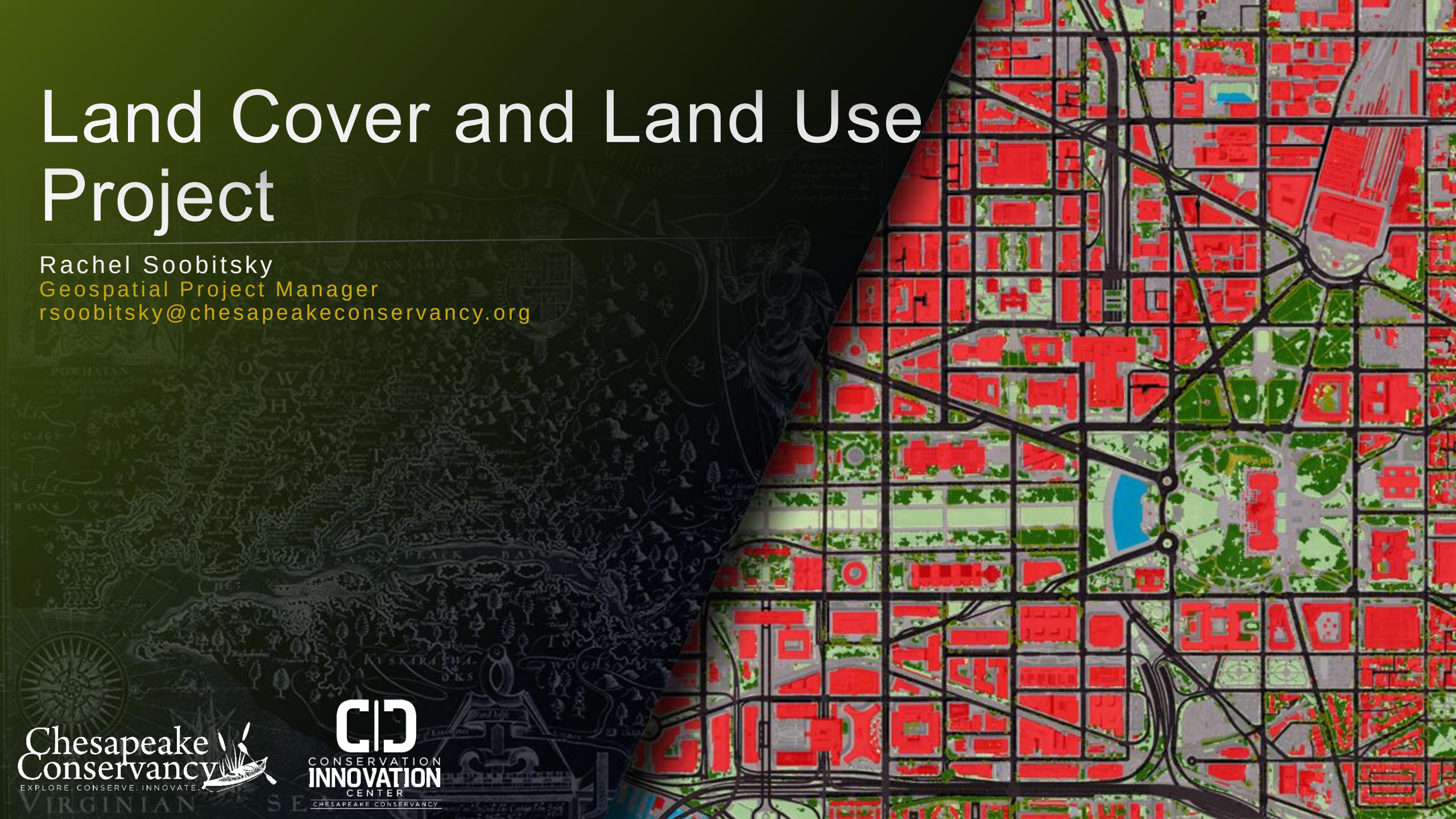
Land Cover and Land Use Project

Rachel Soobitsky
Geospatial Project Manager
rsoobitsky@chesapeakeconservancy.org



Chesapeake Conservancy
EXPLORE. CONSERVE. INNOVATE.

CONSERVATION INNOVATION CENTER
CHESAPEAKE CONSERVANCY

Our Mission

CONSERVATION INNOVATION CENTER
CHESAPEAKE CONSERVANCY

CBP Proposal

Objective 1: Land Cover and Land Use

- Partnering with University of Vermont

Objective 2: Hydrology & Ditches

- Partnering with UMBC

Objective 3: BMP Mapping & Tracking

- Partnering with Chesapeake Commons and Drexel University

Objective 4: General Geospatial Support

Data Motivation

TMDL- 2025 Pollution Reduction Goals

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

NASA Satellite Imagery

York County Planning Commission

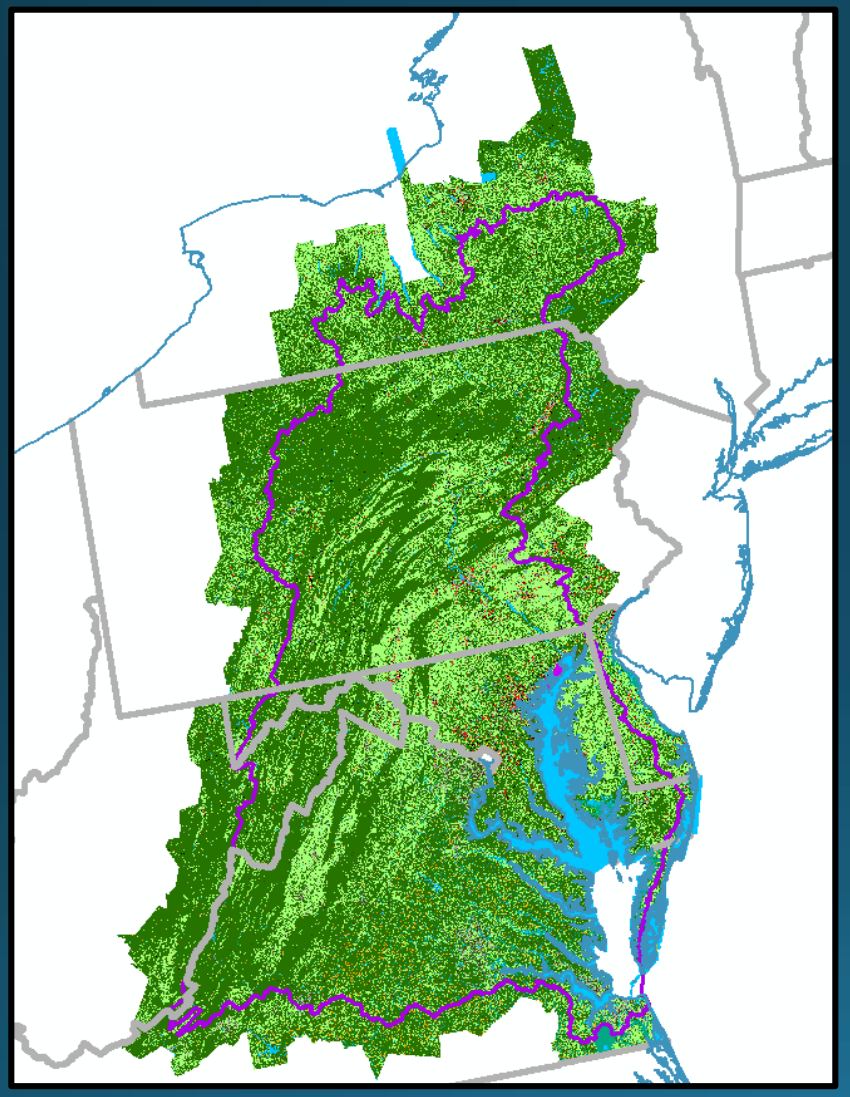
Objective 1: Land Cover and Land Use

Partnering with University of Vermont Spatial Analysis Laboratory

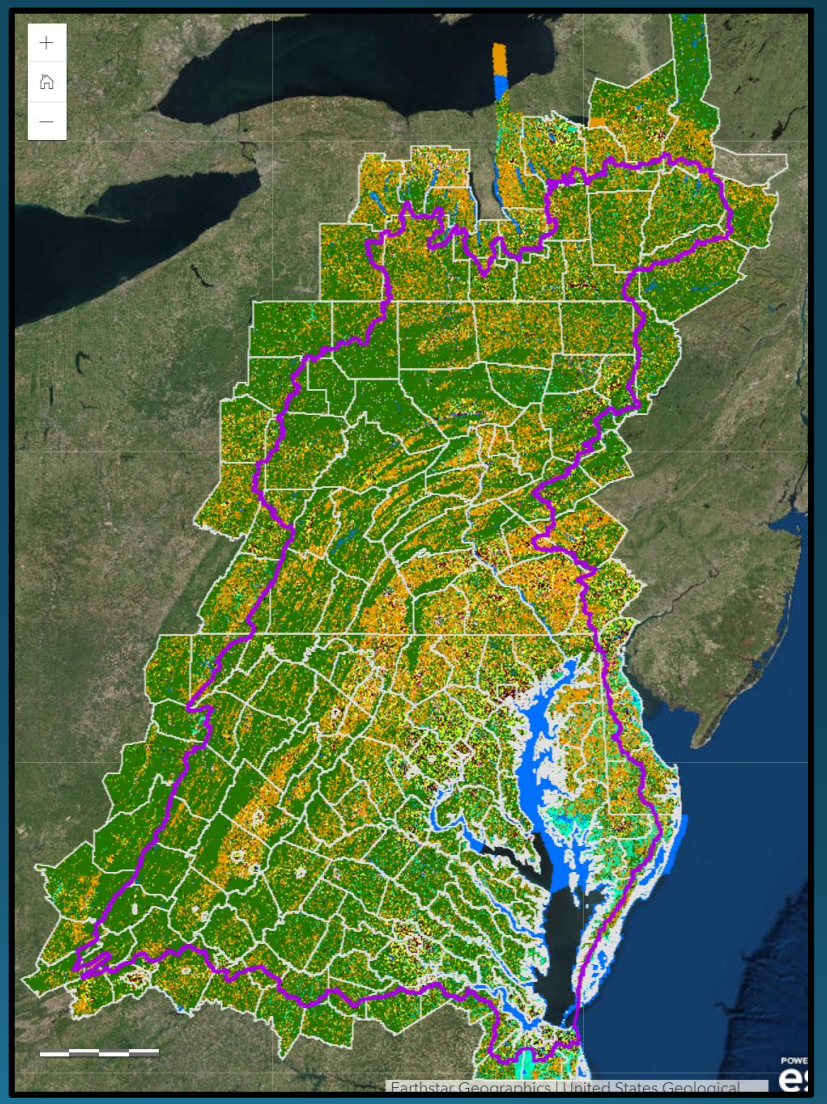
Main Goal: Create high-resolution land cover and land use maps for the entire Chesapeake Bay watershed for **2017/18**, and for **2021/22.**

2013/2014 Land Cover and Land Use

CONSERVATION INNOVATION CENTER
CHESAPEAKE CONSERVANCY



- Water
- Wetlands
- Forest
- Shrubland
- Herbaceous Vegetation
- Barren
- Structures
- Impervious
- Roads
- Tree Canopy over Structures
- Tree Canopy over Impervious Surfaces
- Tree Canopy over Impervious Roads



- Impervious, Road
- Impervious, Non-Road
- Tree Canopy over Impervious
- Water
- Tidal Wetlands
- Floodplain Wetlands
- Other Wetlands
- Forest
- Tree Canopy over Turf
- Mixed Open
- Fractional Turf (small)
- Fractional Turf (med)
- Fractional Turf (large)
- Fractional Impervious
- Turf Grass
- Cropland
- Pasture

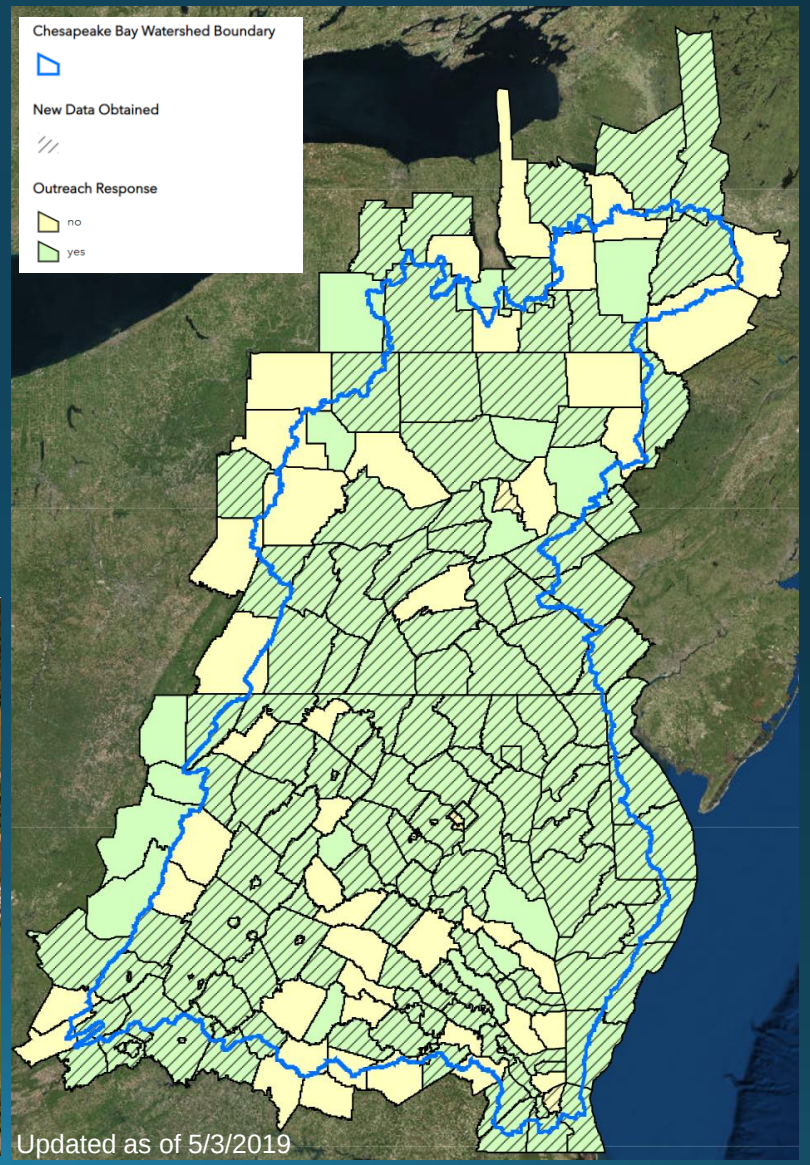
High-resolution Data

Planning at the Parcel Scale

Planimetric Data

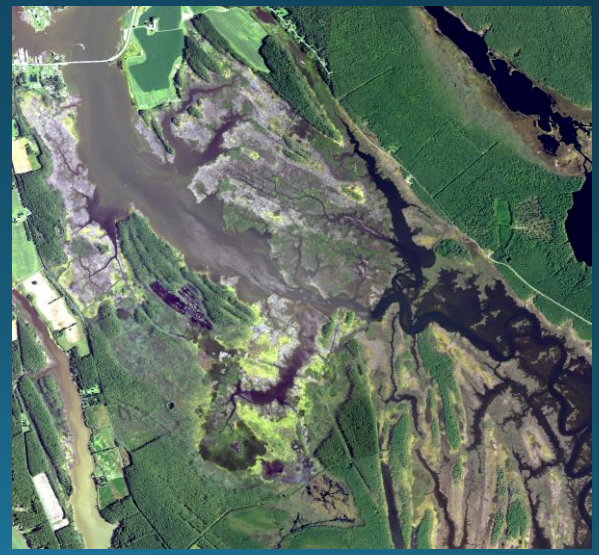
Integrate county planning data:

- Parcel Data
- Local Land Use Data
- Building Footprints
- Street Centerlines
- Zoning Data
- MS4
- Sewer Service Data
- *storm water infrastructure (inlets, outputs, etc.),*
- *culverts and other structures that convey water, and*
- *locations of existing BMPs (infiltration ponds, curb cuts, etc.)*



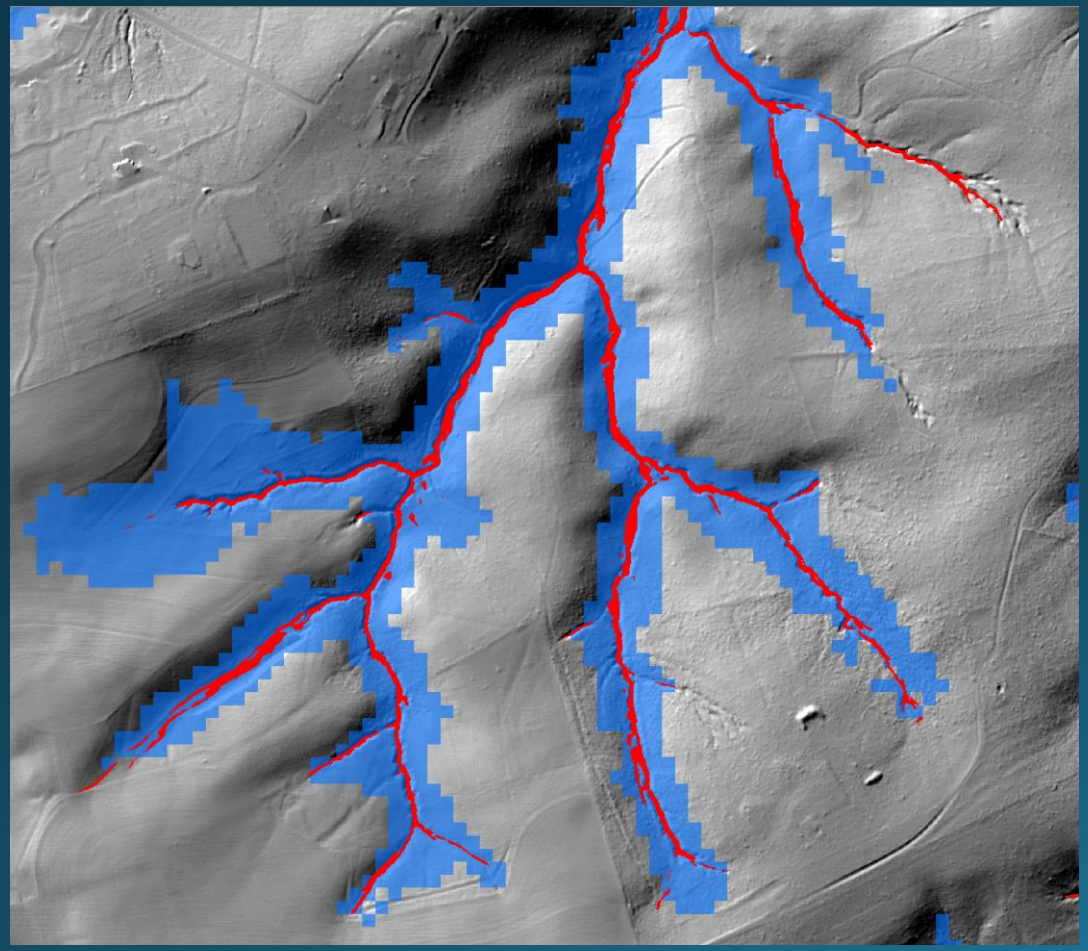
Research into Secondary Classes

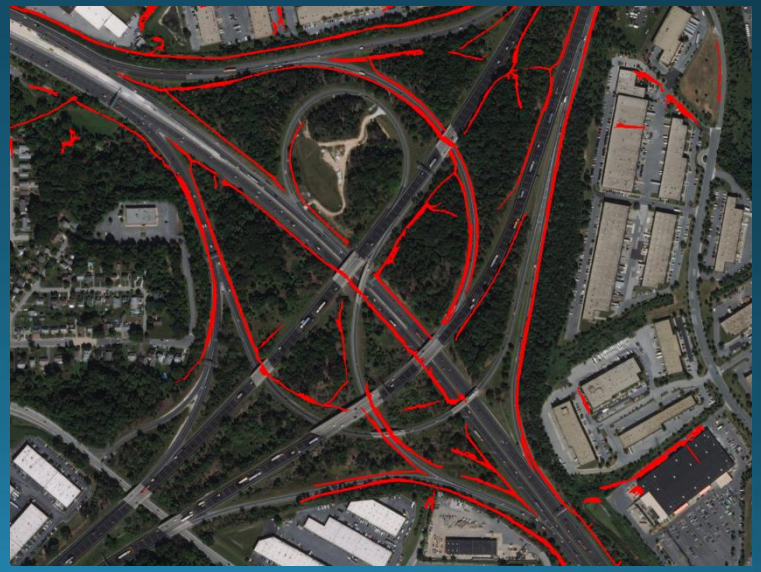
- Deciduous vs. Evergreen
- Vineyards, nurseries, orchards, and greenhouses
- Animal Operations: Chicken and/or Cattle
- Vegetation height
- Crop vs. Pasture
- Cover-Crop
- Center-pivot irrigation
- Solar fields
- Silviculture/Timber Harvests
- Tidal vs. Non-tidal/Forested Wetlands
- Aquaculture operations
- Submerged Aquatic Vegetation



Objective 2: Hydrology and Ditch Mapping

Main Goal: Use high-resolution LiDAR elevation models to classify terrain and extract stream valleys to then delineate channels.





David Saavedra- dsaavedra@chesapeakeconservancy.org

Objective 3: BMP Mapping and Tracking

Main Goal: Develop 6-year dynamic blueprint for conservation strategies. Help identify opportunities and practices to help move towards Watershed Implementation (WIP) goals, while tracking implementation.

Water and Sediment Control Basins

Contour Buffer Strips

Grassed Waterways

Fixed width buffer

Precision buffer

Louis Keddell- lkeddell@chesapeakeconservancy.org

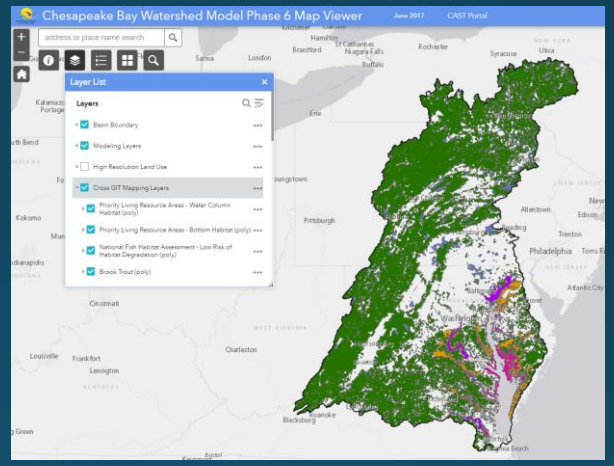
Objective 4: General Geospatial Support

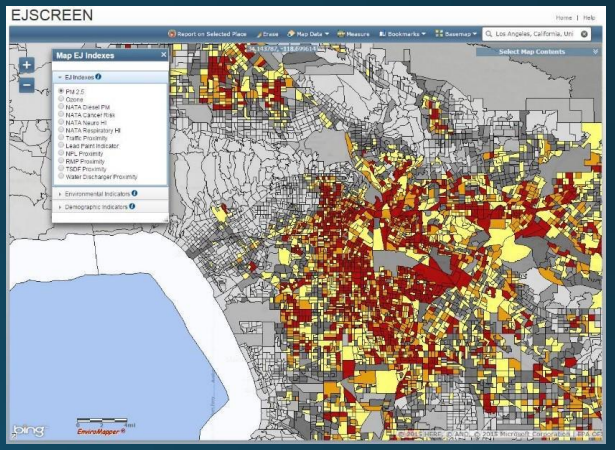
Main Goal: Provide geospatial planning and support to CBP to allow partners to integrate geospatial data into management efforts.

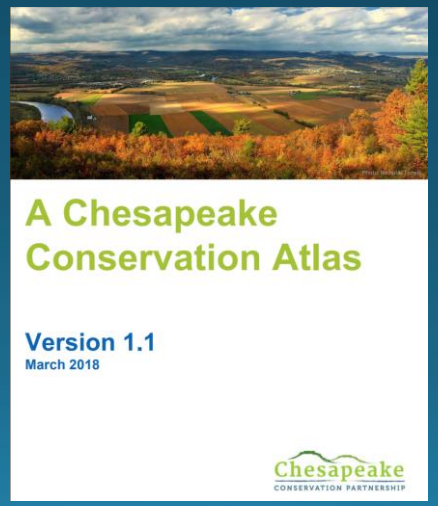
Who?

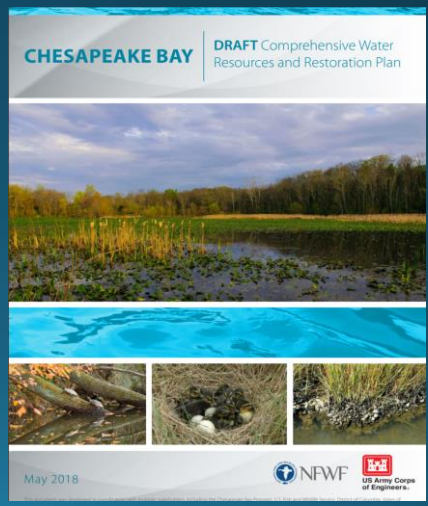
- Cross-GIT Mapping Team
- STAR team members
- Individual GITS
- You!

What?









Jake Leizear- jleizear@chesapeakeconservancy.org

Questions?

- Are there any habitat related uses/implications of the land cover- especially the forest class on habitat fragmentation?
- Any other feedback or suggestions related to secondary classes?
- Are there any specific BMPs that you work with or are interested in having mapped for purposes related to habitat?

Rachel Soobitsky
Geospatial Project Manager
rsoobitsky@chesapeakeconservancy.org