Phase 6 Land Use

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P6 Land Use Development Schedule

Apr 2015: Complete regional land use dataset using nationally available data (P6LU_v1)

May 2015: Complete integration of local land use data (P6LU_v2)

Jun-Jul 2015 State and local jurisdictions review land use data

Jun- Aug 2015 Respond to comments on P6LU_v2 data

Sep 1, 2015 Submit P6LU_v2 to CBP Modeling Team

Sep'15- Jun'16 Incorporate high-res land cover into land use dataset – rolling production, QA/QC, and jurisdictional review

Jun 2016: Complete final P6 land use dataset (P6LU_v3)

Jul 2016: State and local jurisdictions review final land use data

Aug 2016: Respond to comments on P6LU_v3 data

Sep 1, 2016 Submit P6LU_v3 to CBP Modeling Team

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P6 Developed Land Uses

Impervious Roads (IR): paved and unpaved roads and bridges, excludes driveways, sidewalks, parking lots and garages, tunnels, and some private roads.

Impervious Non-Roads (INR): buildings, driveways, sidewalks, parking lots, runways and some private roads.

Construction (CON): reported acreage of land with E&S permits less non-extractive land mapped as barren in developed areas.

Extractive (XTR): mapped disturbed/active, abandoned and reclaimed mines less areas of Open Space and Impervious confused with extractive.

Turf Grass (TG): all herbaceous lands within developed areas including remaining fractions of land within a pixel after accounting for tree canopy, impervious, water.

P6 Natural Land Uses

Forest (FOR): large contiguous patches of trees and shrubs assumed to have an unmanaged understory

Harvested Forest (HAR): reported annual acres harvested. (subtracted from Forest extent)

Disturbed Forest (DIS): monitored extent of disturbed forest (insect, fire) by county 2000 – 2013.

Tree Canopy (TC): small fragments of trees or shrubs

P6 Natural Land Uses (continued)

Wetlands (WET): National Wetlands Inventory (NWI) non-pond, non-lake wetlands divided into <u>tidal</u>, <u>floodplain</u>, and <u>headwater</u> subclasses based on NWI attributes and landscape position

Water (WAT): All waterbodies mapped by the National Hydrography Dataset, NWI ponds & lakes, and the National Land Cover Dataset (Open Water). Assumes all single-line streams are 15' wide.

Open Space (OS): non-fertilized herbaceous and rural barren cover that is justifiably not turf or extractive (e.g., beaches, vacant lots, transmission line right-of-ways, junkyards, fairgrounds, railroads).

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P6 Agricultural Land Uses
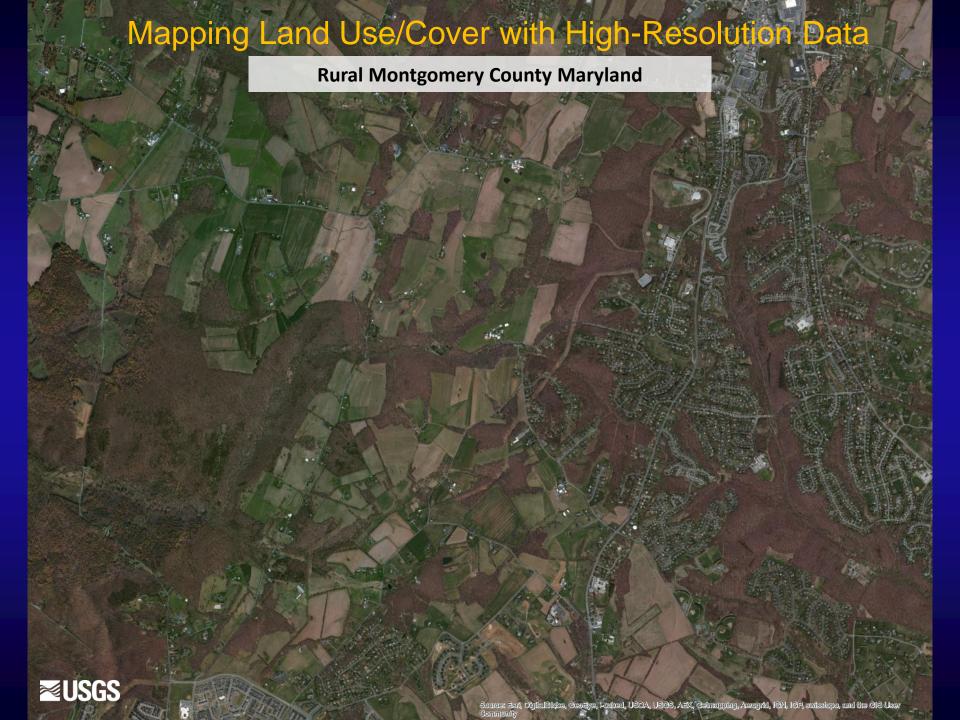
Cropland (CRP): leftover areas of rural herbaceous lands with majority crops according to the Cropland Data Layer 2008 – 2013.

Pasture/Hay (PAS): leftover areas of rural herbaceous lands with majority pasture/hay according to the Cropland Data Layer 2008 – 2013.
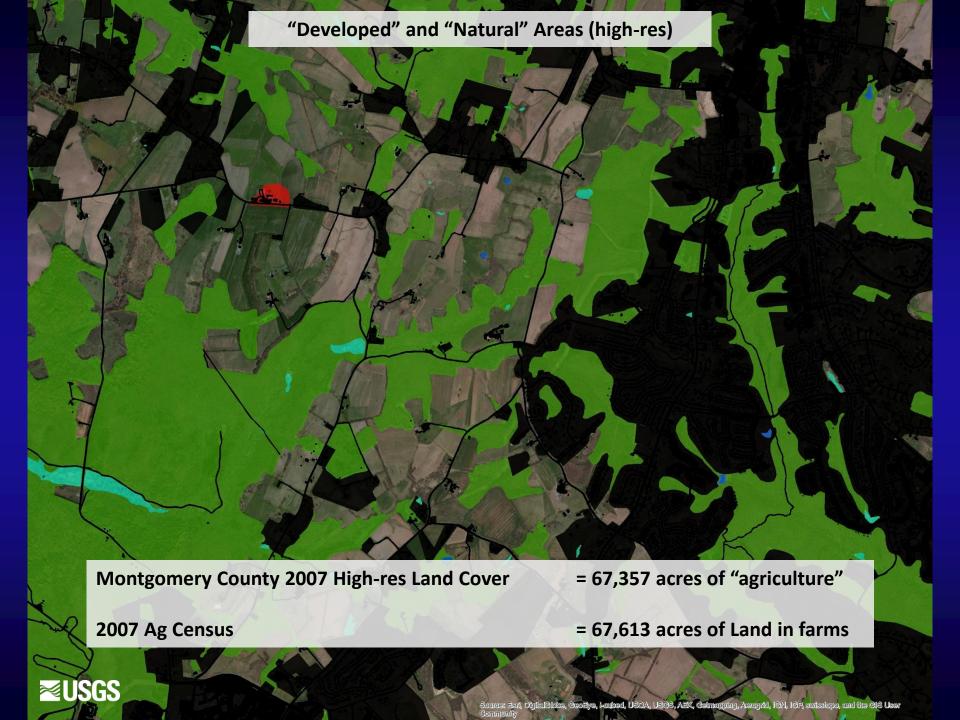
Specialty Crops (SPC): leftover areas of rural herbaceous lands with majority pasture/hay according to the Cropland Data Layer 2008 – 2013.
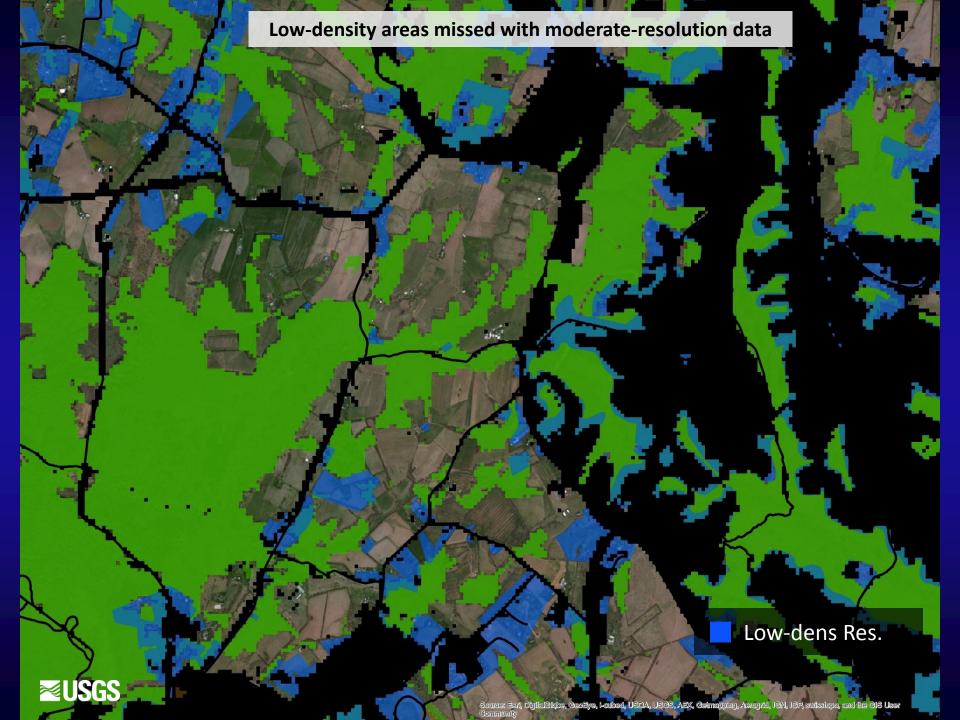
Farmsteads (AFO): represents areas of impervious/pervious for animal operations. The AGWG and AMS will have to determine how to count these acres and subtract their area from INR and TG.
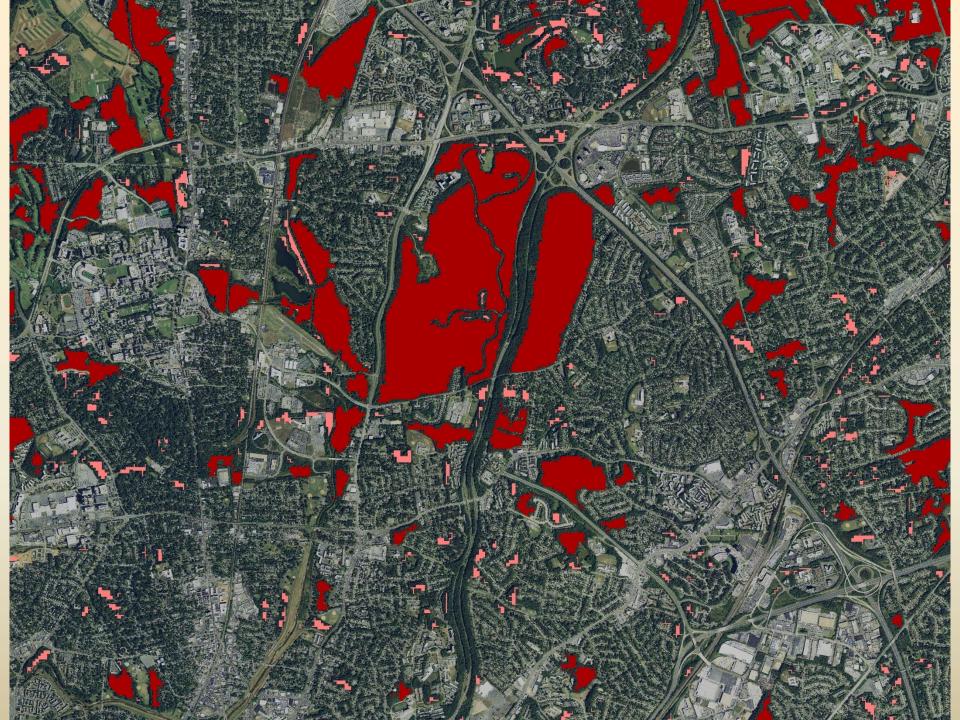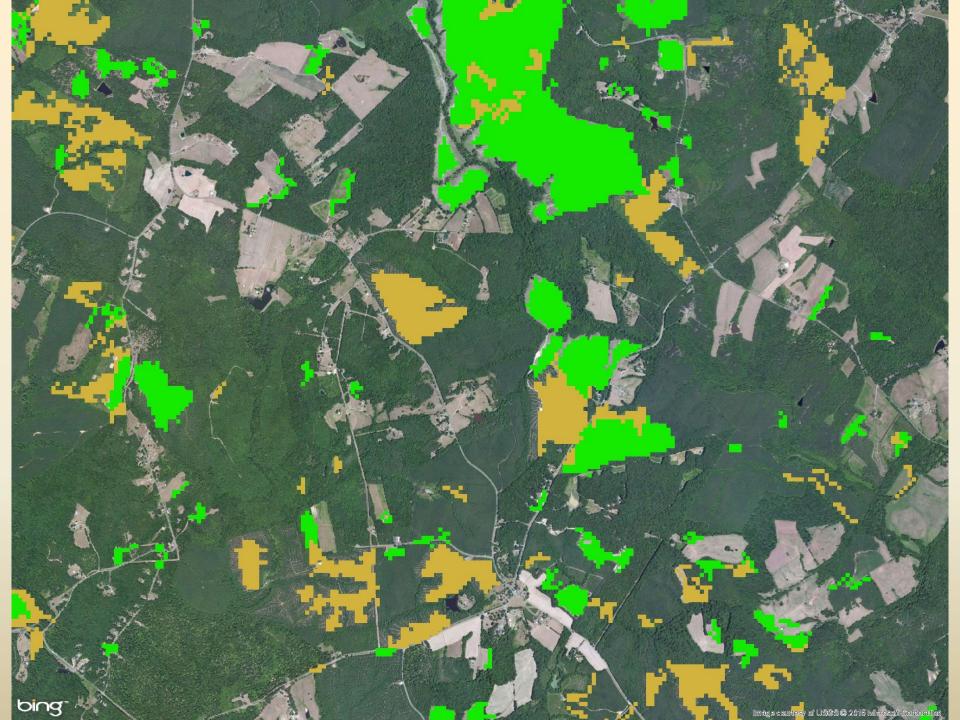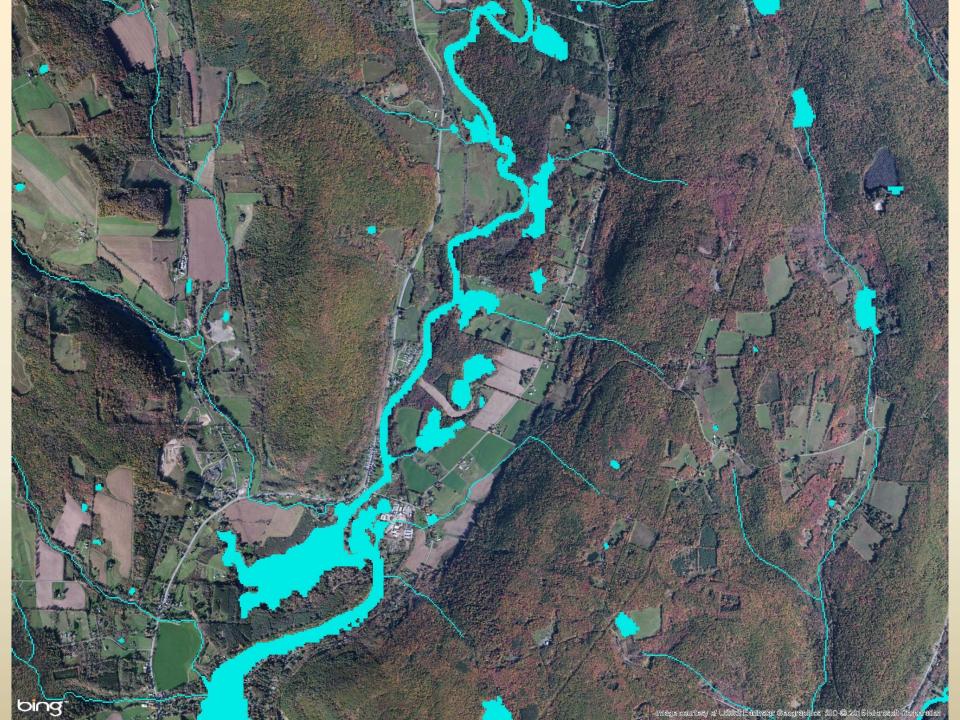
Mapping Land Use/Cover with High-Resolution Data

Rural Montgomery County Maryland

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"Developed" Area (high-res)

"Developed" and "Natural" Areas (high-res)

Montgomery County 2007 High-res Land Cover = 67,357 acres of "agriculture"

2007 Ag Census = 67,613 acres of Land in farms

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Low-density areas missed with moderate-resolution data

Low-dens Res.

USGS

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
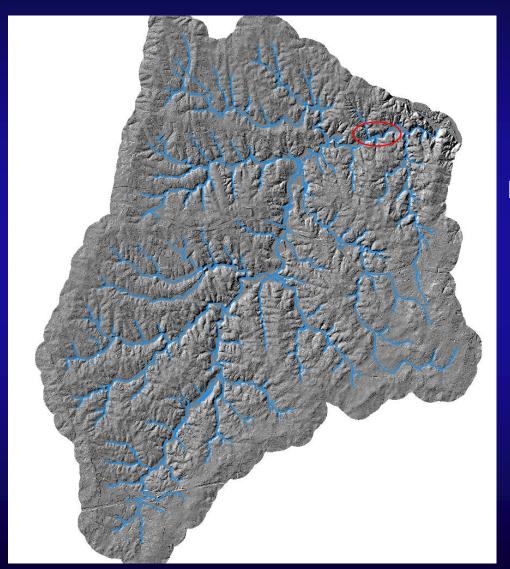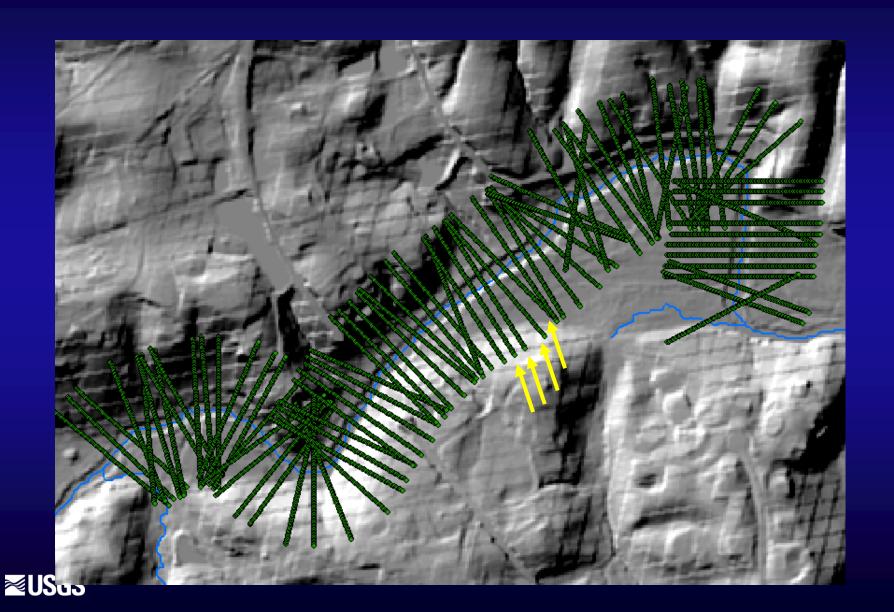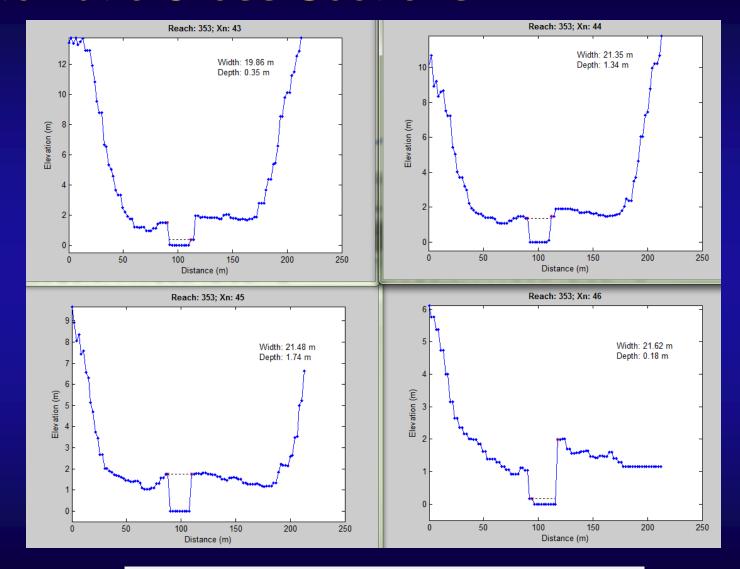
Where is the forest?

Extracting Stream Channel Geometry from LiDAR

**Difficult Run Watershed
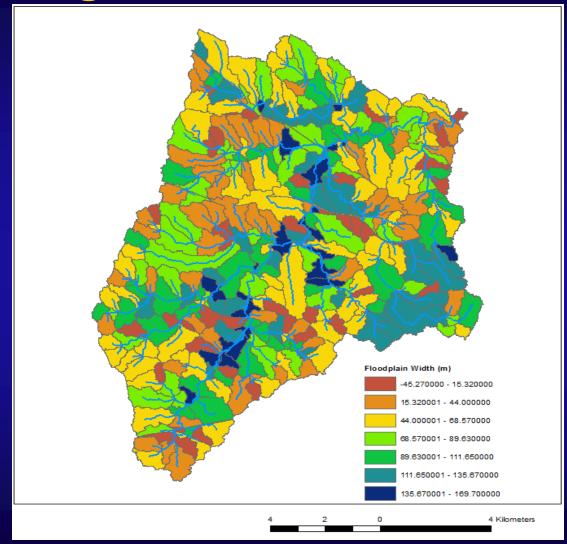Fairfax County, VA**

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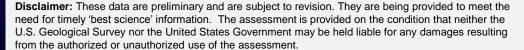# Automatic Stream Cross-Sections

Automatic Cross-Sections

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Extrapolating Cross-sections to Watersheds

Floodplain Width (m)
- -45.270000 - 15.320000
- 15.320001 - 44.000000
- 44.000001 - 68.570000
- 68.570001 - 89.630000
- 89.630001 - 111.650000
- 111.650001 - 135.670000
- 135.670001 - 169.700000

4   2   0   4 Kilometers

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Wetland TN Efficiencies

Legend:
DR_wetlands
DR_wetland_RG2data_10m$.TN
- 0.6% - 10%
- 10.01% - 20%
- 20.01% - 30%
- 30.01% - 40%
- 40.01% - 50%
- 50.01% - 60%
- 60.01% - 70%
- 70.01% - 80%
- 80.01% - 90%
- 90.01% - 100%

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
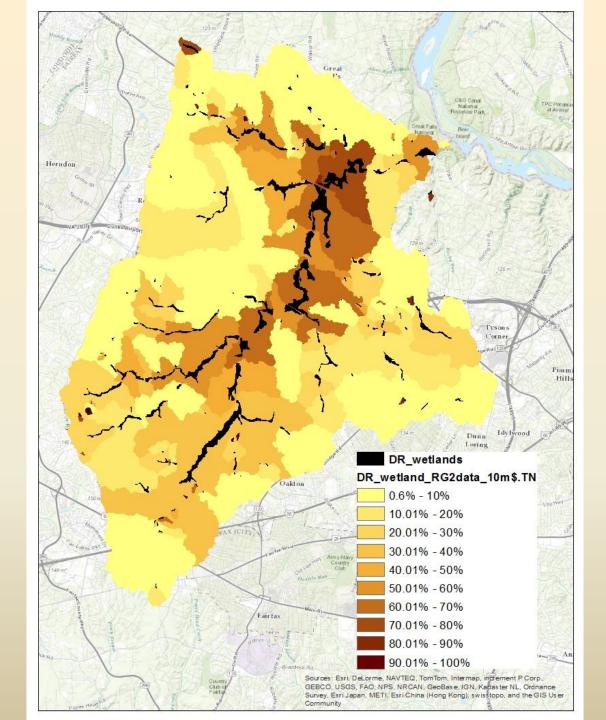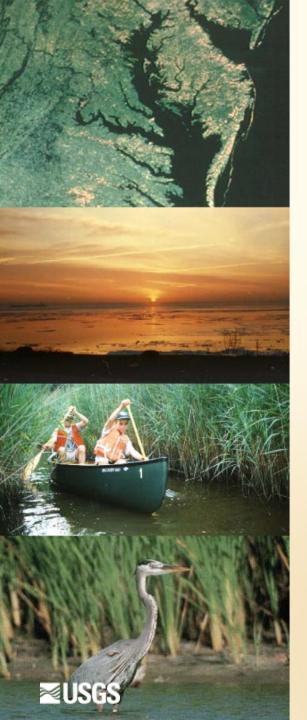
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