



SMEX03 Land Use Classification Data: Georgia, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Cosh, M. and J. Birch. 2009. *SMEX03 Land Use Classification Data: Georgia, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/KPF4RZ8PFPZ0>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/NSIDC-0364>



National Snow and Ice Data Center

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1 DETAILED DATA DESCRIPTION

1.1 Format

Data are provided in one ArcInfo ASCII Grid data file named `ga_land_cover.txt`. The first six rows of the file contain header information, while the remaining rows contain the actual grid data. Refer to Table 1 for clarification of ASCII Grid header variables, or to the Sample Record section of this document to view the sample data record. Missing data are represented by -9999. The Georgia study area image dimensions are 3440 rows by 1840 columns.

Table 1 ArcInfo ASCII Grid Header Values

Variable	Description
<code>ncols</code>	Number of columns in the grid
<code>nrows</code>	Number of rows in the grid
<code>xllcorner</code>	Western edge of the grid
<code>yllcorner</code>	Southern edge of the grid
<code>cellsize</code>	Spatial resolution of the grid
<code>NODATA_value</code>	Refers to value representing missing data, such as -9999

1.2 File and Directory Structure

Both the `ga_land_cover.txt` data file and `readme.txt` file are available on the HTTPS site in the following directory:

https://daacdata.apps.nsidc.org/pub/DATASETS/AVDM/data/soil_moisture/SMEX03/Georgia/ancillary_data/landuse_classification/

1.3 File Naming Convention

The abbreviation `ga` in the ASCII file name `ga_land_cover.txt` indicates Georgia as the regional study area.

1.4 Spatial Coverage

Southernmost Latitude: 30.96106485° N

Northernmost Latitude: 31.90325745° N

Westernmost Longitude: 83.97084687° W

Easternmost Longitude: 83.36425277° W

1.4.1 Spatial Resolution

The pixel size is 30 m by 30 m.

1.4.2 Projection and Grid Description

Universal Transverse Mercator (UTM), Zone 17, North American Datum 1983 (NAD 83)

1.5 Temporal Coverage

The NLCD 2001 land use classification data are representative of typical conditions in Georgia during the approximate timeline of the SMEX03 campaign, conducted between June and July 2003.

1.6 Parameter or Variable

The measured parameter for this data set is land use classification.

1.6.1 Parameter Description

The parameter range for Georgia land cover types is described in Table 2. Valid values range from 1 to 99, with not all values present in the Georgia study area. For more complete descriptions of land cover types, and for more information on land cover types not present in the Georgia study area, please refer to the USGS [Web GIS](#) Web site.

Table 2 Land Cover Parameter Range and Description

Parameter Values	Description
11	Open Water
21	Developed, Open Space
22	Developed, Low Intensity
23	Developed, Medium Intensity
24	Developed, High Intensity
31	Barren Land (Rock/Sand/Clay)
41	Deciduous Forest
42	Evergreen Forest
43	Mixed Forest

Parameter Values	Description
52	Shrub/Scrub
71	Grassland/Herbaceous
81	Pasture/Hay
82	Cultivated Crops
90	Woody Wetlands
95	Emergent Herbaceous Wetlands

1.6.2 Sample Data Record

Figure 1 displays a sample of the data file ga_land_cover.txt containing Georgia land use classification data. The first six rows display ArcInfo ASCII Grid header information, while the last six rows of this partial data record contain land use classification measurements. Only the first thirteen columns and first twelve rows of the data record are shown in this sample. For clarification of ASCII Grid header variables, refer to Table 1 in the Format section.

ncols	1840											
nrows	3440											
xllcorner	219000											
yllcorner	3429000											
cellsize	30											
NODATA_value	-9999											
42	42	42	41	41	90	42	42	42	42	42	90	...
43	42	42	41	90	41	90	42	42	42	42	82	...
41	43	43	90	90	90	90	42	42	42	41	42	42
41	43	90	90	90	41	41	42	42	41	41	42	82
43	90	90	90	90	41	42	42	43	41	41	42	42
41	43	41	41	90	41	43	41	41	41	43	43	43
...

Figure 1 Sample Data Record

2 SOFTWARE AND TOOLS

Any text editor or Web browser is recommended to view these data.

3 DATA ACQUISITION AND PROCESSING

3.1 Data Acquisition Methods

The Georgia land use classification data were retrieved from an online [USGS](#) database called [WebGIS](#), a Landsat-based land cover database with several independent data layers. From this database, the National Land Cover Dataset (NLCD) for 2001 was selected. The NLCD 2001 data

were then exported with ArcMap as ArcInfo ASCII Grid data files. No extensive ground-based land cover retrieval was conducted as part of SMEX03. Instead, the NLCD 2001 is considered the base land cover map since land cover over the SMEX03 study regions is minimally dynamic.

4 REFERENCES AND RELATED PUBLICATIONS

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* 70:829-840.

4.1 Related Data Collections

[AMSR-E/Aqua Data at NSIDC](#) Web site: AMSR-E standard products available at NSIDC.

5 CONTACTS AND ACKNOWLEDGMENTS

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