Instituto Brasileiro de Geografia e Estatística

Board of Geosciences
Coordination of Natural Resources

LAND COVER AND LAND USE CHANGES IN BRAZIL

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Regional Training Workshop on the SEEA Experimental Ecosystem Accounting in Latin America and the Caribbean

Santiago, Chile, April 2015

CONTEXT

1972 – need to **plan** and to **delimit areas** for the increase of productive activities;

1992 - need to balance **economic growth** and **environmental preservation**;

2009 - need to **assess changes**;

2011 – **SEEA *Central Framework*** approved as statistical international standard by UN Statistical Comission;

- Accounts in Land Cover Changes;
- Connection to Environmental Accounts valuing.

MAIN OBJECTIVE

Monitoring land cover/land use changes for all the brazilian territory, in regular intervals, through a systematic mapping, using a Territorial Grid for Statistical Purposes, in which spatial and statistics data will be integrated.

WHAT HAS CHANGED?

WHAT HAS CHANGED ?

SPECIFIC OBJECTIVES

- Periodic mapping of Land cover/land use, by the interpretation of satellite images complemented with auxiliary informations, when available;
- Validate the results using the statistical data from other surveys of IBGE (i.e. Census, PAM, LSPA) and external data sources;
- Aggregate the results within the cells of the Territorial Grid (1km x 1km) to identify the main land cover-land use in each one of these cells;
- Identify the changes in each cell of the Grid, considering different periods, and using a specific database.

JUSTIFICATION

- This Project is being developed to atend the growing demand of interaction between economy and environment, both as a common field;

- It also attends the external demans of IBGE, an institution that is compromised with technical and scientific community and international agreements related to national statistics;

- Supported by an international methodological framework, which indicates changes in land ecosystems;

- It can be associated with the attempt of UNCEEA, FAO and EEA to establish an international land cover classification system, as support for the Environmental Accounts (JAFFRAIN, 2012);

- The results can be used as a support for the System of National Accounts, valuing the environmental changes.

METHODOLOGY

MODIS IMAGES ACQUISITION AND PROCESSING
(Conversion, Segmentation, Contrast etc.)

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AUTOMATIC CLASSIFICATION

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ASSOCIATION TO PRE-DEFINED CLASSES

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RASTER EDITING

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AUXILIARY DATA INPUTS
(Thematic Maps, Medium Resolution Images, Hidrography, PRODES and TERRACLASS)

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METHODOLOGY

TECHNICAL REVIEW

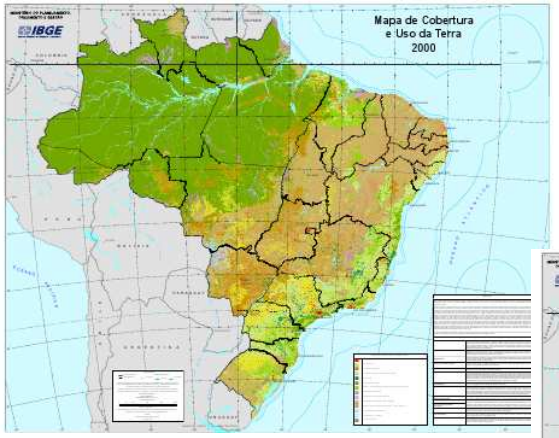
INCORPORATION OF DATA TO THE TERRITORIAL GRID (1 km² cells)

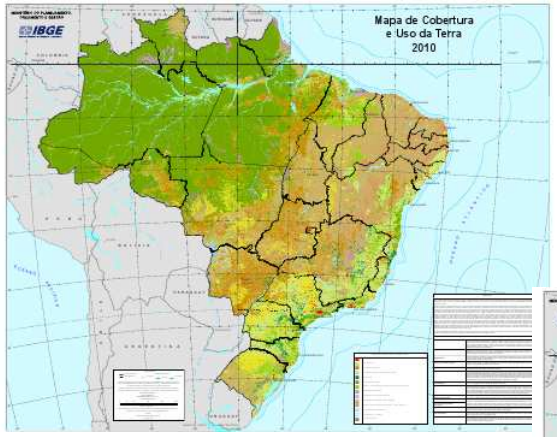
FIELD VALIDATION

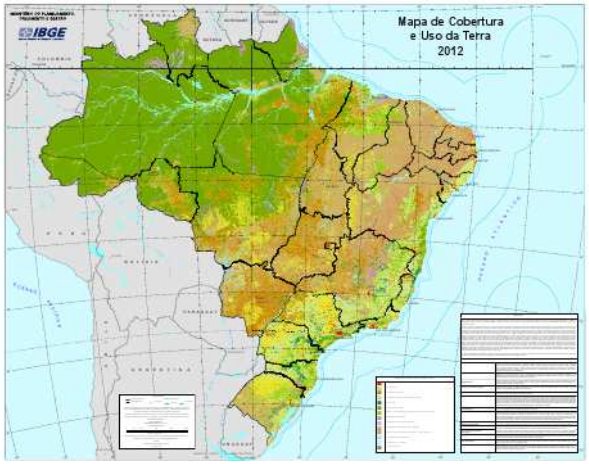
PRODUCTS GENERATION FOR MULTIPLE PURPOSES

LOW COST + FAST + RELIABLE

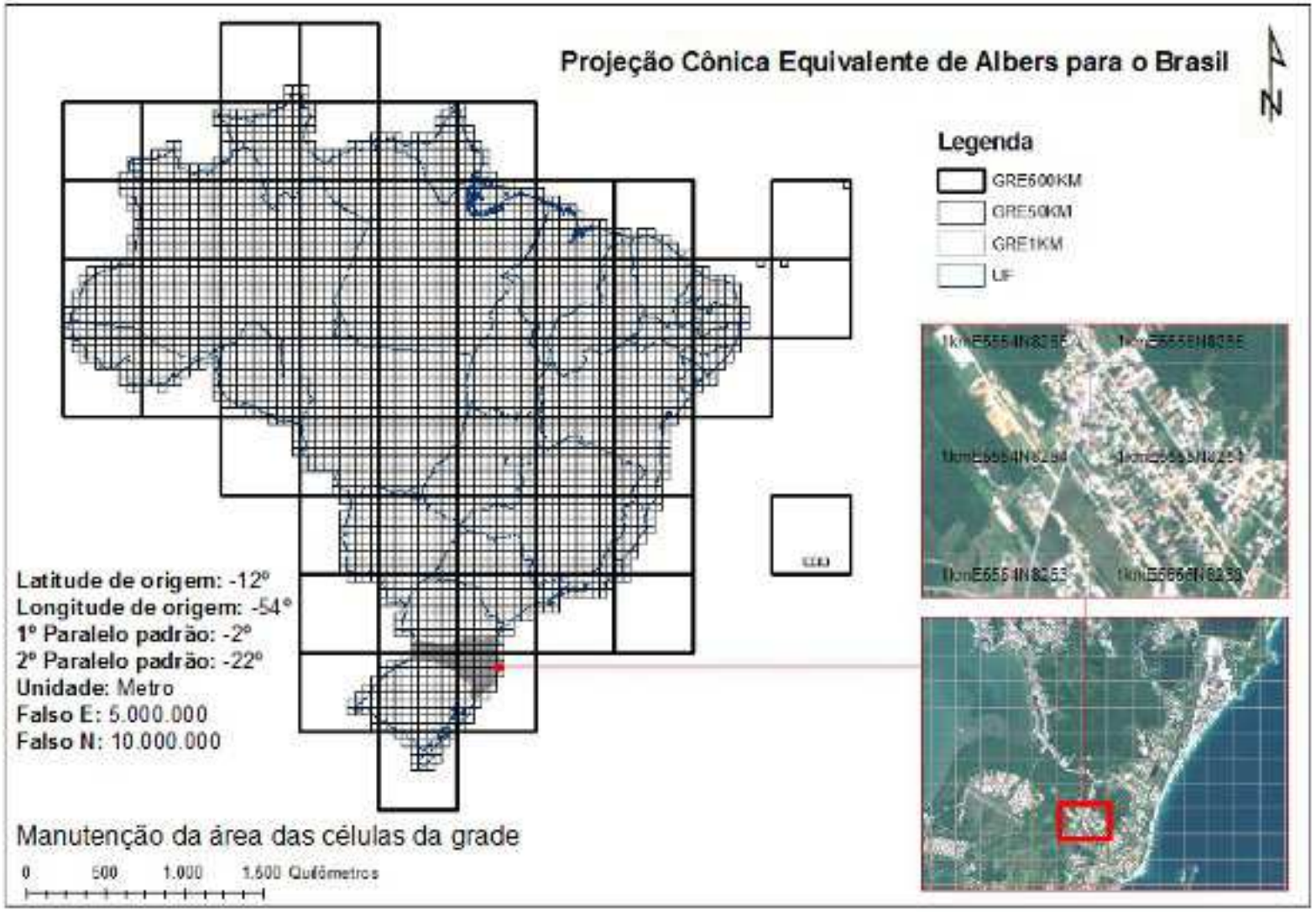
MAPS 2000, 2010 and 2012







Incorporation to the Territorial Grid for Statistical Purposes



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