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# National Land Cover Database Zone 55 Land Cover Layer

Metadata also available as

## Metadata:

- [Identification Information](#)
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### *Identification\_Information:*

*Citation:*

*Citation\_Information:*

*Originator:* U.S. Geological Survey

*Publication\_Date:* 20030901

*Title:* National Land Cover Database Zone 55 Land Cover Layer

*Edition:* 1.0

*Geospatial\_Data\_Presentation\_Form:* remote-sensing image

*Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* None

*Publication\_Information:*

*Publication\_Place:* Sioux Falls, SD

*Publisher:* U.S. Geological Survey

*Other\_Citation\_Details:*

References:Homer, C., C. Huang, L. Yang, B. Wylie and M. Coan, 2004. Development of a 2001 national land cover database for the United States. Photogrammetric Engineering and Remote Sensing Vol.70,No.7,pp 829-840 or online at [www.mrlc.gov/publications](http://www.mrlc.gov/publications).The USGS acknowledges the support of SEGAP in development of data in this zone.

*Online\_Linkage:* <http://www.mrlc.gov>

*Description:*

*Abstract:*

The National Land Cover Database 2001 land cover layer for mapping zone 55 was produced through a cooperative project conducted by the Multi-Resolution Land Characteristics (MRLC) Consortium. The MRLC Consortium is a partnership of federal

agencies (www.mrlc.gov), consisting of the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Environmental Protection Agency (EPA), the U.S. Department of Agriculture (USDA), the U.S. Forest Service (USFS), the National Park Service (NPS), the U.S. Fish and Wildlife Service (FWS), the Bureau of Land Management (BLM) and the USDA Natural Resources Conservation Service (NRCS). One of the primary goals of the project is to generate a current, consistent, seamless, and accurate National Land cover Database (NLCD) circa 2001 for the United States at medium spatial resolution. This landcover map and all documents pertaining to it are considered "provisional" until a formal accuracy assessment can be conducted. For a detailed definition and discussion on MRLC and the NLCD 2001 products, refer to Homer et al. (2004) and

<http://www.mrlc.gov/mrlc2k.asp>.

The NLCD 2001 is created by partitioning the U.S. into mapping zones. A total of 66 mapping zones were delineated within the conterminous U.S. based on ecoregion and geographical characteristics, edge matching features and the size requirement of Landsat mosaics. Mapping zone 55 encompasses whole or portions of several states, including the states of Georgia and Florida. Questions about the NLCD mapping zone 55 can be directed to the NLCD 2001 land cover mapping team at the USGS/EROS, Sioux Falls, SD (605) 594-6151 or mrlc@usgs.gov.

*Purpose:*

The goal of this project is to provide the Nation with complete, current and consistent public domain information on its land use and land cover.

*Supplemental\_Information:*

Corner Coordinates (center of pixel, projection meters)Upper Left Corner: 1017660 meters(X), 1259430 meters(Y)Lower Right Corner: 1486830 meters(X), 729690 meters(Y)Spatial-specific information not available

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 19991023

*Ending\_Date:* 20030124

*Currentness\_Reference:* ground condition

*Status:*

*Progress:* In work

*Maintenance\_and\_Update\_Frequency:* As needed

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:*-82.0661233437757

*East\_Bounding\_Coordinate:*-81.4416524119572

*North\_Bounding\_Coordinate:*33.4190690692362

*South\_Bounding\_Coordinate:*32.8582535780573

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* Land Cover

*Theme\_Keyword:* GIS

*Theme\_Keyword:* U.S. Geological Survey

*Theme\_Keyword:* USGS

*Theme\_Keyword:* digital spatial data

*Theme:*

*Theme\_Keyword\_Thesaurus:* ISO 19115 Category

*Theme\_Keyword:* imagery

*Theme\_Keyword:* Base Maps

*Theme\_Keyword:* Earth Cover

*Theme\_Keyword:* SEGAP

*Theme\_Keyword:* GAP

*Place:*

*Place\_Keyword\_Thesaurus:*

U.S. Department of Commerce, 1995, Countries, dependencies, areas of special sovereignty, and their principal administrative divisions, Federal Information Processing Standard 10-4,); Washington, D.C., National Institute of Standards and Technology

*Place\_Keyword:* United States

*Place\_Keyword:* U.S.

*Place\_Keyword:* US

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* zone 55

*Place:*

*Place\_Keyword\_Thesaurus:*

U.S. Department of Commerce, 1987, Codes for the identification of the States, the District of Columbia and the outlying areas of the United States, and associated areas (Federal Information Processing Standard 5-2): Washington, D.C., National Institute of Standards and Technology

*Place\_Keyword:* GA

*Place\_Keyword:* Georgia

*Place\_Keyword:* FL

*Place\_Keyword:* Florida

*Access\_Constraints:* None

*Use\_Constraints:* None

*Point\_of\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:* U.S. Geological Survey

*Contact\_Position:* Customer Services Representative

*Contact\_Address:*

*Address\_Type:* mailing and physical address

*Address:* USGS/EROS

*Address:* 47914 252nd Street

*City:* Sioux Falls

*State\_or\_Province:* SD

*Postal\_Code:* 57198-0001

*Country:* USA

*Contact\_Voice\_Telephone:* 605/594-6151

*Contact\_TDD/TTY\_Telephone:* 605/594-6933

*Contact\_Facsimile\_Telephone:* 605/594-6589

*Contact\_Electronic\_Mail\_Address:* custserv@usgs.gov

*Hours\_of\_Service:* 0800 - 1600 CT, M - F (-6h CST/-5h CDT GMT)

*Contact\_Instructions:*

The USGS point of contact is for questions relating to the data display and download from this web site. For questions regarding data content and quality, refer to: <<http://www.mrlc.gov/mrlc2k.asp>> or email: mrlc@usgs.gov

*Data\_Set\_Credit:* U.S. Geological Survey

*Security\_Information:*

*Security\_Classification\_System:* None

*Security\_Classification:* Unclassified

*Security\_Handling\_Description:* N/A

*Native\_Data\_Set\_Environment:*

Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 1; ESRI ArcCatalog 9.0.0.535

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*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

The information on data quality for mapping zone 55 was generated by the Decision Tree algorithm that conducts a cross-validation for assessing classification and prediction reliability. No formal independent accuracy assessment of mapping zone 55 land cover has been made. The regression tree algorithm employed in NLCD 2001 mapping offers a cross-validation option for assessing classification and prediction reliability. Cross-validation can provide relatively reliable estimates for land cover predictions if the reference data used for cross-validation are collected based on a statistically valid sampling design. For mapping zone 55 land cover modeling, a 10-fold cross-validation was conducted by dividing the entire training data set into 10 subsets of equal size. For each model run, an accuracy estimate was derived using one subset to evaluate the model prediction (with the model developed using the remaining training samples). This process was repeated 10 times. After all 10 runs, an average value of all accuracy estimates from the 10 runs were computed. Users should be cautioned that these cross-validation results provide users with only first-order estimates of data quality, and should not be considered a formal accuracy assessment. This landcover map and all documents pertaining to it are considered "provisional " until a formal accuracy assessment can be conducted.

*Quantitative\_Attribute\_Accuracy\_Assessment:*

*Attribute\_Accuracy\_Value:* 72

*Attribute\_Accuracy\_Explanation:*

The above listed value is the overall accuracy obtained for the land cover data using a cross-validation estimate from the decision tree model. This document and the described landcover map are considered "provisional" until a formal accuracy assessment is completed. The U.S. Geological Survey can make no guarantee as to the accuracy or

completeness of this information, and it is provided with the understanding that it is not guaranteed to be correct or complete. Conclusions drawn from this information are the responsibility of the user.

*Logical Consistency Report:*

The NLCD 2001 database for mapping zone 55 consists of three main data products including: (1) per pixel classified land-cover data (2) sub-pixel percent imperviousness and (3) sub-pixel percent tree canopy density. The land-cover database also includes three additional metadata layers that provide users a spatial node map of the land cover classification. The three layers are: (a) a spatial node map of the land cover classification, (b) a spatial confidence map of the land cover classification, and, (c) a text file of logical statements related to the land cover classification.

Conceptually, the descriptive tree is a classification tree generated by using the final minimum-map-unit land cover product (1 acre) as training data, and Landsat and other ancillary data as predictors. The goal of the descriptive tree is to summarize the effects of boosted trees (10 sequential classification trees) into a single condensed decision tree that can be used as a diagnostic tool for the classification process. This descriptive tree can be used to assess the relative importance of each of the input data sets on each land cover class. Such information may also be useful to customize the minimum-mapping-unit classification to meet a user's specific needs through raster modeling. Descriptive trees usually capture 60 to 80% of the information from the original land cover data.

The leaf or terminal nodes of the descriptive tree are assigned to sequential numbers (called node numbers) and mapped across the entire mapping zone on a pixel-by-pixel basis. These node numbers can then be matched with the various conditional statements associated with each respective terminal node. This spatial layer appears similar to a cluster map, but is the result of a supervised classification - not an unsupervised clustering. This node map can potentially be used as input by users to customize NLCD land cover, by linking the spatial extent of an individual node with the rules of the conditional statement.

The Land Cover spatial classification confidence data layer is provided to users to help determine the per-pixel spatial confidence of the NLCD 2001 land cover prediction from the descriptive tree. The C5 algorithm produces an estimate (a value between 0% and 100%) that indicates the confidence of rule predictions at each node based on the training data. This spatial confidence map should be considered as only one indicator of relative reliability of the land cover classification, rather than a precise estimate. Users should be aware that this estimate is made based on only training data, and is derived from a generalized descriptive decision tree that reproduces the final land cover data. However, this layer provides valuable insight for a user to determine the risk or confidence they choose to place in each pixel of land cover.

A logic statement from a descriptive tree classification describes each classification rule for each classified pixel. An example of the logic statement follows:

IF tasseled-cap wetness > 140 and imperviousness = 0 and canopy density < 4, then classify as Water

This logic file can be used in combination with the spatial node map to identify classification logic and allow modifications of the classification based on user's knowledge and/or additional data sets.

Additional information may be found at [http://www.mrlc.gov/mrlc2k\\_nlcd.asp](http://www.mrlc.gov/mrlc2k_nlcd.asp).

*Completeness\_Report:*

This NLCD product of mapping zone 55 Land Cover layer is the version dated 03/01/2006.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:* N/A

*Vertical\_Positional\_Accuracy:*

*Vertical\_Positional\_Accuracy\_Report:* N/A

*Lineage:*

*Process\_Step:*

*Process\_Description:*

The land cover classification was achieved by use of a classification and decision tree method (DT) using a combination of Landsat imagery and ancillary data. The decision rules were generated with See5, which implements a gain ratio criterion in tree development and pruning (Quinlan, 1993). See5 also implemented several advanced features that can aid and improve land cover classification, including boosting and cross-validation. Boosting is a technique for improving classification accuracy, while cross-validation can provide certain level of estimation regarding the land cover classification quality. In addition, See5 can generate a confidence estimate for each classified pixel and record the associated classification logic in a text file that can be readily interpreted and incorporated into a metadata system. A hierarchical approach was implemented for mapping zone 55 in which logical groupings of pixels were recognized throughout the classification process. Once reference data were collected and labeled, a forest/non-forest layer was produced. From the group of forest pixels, deciduous woody wetland pixels were pulled out via unsupervised classification and the remaining pixels were classified with the CART method to populate the remainder of the woody wetland class, upland evergreen, and shrub classes. For the non-forest pixels, water and emergent wetland pixels were mapped with CART and separated from the remaining non-forest pixels. Those remaining pixels were classified to pasture, row crop, and grassland. Areas underneath the clouds and associated shadows were generally misclassified as row crop and water/wetland respectively. To correct for this, we created a mask for clouds and cloud shadows then replaced the pixels beneath the cloud mask with classified pixels from a separate thematic map generated without the leaf on imagery as an input. To develop adequate training data for land cover mapping, DOQQ's with a nominal spatial resolution of 1-m were used as reference imagery. We generated a stratified random reference point set and labeled the points based on interpretation of high-resolution Digital Orthophoto Quarter Quadrangles (DOQQ), Landsat TM imagery, and National

Wetland Inventory data layers. Coastal area and mines/barren land masks were created by defining areas of interest (AOI) where selected classes did not have any representation in the reference point set. The coastal and mines/barren masks were used to facilitate the mapping of sandy beaches and unconsolidated shore and barren areas associated with mining operations and non-vegetated areas of field research and military installations respectively. These masks were necessary to decrease the confusion among these "barren" land covers and the agriculture fields that were lacking vegetative cover in all three imagery mosaics. Acquisition dates of Landsat ETM+ (TM) scenes used for land cover classification in zone 55 are as follows:

SPRING-

Index 1 for Path 16/Row 38 on 02/17/02 = Scene\_ID 7016038000204850  
Index 1 for Path 16/Row 39 on 02/17/02 = Scene\_ID 7016039000204850  
Index 1 for Path 16/Row 40 on 02/17/02 = Scene\_ID 7016040000204850  
Index 2 for Path 17/Row 37 on 02/24/02 = Scene\_ID 7017037000205550  
Index 2 for Path 17/Row 38 on 02/24/02 = Scene\_ID 7017038000205550  
Index 2 for Path 17/Row 39 on 02/24/02 = Scene\_ID 7017039000205550  
Index 2 for Path 17/Row 40 on 02/24/02 = Scene\_ID 7017040000205550  
Index 3 for Path 18/Row 37 on 12/24/99 = Scene\_ID 7018037009935850  
Index 3 for Path 18/Row 38 on 12/24/99 = Scene\_ID 7018038009935850  
Index 4 for Path 18/Row 39 on 02/10/00 = Scene\_ID 7018039000004150  
Index 5 for Path 19/Row 37 on 01/24/03 = Scene\_ID 7019037000302450  
Index 5 for Path 19/Row 38 on 01/24/03 = Scene\_ID 7019038000302450  
Index 6 for Path 19/Row 39 on 01/08/03 = Scene\_ID 7019039000300850

LEAF ON (Summer)-

Index 1 for Path 16/Row 38 on 05/24/02 = Scene\_ID 7016038000214450  
Index 2 for Path 16/Row 39 on 04/27/01 = Scene\_ID 5016039000111710  
Index 3 for Path 16/Row 40 on 04/03/01 = Scene\_ID 7016040000109350  
Index 4 for Path 17/Row 37 on 06/10/00 = Scene\_ID 7017037000016250  
Index 5 for Path 17/Row 38 on 05/09/00 = Scene\_ID 7017038000013050  
Index 6 for Path 17/Row 39 on 06/16/02 = Scene\_ID 7017039000216750  
Index 7 for Path 17/Row 40 on 03/28/02 = Scene\_ID 7017040000208750  
Index 8 for Path 18/Row 37 on 04/30/00 = Scene\_ID 7018037000012150  
Index 8 for Path 18/Row 38 on 04/30/00 = Scene\_ID 7018038000012150  
Index 9 for Path 18/Row 39 on 06/01/00 = Scene\_ID 7018039000015350  
Index10 for Path 19/Row 37 on 05/18/01 = Scene\_ID 5019037000113810  
Index10 for Path 19/Row 38 on 05/18/01 = Scene\_ID 5019038000113810  
Index11 for Path 19/Row 39 on 07/16/02 = Scene\_ID 7019039000219750

LEAF-OFF (Fall)-

Index 1 for Path 16/Row 38 on 10/23/99 = Scene\_ID 7016038009929650  
Index 2 for Path 16/Row 39 on 11/10/00 = Scene\_ID 7016039000031550  
Index 3 for Path 16/Row 40 on 08/25/01 = Scene\_ID 7016040000123750  
Index 4 for Path 17/Row 37 on 10/03/01 = Scene\_ID 7017037000127650  
Index 4 for Path 17/Row 38 on 10/03/01 = Scene\_ID 7017038000127650  
Index 5 for Path 17/Row 39 on 10/16/00 = Scene\_ID 7017039000029050  
Index 5 for Path 17/Row 40 on 10/16/00 = Scene\_ID 7017040000029050  
Index 6 for Path 18/Row 37 on 10/26/01 = Scene\_ID 7018037000129950

Index 7 for Path 18/Row 38 on 10/02/01 = Scene\_ID 5018038000127510  
Index 7 for Path 18/Row 39 on 10/02/01 = Scene\_ID 5018039000127510  
Index 8 for Path 19/Row 37 on 10/01/01 = Scene\_ID 7019037000127450  
Index 8 for Path 19/Row 38 on 10/01/01 = Scene\_ID 7019038000127450  
Index 8 for Path 19/Row 39 on 10/01/01 = Scene\_ID 7019039000127450

Landsat data and ancillary data used for the land cover prediction -

Data Type of DEM composed of 1 band of Continuous Variable Type.

Data Type of Slope composed of 1 band of Continuous Variable Type.

Data Type of Aspect composed of 1 band of Categorical Variable Type.

Data type of Position Index composed of 1 band of Continuous Variable Type.

*Source\_Used\_Citation\_Abbreviation:* Landsat ETM, DOQQ, USDA, FIA, DEM, National Center, EROS, IKONOS

*Process\_Date:* Unknown

*Source\_Produced\_Citation\_Abbreviation:* USGS NLCD

*Process\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:* USGS EROS NLCD 2001 - SE GAP

*Contact\_Position:* Customer Service Representative

*Contact\_Address:*

*Address\_Type:* mailing and physical address

*Address:* USGS EROS

*Address:* 47914 252nd Street

*City:* Sioux Falls

*State\_or\_Province:* SD

*Postal\_Code:* 57198

*Country:* USA

*Contact\_Voice\_Telephone:* 605-594-6151

*Contact\_TDD/TTY\_Telephone:* NA

*Contact\_Facsimile\_Telephone:* 605-594-6589

*Contact\_Electronic\_Mail\_Address:* custserv@usgs.gov

*Hours\_of\_Service:* 0800 - 1600 CT, M - F (-6h CST/-5h CDT GMT)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:* Raster

*Raster\_Object\_Information:*

*Raster\_Object\_Type:* Pixel

*Row\_Count:* 1858

*Column\_Count:* 1671

*Vertical\_Count:* 1

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*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Planar:*

*Map\_Projection:*

*Map\_Projection\_Name:* Albers Conical Equal Area

*Albers\_Conical\_Equal\_Area:*

*Standard\_Parallel:* 29.500000

*Standard\_Parallel:* 45.500000

*Longitude\_of\_Central\_Meridian:* -96.000000

*Latitude\_of\_Projection\_Origin:* 23.000000

*False\_Easting:* 0.000000

*False\_Northing:* 0.000000

*Planar\_Coordinate\_Information:*

*Planar\_Coordinate\_Encoding\_Method:* row and column

*Coordinate\_Representation:*

*Abscissa\_Resolution:* 30.000000

*Ordinate\_Resolution:* 30.000000

*Planar\_Distance\_Units:* meters

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1983

*Ellipsoid\_Name:* Geodetic Reference System 80

*Semi-major\_Axis:* 6378137.000000

*Denominator\_of\_Flattening\_Ratio:* 298.257222

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*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* Layer\_1

*Entity\_Type\_Definition:* NLDC Land Cover Layer

*Entity\_Type\_Definition\_Source:* National Land Cover Database 2001

*Attribute:*

*Attribute\_Label:* ObjectID

*Attribute\_Definition:* Internal feature number

*Attribute\_Definition\_Source:* ESRI

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Sequential unique whole numbers that are automatically generated.

*Attribute:*

*Attribute\_Label:* Count

*Attribute\_Definition:*

A nominal integer value that designates the number of pixels that have each value in the file; histogram column in ERDAS Imagine raster attributes table

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Integer

*Attribute:*

*Attribute\_Label:* Value

*Attribute\_Definition:*

Land Cover Class Code Value. Class definitions marked with an asterisk (\*) are Coastal NLCD Classes only.

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 1

*Enumerated\_Domain\_Value\_Definition:* No data value, Alaska zones only

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 11

*Enumerated\_Domain\_Value\_Definition:*

Open Water - All areas of open water, generally with less than 25% cover or vegetation or soil

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 12

*Enumerated\_Domain\_Value\_Definition:*

Perennial Ice/Snow - All areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 21

*Enumerated\_Domain\_Value\_Definition:*

Developed, Open Space - Includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 22

*Enumerated\_Domain\_Value\_Definition:*

Developed, Low Intensity -Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 23

*Enumerated\_Domain\_Value\_Definition:*

Developed, Medium Intensity - Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 24

*Enumerated\_Domain\_Value\_Definition:*

Developed, High Intensity - Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to 100 percent of the total cover.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 31

*Enumerated\_Domain\_Value\_Definition:*

Barren Land (Rock/Sand/Clay) - Barren areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 32

*Enumerated\_Domain\_Value\_Definition:*

Unconsolidated Shore\* - Unconsolidated material such as silt, sand, or gravel that is subject to inundation and redistribution due to the action of water. Characterized by substrates lacking vegetation except for pioneering plants that become established during brief periods when growing conditions are favorable. Erosion and deposition by waves and currents produce a number of landforms representing this class.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 41

*Enumerated\_Domain\_Value\_Definition:*

Deciduous Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species shed foliage simultaneously in response to seasonal change.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 42

*Enumerated\_Domain\_Value\_Definition:*

Evergreen Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species maintain their leaves all year. Canopy is never without green foliage.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 43

*Enumerated\_Domain\_Value\_Definition:*

Mixed Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75 percent of total tree cover.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 51

*Enumerated\_Domain\_Value\_Definition:*

Dwarf Scrub - Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 52

*Enumerated\_Domain\_Value\_Definition:*

Shrub/Scrub - Areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 71

*Enumerated\_Domain\_Value\_Definition:*

Grassland/Herbaceous - Areas dominated by grammanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 72

*Enumerated\_Domain\_Value\_Definition:*

Sedge/Herbaceous - Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 73

*Enumerated\_Domain\_Value\_Definition:*

Lichens - Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 74

*Enumerated\_Domain\_Value\_Definition:*

Moss- Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 81

*Enumerated\_Domain\_Value\_Definition:*

Pasture/Hay - Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20 percent of total vegetation.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 82

*Enumerated\_Domain\_Value\_Definition:*

Cultivated Crops - Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20 percent of total vegetation. This class also includes all land being actively tilled.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 90

*Enumerated\_Domain\_Value\_Definition:*

Woody Wetlands - Areas where forest or shrub land vegetation accounts for greater than 20 percent of vegetative cover and the soil or substrate is periodically saturated with or covered with water.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 91

*Enumerated\_Domain\_Value\_Definition:*

Palustrine Forested Wetland\* -Includes all tidal and non-tidal wetlands dominated by woody vegetation greater than or equal to 5 meters in height and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is below 0.5 percent.

Total vegetation coverage is greater than 20 percent.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 92

*Enumerated\_Domain\_Value\_Definition:*

Palustrine Scrub/Shrub Wetland\* - Includes all tidal and non-tidal wetlands dominated by woody vegetation less than 5 meters in height, and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is below 0.5 percent. Total vegetation coverage is greater than 20 percent. The species present could be true shrubs, young trees and shrubs or trees that are small or stunted due to environmental conditions.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 93

*Enumerated\_Domain\_Value\_Definition:*

Estuarine Forested Wetland\* - Includes all tidal wetlands dominated by woody vegetation greater than or equal to 5 meters in height, and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is equal to or greater than 0.5 percent. Total vegetation coverage is greater than 20 percent.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 94

*Enumerated\_Domain\_Value\_Definition:*

Estuarine Scrub/Shrub Wetland\* - Includes all tidal wetlands dominated by woody vegetation less than 5 meters in height, and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is equal to or greater than 0.5 percent. Total vegetation coverage is greater than 20 percent.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 95

*Enumerated\_Domain\_Value\_Definition:*

Emergent Herbaceous Wetlands - Areas where perennial herbaceous vegetation accounts for greater than 80 percent of vegetative cover and the soil or substrate is periodically saturated with or covered with water.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 96

*Enumerated\_Domain\_Value\_Definition:*

Palustrine Emergent Wetland (Persistent)\* - Includes all tidal and non-tidal wetlands dominated by persistent emergent vascular plants, emergent mosses or lichens, and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is below 0.5 percent. Plants generally remain standing until the next growing season.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 97

*Enumerated\_Domain\_Value\_Definition:*

Estuarine Emergent Wetland\* - Includes all tidal wetlands dominated by erect, rooted, herbaceous hydrophytes (excluding mosses and lichens) and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is equal to or greater than 0.5 percent and that are present for most of the growing season in most years. Perennial plants usually dominate these wetlands.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 98

*Enumerated\_Domain\_Value\_Definition:*

Palustrine Aquatic Bed\* - The Palustrine Aquatic Bed class includes tidal and nontidal wetlands and deepwater habitats in which salinity due to ocean-derived salts is below 0.5 percent and which are dominated by plants that grow and form a continuous cover principally on or at the surface of the water. These include algal mats, detached floating mats, and rooted vascular plant assemblages.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 99

*Enumerated\_Domain\_Value\_Definition:*

Estuarine Aquatic Bed\* - Includes tidal wetlands and deepwater habitats in which salinity due to ocean-derived salts is equal to or greater than 0.5 percent and which are dominated by plants that grow and form a continuous cover principally on or at the surface of the water. These include algal mats, kelp beds, and rooted vascular plant assemblages.

*Enumerated\_Domain\_Value\_Definition\_Source:* NLCD 2001 land cover class descriptions

*Attribute:*

*Attribute\_Label:* Red

*Attribute\_Definition:*

Red color code for RGB slice by value for canopy image display purposes. The value is arbitrarily assigned by the display software package, unless defined by user. Standard user defined ramp for NLCD project is start color light gray, end color red.

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 0

*Range\_Domain\_Maximum:* 100

*Attribute\_Units\_of\_Measure:* CSS Color Value Percentage

*Attribute\_Measurement\_Resolution:* 0.1

*Attribute:*

*Attribute\_Label:* Green

*Attribute\_Definition:*

Green color code for RGB slice by value for canopy image display purposes. The value is arbitrarily assigned by the display software package, unless defined by user. Standard user defined ramp for NLCD project is start color light gray, end color red.

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 0

*Range\_Domain\_Maximum:* 100

*Attribute\_Units\_of\_Measure:* CSS Color Value Percentage

*Attribute\_Measurement\_Resolution:* 0.1

*Attribute:*

*Attribute\_Label:* Blue

*Attribute\_Definition:*

Blue color code for RGB slice by value for canopy image display purposes. The value is arbitrarily assigned by the display software package, unless defined by user. Standard user defined ramp for NLCD project is start color light gray, end color red.

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 0

*Range\_Domain\_Maximum:* 100

*Attribute\_Units\_of\_Measure:* CSS Color Value Percentage

*Attribute\_Measurement\_Resolution:* 0.1

*Attribute:*

*Attribute\_Label:* Opacity

*Attribute\_Definition:*

A measure of how opaque, or solid, a color is displayed in a layer.

*Attribute\_Definition\_Source:* NLCD 2001

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 0

*Range\_Domain\_Maximum:* 100

*Attribute\_Units\_of\_Measure:* Percentage

*Attribute\_Measurement\_Resolution:* 0.1

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

Attributes defined by USGS and ESRI.

Class Red Green Blue

0 0.000000000 0.000000000 0.000000000

1 0.000000000 1.000000000 0.000000000

11 0.325490196 0.462745098 0.662745098

12 0.854901961 0.913725490 1.000000000

21 0.913725490 0.819607843 0.815686275

22 0.890196078 0.615686275 0.545098039

23 0.976470588 0.000000000 0.000000000

24 0.705882353 0.000000000 0.000000000  
31 0.741176471 0.725490196 0.670588235  
32 1.000000000 1.000000000 1.000000000  
41 0.443137255 0.701960784 0.419607843  
42 0.137254902 0.423529412 0.231372549  
43 0.752941176 0.827450980 0.607843137  
51 0.694117647 0.588235294 0.235294118  
52 0.835294118 0.764705882 0.533333333  
71 0.925490196 0.925490196 0.796078431  
72 0.823529412 0.823529412 0.505882353  
73 0.635294118 0.796078431 0.321568627  
74 0.513725490 0.725490196 0.619607843  
81 0.901960784 0.882352941 0.282352941  
82 0.709803922 0.486274510 0.200000000  
90 0.760784314 0.878431373 0.949019608  
95 0.486274510 0.674509804 0.772549020

*Entity\_and\_Attribute\_Detail\_Citation:*

Attribute accuracy is described, where present, with each attribute defined in the Entity and Attribute Section. Note: To ensure all areas of mapping zone 55 are completely covered, a 3,000 meter (100 Landsat pixels) buffer was added to the boundary of mapping zone 55.

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:* U.S. Geological Survey

*Contact\_Position:* Customer Service Representative

*Contact\_Address:*

*Address\_Type:* mailing and physical address

*Address:* USGS/EROS

*Address:* 47914 252nd Street

*City:* Sioux Falls

*State\_or\_Province:* SD

*Postal\_Code:* 57198-0001

*Country:* USA

*Contact\_Voice\_Telephone:* 605/594-6151

*Contact\_TDD/TTY\_Telephone:* 605/594-6933

*Contact\_Facsimile\_Telephone:* 605/594-6589

*Contact\_Electronic\_Mail\_Address:* custserv@usgs.gov

*Hours\_of\_Service:* 0800 - 1600 CT, M - F (-6h CST/-5h CDT GMT)

*Contact\_Instructions:*

The USGS point of contact is for questions relating to the data display and download from this web site. Questions about the NLCD mapping zone 55 can be directed to the NLCD 2001 land cover mapping team at the USGS/EROS, Sioux Falls, SD (605) 594-6151 or mrlc@usgs.gov.

*Resource\_Description:* Downloadable data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the USGS, no warranty expressed or implied is made by the USGS regarding the use of the data on any other system, nor does the act of distribution constitute any such warranty. Data may have been compiled from various outside sources. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification. The USGS shall not be liable for any activity involving these data, installation, fitness of the data for a particular purpose, its use, or analyses results.

*Standard\_Order\_Process:*

*Digital\_Form:*

*Digital\_Transfer\_Information:*

*Format\_Name:* Arc/Info Export Format and/or ArcView Shapefile

*Format\_Version\_Number:* ArcGIS 9.0

*Format\_Specification:* ASCII

*Transfer\_Size:* 0.001

*Digital\_Transfer\_Option:*

*Online\_Option:*

*Computer\_Contact\_Information:*

*Network\_Address:*

*Network\_Resource\_Name:* <<http://seamless.usgs.gov>>

*Access\_Instructions:*

The URL <<http://seamless.usgs.gov>> provides a map interface that allows for data downloads within a customer defined area of interest. Zoom tools are available that can be used to investigate areas of interest on the map interface. The download tool allows the customer to capture layers from the map, utilizing the Seamless Data Distribution System process for downloading. A request summary page is then generated with the download layers listed. By clicking the "download" button on the summary page, a zipped file will be generated that can be saved on the customer's computer. The file can then be unzipped and imported into various user software applications.

*Online\_Computer\_and\_Operating\_System:* Not available for dissemination

*Fees:* None

*Ordering\_Instructions:* Contact Customer Services

*Turnaround:* Variable

*Custom\_Order\_Process:* Contact Customer Services Representative

*Technical\_Prerequisites:*

ESRI ArcMap Suite and/or Arc/Info software, and supporting operating systems.

---

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 20060307

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:* U.S. Geological Survey

*Contact\_Position:* Customer Services Representative

*Contact\_Address:*

*Address\_Type*: mailing and physical address  
*Address*: USGS/EROS  
*Address*: 47914 252nd Street  
*City*: Sioux Falls  
*State\_or\_Province*: SD  
*Postal\_Code*: 57198-0001  
*Country*: USA  
*Contact\_Voice\_Telephone*: 605/594-6151  
*Contact\_TDD/TTY\_Telephone*: 605/594-6933  
*Contact\_Facsimile\_Telephone*: 605/594-6589  
*Contact\_Electronic\_Mail\_Address*: custserv@usgs.gov  
*Hours\_of\_Service*: 0800 - 1600 CT, M - F (-6h CST/-5h CDT GMT)  
*Metadata\_Standard\_Name*: FGDC Content Standards for Digital Geospatial Metadata  
*Metadata\_Standard\_Version*: FGDC-STD-001-1998  
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*Metadata\_Access\_Constraints*: None  
*Metadata\_Use\_Constraints*: None  
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*Online\_Linkage*: <<http://www.esri.com/metadata/esriprof80.html>>  
*Profile\_Name*: ESRI Metadata Profile

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