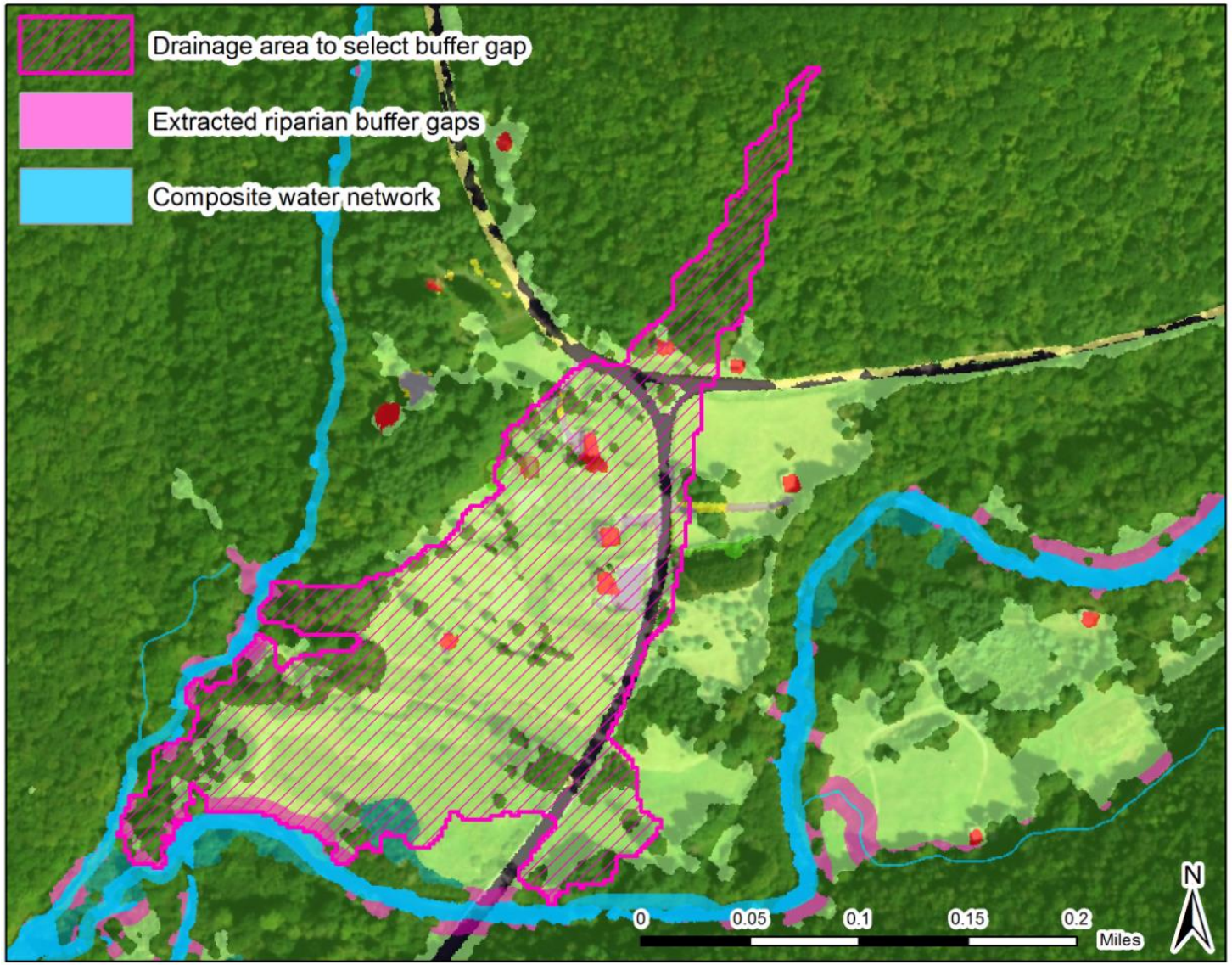


| Land Cover | Area (acres) | % of Total Drainage Area |
|---|---|---|
| Low Vegetation | 15.17 | 64.76 |
| Tree Canopy | 6.10 | 26.03 |
| Roads | 1.05 | 4.46 |
| Other impervious surfaces | 0.42 | 1.81 |
| Wetlands | 0.28 | 1.21 |
| Structures | 0.26 | 1.12 |
| Tree canopy over structures | 0.05 | 0.22 |
| Scrub-shrub | 0.04 | 0.19 |
| Tree canopy over other impervious | 0.03 | 0.12 |
| Tree canopy over roads | 0.01 | 0.05 |
| Water | 0.01 | 0.03 |
| **All Land Cover** | 23.42 | 100.00 |

# Thank you!


## CASSANDRA PALLAI

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