

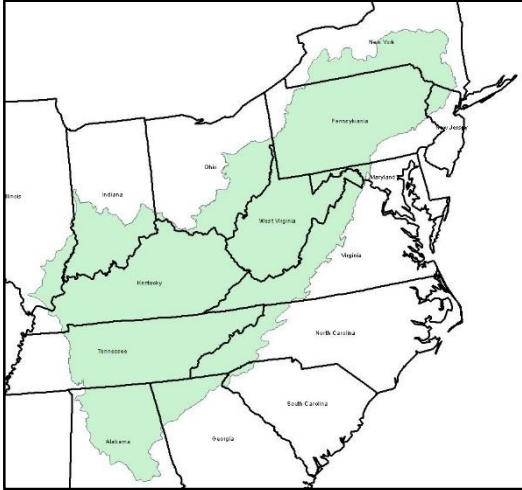
Appalachian LLC Data Needs Assessment Report

Task Five – Interpretive text and graphics for AppLCC web portal (data)

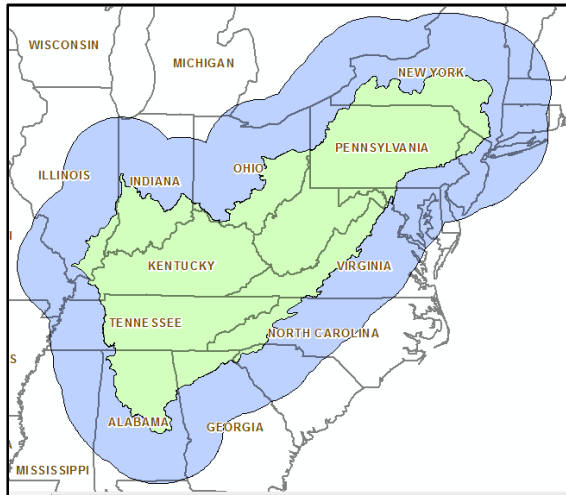
This document presents map images and text that describes the data that can be posted to the AppLCC web portal. The arrangement follows the layout of the Appalachian Landscape Conservation Cooperative GIS Datasets that is also attached with this quarterly progress report (Task two).

Common for all data: All data presented is the latest and updated as possible at the time of this compilation. All layers have been reprojected to Albers Conic Equal Area, NAD83 with linear units in meters.

1. AppLCC project boundary

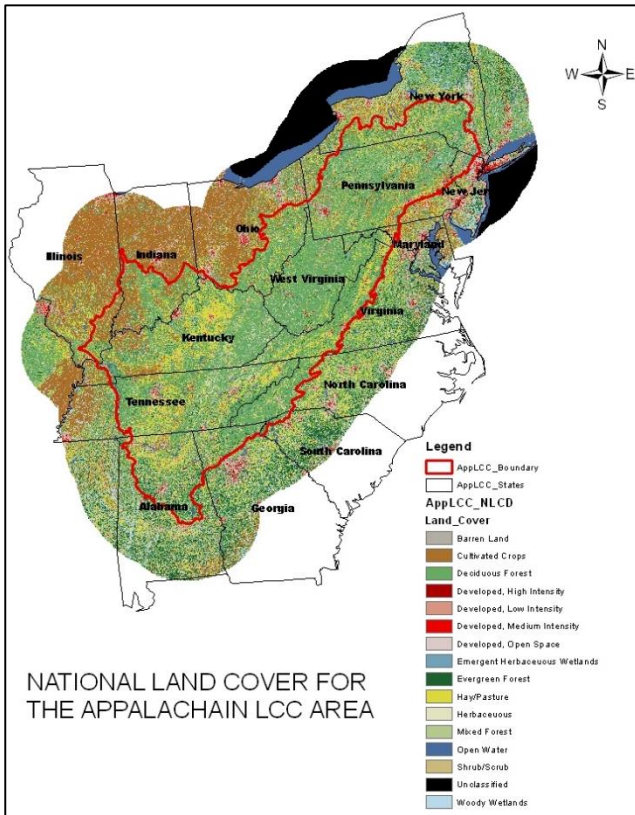


This vector (polygon) file defines the AppLCC boundary and the fifteen states that it covers.



This file shows the AppLCC boundary, with a buffer of 175 kms. This buffer polygon is intended to include all of the HUC8 watersheds that make input to or have output from the AppLCC area.

2. AppLCC_2006 NLCD



Table

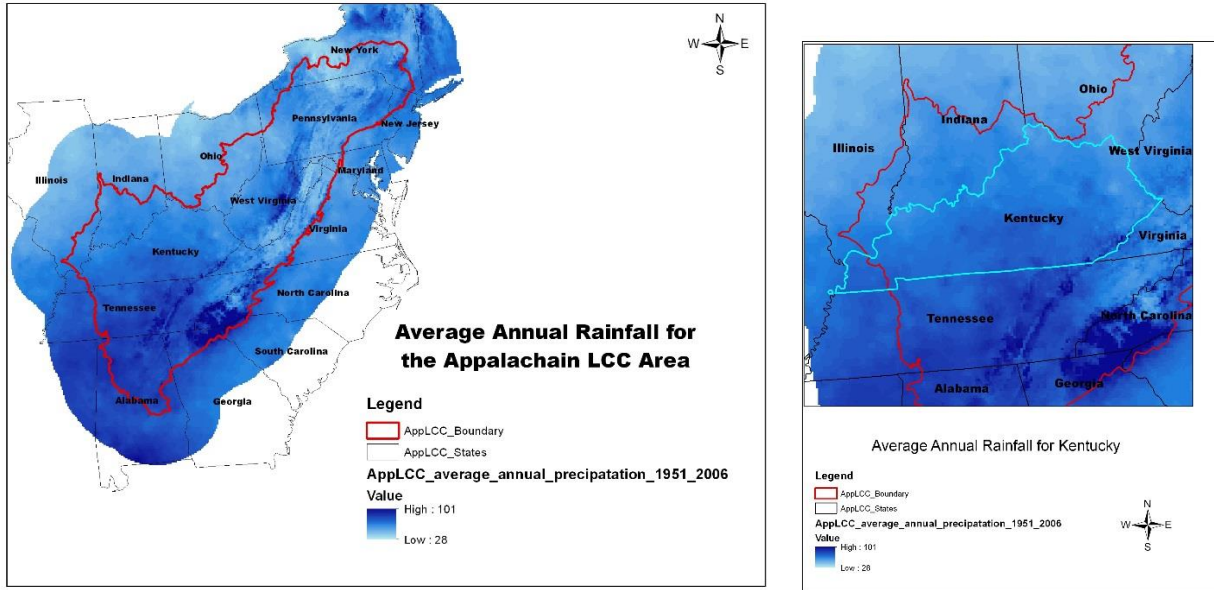
appnlcd_buffclip2.img

OID	Value	Count	Red	Green	Blue	Opacity	Land_Cover
0	0	74547116	0	0	0	1	Unclassified
1	11	67178915	0.28	0.42	0.63	1	Open Water
2	21	91698591	0.87	0.79	0.79	1	Developed, Open Space
3	22	41330309	0.85	0.58	0.51	1	Developed, Low Intensity
4	23	15278752	0.93	0	0	1	Developed, Medium Intensity
5	24	5934159	0.67	0	0	1	Developed, High Intensity
6	31	4115672	0.7	0.68	0.64	1	Barren Land
7	41	560243490	0.41	0.67	0.39	1	Deciduous Forest
8	42	109885615	0.11	0.39	0.19	1	Evergreen Forest
9	43	57612634	0.71	0.79	0.56	1	Mixed Forest
10	52	35754399	0.8	0.73	0.49	1	Shrub/Scrub
11	71	35743610	0.89	0.89	0.76	1	Herbaceous
12	81	200836374	0.86	0.85	0.24	1	Hay/Pasture
13	82	242128365	0.67	0.44	0.16	1	Cultivated Crops
14	90	45705714	0.73	0.85	0.92	1	Woody Wetlands
15	95	5500365	0.44	0.64	0.73	1	Emergent Herbaceous Wetlands

National Land Cover Database 2006 (NLCD2006) is a 16-class land cover classification scheme that has been applied consistently across the conterminous United States at a spatial resolution of 30 meters. It is also a primary dataset used by a number of conservation planning programs or models. This dataset has been extracted using the AppLCC buffer boundary. Shown here are examples of the 16 cover classes of the entire LCC, zoomed into PA, and the attribute table.

Source: http://www.mrlc.gov/nlcd06_data.php

3. AppLCC Average Annual Precipitation (1951-2006)

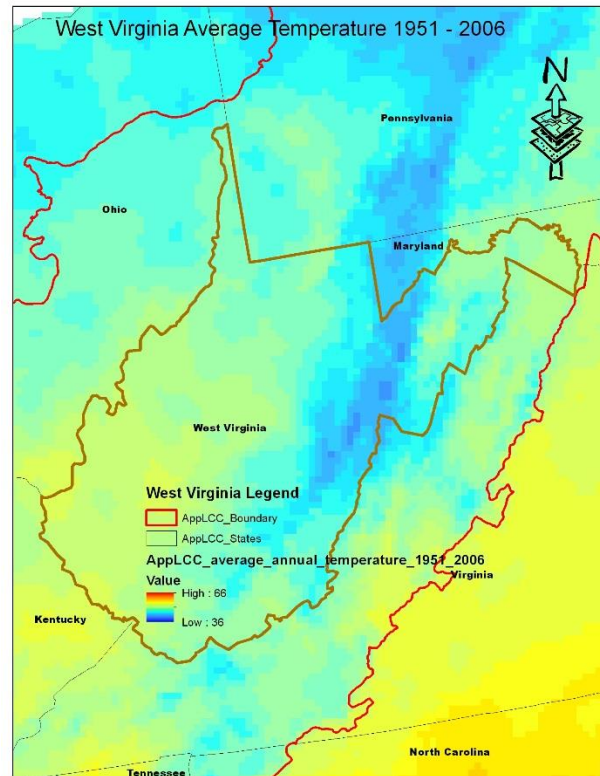
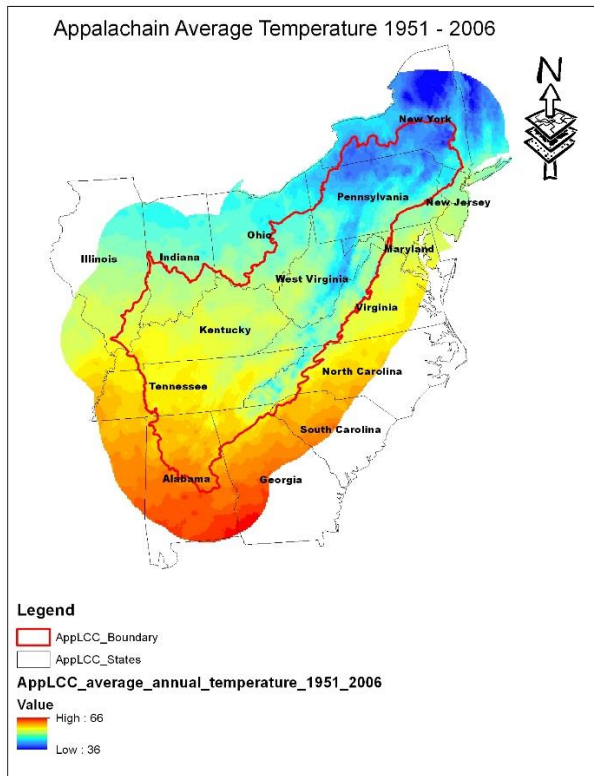


This dataset represents a raster of historical precipitation data for a 50 period produced as output from the Climate Wizard model. The source data for this raster is the PRISM (Parameter-elevation Regressions on Independent Slopes Model) climate mapping system. PRISM uses point measurements of precipitation, temperature, and other climatic factors to produce continuous, digital grid estimates of monthly, yearly, and event-based climatic parameters. The images shown here are for the entire LCC and zoomed into KY.

Source: <http://www.climatewizard.org/>

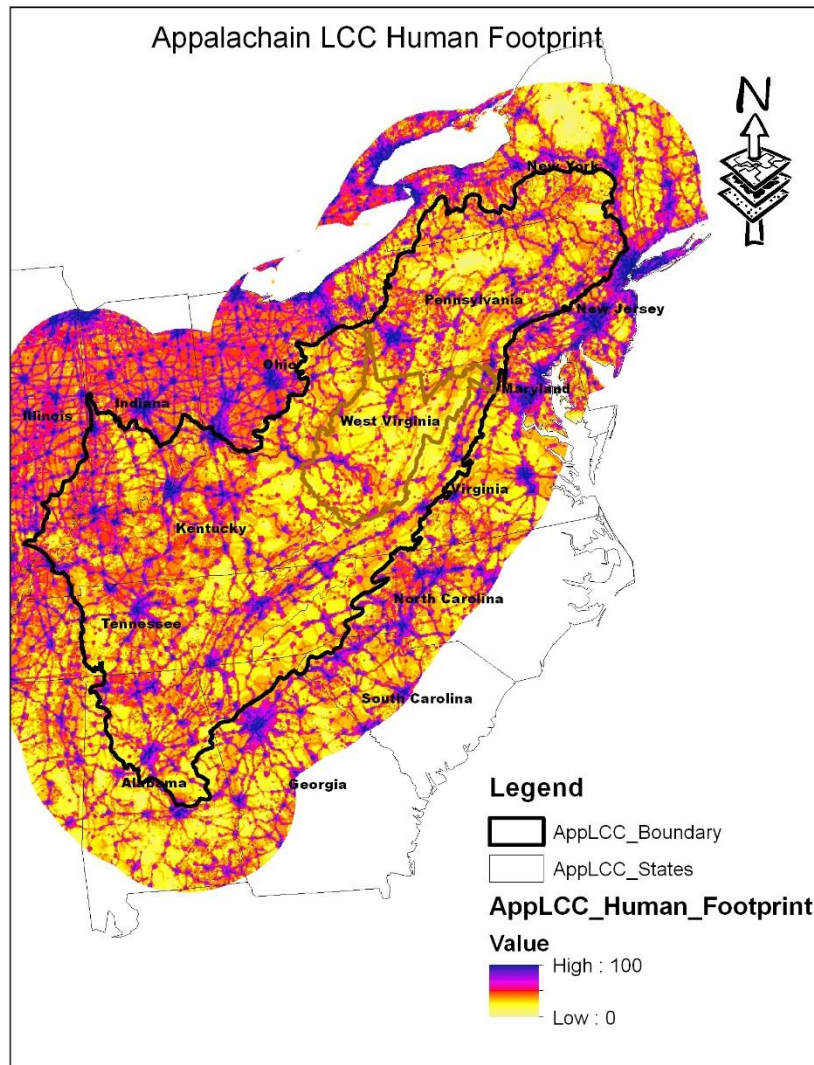
4. AppLCC Average Annual Temperature (1951-2006)

This is a raster dataset containing information of the historical temperature data for a 50 period produced as output from the Climate Wizard model. The source data for this raster is the PRISM (Parameter-elevation Regressions on Independent Slopes Model) climate mapping system. PRISM uses point measurements of precipitation, temperature, and other climatic factors to produce continuous, digital grid estimates of monthly, yearly, and event-based climatic parameters. The images shown here are for the entire LCC and zoomed into WV.



Source: <http://www.climatewizard.org/>

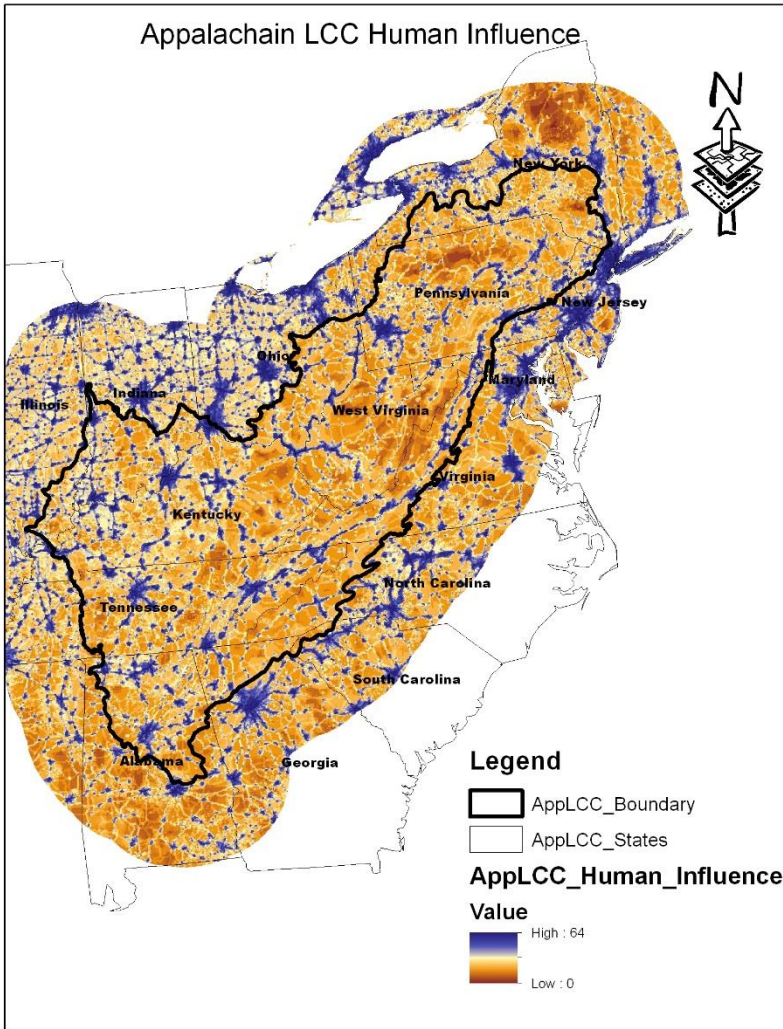
5. Human footprint data



The Global Human Footprint Dataset of the Last of the Wild Project, Version 2, 2005 (LWP-2) is the Human Influence Index (HII) normalized by biome. The HII is a global dataset of 1-kilometer grid cells, created from nine global data layers covering human population pressure (population density), human land use and infrastructure (built-up areas, nighttime lights, land use/land cover), and human access (coastlines, roads, railroads, navigable rivers). The dataset is produced by the Wildlife Conservation Society (WCS) and the Columbia University Center for International Earth Science Information Network (CIESIN). In this raster's attributes, the cell values indicate the extent of human impact with 0 being the least and 100 being the greatest (on a normalized scale).

Source: <http://sedac.ciesin.columbia.edu/data/collection/wildareas-v2/sets/browse>

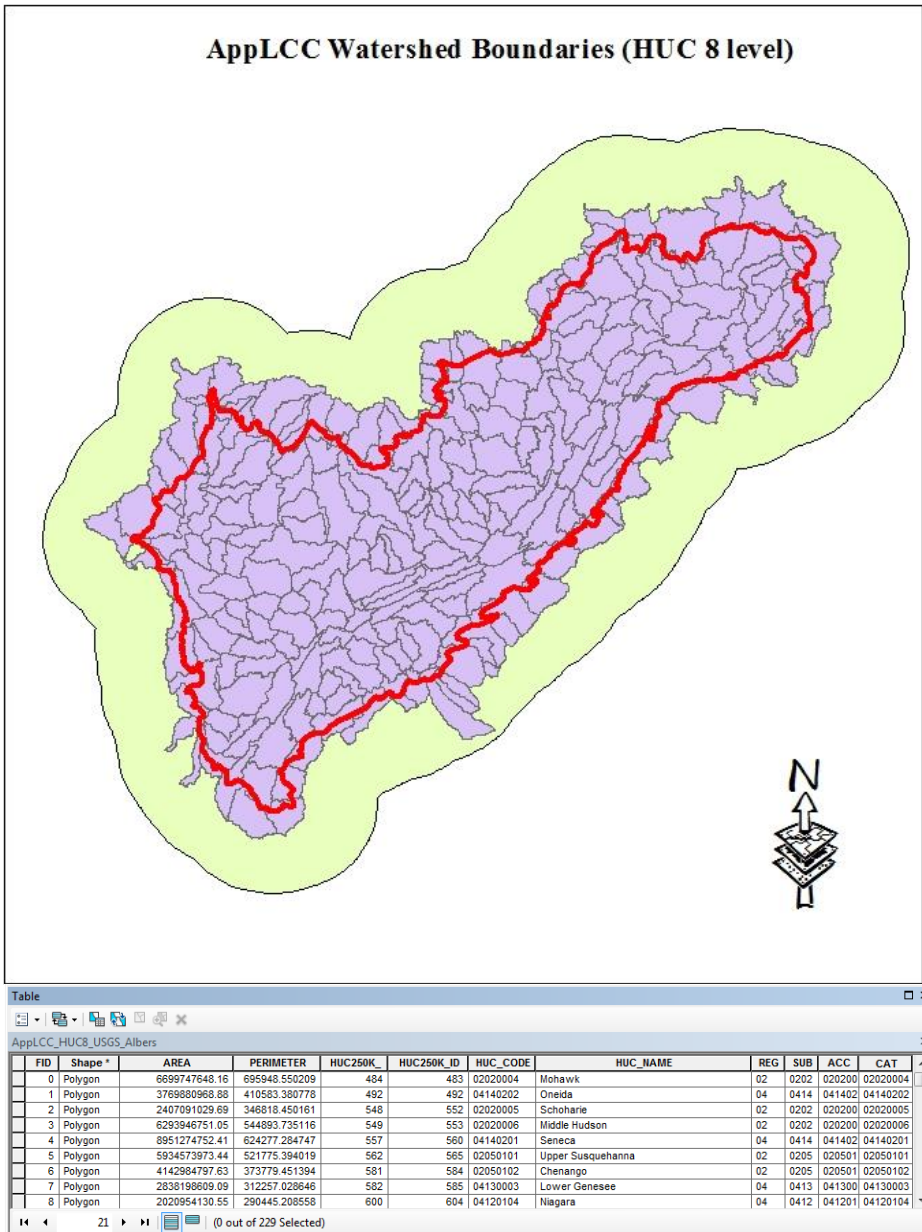
6. Human influence data



The human influence raster dataset is basically the non-normalized version of the human footprint dataset, with cell values ranging from 0 to 64. The HII is a global dataset of 1-kilometer grid cells, created from nine global data layers covering human population pressure (population density), human land use and infrastructure (built-up areas, nighttime lights, land use/land cover), and human access (coastlines, roads, railroads, navigable rivers). The dataset is produced by the Wildlife Conservation Society (WCS) and the Columbia University Center for International Earth Science Information Network (CIESIN).

Source: <http://sedac.ciesin.columbia.edu/data/collection/wildareas-v2/sets/browse>

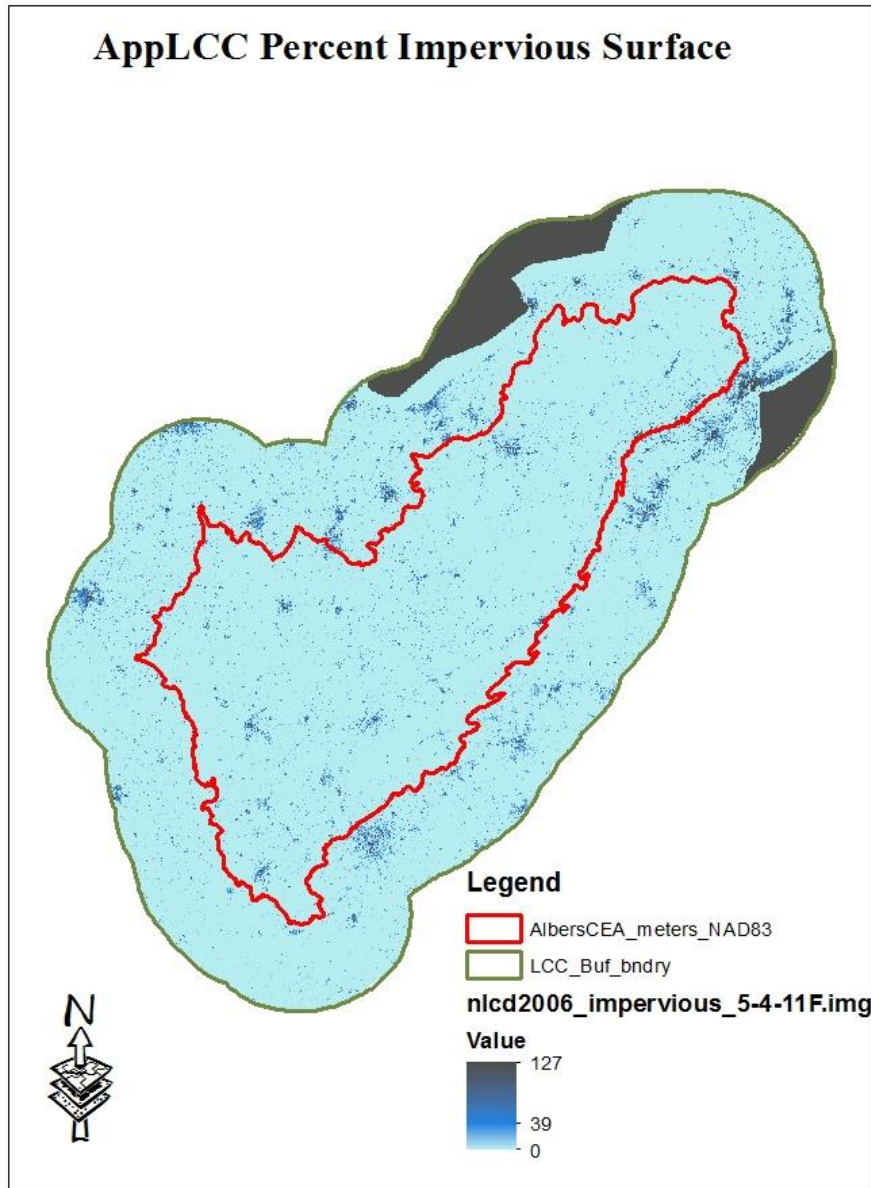
7. USGS Hydrologic Units (HUC8s)



This dataset contains a vector (polygon) that has the USGS hydrologic Unit Code level 8 watersheds that influence or are influenced by the core AppLCC area. This dataset was created by intersecting the AppLCC area with the base layer of HUC8 level watersheds. This screen shot shows the HUC 8 units in the AppLCC along with the buffer. The table shows the structure of the attribute table, which contains information on area, perimeter, name, HUC code, etc.

Source: <ftp://ftp.ftw.nrcs.usda.gov/wbd/>

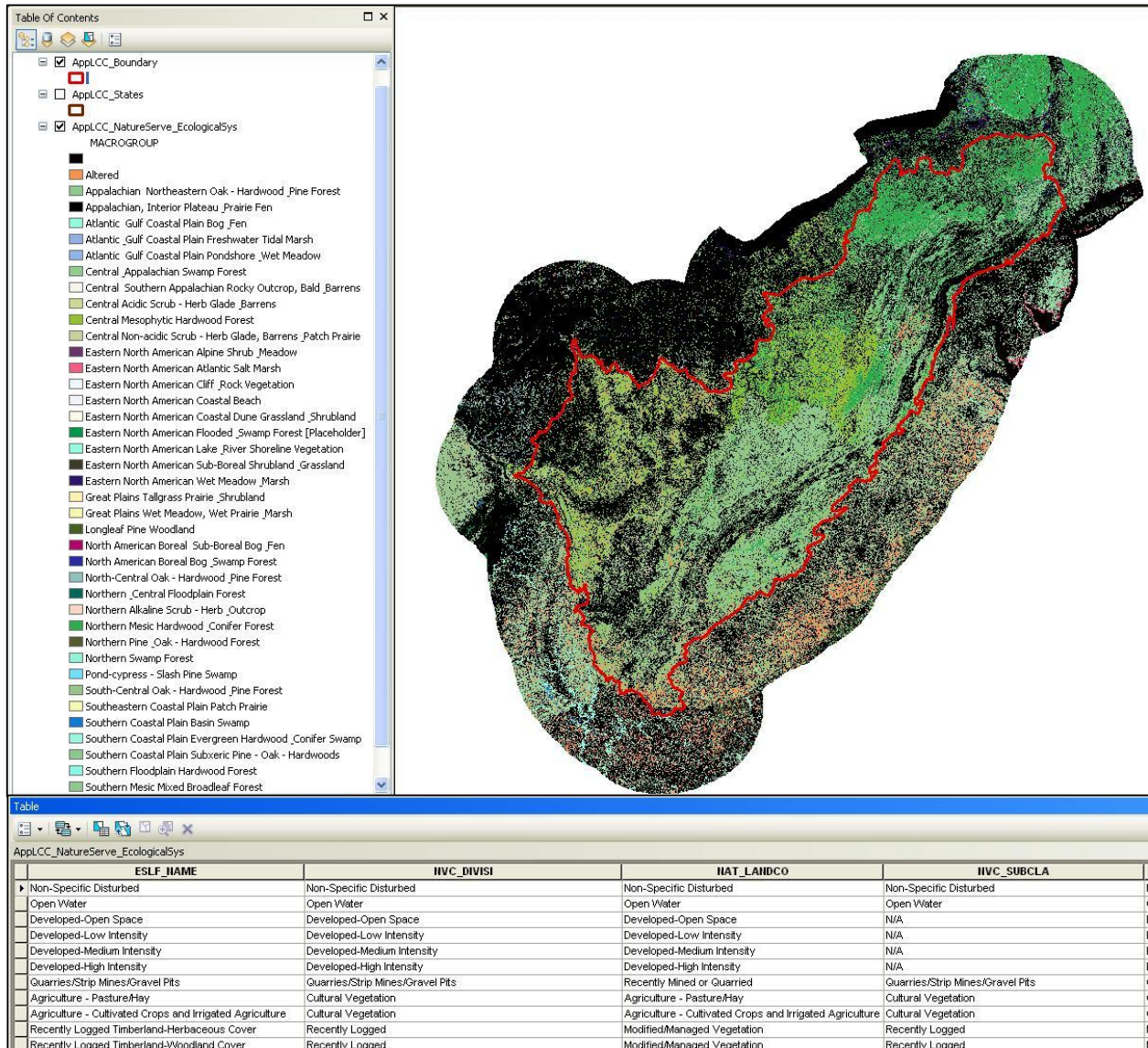
8. AppLCC Impervious Surface



The National Land Cover Database (NLCD) Percent Developed Impervious surface provides nationally consistent estimates of the amount of man-made impervious surfaces present over a given area in a seamless form. Each cell in this raster dataset contains information on the percent impervious value. These raster data sets are derived from Landsat satellite imagery, using classification and regression tree analysis. Values range from 0 to 100 percent, indicating the degree to which the area is covered by impervious features. This data is at a 30 meter resolution and clipped from the conterminous US dataset.

Source: http://www.mrlc.gov/nlcd06_data.php

9. NatureServe Ecological Systems



Natureserve updated their ecologic systems data in the spring of 2013. The attribute data with this dataset contains many more vegetation descriptions than the national land cover data alone. These vegetative descriptions might be translated into habitats for various species of interest by conservation planners. This screenshot shows the AppLCC boundary with buffer, along with a screenshot of the attribute table.

Source:

https://tranxfer.natureserve.org/download/Longterm/Ecosystem_National_Map/national_map

10. NDVI_2011 (Normalized Difference Vegetation Index)

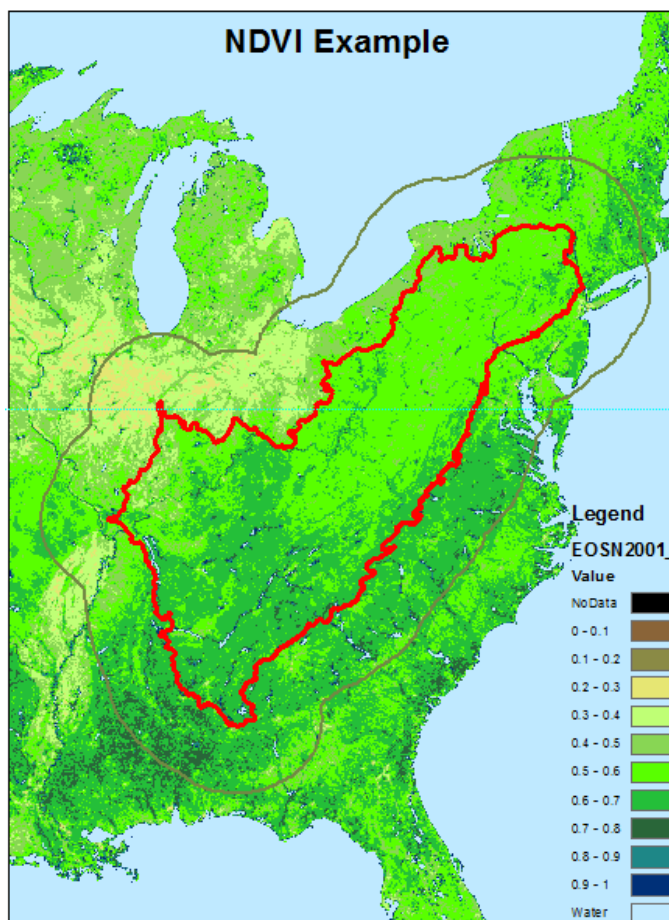
The national NDVI dataset is updated annually and it contains multiple datasets in raster format pertaining to seasonal phenology. Values of NDVI can range from -1.0 to +1.0, but values less than zero typically do not have any ecological meaning, so the range of the index is truncated to 0.0 to +1.0. Higher values signify a larger difference between the red and near infrared radiation recorded by the sensor - a condition associated with highly photosynthetically-active vegetation.

At the time that this data was downloaded, 2012 data was not posted, so this folder contains 3 raster datasets with their layer files that pertain to the beginning, end, and maximum flowering in the Eastern U.S. This data is intended as sample data because the information changes each year. There are three sample data layers:

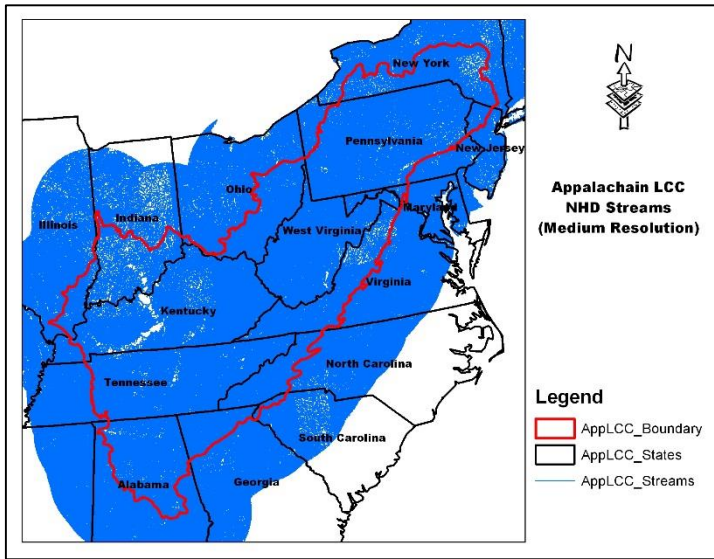
NDVI_Begin_East_USA – A raster layer of the NDVI at the beginning of the 2011 season for the eastern half of the US.

NDVI_End_East_USA – A raster layer of the NDVI at the end of 2011 season for the eastern half of the US.

NDVI_Max_East_USA – A raster layer of the NDVI at the maximum point of the season for the eastern US in 2011.



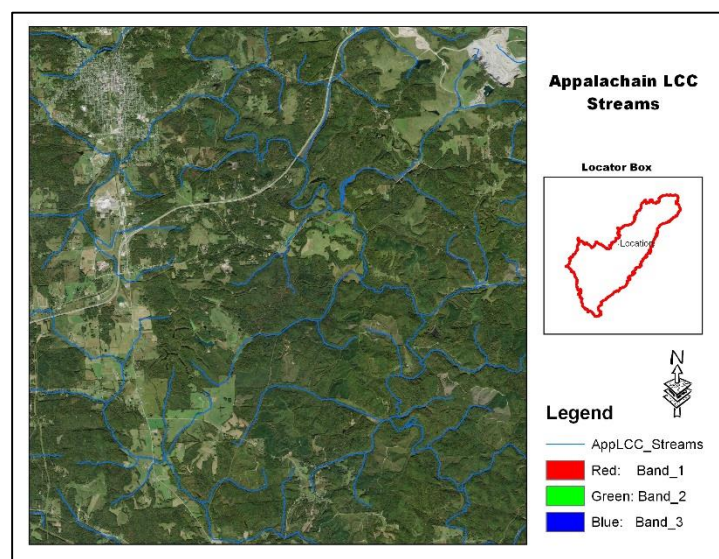
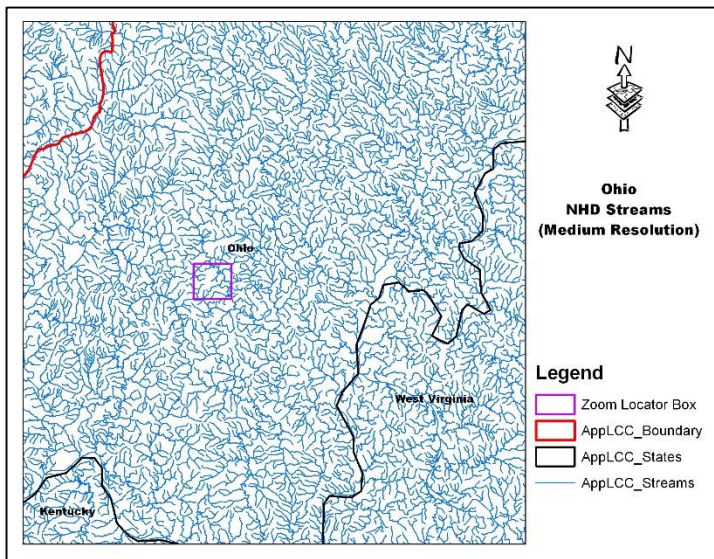
National Hydrologic Data (NHD)



Table

AppLCC_NHD_Flowlines_Medium_Res

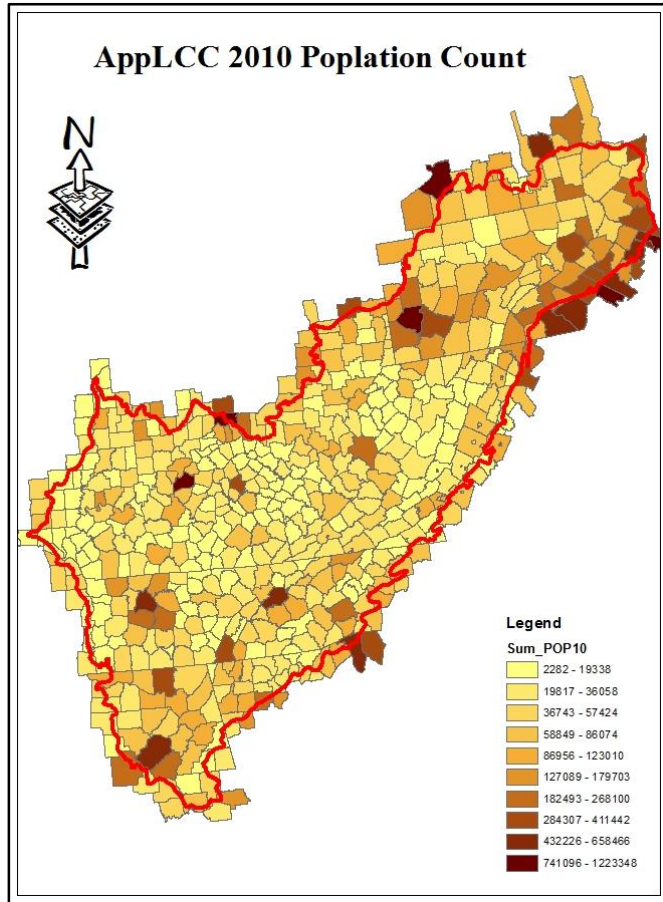
OBJECTID	Shape	COMID	FDATE	RESOLUTION	GHS_ID	GHS_NAME	LENGTHRM	REACHCODE	FLOWDIR
1	Polyline ZM	445308	8/1/2004	Medium			1.22	03140305000578	With Digitized
2	Polyline ZM	445310	8/1/2004	Medium			0.101	03140305000575	With Digitized
3	Polyline ZM	445312	8/1/2004	Medium	00156785	Big Escambia Creek	1.031	03140305000149	With Digitized
4	Polyline ZM	445314	8/1/2004	Medium			0.563	03140305000578	With Digitized
5	Polyline ZM	445316	8/1/2004	Medium			2.115	03140305000579	With Digitized
6	Polyline ZM	445318	8/1/2004	Medium			0.381	03140305000577	With Digitized
7	Polyline ZM	445320	8/1/2004	Medium			0.28	03140305000580	With Digitized
8	Polyline ZM	445322	8/1/2004	Medium	00157946	Escambia Creek	1.109	03140305000770	With Digitized
9	Polyline ZM	445324	8/1/2004	Medium			0.071	03140305000769	With Digitized
10	Polyline ZM	445326	8/1/2004	Medium	00157946	Escambia Creek	0.539	03140305000770	With Digitized
11	Polyline ZM	445328	8/1/2004	Medium			2.467	03140305000574	With Digitized



This dataset contains vector (polyline) data that is the flowlines from the USGS NHD dataset at medium resolution. The images here show the entire LCC and zoomed in sections to show details of the flowlines. The attribute table identifies each line segment, its stream name, flow direction and so on.

Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

11. Population count and housing count (2010)

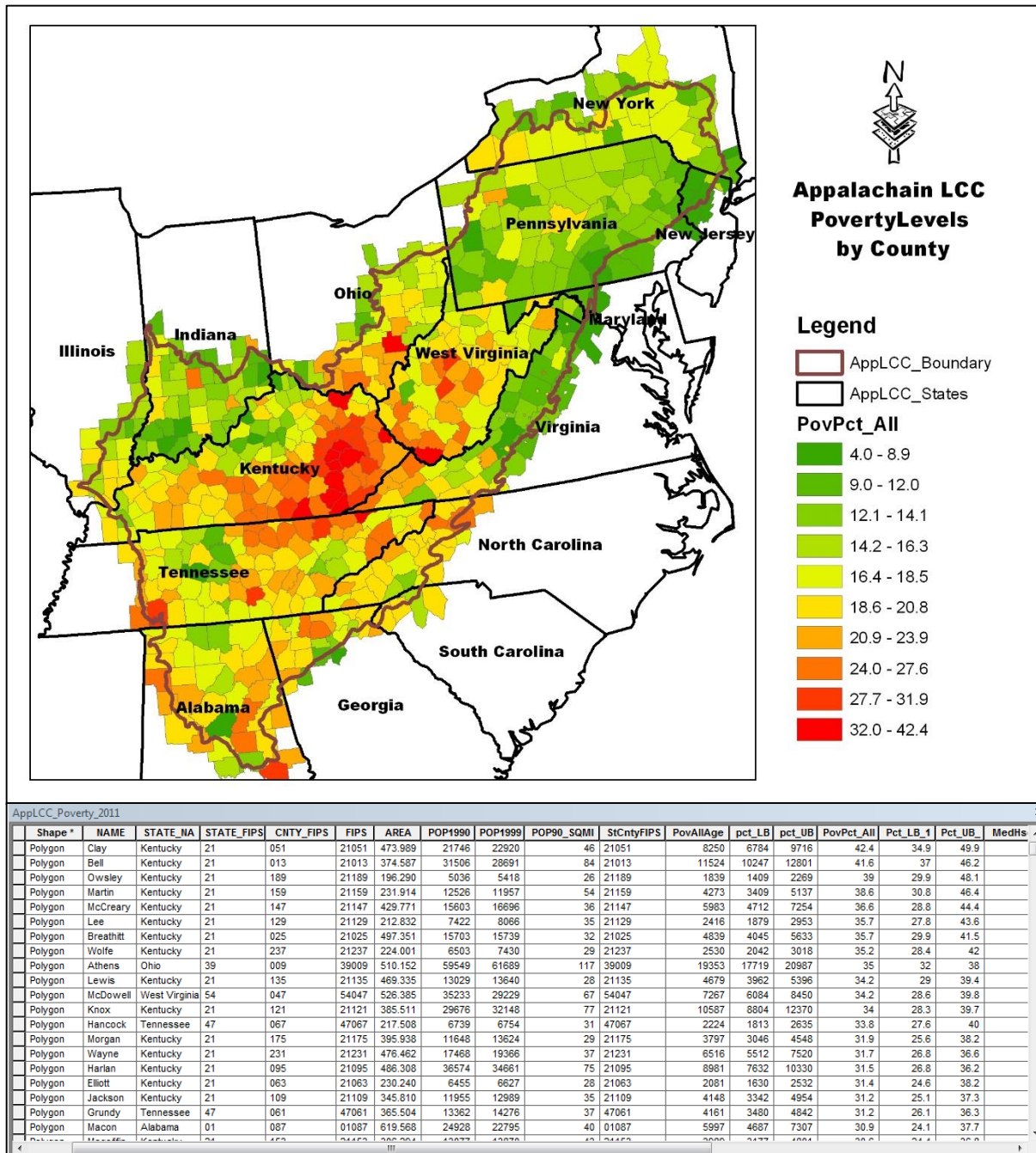


FID	Shape *	COUNTYFP10	OID_	COUNTYFP_1	Cnt_COUNTY	First_STAT	Sum_HOUSIN	Sum_POP10
0	Polygon	001	0	001	1887	01	22135	54571
1	Polygon	007	3	007	1777	01	8981	22915
2	Polygon	009	4	009	2750	01	23887	57322
3	Polygon	015	7	015	6919	01	53289	118572
4	Polygon	019	9	019	2497	01	16267	25869
5	Polygon	021	10	021	2208	01	19278	43643
6	Polygon	027	13	027	1588	01	6776	13832
7	Polygon	029	14	029	1471	01	6718	14972
8	Polygon	033	16	033	3799	01	25758	54428
9	Polygon	037	18	037	1534	01	6478	11539
10	Polygon	043	21	043	4363	01	37054	80406
11	Polygon	049	24	049	4435	01	31109	71109
12	Polygon	051	25	051	3680	01	32657	79303
13	Polygon	055	27	055	5044	01	47454	104430
14	Polygon	057	28	057	1731	01	8437	17241
15	Polygon	059	29	059	2556	01	14022	31704
16	Polygon	071	35	071	4476	01	24788	53227
17	Polygon	073	36	073	28737	01	300552	658466
18	Polygon	077	38	077	4233	01	43791	92709
19	Polygon	079	39	079	2304	01	15229	34338
20	Polygon	081	40	081	4059	01	62391	140247
21	Polygon	083	41	083	3809	01	34977	82782

This dataset contains vector data (polygons) of the counties intersected by the base AppLCC boundary. Each county has the 2010 population count and housing count Census Bureau data added to its attribute table. These values were derived by summing the census blocks for each county that were posted in the Census Bureau's data for 2010, thus each record is for a whole county. Shown here is an example of the population count and attribute table.

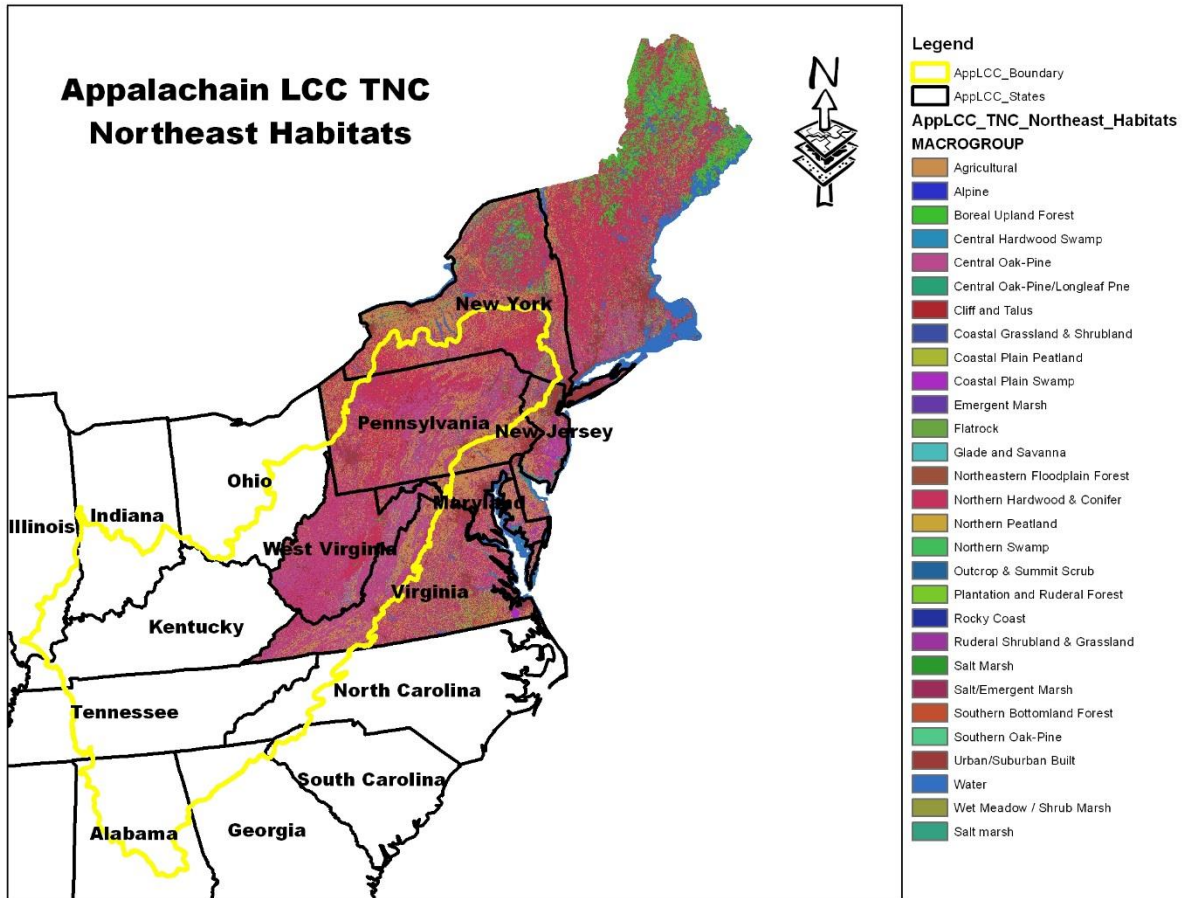
Source: <ftp://ftp2.census.gov/geo/pvs/tiger2010st/>

12. Poverty2011



This dataset contains vector data (polygons) of the counties intersected by the base AppLCC boundary. Shown here is an image of this data symbolized by Percent Poverty. In addition to the County name, State, and FIPS codes, this layer has estimated poverty and percent for each county (as shown in the attribute table).

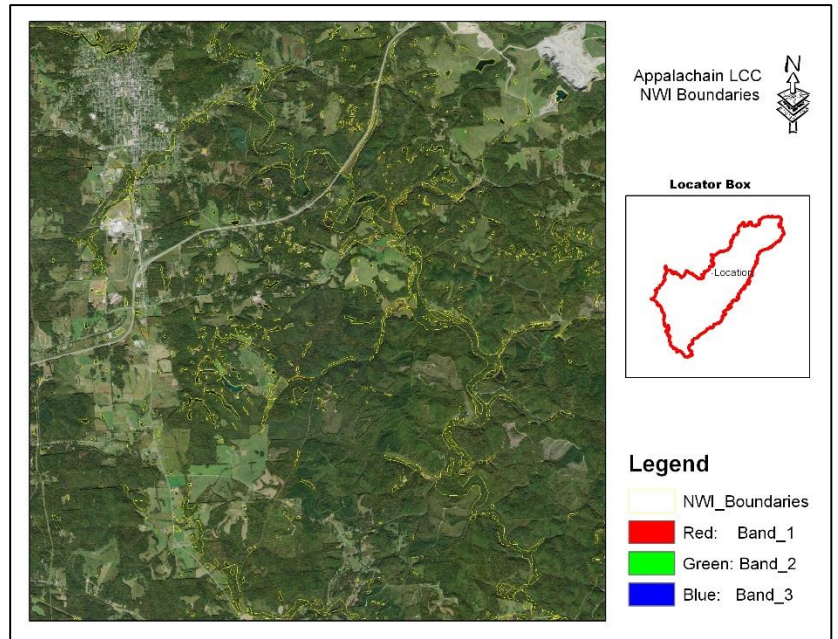
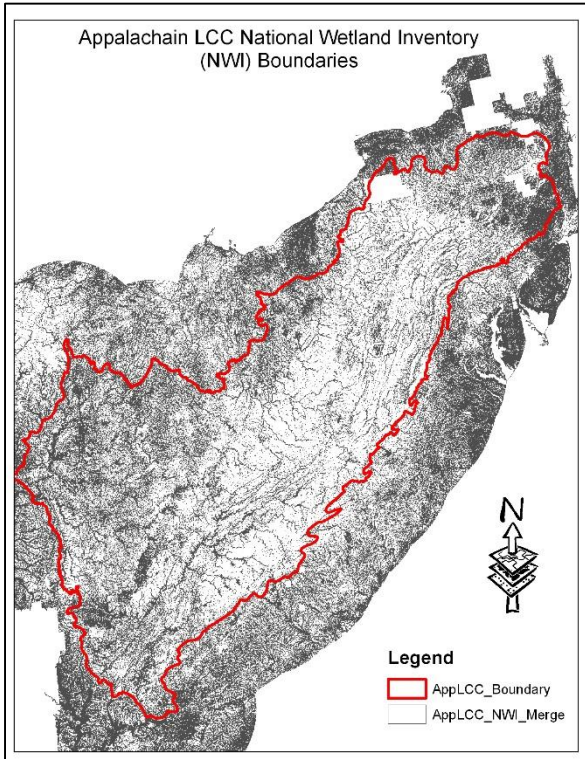
13. TNC Habitats



This dataset contains the Nature Conservancy’s habitat classification data for the Northeastern U.S. It does not cover the entire AppLCC area, but uses a technique that might be of interest and could be extended to cover the whole AppLCC area. These habitats could then be used to examine the species of interest for conservation planning.

Source: <http://conserveonline.org/workspaces/ecs/napaj/nap/>

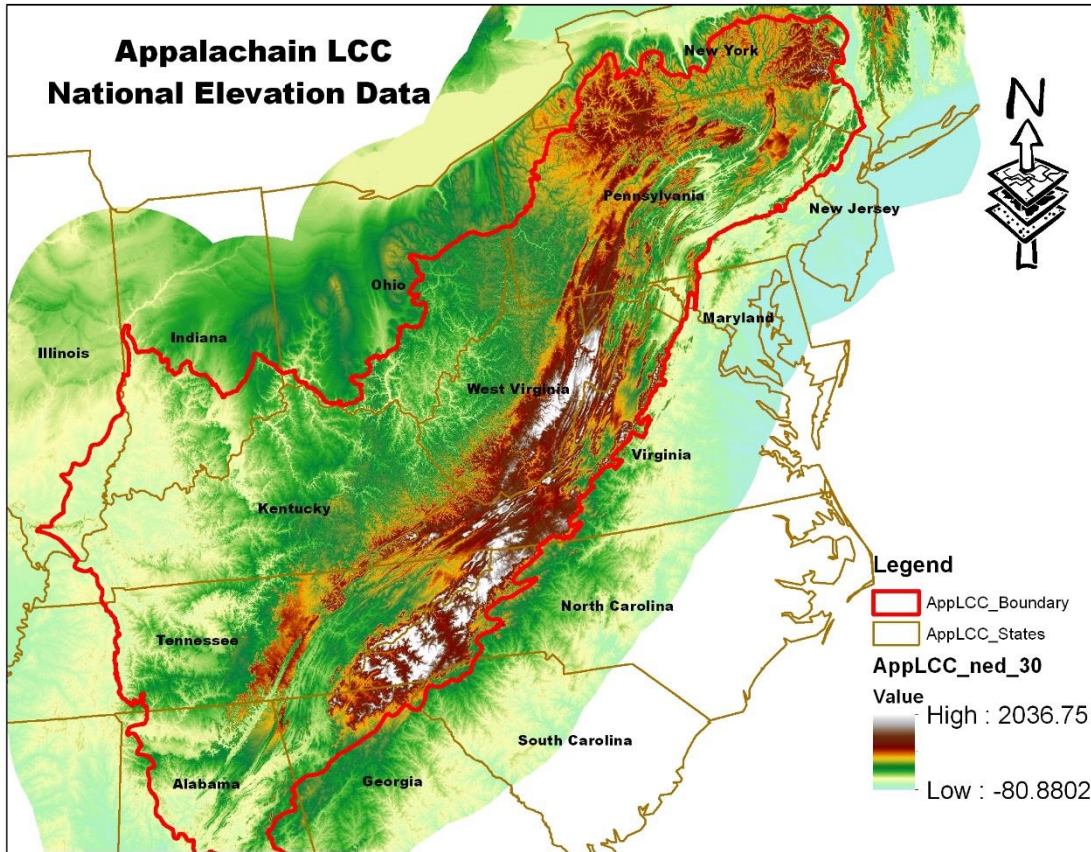
14. Folder Fifteen (AppLCC_USFWS_NWI):



This dataset contains the U.S. Fish and Wildlife Service's national wetlands inventory dataset clipped to the AppLCC buffer boundary. Almost all of the AppLCC area has been processed for the national wetlands inventory (a few quads in upperstate New York are missing). This data maps and classifies the wetlands in the area by 7.5 minute quadrangle.

Source: <http://www.fws.gov/wetlands/Data/State-Downloads.html>

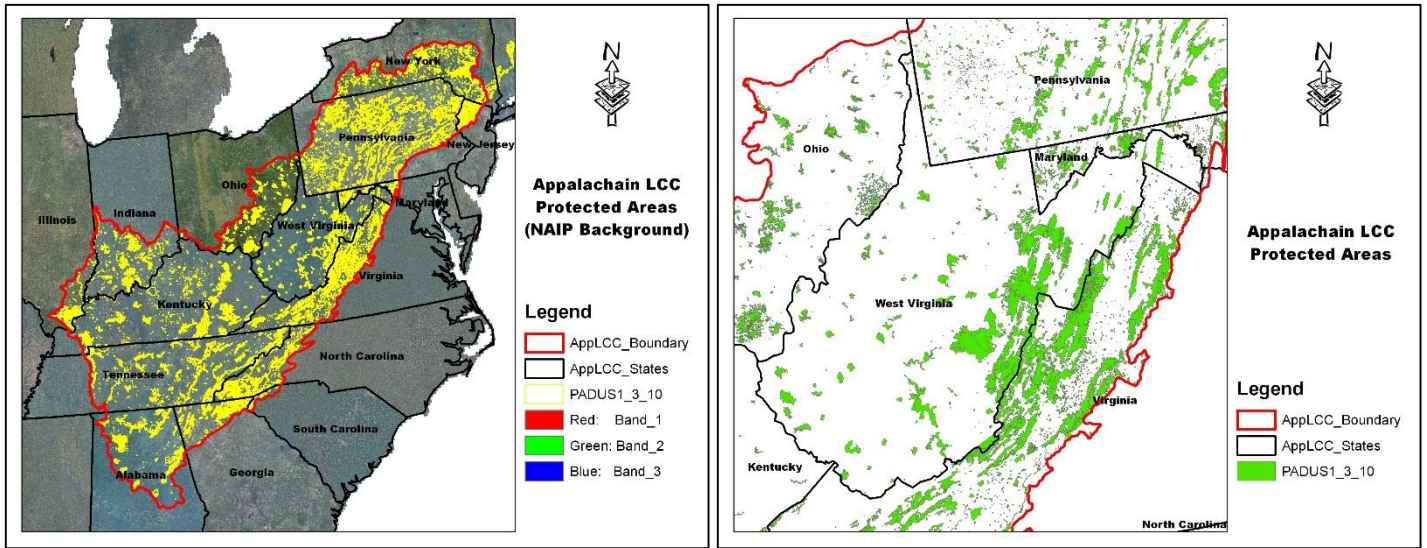
15. Folder Sixteen (AppLCC_USGS_NED):



This dataset contains 30 meter square cells with the elevation of the surface for the entire AppLCC buffer area. This data can be used to calculate contours, and a number of surface drainage layers.

Source: <http://ned.usgs.gov/>

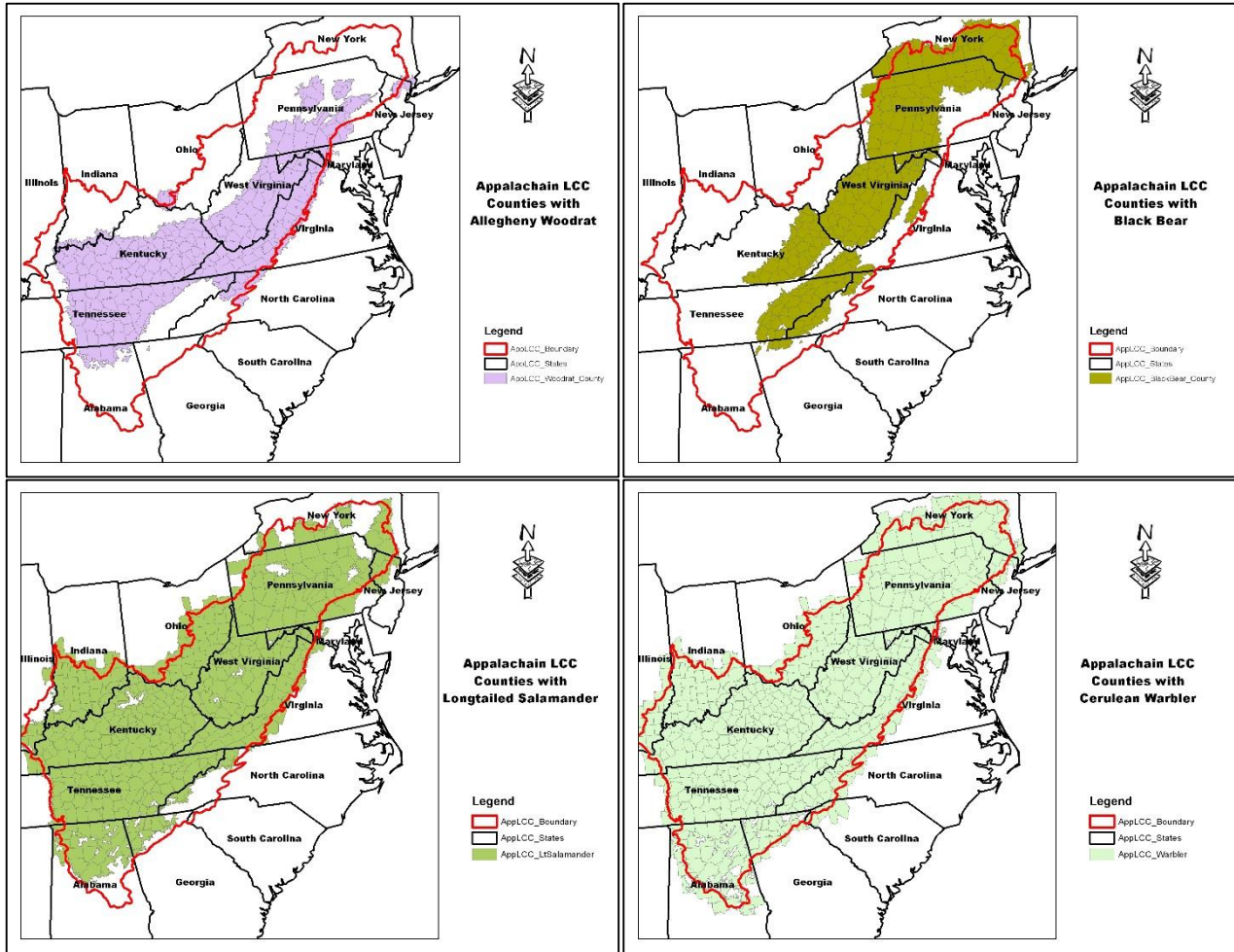
16. Folder Seventeen (AppLCC_USGS_PAD_US):



This dataset contains the USGS version of the protected area data. It contains both the public and privately owned protected areas for which the data is publicly available. It also contains codes to indicate the level of protection given to each parcel according to their management. These levels are indicated by both GAP category and IUCN codes.

Source: <http://gapanalysis.usgs.gov/padus/data/download>

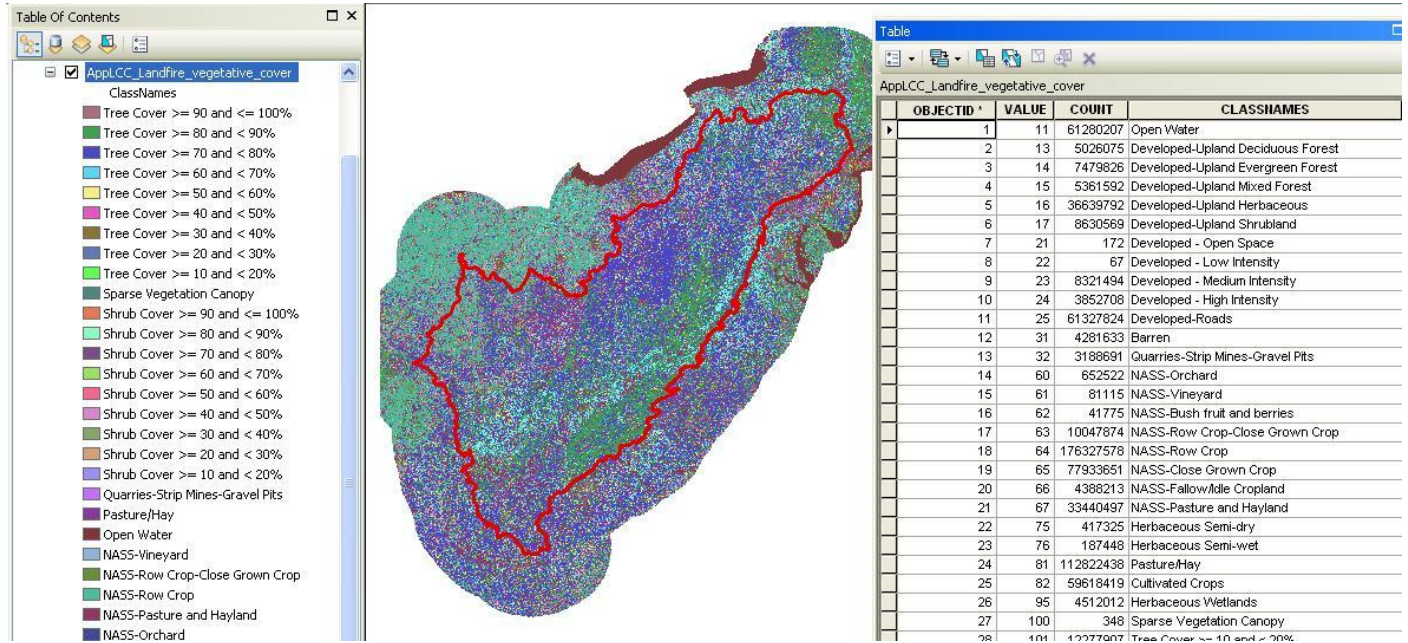
17. Representative species in the AppLCC



We have selected some of the potential candidate species to represent the AppLCC. We included county maps of their range with any other information that was available. Most were found in existing GAP datasets and those missing were mapped (by county) from their graphic maps by registering them to county datasets. Some examples are represented in these images. Top Left: Allegheny woodrat. Top Right: Black Bear, Low Left: Longtailed Salamander, Low Right: Cerulean warbler.

Source: <http://gapanalysis.usgs.gov/species/data/download>

18. Landfire dataset



The Landfire dataset represents vegetation type and vegetation cover at 30 meters resolution. Vegetation is mapped using predictive landscape models based on extensive field-referenced data, satellite imagery and biophysical gradient layers using classification and regression trees. This image shows information on vegetation type on the right and vegetation cover on the left legend respectively.

Source: <http://landfire.cr.usgs.gov/viewer/viewer.html>