

# Standardization of Statistical Area Names

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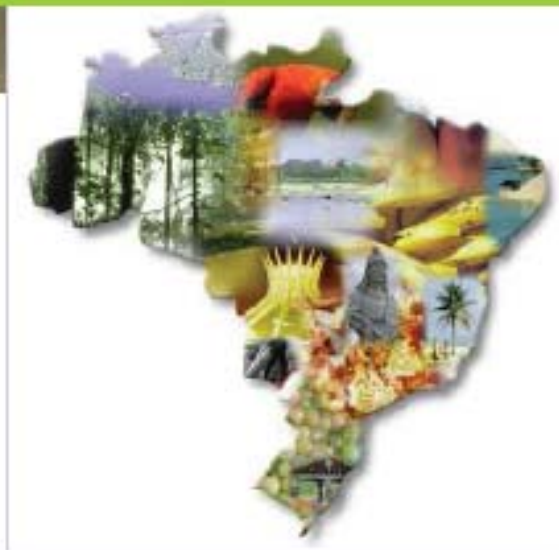
The United Nations Group of Experts on Geographical Names  
International Course on Toponymy

*15 May 2017*

# Brazil - Diversified physical space



BRAZIL	
Land area	8,515,767,049 km <sup>2</sup>
Sea area	3,600,000 km <sup>2</sup>
States	26 and DC
Municipalities (2013)	5,570
Population - 2010 Population Census	190,755,799



Spatial information system, conceived to support IBGE researches, from results production to its dissemination.

It is formed by a graphical base of maps and georeferenced polygonal data containing the territorial structures of the political-administrative division, EAs and physical environment elements, integrated to a set of alphanumeric registers, maintained by a decentralized way.

The Enumeration Areas (EA) are the smallest territorial units for data collection and statistical analysis in IBGE Geospatial Data. Similar to the census tracks in UK and census blocks in USA.

## Disclosure Areas

Areas legally instituted at states and cities, related to DPA - Political-Administrative Division, in force at the trigger date of census surveying, which meet the disclosure requirement of census data. DPA portrays state borders and limits for cities, districts and subdistricts.

According to the 1988 Constitution, DPA management is responsibility of states and cities; intracity territorial structure management is under cities' competence as well.

- Federation Units - UFs (Federal District and states)
- Cities
- Districts
- Subdistricts, Administrative Regions (RAs) and zones
- Urban area
- Isolated Urban Area - AUI
- Rural area.

### Ascertainment areas

Geographical areas defined on maps and logged on the Territorial Base to serve as unit of space to ascertain statistic data in different territory environments, aiming to meet the growing demand for disclosure on these subjects.

Disclosure of ascertainment areas depends, however, on partnerships established between IBGE and the agencies in charge of ascertainment areas (when they exist) such as, for example, Fundação Nacional do Índio (FUNAI), in charge of Indian Lands (TIs).

Ascertainment areas:

- Urban City or Village
- Non Urban City or Village
- Neighborhood
- Subnormal Clusters
- Rural Clusters
- Settlement Project (PA) Agro-villas
- Conservation Units (UCs)
- Indian Lands (TIs)
- Indian Villages
- Quilombola Lands (TQs)
- Quilombola Communities

# Mangaratiba municipality

Ministério do Planejamento, Orçamento e Gestão Destques do Governo

**B O G**  
Base Operacional Geográfica **IBGE**

Atualização Consultas Espaciais Consulta Formulários Manuais Gestão

Setores por Situação - Município | Mapa do Setor

**:: Consultas Espaciais - Setores por Situação, por Município**

BOG

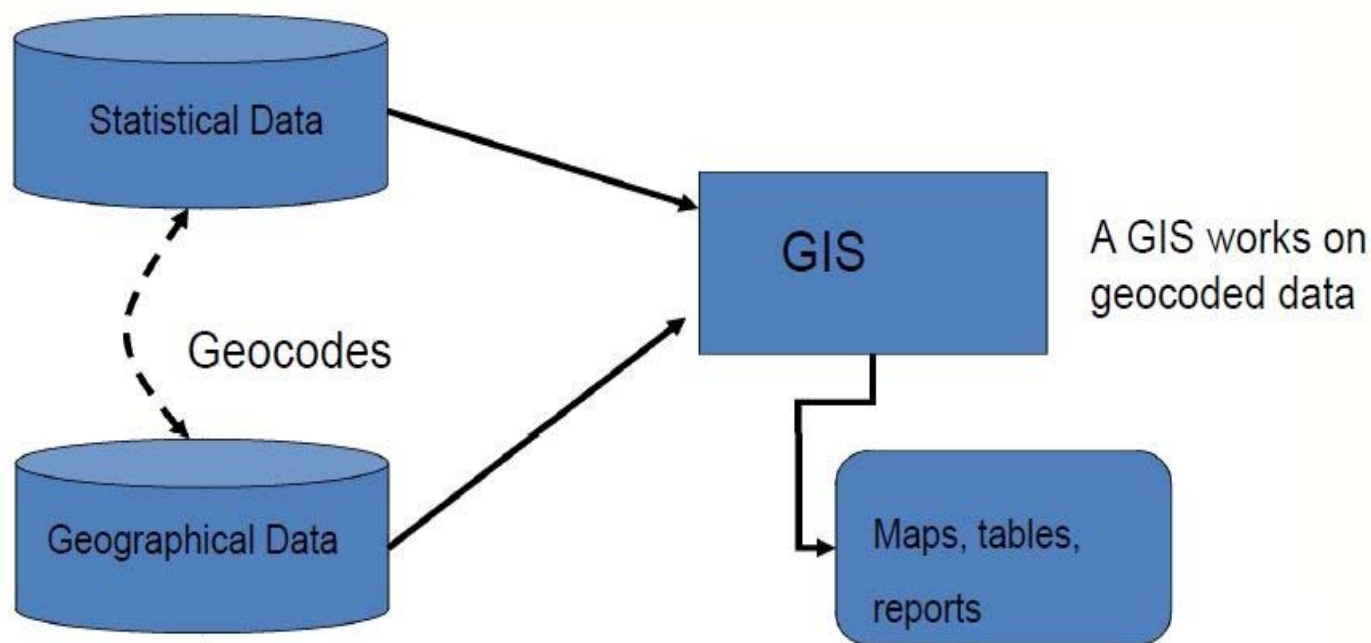
UF

Município

Consulta a Setores, por Situação, no MUNICÍPIO:3302601;ANO:2016. Para saber Dados de um Setor Clique no Botão de Informações no canto superior esquerdo do mapa e depois clique no Setor. Visualizador De

- Base
  - Bing
  - OpenStreetMap
- IBGE
  - Mosaico RapidEye
  - Ortofotos
- ColorMap
  - Sit 1 - Urbano
  - Sit 2 - Urb./Rural
  - Sit 3 - AUI
  - Sit 4 - Ext. Urbana
  - Sit 5 - Povoado
  - Sit 6 - Núcleo
  - Sit 7 - Lugarejo
  - Sit 8 - Rural
  - Município
  - Estabelecimentos Agropecuários - 2006

Correct and precise coding of census sectors to recover disclosure and ascertainment areas and consequently integrate statistic and geospatial information



Source: “Linking People and Socio-Economic Information to a Location: Integrating Statistical and Geospatial Information”, Amor Laarib, 2014



## Brazilian Territorial Base

Each EA has a number which allows its identification in relation to other census sectors in a unique way: geocode.

Geocode aims to allow reference of lots of information by collection territorial unit, being used as a recovery key of several registries in Territorial Base. This number is formed by 15 digits.

STATE		MUNICIPALITY					DISTRICT	SUBDIST	EA					
3	3	0	2	6	0	1	0	5	0	0	0	0	1	1

Source: IBGE, Census 2010

That way, it is shown that territorial units that compose Brazilian DPA will always be associated to a unique code that allows integration of territorial base to the most diverse statistics data base.

On the scope of Census, BET is the registry responsible for territorial information (codes, names and territorial sub ordinance) of disclosure and ascertainment units registered which are disseminated at IBGE's publications and products.

Its conception makes the recovery of DPA's historic evolution viable, as well as recovery of territorial snapshots for dates of interest :

- territorial levels,
- level hierarchy,
- dates,
- legislation on creation,
- installing, extinction,
- alteration of toponymy and other attributes.

The current levels are:

1- Brazil (level 0000);

2- Levels referring to regional division:

- Geographic Region (level 0001)
- Geographic Mesoregion (level 0008) and Microregion (level 0009)

3- Levels referring to territorial division, registered according to legislation:

- Federative Unit (level 0002)
- City (level 0005)
- District (level 0006)
- Subdistrict (level 0007);

4- Levels referring to Census ascertainment areas:

• Neighborhoods (level 0102), Indian Lands (0105) and Environmental Conservation Units (0106) - territorial structures legally established

• Rural Clusters (level 0103), Isolated Urban Area (level 0107) and Subnormal Clusters (level 0101) - registered according to concepts adopted during construction of Territorial Base

# Mangaratiba municipality



## BET

BANCO DE ESTRUTURAS TERRITORIAIS



Consulta

Formulários

Documentação

Atualização

Mapa com Quantitativos | Níveis e Unidades Territoriais | Por Nome | Relatórios | Geração de Arquivos

### :: Consultas

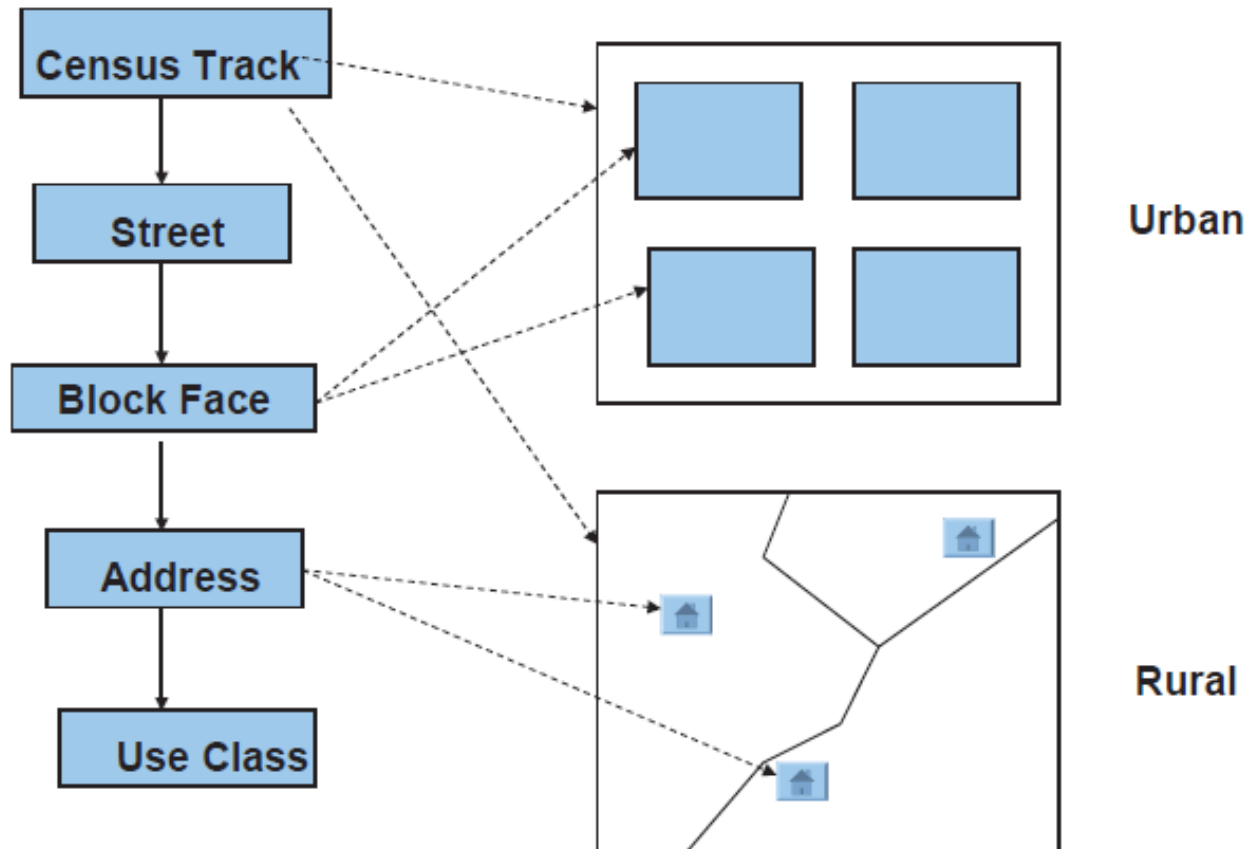
Nível  Unidade

#### RESULTADO DA CONSULTA A UNIDADE TERRITORIAL 3302601

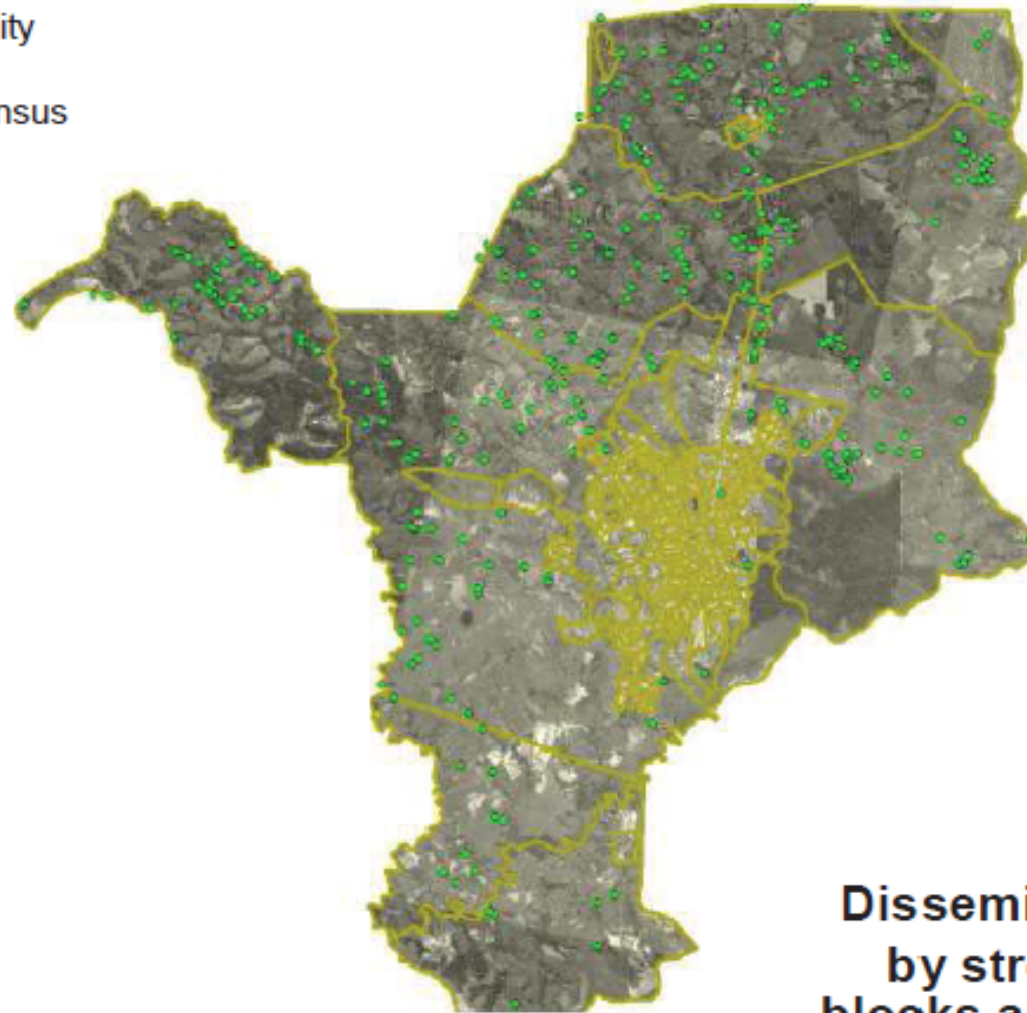
Código da Unidade	Nome da Unidade	Nome Padrão da Unidade	Lei de Criação	Data de Criação	Data de Instalação	Data de Extinção	Data de Cadastro	Outras Informações
3302601	Mangaratiba	MANGARATIBA	0	31/10/1831	01/01/1939			Un. Inferiores ▾

#### UNIDADES E NÍVEIS INFERIORES VINCULADOS

Código do Nível	Código da Unidade	Nome da Unidade Territorial	Data de Início da Subordinação	Data do Fim da Subordinação
0006	330260105	Mangaratiba	01/01/1980	
0006	330260110	Conceição de Jacareí	01/01/1980	
0006	330260115	Itacurussá	01/01/1980	
0006	330260120	Vila Muriquí	01/01/1980	
0101	33026010001	Axixá de Baixo	31/03/1988	
0101	33026010002	Praia do Saco	31/03/1988	
0101	33026010003	Avenida Litorânea 1	27/05/2009	
0101	33026010004	Avenida Litorânea 2	27/05/2009	
0101	33026010005	Morro do Cristo	27/05/2009	
0101	33026010007	Praia Pequena	27/05/2009	
0101	33026010008	Cemitério	27/05/2009	
0101	33026010009	Nova Mangaratiba	27/05/2009	
0101	33026010010	Rua da Palha	27/05/2009	
0101	33026010011	Litorânea da Pedreira	27/05/2009	
0101	33026010012	Cachoeira	27/05/2009	
0101	33026010013	Pau Rolou 2	27/05/2009	
0101	33026010014	Pau Rolou 1	27/05/2009	
0101	33026010015	Sai de Dentro	09/06/2009	
0101	33026010016	Vila Benedita - Rua Aritana	28/09/2011	
0101	33026010019	Morro do Serafim - Boa Vista	28/09/2011	
0103	330260100001	ACAMPAMENTO	31/03/1988	14/12/1999
0103	330260100002	SERRADO	31/03/1988	14/12/1999
0103	330260100003	Comunidade Quilombola Ilha de Marambaia	20/12/2016	
0107	3302601001	Bela Vista	29/06/2009	



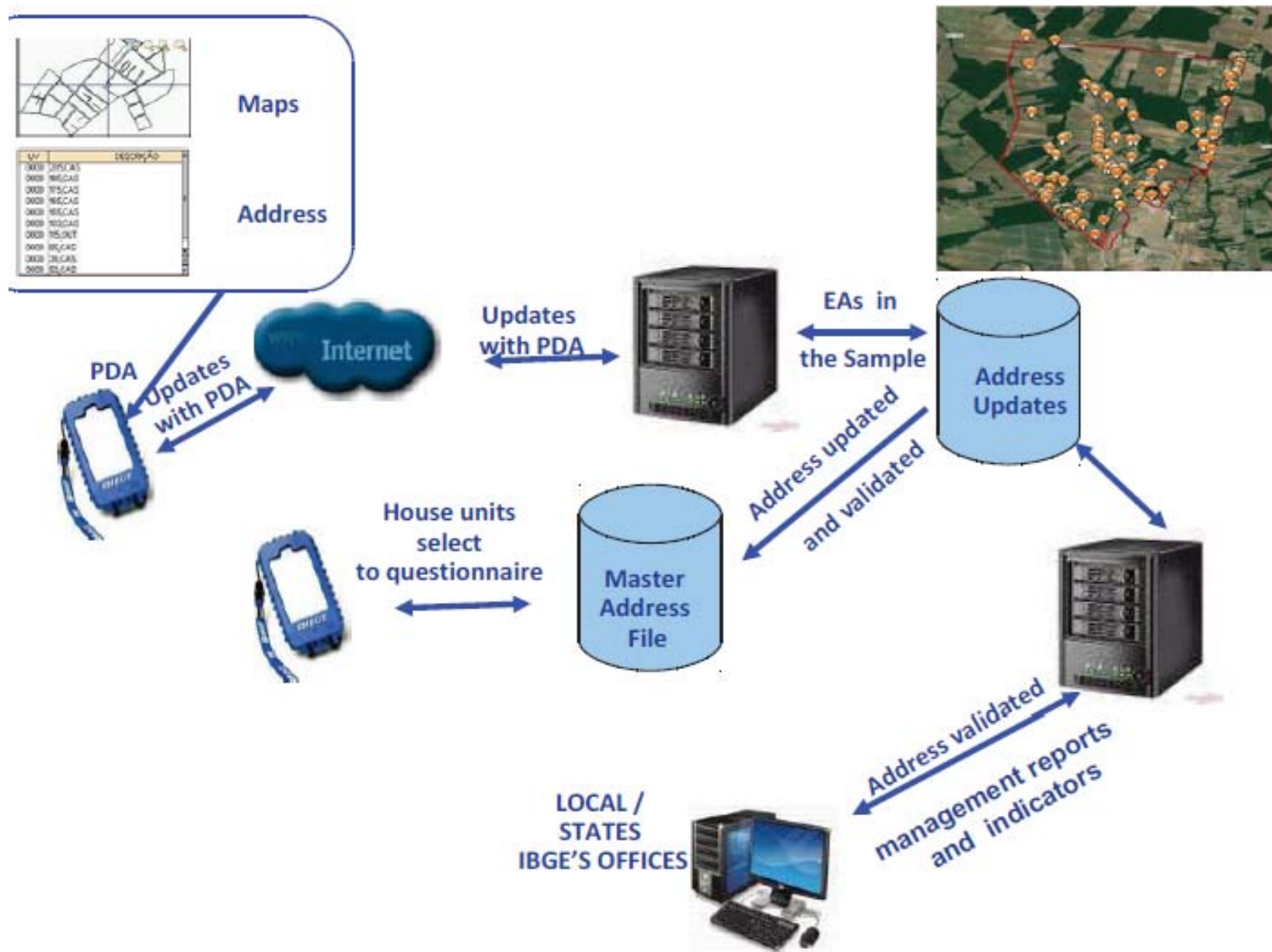
Rio Claro municipality  
SP State  
Results from 2010 Census



**Dissemination  
by streets,  
blocks and user  
defined areas**

The statistical infrastructure represented by these registers opens several possibilities for the Brazilian agricultural and statistical surveys

# Update in Continuous Surveys



These geocodes make identifying territorial units whose names are not yet standardized easier.

This way, possible divergences in geographic names used by statistics department and geography department are voided allowing unequivocal reference to spatial units.

The use of geocodes meets the principle of uniqueness, however, it does not meet the need for standardizing geographic names since this activity requires analysis of linguistic, cultural, historic and ethnic aspects, among others.

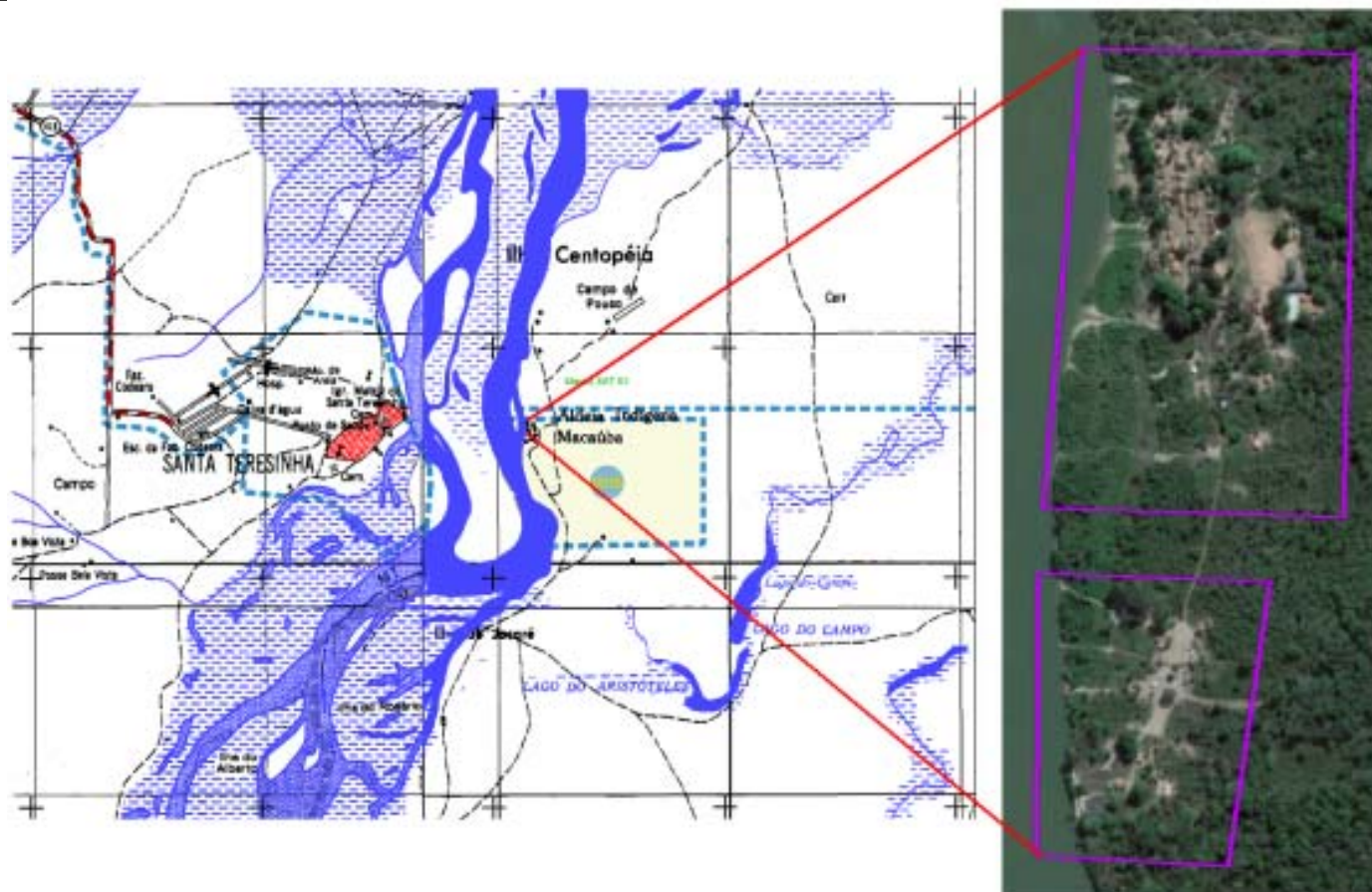


Example to refine records regarding indigenous lands and villages and their names:

The conceptual structure and database systems did not change in terms of the methodology, and progress was made in the acquisition of better inputs.

Access to RapidEye (2011 and 2013) satellite imagery with spatial resolution of 5 meters covering all of Brazil, as well as portions of the territory that have better resolution images. This means a better possibility of identifying villages as well as the mapping of roads and access roads, that is, an improvement in rural and urban maps in areas where spatial reference was often precarious. In addition, with the best inputs of satellite images, the EAs can be better adjusted to the official polygons.

# Prospects for the Agricultural Census



Example of representation of the indigenous village in the municipal map of 2010 (left) and the EAs recomposed with images in the current mesh.

Source: "GEOSPACIAL INFORMATION ON BRAZILIAN INDIGENOUS LANDS AND VILLAGES FOR THE 2020 DEMOGRAPHIC CENSUS", IAOS 2016

In the 2010 Census, each rural householding interviewed was identified with a geographical coordinates point (latitude and longitude), making it possible that the data were directly linked to a smaller structure than the census sector.

With this more precise information about the location of the villages, it was possible to refine the information, the geographic names and to delimit sectors where they did not exist.

# Prospects for the Agricultural Census

Information on localities, geographic names, color or race was used to identify new indigenous villages by the Territorial Base.



**Indigenous village located by the points (in red) of the 2010 Census, where it will be possible to create a new census sector and improve the adjustment of the indigenous land sector (red line).  
Source: IAOS 2016**

The integration of statistical and geoscientific data, in terms of the territorial breakdowns for dissemination and verification, can take place through two logics: the spatialization of statistical data and the identification of specific territories and geographical names.

The first is to choose a variable and observe its spatial behavior, grouping similar areas statistically.

The second part of the qualitative identification of certain specificities spatial delimitation with the possibility of retrieval of statistical information.

Regarding the spatial data, the spatial distribution of existing microdata on the different populations allowed an improvement in the delimitation of the census tracts of various territories and geographic names.

