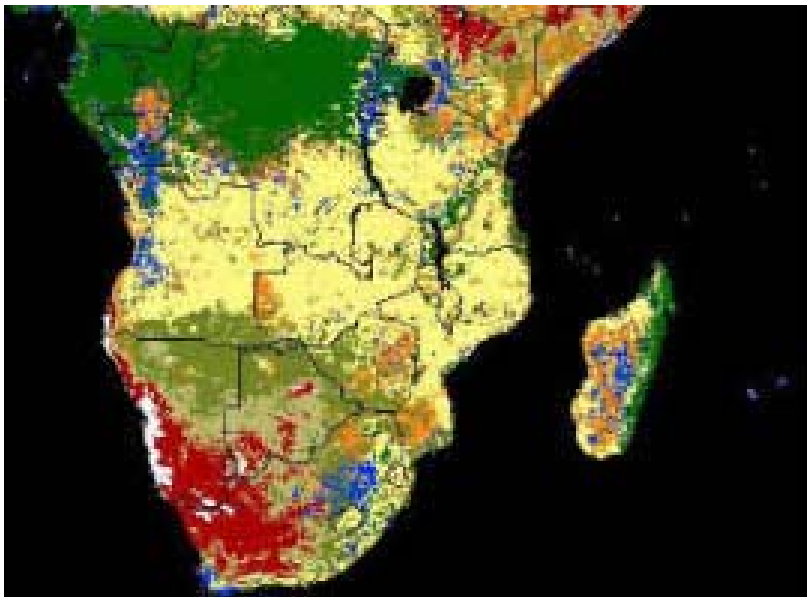# SAFARI 2000 Land Cover from AVHRR, 8-km (Hansen et al.)

Summary:

The glcf8km.dat.gz file contains a subset of the 8km Global Land Cover data set derived from AVHRR, available from the Global Land Cover Facility at the University of Maryland. The subset is for southern Africa.

Land Cover Type Image:

Water
Evergreen Broadleaf Forests
Deciduous Broadleaf Forests
Woodlands
Wooded Grasslands/Shrubs
Closed Bushlands or Shrublands
Open Shrublands
Grasses
Croplands
Bare
Mosses and Lichens

Data Set Information:

This README file contains information regarding:
1. Data format
2. Procedure used to create the southern Africa subset
3. Legend and data source

DATA FORMAT

The downloadable file, glcf8km.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 640
Columns 880
UpLeftX 5
UpLeftY -35
LoRightX 60
LoRightY 5
cellsize 0.0625
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 glcf8km.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.

Binary File Information

The ASCII data file has also been converted into a binary image file that can be viewed in any standard image viewing package. The file is a single-byte image, no header, 880 columns by 640 rows. Missing data (ASCII -9999) have been converted to the maximum value of 255

PROCEDURE USED TO CREATE THE SOUTHERN AFRICAN SUBSET

The original data set was imported into ArcInfo using the IMAGEGRID command. 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 5   y_min -35   x_max 60   y_max 5

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
1 Evergreen needleleaf forests
2 Evergreen broadleaf forests
3 Deciduous needleleaf forests
4 Deciduous broadleaf forests
5 Mixed forests
6 Woodlands
7 Wooded grasslands/shrubs
8 Closed bushlands or shrublands
9 Open shrublands
10 Grasses
11 Croplands
12 Bare
13 Mosses and lichens

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

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ORIGINAL DATA SET CITATION

DeFries, R.S., Hansen, M., Townshend, J.R.G., and Sohlberg, R. 1998. 8km Global Land Cover Data Set Derived from AVHRR. Global Land Cover Facility, University of Maryland Institute for Advanced Computer Studies, College Park, Maryland, U.S.A. Available on-line at http://glcf.umiacs.umd.edu