Appalachain Landscape Conservation Cooperative GIS Datasets

Folders:

The Appalachain Landscape Conservation Cooperative Datasets are located in a folder named "AppLCC_USGS_ConicEA_Projection" and each theme has its own folder. Most folders have a layer file for displaying the raster datasets, however if there is more than one raster in the folder, it may be necessary to point the layer to the desired raster each time it is loaded. Also there are a few layer files and one geodataset (NWI) that will only work in ArcGIS 10.x. The layer file with the same name as the raster dataset should work in both ArcGIS 9.x and 10.x. In each case we attempted to download the latest (Spring 2013) revision of the dataset that completely covered the Appalachain LCC. There are nineteen parent folders as follows:

Folder One (App_LCC_project boundary): This folder has two vector (polygon) files that define boundaries:

1. The first is the Appalachain Landscape Conservation Cooperative (AppLCC) boundary downloaded in March of 2013 and reprojected to Albers Conic Equal Area, NAD83 with linear units in meters.

2. The second is a 175 kilometer buffer polygon of the first boundary. This is indended to include all of the HUC8 watersheds that make input to or have output from the Appalachain Landscape Conservation Cooperative (AppLCC) area. It is used to clip / extract data to avoid cutting off the data at the defined AppLCC boundary. This is useful when calculating surfaces involving drainage or hydrological units.

3. Occasionally an alternative method is used to select vector polygons that are self contained or political units with data pertaining to their areas. For example counties with data for county units or watersheds with data for their areas. In these cases I selected the polygon units that intersected by the actual AppLCC boundary area and exported those whole polygons with their data to a new layer.

Folder Two (AppLCC_2006NLCD): This folder contains the 2006 national land cover dataset downloaded from http://www.mrlc.gov/nlcd06_data.php and extracted using the AppLCC buffer boundry. This extract has the land cover name and is projected to Albers Conic Equal Area, NAD83. This raster dataset has been reformatted to the Imagine (.img) file format. In this folder there is a text file containing the NLCD metadata for the original downloaded data.

Folder Three (AppLcc_Avg_AnnualPrecipitation_1951_2006): This folder contains a raster of historical precipitation data for a 50 period produced as output from the Climate Wizard model (http://www.climatewizard.org/). This precipitation data is for the period 1951 to 2006 and has been extracted for the AppLCC buffer boundary. It is in the same projection as the other layers in this dataset.

Folder Four (AppLCC_Avg_AnnualTemperature_1951_2006): This folder contains a raster of historical temperature data for a 50 period produced as output from the Climate Wizard model (http://www.climatewizard.org/). This temperature data is for the period 1951 to 2006 and has been extracted for the AppLCC buffer boundary. It is in the same projection as the other layers in this dataset.

Folder Five (AppLCC_hfp2): This folder contains the raster dataset for the human footprint (Last of the Wild, version 2, 2005) downloaded from http://sedac.ciesin.columbia.edu/data/collection/wildareas-v2/sets/browse. This raster dataset has also been extracted to the AppLCC buffer boundry. 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). In this dataset there is not text data, only the cell values are important. This dataset is also reprojected to Albers Conic Equal Area, NAD83 and is in the .img file format. In this folder there is also a text file containing the metadata for the original downloaded file.

Folder Six (AppLCC_hii): This is the human influence raster dataset from the same source (Also from http://sedac.ciesin.columbia.edu/data/collection/wildareas-v2/sets/browse) as the human footprint. Basically the human influence is the non-normalized version of the human footprint with cell values from 0 to 64. In this dataset there is not text data, only the cell values are important. This dataset has also been extracted to the AppLCC buffer boundary and all other aspects of it are the same as the human footprint in folder three. In this folder there is also a text file containing the metadata for the original downloaded file.

Folder Seven (AppLCC_HUC8s): This contains a vector (polygon) dataset that has the USGS hydrologic Unit Code level 8 watersheds that influence or are influenced by the core AppLCC area. The base dataset for these was downloaded for a USGS ftp site: ftp://ftp.ftw.nrcs.usda.gov/wbd/ and then the watersheds in this dataset were selected by their intersection with any part of the AppLCC area. This vector dataset is in Albers Conic Equal Area, NAD83 projection also, and is a subset of the USGS national hydrology dataset. In this dataset the metadata is in ESRI format and can be displayed via ArcCatalog.

Folder Eight (AppLCC_Impervious_Surface): This folder contains a raster dataset that has the percent impervious as the value for each cell. This dataset is extracted from one of the layers created by the national land cover process (from http://www.mrlc.gov/nlcd06_data.php). It is in the same projection as the other layers. In this folder there is also a text file containing the NLCD impervious surface metadata for the original downloaded file.

Folder Nine (AppLCC_NatureServe_EcologicSyst): Natureserve updated their ecologic systems data in the Spring of 2013 and this updated dataset was downloaded in June 2013 from https://tranxfer.natureserve.org/download/Longterm/Ecosystem_National_Map/ national_map and then extracted for the AppLCC buffer area. This folder contains that data in the common Albers projection. 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. In this dataset the boundaries and attributes are in the ESRI format metadata, but the description information is not.

Folder Ten (AppLCC_NDVI_2011): The national NDVI dataset is updated annually and it contains multiple datasets in raster format pertaining to seasonal phenology. At the time this data as downloaded the data for 2012 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.   Each folder has both the Eastern U.S. raster and the one extracted for the AppLCC buffer area. Each has only one layer file which can be used to point of either of the raster datasets in it. **Metadata**, providing processing details, are bundled with the image data. This data is intended as sample data because the information changes each year. There are three sample data folders in this folder:

1. NDVI_Begin_East_USA – A raster layer of the NDVI at the beginning of the 2011 season for the eastern half of the US.
2. NDVI_End_East_USA – A raster layer of the NDVI at the end of 2011 season for the eastern half of the US.
3. NDVI_Max_East_USA – A raster layer of the NDVI at the maximum point of the season for the eastern US in 2011.

Folder Eleven (AppLCC_NHD_MediumRes): This folder contains vector (polyline) data that is the flowlines from the USGS national hydrologic dataset at medium resolution. Theses have been clipped to the AppLCC buffer boundary. The attribute data identifies each line segment, its stream name, flow direction and so on. The projection is the same as the others layers. In this dataset the metadata is in ESRI format and can be displayed via ArcCatalog.

Folder Twelve (AppLCC_Pop_Housing_2010): This folder 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. The projection of this data is the same as the previous layers. This folder also contains the same data intersected with a U.S. County dataset, so the state and county names show in the attribute records. In this dataset the boundaries and attributes are in the ESRI format metadata, but the description information is not because the data was in separate tables, not the county layer shapefile.

Folder Thirteen (AppLCC_Poverty2011): This folder contains vector data (polygons) of the counties intersected by the base AppLCC boundary. In addition to the County name, State, and FIPS codes, this layer has Estimated poverty and percent for each county. Each record also has an estimated median household income for 2011. This data was downloaded from the Census Bureau's SAIP site as a table and permanently joined to the county shapefile using the FIPS code in the two datasets. In this dataset the boundaries and attributes are in the ESRI format metadata, but the description information is not because the data was in separate tables, not the county layer shapefile.

Folder Fourteen (AppLCC_TNC_Habitats): This folder contains the Nature Conservancy's habitat classification data for the Northeastern U.S (downloaded from http://conserveonline.org/workspaces/ecs/napaj/nap/). 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. In this dataset the boundaries and attributes are in the ESRI format metadata, but the description information is not.

Folder Fifteen (AppLCC_USFWS_NWI): This layer contains the U.S. Fish and Wildlife Service's national wetlands inventory dataset (downloaded from http://www.fws.gov/wetlands/Data/State-Downloads.html) and then clipped to the AppLCC buffer boundary. Almost all of the AppLCC area has been processed for the national wetlands inventory. This data maps and classifies the wetlands in the area by 7.5 minute quadrangle. The data has been reprojected to match the other layers in this dataset. The metadata is in ESRI format and can be reviewed in ArcCatalog.

Folder Sixteen (AppLCC_USGS_NED): This dataset (http://ned.usgs.gov/) contains 30 meter square cells with the elevation of the surface for the entire AppLCC buffer area. This layer is in the same projection as the other layers. This data can be used to calculate contours, and a number of surface drainage layers.

Folder Seventeen (AppLCC_USGS_PAD_US): This is the USGS version of the protected area data (http://gapanalysis.usgs.gov/padus/data/download/). 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. The Metadata is in ESRI format and can be viewed in ArcCatalog.

Folder Eighteen (GAP_Species_Info): In this folder we have selected some of the potential species for selection (http://gapanalysis.usgs.gov/species/data/download/) as indicatiors and 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. All are in the same projection as the other layers. In this folder there are six species folders:

1. Alleg_woodrat:
2. Amer_Blackbear:
3. AmericanBlackDuck:
4. GAP_Amer_Woodcock:
5. Gap_longtailed_salamander:
6. Gap_Cerulean_warbler:
7. Non-GAP_Salamanders:

Each contains range and other information available through the GAP program. The Non-GAP folder contains range layers for two salamanders of interest that were not found in the GAP species list.

Folder Nineteen (LandfireDataAccess): This folder contains the Landfire dataset (http://landfire.cr.usgs.gov/viewer/viewer.html) extracted to the AppLCC buffer boundary. This data is in the same projection as the other layers. It was downloaded from the Landfire site in six blocks and reassembled with the Landfire Data Access Tool for ArcGIS 9.3. Then it was extracted for the buffered AppLCC area with the attribute data in tact. The Landfire layers in this folder are for the vegetation. There are other layers with information about vegetative heights or fire fuels, but the vegetation was thought to be most useful. There are two folders with landfire vegetation data:

1. Landfire vegetation type:
2. Landfire vegetation cover:

File Geodatabase:

This geodatabase will only work in ArcGIS 10.x. In the file geodatabase there are 32 featurelayers (15 raster and 17 vector). Since there are no folders to make clear what each represents, the layer names have been changed to make clear what each featurelayer represents. The following is a list that shows the equivalent names:

File names in folders:	File names in File Geodatabase:
AlbersCEA_meters_NAD83.shp	AppLCC_Boundary
LCC_Buf_bndry.shp	AppLCC_buffered_boundary
appnlcd_buffclip2.ige	AppLCC _National_Landcover
aplcc_precip	AppLCC _average_annual_precipatation_1951_2006
aplcc_temp	AppLCC _average_annual_temperature_1951_2006
AppLCC_hfp2_USGS_Albers.img	AppLCC_Human_Footprint
AppLCC_hii.img	AppLCC_Human_Influence
AppLCC_HUC8_USGS_Albers.shp	AppLCC_HUC8
nlcd2006_impervious_5-4-11F.ige	AppLCC _nlcd2006_impervious-5_4_11F
ap_ns_ecolsy2	AppLCC_NatureServe_EcologicalSys
lcndvibegin11	AppLCC_ndvi_begin2011
lcndvi_end11	AppLCC_ndvi_end2011
lcndvi_max11	AppLCC_ndvi_max2011
AppLCC_NHD_Flowlines_Med_ACEA	AppLCC_NHD_Flowlines_Medium_Res
AppLCC_Pop_Hse_2010_Cnty_Intersect	AppLCC_Population_Housing_2010_Counties
AppLCC_Poverty_2011.shp	AppLCC_Poverty_2011
AppLCC_TNC_Habitats.ige	AppLCC_TNC_Northeast_Habitats
AppLCC_NWI.gdb	AppLCC_NWI
AppLCC_ned_30.ige	AppLCC_NED_30
AppLCC_ned_int.ige	AppLCC_NED_Int
AppLCC_PADUS_clip2.shp	AppLCC_PADUS_clip2
aplcvegtyp	AppLCC_Landfire_Vegetative_type
aplcvegcover	AppLCC_Landfire_Vegetative_cover
AppLCC_Woodrat_County.shp	AppLCC_Woodrat_Counties
AppLCC_BlackBear_County.shp	AppLCC_Blackbear_Counties
Blackducks_Cnty_withData.shp	AppLCC _Blackducks_Counties
AmerWoodcock_Cnty_withData.shp	AppLCC _American_Woodcock_Counties
AppLCC_LtSalamander_County.shp	AppLCC_LongtailedSalamander_Counties
AppLCC_Warbler_County.shp	AppLCC_Warbler_Counties
AppLCC_SugarMaple.shp	AppLCC_SugarMaple_Counties
Eastern_Hellbender_counties.shp	AppLCC _Eastern_Hellbender_Counties
GreeSalamander_counties2.shp	AppLCC _GreenSalamander_Counties

The file geodatabase folder also contains 15 layer files with names equivalent to the rasters in the geodatabase. These layer files will hopefully give some meaning to the display of each raster dataset. There are no layer files for the vector datasets and it is not necessary to use the layer files even for the rasters, because all datasets can be displayed directly from the file geodatabase. However, most raster datasets will display in shades of gray by default. Layer files do not alter the data in the attribute tables.

All of these featurelayers, except one, have attribute tables with the associated values for each feature (record). Raster datasets have cell values plus other information and vector data has numerous fields of data associated with each line, point, or polygon feature. The one exception is the NED_30 raster dataset which is a continuous or floating point raster dataset, and has no value attribute table. The cell values exist if you query each cell, but there is no corresponding table. To assist in using these data, I calculated an integer version of this national elevation data for the Appalachian LCC area. This "int" version has the floating point values for each cell truncated and retains only the integer of those values in an attribute table. Both versions have been included in the file geodatabase.