

LBA Regional Land Cover from AVHRR, 1-km, 1992-1993 (Hansen et al.)

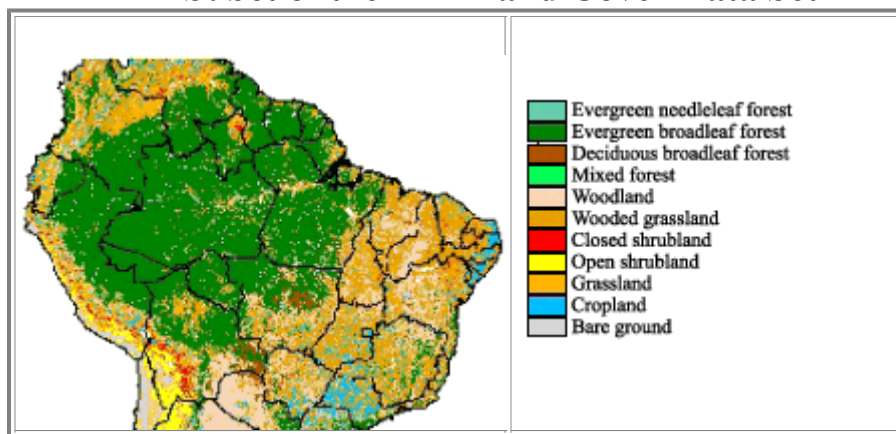
Description:

The data set consists of a LBA study area subset of the 1km Global Land Cover Data Set Derived from AVHRR developed at the Laboratory for Global Remote Sensing Studies (LGRSS) at the University of Maryland.

Over the past several years, researchers have increasingly turned to remotely sensed data to improve the accuracy of data sets that describe the geographic distribution of land cover at regional and global scales. To develop improved methodologies for global land cover classifications as well as to provide global land cover products for immediate use in global change research, researchers at the Laboratory for Global Remote Sensing Studies (LGRSS) at the University of Maryland, have employed the NASA/NOAA Pathfinder Land (PAL) data set with a spatial resolution of 1km. This data set has a record length of 14 years (1981-1994), providing the ability to test the stability of classification algorithms. Furthermore, this data set includes red, infrared, and thermal bands in addition to the Normalized Difference Vegetation Index (NDVI). Inclusion of these additional bands improves discrimination between cover types. The project aim is to develop and validate global land cover data sets and to develop advanced methodologies for more realistically describing the vegetative land surface based on satellite data.

The 1km global land cover product was created from 1992-93 LAC AVHRR data. 41 metrics were developed to describe global vegetation phenology and these data were used to make the 1km land cover map. The final product contains 13 land cover classes.

LBA Subet of the 1km Land Cover Data Set



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1km Land Cover Legend

0	Water
1	Evergreen Needleleaf Forest
2	Evergreen Broadleaf Forest
3	Deciduous Needleleaf Forest
4	Deciduous Broadleaf Forest
5	Mixed Forest
6	Closed Shrublands
7	Open Shrublands
8	Woody Savannas
9	Savannas
10	Grasslands
11	Permanent Wetlands
12	Croplands
13	Urban and Built-Up

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This README file contains information regarding:

1. Data format
2. Procedure used to create the Amazon susbet
3. Legend and data source

DATA FORMAT

The downloadable file, glcflkm.dat.gz, is a UNIX compressed file

The data file is in ASCII Grid format for ArcInfo. The file contains a single ASCII array with integer values. Data values range from 0 to 13. Coordinates listed below are in decimal degrees.

Rows 4200
 Columns 6600
 UpLeftX -0.850000E+02
 UpLeftY 9.999999996725
 LoRightX -0.300000E+02
 LoRightY -0.250000E+02
 cellsize 0.008333333333
 Projection geographic

The ASCII file consists of header information containing a set of keywords, followed by cell values in row-major order. The file format is

```

<NCOLS xxx>
<NROWS xxx>
<XLLCORNER xxx>
<YLLCORNER xxx>
<CELLSIZE xxx>
{NODATA_VALUE xxx}
row 1
row 2
.
.
.
row n

```

where xxx is a number, and the keyword NODATA_VALUE is optional and defaults to -9999. Row 1 of the data is at the top of the grid, row 2 is just under row 1 and so on. The end of each row of data from the grid is terminated with a carriage return in the file.

Although the nodata_value is set to -9999 in the header portion of the glcflkm.dat file, that value does not actually occur in the data set.

To import this file into ArcInfo use the following command at an ARC prompt:

```
ASCIIGRID <in_ascii_file> <out_grid> {INT | FLOAT}
```

Arguments

<in_ascii_file> - the ASCII file to be converted.
 <out_grid> - the name of the grid to be created.
 {INT | FLOAT} - the data type of the output grid.
 INT - an integer grid will be created.
 FLOAT - a floating-point grid will be created.

----- PROCEDURE USED TO CREATE THE AMAZON SUBSET -----

The data set was provided by the data originator as an ArcInfo grid. Using GRID (a raster- or cell-based geoprocessing toolbox that is integrated with ArcInfo) the SETWINDOW command was used to define the subarea of interest. This subarea was defined by identifying the bounding coordinates as follows:

```
x_min -85 y_min -25 x_max -30 y_max 10
```

The "snap_grid" option of the SETWINDOW command was used. This snaps the lower-left corner of the specified window to the lower-left corner of the nearest cell in the snap_grid and snaps the upper-right corner of the specified window to the upper-right corner of the nearest cell in the snap_grid. In this case the snap_grid is the original data grid. The purpose of this is to ensure the proper registration of the newly set analysis window. The command format used is as follows:

```
SETWINDOW x_min y_min x_max y_max original_grid
```

Once the window was set, creating the new grid was simply a matter of setting the new subset grid equal to the original grid.

```
subset_grid = original_grid
```

An ASCII array was created from the new subset grid using the GRID command GRIDASCII.

```
file.dat = GRIDASCII(subset_grid)
```

LEGEND & ADDITIONAL SOURCES OF INFORMATION

The following legend is used in the original data set:

- 0 Water (and Goode's interrupted space)
- 1 Evergreen needleleaf forest
- 2 Evergreen broadleaf forest
- 3 Deciduous needleleaf forest
- 4 Deciduous broadleaf forest
- 5 Mixed forest
- 6 Woodland
- 7 Wooded grassland
- 8 Closed shrubland
- 9 Open shrubland
- 10 Grassland
- 11 Cropland
- 12 Bare ground
- 13 Urban and built-up

Although not all of these categories may be represented in the subset of the data, the original legend has been retained.

The original data and documentation can be obtained from the Global Land Cover Facility at the University of Maryland: <http://glcf.umiacs.umd.edu>

<http://glcf.umiacs.umd.edu/data/landcover/data.shtml>

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