

Land Cover Evaluation of the State of Tocantins, Brazil

Summary:

Cerrado land-use mapping: Eduardo Assad (EMBRAPA-CPAC) and Carlos Klink (UnB) have completed Landsat TM-based mapping of areas of native cerrado vegetation conversion for southern Maranhão State and Tocantins. Assad has also done conversion/deforestation mapping for Mata Grosso, Goiás, and Southern Pará. Some of these maps may also be available for LBA.

1. Data Set Overview

Data Set Identification:

Land Cover Evaluation of the State of Tocantins, Brazil. Source: Eduardo Assad (EMBRAPA-CPAC) and Carlos Klink (UnB). Assad and Klink have completed Landsat TM-based mapping of areas of native cerrado vegetation conversion for southern Maranhão State, Goiás, and Tocantins. The digitized maps of cerrado conversion in this dataset concern Goiás and Tocantins only. Assad has also done conversion and deforestation mapping for Mata Grosso, and Southern Pará. Some of these maps may also be available for LBA.

Data Set Introduction:

This dataset consists of 80 files showing various landuse classes and drainage basins in the State of Tocantins.

Objective/Purpose:

These data were originally produced by the Brazilian Agricultural Research Corporation of the Ministry of Agriculture and Food Supply (EMBRAPA), and were processed and projected to geographic coordinates by WHRC to make them more useful for LBA researchers. The purpose of these data are to provide up-to-date knowledge of the extent of cerrado conversion of forested lands in the cerrado region of Brazil.

Summary of Parameters:

Landuse Classes

There is no information accompanying this dataset summarizing the creation of the landuse classes mapped.

The Land Cover Evaluation of the State of Tocantins, Brazil shows 5 land cover classes and 3 drainage classes (see DATA DESCRIPTION: Data Characteristics: Variable Description/Definition, for a complete listing).

Discussion: Not Available

Related Data Sets: Not Available

2. Investigator(s)

Investigator(s) Name and Title:

Eduardo Delgado Assad, Lucimar Moreira, Heleno Bezerra, Jose Lourenço Da Silva; Peter Schlesinger, M.A., Daniel Nepstad, Ph.D., Paul Lefebvre, M.S

Title of Investigation:

Source Data Title:

Land Cover Evaluation of the State of Tocantins, Brazil.

Data Preparation Title:

Land-use in Amazonia and the Cerrado of Brazil: State of Knowledge and GIS Database

Contact Information:

1) Source Data Investigator:

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2) Data Preparation Investigators:

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3. Theory of Measurements

Text

4. Equipment

Sensor/Instrument Description: Not Available

Collection Environment: Not Available

Source/Platform: Not Available

Source/Platform Mission Objectives: Not Available

Key Variables: Not Available

Principles of Operation: Not Available

Sensor/Instrument Measurement Geometry: Not Available

Manufacturer of Sensor/Instrument: Not Available

Calibration:

Specifications: Not Available

Tolerance: Not Available

Frequency of Calibration: Not Available

Other Calibration Information: Not Available

5. Data Acquisition Methods

Seventeen Landsat Thematic Mapper (TM) images were acquired from INPE. A series of 1:250,000 scale prints were made from color composites of the TM bands 2,3, and 4. A series of 1:100,000 scale maps (1968) were acquired from Centro de Cartografia Automatizada do Exército -- Military Automated Cartography Center (CECAUEX) and IBGE.

6. Observations

Data Notes: Not Available

Field Notes: Not Available

7. Data Description

Spatial Characteristics:

The spatial coverage of each map is location dependent, thus only the overall spatial coverage comprises the State of Tocantins.

Location

Min X -53.247

Max X -45.756

Min Y -19.502

Max Y -5.159

In decimal degrees of Longitude and Latitude

Spatial Coverage Map: Not Available

Spatial Resolution: 1:250,000

Projection:

Geographic, Units = DD, Spheroid = NAD27

Grid Description: Not Applicable

Temporal Characteristics:

Temporal Coverage:

Basemaps (1968), satellite images range from July 1994-December 1995.

Temporal Coverage Map: Not Available

Temporal Resolution: Not Applicable

Data Characteristics:

Parameter/Variable:

Land Cover

Variable Description/Definition:

Land Cover Drainage

Forest Principal Rivers

Cerrado Secondary Rivers

Campo Tertiary Rivers

Agropecuaria

Sede

Municipal

Unit of Measurement: Nonw

Data Source:

Agricultural Research Corporation of the Ministry of Agriculture and Food Supply (EMBRAPA), Centro de Cartografia Automatizada do Exército -- Military Automated Cartography Center (CECAUEX) and IBGE.

Data Range: 1-5

Sample Data Record: Not Available

8. Data Organization

Data Granularity:

This dataset consists of 80 tarred and GNU-zipped files of the extension (.TAZ) comprising a total of 12,949,040 bytes.

Data Format:

Within each of the tarred and GNU-zipped files is a compressed file in Arc Info Interchange (.E00) Format.

9. Data Manipulations

Formulae:

Derivation Techniques and Algorithms: Not Available

Data Processing Sequence:

Processing Steps: Not Available

Processing Changes: Not Available

Calculations:

Special Corrections/Adjustments: Not Available

Calculated Variables: Not Available

Graphs and Plots: Not Available

10. Errors

Sources of Error: Not Available

Quality Assessment:

Data Validation by Source: Not Available

Confidence Level/Accuracy Judgment: Not Available

Measurement Error for Parameters: Not Available

Additional Quality Assessments: Not Available

Data Verification by Data Center: Not Available

11. Notes

Limitations of the Data: Not Available

Known Problems with the Data: An incorrect datum, North American Datum 1927 (NAD27) was used to process the data at WHRC, due to a lack of information; the original data were created using the South American Datum 1969 (SAD69). A 40 meter error was calculated by measuring the discrepancy between a number of points using both datums. The amount of error is insignificant considering the scale of the data.

Usage Guidance:

The files in the subdirectory \LEGG, are included because they existed in the source as an artifact of the software used to produce these data originally, and may be necessary for some users in Brazil, because of software differences. Measurements made with geographic analysis software available in North America and Europe will not require those (LEGG) files.

Any Other Relevant Information about the Study: Not Available

12. Application of the Data Set

These data might be used to measure the extent of major land covers in the state of Goias and Tocantins, to aid in land cover classification, and be used as a basis for land use change detection.

13. Future Modifications and Plans

Not Available

14. Software

Software Description:

Two softwares are required to read the files in this dataset:

the shareware tar program tar.exe

the GNU compression utility gzip.exe

Software Access:

The GNU-gzip program (gzip.exe) and shareware tar program (tar.exe) are available via Anonymous FTP from the following site: wuarchive.wustl.edu, in the directory, /systems/msdos/gnuish, files: gzip124x.zip and gnutar.zip

15. Data Access

Contact Information:

1) Source Data Contact:

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2) Data Preparation Contact:

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Data Center Identification: Not Applicable

Procedures for Obtaining Data: Not Available

Data Center Status/Plans: Not Available

16. Output Products and Availability

Not Available

17. References

The files making up this dataset were originally created by Eduardo Delgado Assad, Lucimar Moreira, Heleno Bezerra, and Jose Lourenco Da Silva (EMBRAPA-CPAC).

The original maps were prepared by:

Eduardo Delgado Assad, Lucimar Moreira, Heleno Bezerra, and Jose Lourenco Da Silva (EMBRAPA-CPAC), under GRANT#.

This version of the maps was made available by:

Peter Schlesinger / Dan Nepstad / Paul Lefebvre

Woods Hole Research Center

Landsat TM Satellite Imagery Data Used Ordered by Map Number

Map #Date Acquired PathRow

172 August 1995 221 67

173 August 1994 222 67

199 August 1994 222 66

200 August 1995 222 66

226	August 1995	221	68
227	September 1994	222	68
252	August 1995	222	64
253	July 1994	223	68
254	August 1995	223	65
278	August 1995	222	65
279	August 1995	223	67
280	August 1995	223	64
303	June 1996	223	69
304	August 1995	223	66
305	December 1995	221	69
306	August 1994	220	69
323	September 1994	222	69
324	.	.	.
325	.	.	.
326	.	.	.
343	.	.	.
344	.	.	.
345	.	.	.
346	.	.	.
360
361
362

18. Glossary of Terms

Not Available

19. List of Acronyms

Acronym	Definition
CECAUX	Centro de Cartografia Automatizada do Exército -- Military Automated Cartography Center
CPAC	
DD	Decimal Degrees
EMBRAPA	Agricultural Research Corporation of the Ministry of Agriculture and Food Supply
GNU	GNU's not UNIX
IGBE	Fundação Instituto Brasileiro de Geografia e Estatística
NAD27	North American Datum 1927
SAD69	South American Datum 1969
TM	Thematic Mapper
UnB	Universite Brasilia
WHRC	Woods Hole Research Center

20. Document Information

Document Revision Date:

October 26, 2004

Document Review Date:

Not Available

Document ID:

(currently leave this blank)

Citation:

(currently leave this blank)

Document Curator:

Not Available

Document URL:

http://www.whrc.org/ourwork/mapping/lba_datasets/index.html