

Land Use Classification Proposed Rules

12/18/20

Images

Water Classes

Pending Decision

Developed Classes

- Structures: Same as LC
- Impervious Roads: Same as LC
- Tree Canopy over Structures: Same as LC
- Tree Canopy over Impervious Roads: Same as LC



- Structures
- Impervious Surfaces
- Impervious Roads
- Tree Canopy over Structures
- Tree Canopy over Impervious Surfaces
- Tree Canopy over Impervious Roads

Developed Classes

- Other Impervious: Same as LC. Buffer all rail lines from Open Street Map by 3 meters and reclassify “Herbaceous Vegetation”, “Barren”, “Scrub-Shrub”, and “Wetlands” as “Other Impervious”.
- Tree Canopy over Other Impervious: same as LC. Buffer all rail lines from Open Street Map by 3 meters and reclassify “Tree Canopy” as “Tree Canopy over Other Impervious”.



Developed Classes

Turf Grass:

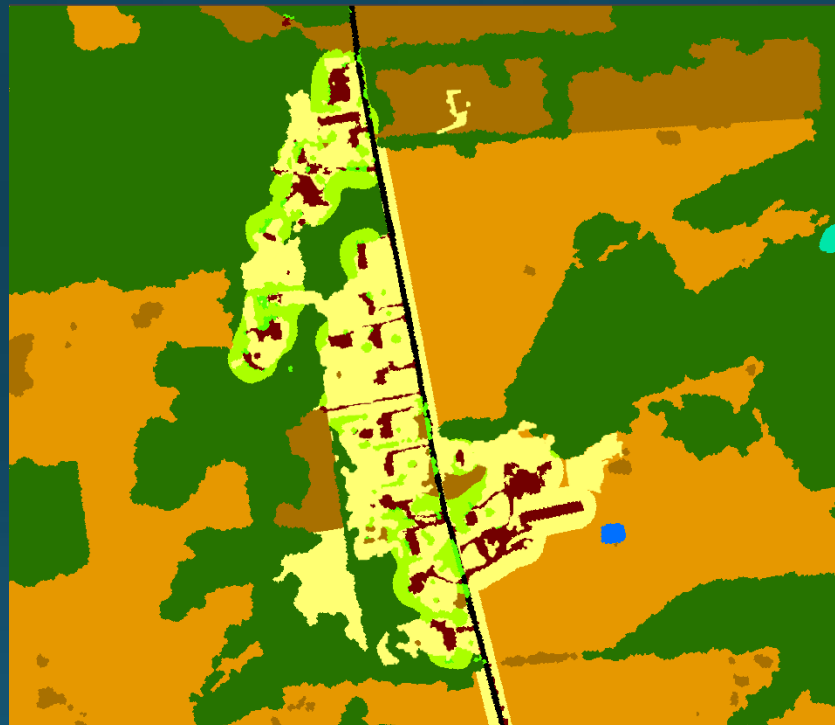
- I. Subset HERE data (LandUseA and LandUseB layers) to include only the following classes: 'AIRCRAFT ROADS', 'AIRPORT', 'AMUSEMENT PARK', 'CEMETERY', 'GOLF COURSE', 'HOSPITAL', 'PARKING LOT', 'SEAPORT/HARBOUR', 'SHOPPING CENTRE', 'SPORTS COMPLEX'
- II. If a parcel is less than or equal to 1 acre, and has greater than or equal to 93 square meters of impervious surface, classify all "Herbaceous Vegetation" as "Turf Grass."
- III. If the center of an "Herbaceous Vegetation" segment falls within subset HERE data from step I., classify as "Turf Grass."

Developed Classes: Turf Grass Images

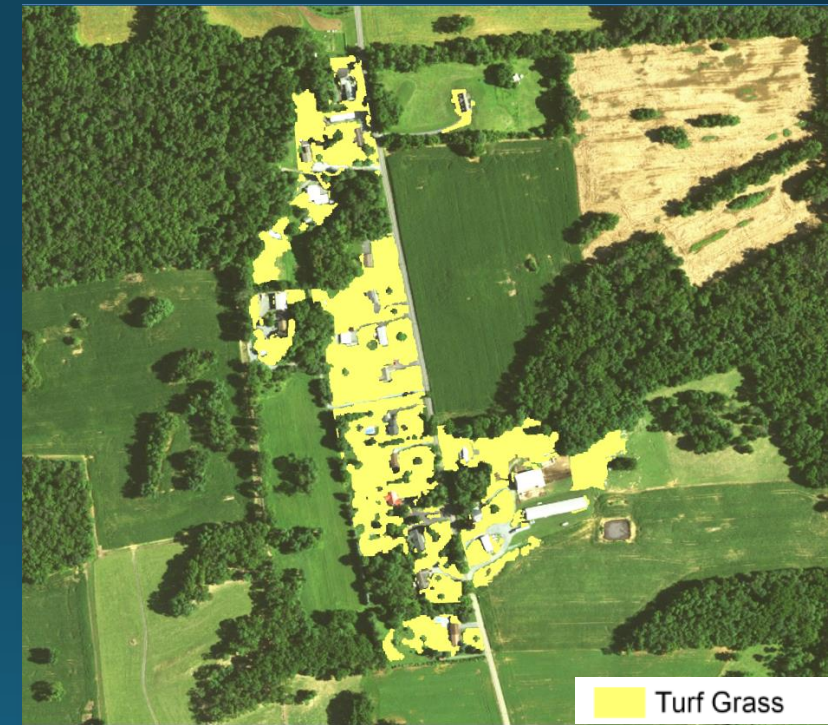
2017 NAIP



2013 LU: Old Methods



2017 LU: New Methods



Turf Grass

Developed Classes

Suspended Succession:

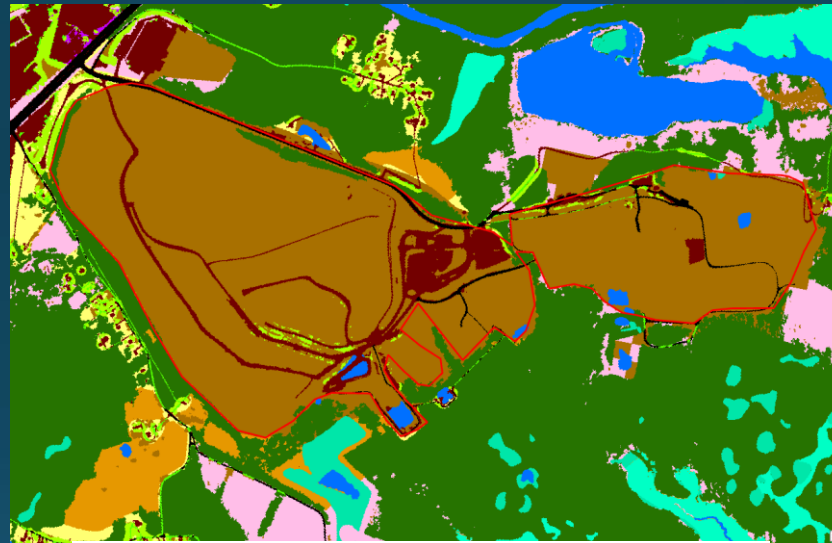
- I. “Herbaceous Vegetation”, “Scrub-Shrub”, and “Barren” image segments that intersect with digitized landfill dataset, classify as “Suspended Succession.”
- II. “Herbaceous Vegetation”, “Scrub-Shrub”, and “Barren” image segments that are less than or equal to 50 square meters and touch “Impervious Road”, classify as “Suspended Succession.”
- III. Buffer transmission line dataset from Homeland Infrastructure Foundation by 25 meters. If “Herbaceous Vegetation”, “Scrub-Shrub”, and “Barren” segments intersect the buffered transmission line dataset and are less than or equal to 1,000 square meters, classify as “Suspended Succession.”

Developed Classes: Suspended Succession Images

2018 NAIP



2013 LU: Old Methods



Black	Impervious, Road	Light Green	Tree Canopy over Turf
Dark Red	Impervious, Non-Road	Brown	Mixed Open
Bright Green	Tree Canopy over Impervious	Light Pink	Fractional Turf (small)
Blue	Water	Medium Pink	Fractional Turf (med)
Cyan	Tidal Wetlands	Dark Pink	Fractional Turf (large)
Teal	Floodplain Wetlands	Purple	Fractional Impervious
Light Green	Other Wetlands	Yellow	Turf Grass
Dark Green	Forest	Orange	Cropland
		Dark Orange	Pasture

2018 LU: New Methods



Light Blue Suspended Succession

Developed Classes: Suspended Succession Images

2017 NAIP



2013 LU: Old Methods



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

2017 LU: New Methods



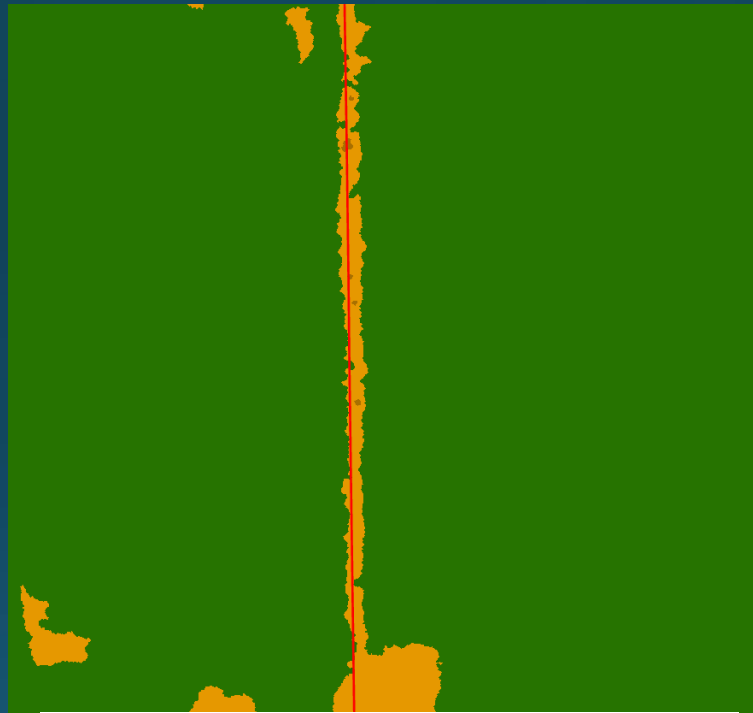
Suspended Succession

Developed Classes: Suspended Succession Images

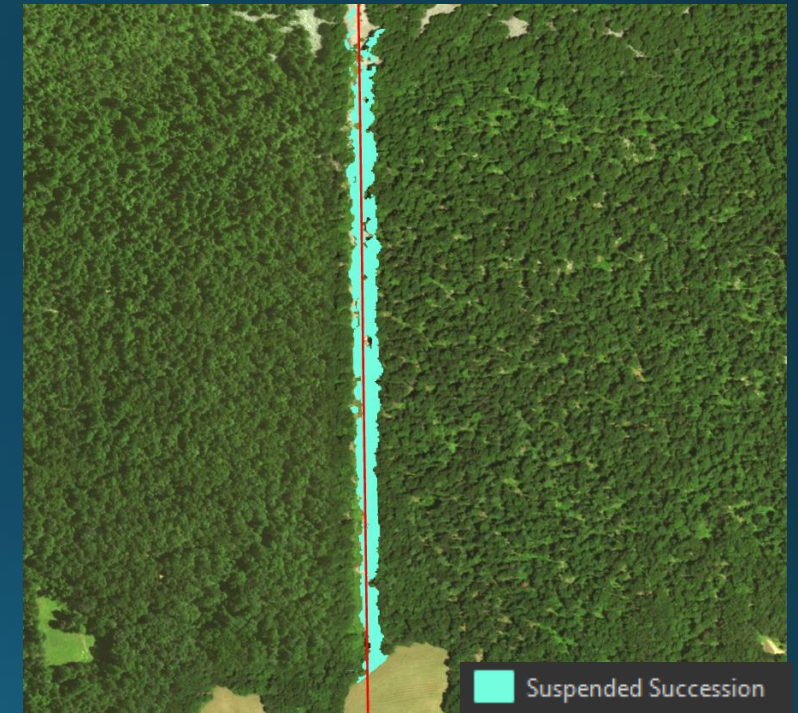
2017 NAIP



2013 LU: Old Methods



2017 LU: New Methods



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

Developed Classes

Tree Canopy Over Turf Grass (Pending Decision):

- I. “Turf Grass” and “Agriculture” methods applied first.
- II. Urban areas, defined by:
 - I. Small parcels, less than or equal to an acre, with any sized structure; and
 - II. Parcels in neighborhoods where density is greater than 8 parcels per acre based on a 1-acre circular focal window; and
 - III. Large parcels less than 100 acres with 50% impervious cover.
- III. In urban areas, buffer “Turf Grass” segments adjacent to structures and “Structure” segments by 20 meters. Classify any “Tree Canopy” within buffer as “Tree Canopy over Turf Grass.”
- IV. In non-urban areas, buffer “Turf Grass” segments adjacent to structures and “Structure” segments by 10 meters. Classify any “Tree Canopy” within buffer as “Tree Canopy over Turf Grass.”
- V. “Tree Canopy” segment less than 1 acre adjacent to “Turf Grass” (confined within parcel boundary), classify as “Tree Canopy over Turf Grass.”

Forest Classes

Fragmented Forest (Pending Decision):

- I. Use “Tree Canopy over Turf Grass” definition of urban areas.
- II. In urban areas, “Tree Canopy” segments less than an acre, classify as “Fragmented Forest.”
- III. In non-urban areas, “Tree Canopy” segments less than an acre adjacent to “Agriculture” (confined within parcel boundary), classify as “Fragmented Forest.”

Forest Classes

Forest (Pending Decision):

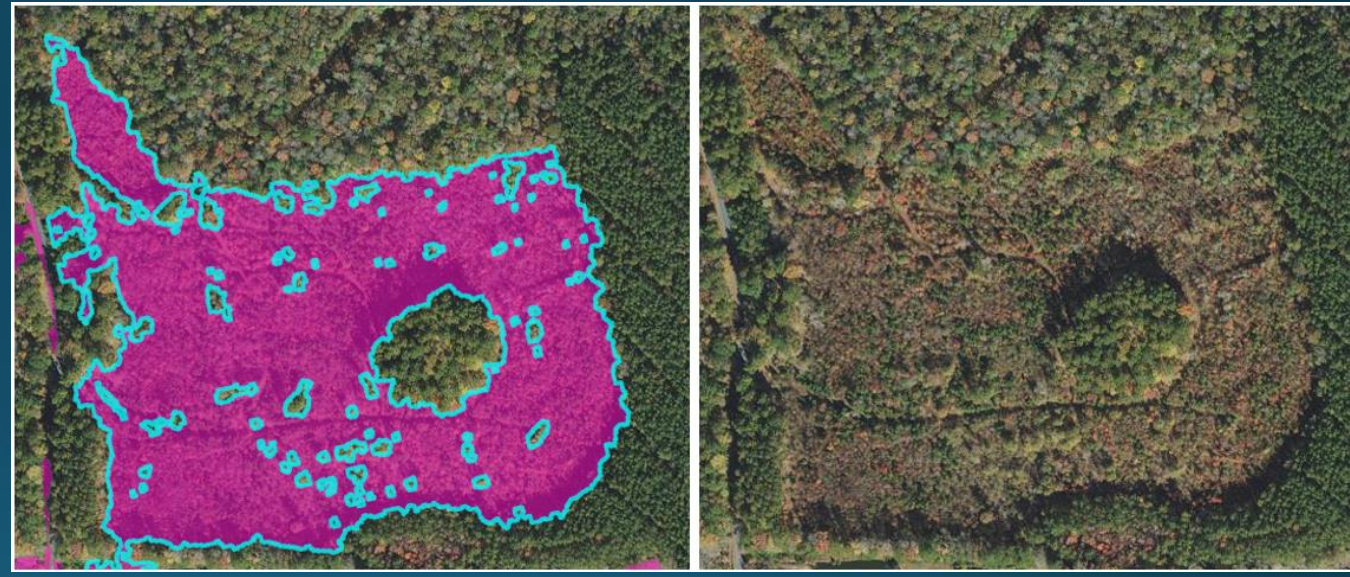
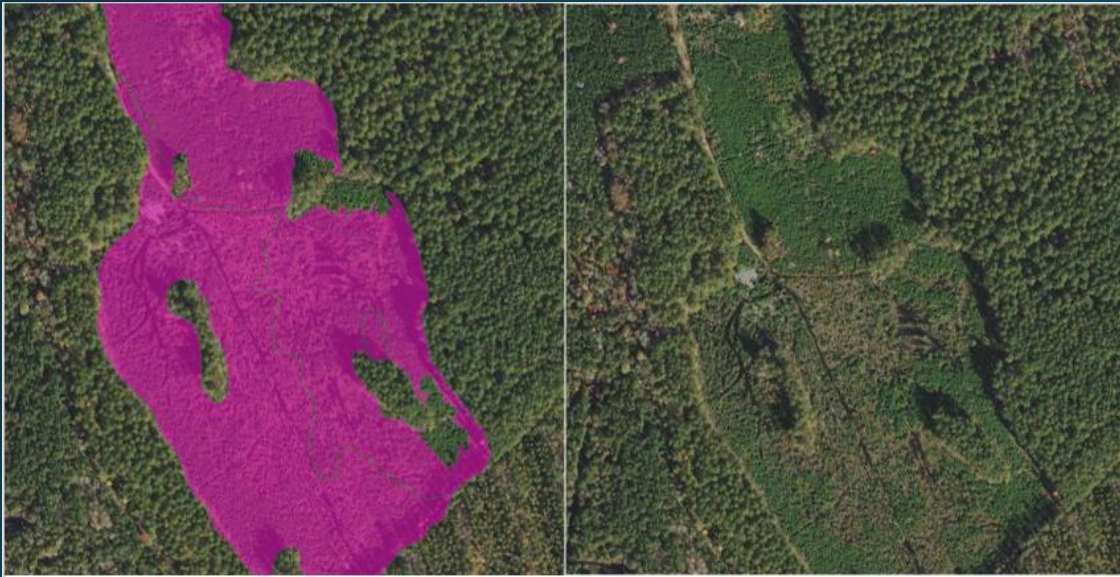
- I. “Tree Canopy over Turf Grass” and “Fragmented Forest” methods applied first.
- II. Remaining “Tree Canopy” segments are classified as “Forest.”

Forest Classes

Natural Succession:

- I. “Turf Grass”, “Agriculture”, and “Suspended Succession” methods applied first.
- II. If an “Herbaceous Vegetation” or “Barren” segment intersects with ancillary abandoned mines dataset, classify as “Natural Succession.”
- III. If greater than or equal to 10% of “Herbaceous Vegetation” or “Barren” segment is timber harvest according to data mined LCMAP, classify as “Natural Succession.”

Forest Classes: Natural Succession Images



Production Classes

Cropland (Pending Decision):

- I. Reclassify CDL into non-agricultural, cropland, pasture, idle/fallow, and orchards/vineyards.
- II. If “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments have an area greater than or equal 1 hectare and include 20% or greater coverage of the reclassified CDL cropland pixels, classify as “Cropland.”
- III. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-cropland classes have been assigned in previous passes. If the segment is touching cropland and no other segments with confusable classes, classify as “Cropland.”
 - I. Repeat
- IV. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-cropland classes have been assigned in previous passes.

Production Classes

Pasture (Pending Decision):

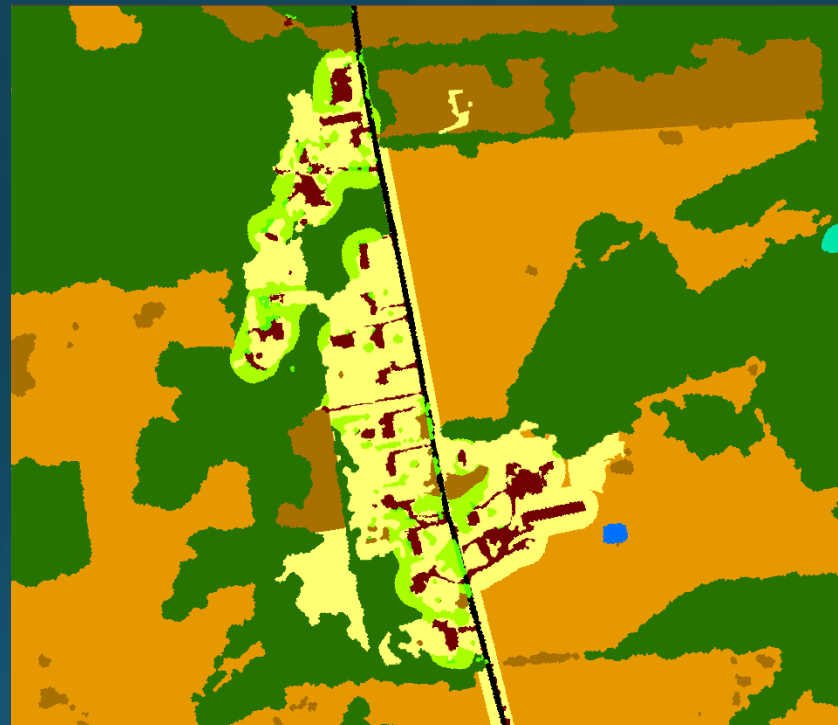
- I. If “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments have an area greater than or equal 1 hectare and include 20% or greater coverage of the reclassified CDL pasture pixels, classify as “Pasture.”
- II. If “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments have an area greater than or equal 1 hectare and include 20% or greater coverage of pasture NLCD class, classify as “Pasture.”
- III. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-pasture classes have been assigned in previous passes. If the segment is touching pasture and no other segments with confusable classes, classify as “Pasture.”
 - I. Repeat
- IV. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-pasture classes have been assigned in previous passes.

Production Classes: Cropland and Pasture Images

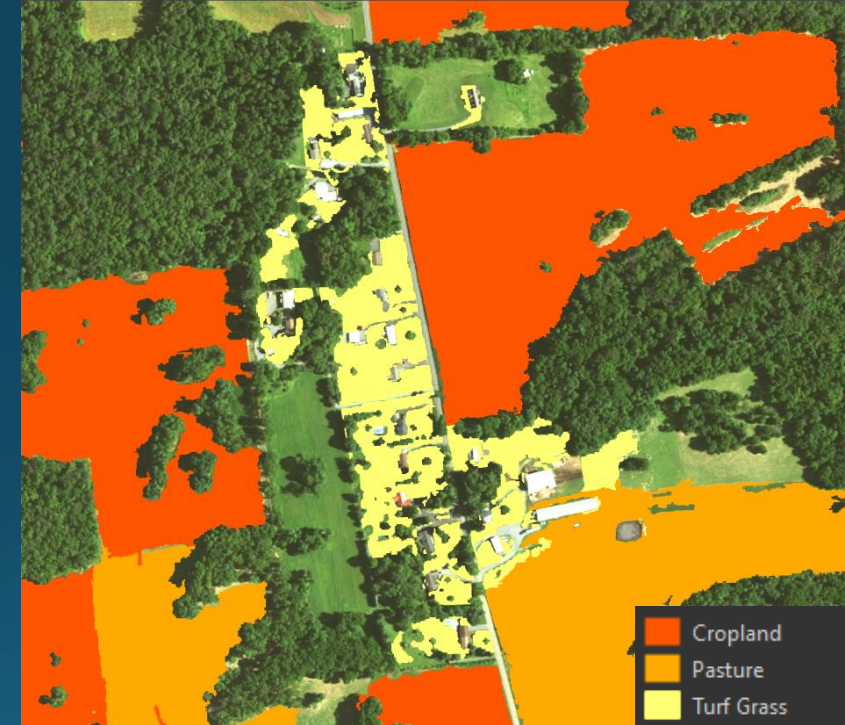
2017 NAIP



2013 LU: Old Methods



2017 LU: New Methods



Production Classes

Idle/Fallow (Pending Decision):

- I. If “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments have an area greater than or equal 1 hectare and include 20% or greater coverage of the reclassified CDL idle/fallow pixels, classify as “Idle/Fallow.”
- II. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non- idle/fallow classes have been assigned in previous passes. If the segment is touching idle/fallow and no other segments with confusable classes, classify as “Idle/Fallow.”
 - I. Repeat
- III. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non- idle/fallow classes have been assigned in previous passes.

No examples of idle/fallow in Cumberland County, PA

Production Classes

Orchards/Vineyards (Pending Decision):

- I. If “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments have an area greater than or equal 1 hectare and include 20% or greater coverage of the reclassified CDL orchards/vineyards pixels, classify as “Orchards/Vineyards.”
- II. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-orchards/vineyards classes have been assigned in previous passes. If the segment is touching orchards/vineyards and no other segments with confusable classes, classify as “Orchards/Vineyards”.
 - I. Repeat
- III. Identify adjacent “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-orchards/vineyards classes have been assigned in previous passes.

Production Classes: Orchards/Vineyards Images

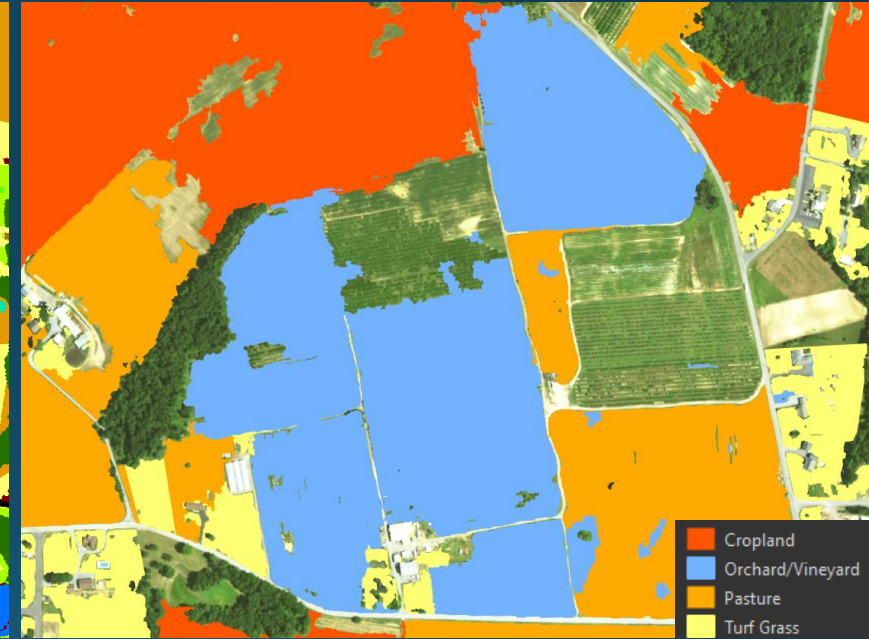
2017 NAIP



2013 LU: Old Methods



2017 LU: New Methods



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

Production Classes

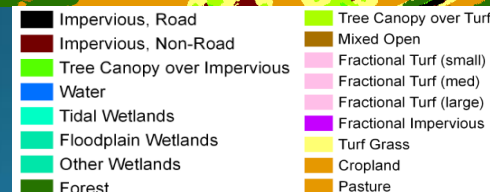
Solar Fields:

- I. Identify “Herbaceous Vegetation”, “Barren”, or “Scrub-Shrub” segments after “Turf Grass”, successional and other non-solar field classes have been assigned in previous passes. Intersect segments where their centroid falls within digitized solar field boundaries or AI solar field outputs and classify as “Solar Fields”

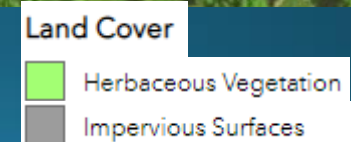
2017 NAIP



2013 LU: Old Methods



2017 LU: New Methods



Production Classes

Timber Harvests:

- I. “Herbaceous Vegetation” or “Barren” segment contains greater than or equal to 10% of LCMAP detected timber harvest + deforestation, and the clearing occurred between 2015 and 2017, classify as “Timber Harvest.”



Production Classes

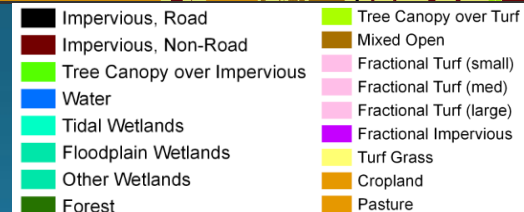
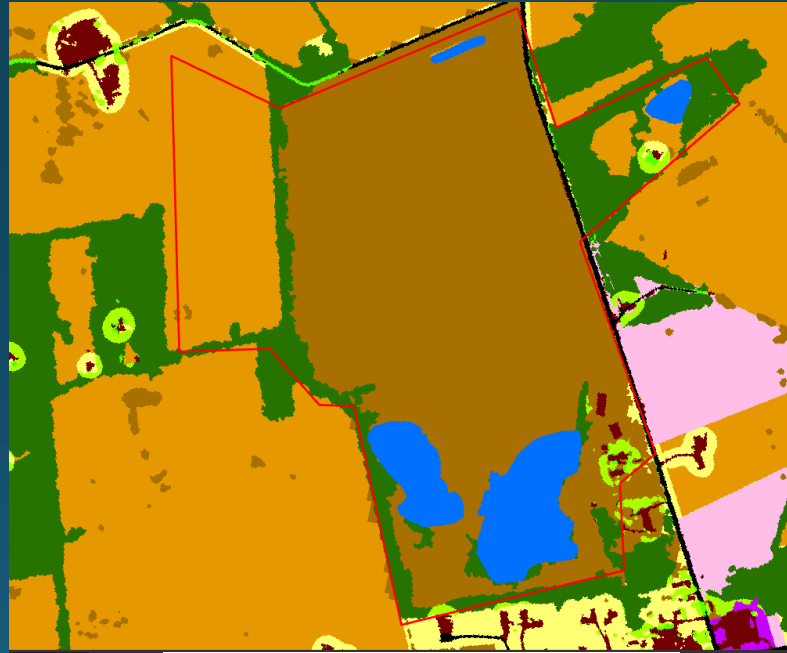
Extractive:

- I. “Barren” or “Other Impervious” segments that intersect with ancillary active “mines” dataset, classify as “Extractive.”

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2013 LU: Old Methods



2017 LU: New Methods



Wetland and Water Margin Classes

Bare Shore:

- I. “Barren” segment is within 3 meters of water and is less than or equal to 15 square meters
- II. Exclude “Barren” segments that are less than or equal to 100,000 square meters and intersect “Wetland” segments greater than or equal to 15 square meters
- III. Exclude “Barren” segments that intersect with: mines, landfills, and local land use classes (suspended succession, extractive, agriculture, wetlands)
- IV. Classify those barren segments as “Bare Shore.”

Wetland and Water Margin Classes: Bare Shore Images

