



"GeoSUR develops geographic services on a free-access web platform"

Inside this Issue:

- The interview of the month with Wadih Scandar-Neto, Director of Geosciences of IBGE, Brazil.
- Two specialized contributions: Daniel Paez, regarding the alignment of UNGGIM: Americas and FIG; And Santiago Borrero and Emily Carrera on the PAIGH-GeoSUR Metadata Survey.
- From the coordination of GeoSUR, Jesus Suniaga reflects on the "light" and "advanced" visualizers.
- From the PAIGH, Rodrigo Barriga refers to the publication on Fundamental Geospatial Data (DGF) v2.

The Editor's Note

In this edition, Wadih Scandar-Neto, talks about global activities of the IBGE of Brazil linked to the joint work program of UNGGIM: Americas, the PAIGH, and GeoSUR. The two specialized contributions remark both future events, and results of a survey on metadata. The permanent columns on one hand share a reflection on visualizers; and on the other, refers to the publication on the conceptualization of Fundamental Geospatial Data (FGD) version 2.

GeoSUR newsletter seeks to disseminate GeoSUR Program's achievements and characteristics as well as events, projects and best practices for the application of geographic information into sustainable development and decision making in the region, as part of the Geospatial Data Infrastructure of the Americas. The Portuguese translation is performed by **Eduardo Freitas**, Manager of the GEOeduc Institute of Brazil. Please send your contributions and suggestions to: **Nancy Aguirre**, Editor of GeoSUR Newsletter, at: cnaguirre@ipgh.org.

Novelties in GeoSUR

GeoSUR Award Sixth Competition, year 2017

Sixth issue of the GeoSUR award coincides with the tenth anniversary of the GeoSUR Program; and so the technical presentation of the winning project will take place at the 10th meeting of GeoSUR to be held on the 25th of October, 2017, in Panama City.

Institutions or individuals with their origins in any Latin American or Caribbean country may participate. The terms of the Call, are available at: <http://www.ipgh.org/geosur/geosur-award-2017.html>. Applications must be submitted to the jury at the General Secretariat of the PAIGH exclusively by electronic means to the address: premios@ipgh.org by **August 31st**, 2017.

Each year the award is granted to the outstanding activity arising from the relationship of the participating GeoSUR Program institutions based on the geospatial data available on the geoportal, on the institutions themselves, and on the use of geospatial information services offered in Latin America and the Caribbean.

Special consideration will be given to the facility with which spatial data can be accessed, applied and used, on the basis of the products, services or spatial data bases of the candidates.

Recent Previous Winners

Fifth award (2016): Use of the Spatial Data Infrastructure of the Military Geographic Institute of Ecuador for the immediate response to a natural disaster; case of the earthquake of Ecuador in 2016.

Fourth award (2015): Digital Map of Mexico, Institute of Statistics and Geography (Mexico).

Third award (2014): Computer platform to develop systems for monitoring, analyzing and warning of environmental extremes, National Institute for Spatial Research (Brazil).

[Source: Rodrigo Barriga, Secretary General of the PAIGH]



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Wadih João Scandar-Neto, is an Agronomist Engineer at the University of Sao Paulo, with a Master's Degree in Population Studies and Social Research from the National School of Statistics. He has been working in the Geosciences Department of the Brazilian Institute of Geography and Statistics (IBGE) since 2000, where he coordinated the production of the series of Sustainable Development Indicators, published since 2002. He participates in international meetings and working groups promoted by the United Nations Environment Program, Statistical Division of the United Nations Economic Commission for Latin America and the Caribbean. Currently, he is Director of Geosciences of IBGE.

Participatory work in the region is the right path, says Wadih Scandar-Neto, Director of Geosciences at IBGE, Brazil

The Directorate of Geosciences of the Brazilian Institute of Geography and Statistics (IBGE) is in charge of information production, research, other products and services in cartography, geography, geodesy and natural resources of Brazil. Wadih Scandar-Neto, shares some of their internal and international initiatives:

IBGE's international activities are important for the region. In this sense, a new Workshop for the construction of the Integrated Map of South America (MIAS) was recently carried out. What is your opinion on the results achieved and the projection of this activity?

This is the second workshop hosted by the IBGE; the first one was the Integrated North Andean Map (MIAN), while the MIAS is a segment for the integration of all South America, where the IBGE's participation becomes explicit due to the number of borders with our country.

We believe that this way of working - with direct participation of technical staff of geographic institutes of the region- is the right way forward in the search for an effective multilateral collaboration since information that crosses borders must be treated by the countries involved as to achieving standardization of cartographic representations, and thus to ensuring the generation of a continuous map of the Americas.

According to conclusions of this workshop, the results achieved are quite promising. The formal participation of countries of South America demonstrates the commitment and value that these

countries of the region give to the continuous improvement of common mapping in digital means.

Potential use for formulation and evaluation of regional and national policies are immense. Just as an example, the question of transactional water regulation depends heavily on an integrated cartography in their planimetric and altimetric aspects. We are confident that this type of cooperation will continue and will be extended to more topics of interest to the geoinformation community.

Brazil currently chairs the important United Nations Statistical Commission. How can this Commission help the work being done by UN-GGIM:Americas for the development of SDI in the Americas?

At the global level, IBGE actively participates in the work of UN-GGIM as a member of the Group of Experts on the Integration of Statistical and Geospatial Information, and is also a member of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGS) representing the countries of Mercosur, and Chile being member of the Working Group on Geospatial Information in this association.

These activities are closely linked to the joint work program of UN-GGIM:Americas, PAIGH and GeoSUR. Thus, it is perfectly possible that, under the leadership of the UN-GGIM:Americas board of directors, the progress made with these high-level forums may be improved and adapted to the reality of countries of the region.

"The IBGE considers this type of South-South cooperation extremely important and will seek to intensify it whenever it is necessary and possible, since initiatives such as the MIAN and MIAS, among others, provide enhanced integration among the South American countries"

Wadih Scandar-Neto... continues

Which new developments are expected in 2017 for the Brazilian Geospatial Data Portal (GIS Brazil) and the National Spatial Data Infrastructure (INDE)?

In the next period, a new version of data visualizers of the INDE -VINDE 2.0- is planned, based on usability studies conducted by IBGE technicians in collaboration with the PAIGH; in addition to the internal development of IBGE's aggregated data computer recovery tools that allow visualization of practically the entire collection of IBGE's aggregated statistics with geospatial representation (Maps and Cartograms) that are available as geoservices according to standards of the National Spatial Data Infrastructure INDE (OGC logo). There is also a working group focused on the harmonization of statistical metadata

standards (DDI and SDMX) with the geospatial metadata standards (ISO 19115) articulated in the Brazilian Geospatial Metadata Profile. I believe that this will be a very important contribution to the automatic and large-scale use of spatialized statistical data.

How do current cooperation with the PAIGH and the GeoSUR Program is valued from the IBGE?

The IBGE considers this type of South-South cooperation extremely important and will seek to intensify it whenever it is necessary and possible, since initiatives such as the MIAN and MIAS, among others, provide enhanced integration among the South American countries.

This year the GeoSUR Program celebrates its tenth anniversary. The 10th GeoSUR Meeting will be held on October 25, 2017 in Panama City, in the framework of the 21st General Assembly of the PAIGH, which will take place from October 23 to 27



GeoSUR Program: Basic Figures

Years in Operation (2007-2017)	10
Participating Institutions	106
Beneficiary Countries	26
GeoSUR Network Specialists	384
Officials Trained	316
Available Digital Maps	1,123
Available Metadata Files	17,956
Available Metadata in GeoSUR Catalog	58,675
Map Services (WMS) (complying with OGC and ISO 19115 standards)	459
WFS Services	39
Map Viewers	118
Catalog Services (CSW)	18

Webpage: <http://www.geosur.info>

Specialized Contribution:

Alignments for the Academic Network of the Americas in geo-information management, and the Cadastre for Disasters

By Daniel Paez, University of "Los Andes", UN-GGIM: Americas, FIG

The United Nations World Academic Network on Global Geospatial Information Management was proposed in New York on December 7-9, 2015 at the chart of the United Nations global organization for global geospatial information management with participation of more than 70 countries, in order to establish an academic network as a tool to include academia within the geospatial information global management.

An exploratory meeting of the academic network was held on April 19, 2016 as a side event to the Fourth high-Level Forum of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) in Addis Ababa, Ethiopia. Following recognition of first meeting of the academic network and based on the Addis Ababa Declaration at the conclusion of the Fourth High Level Forum, the establishment of an academic network was facilitated as an arm for strategic knowledge, research and training to support UN-GGIM activities and objectives.

The World Academic Network is led by Professor Abbas Rajabifard of Australia and is composed of an executive committee (president, secretary) and an 8-member advisory committee, which includes professors from Austria, Belgium, Canada, China, Italy, Nigeria, the Netherlands and United States.

As Secretary of the World Academic Network, I have been responsible for forming and leading the regional Academic Network of the Americas

(ANA), which was established last April 5th at the 4th session of the UN-GGIM Americas Committee, attended by representatives of 32 countries in the city of Santiago, Chile.

The main objective of the UN-GGIM Academic Network of the Americas (ANA) is the scholarly support to purposes and objectives of the Committee of Experts on Global Geospatial Information Management (UN-GGIM) in the Americas region. The UN-GGIM Academic Network of the Americas is made up of recognized universities and educational centers involved in research, geospatial information development and related topics in different parts of the Americas region.

Next meeting of the ANA will be held on **December 4-8** in Cartagena, Colombia, during the Conference and Annual Meeting of the International Federation of Surveyors (FIG in French).

At this annual meeting the FIG Commission 7 will also include a conference focused on "Cadastre for Emergencies and Disasters: Challenges and opportunities for islands and coastlines." It will convene experts worldwide to share and learn from latest developments on cadastre and land administration, as well as experiences and knowledge related to particular arenas and activities. Topics such as Land Registry Reforms and Multipurpose Cadastre, Soil-based Land Information Systems, Cadastral Surveys and Cartography, Registration and Land Tenure, National and International Borders, and Soil and Marine Resource Management, will be addressed among others.



Daniel Paez, Director of the Group of Studies on Urban and Regional Sustainability (SUR Group), University of "Los Andes", Colombia; Secretary of the United Nations World Academic Network on Global Geospatial Information Management, and Chair of FIG Working Group 7.2 (on land management for climate change and pre and post disaster areas).

"Next meeting of the ANA will be held on December 4-8 in Cartagena, Colombia, during the Conference and Annual Meeting of the International Federation of Surveyors (FIG in French)"

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Specialized Contribution:

Challenges for the Latin American Metadata Profile LAMP v2

By Santiago Borrero and Emily Carrera,
GeoSUR Program

As part of activities for the Latin American Metadata Profile LAMP v2 preparation and in particular for the development of a metadata editing service –to be available in the new version of the GeoSUR Program portal currently under preparation–, during April and May this year the PAIGH and GeoSUR undertook the task of conducting a survey among institutions that produce basic data in the region, in order to identify key management aspects of the available metadata catalogs in participating geographic institutes.

The survey, which consists of only five basic questions, yields interesting results to GeoSUR users, and to specialists who are responsible for developing one of critical aspects of spatial data infrastructures -such as the metadata catalog-, without which it is difficult having access to the spatial databases of each institute.

Therefore, on the basis of received responses it was pointed out that 64.2% of geographic institutes have GeoNetwork as their metadata catalog management and editor tool, while 21.4% of them use commercial software.

More so, two organizations use tools developed at home, although one of them is in the process of migrating to GeoNetwork and plans to leave behind its own development (Figure 1).

However, maintenance of the used tools raises doubts: Although 78.6%

indicate that the software provider offers this service, in fact 57.2% have actually contracted their maintenance.

But what is really interesting is that in general the examined institutions do not have their metadata conforming to current metadata standards, namely the ISO 19115-1: 2014.

And why is this point relevant? It happens that LAMP v2 is developed in accordance with the ISO 19115-1: 2014 standard, and although a training course on the new profile will be provided by the PAIGH and GeoSUR with the technical support of the CNIG of Spain, in practice it is required that institutions take a step forward and adjust their metadata to current conventions.

We also do not believe that this is an insurmountable difficulty, but in the short term this is a challenge for the best implementation of LAMP v2.

79% of the organizations responding to the survey on their own behalf expressed their clear interest and desire to be updated to ISO 19115-1: 2014, although three organizations stated that currently they are not considering any update.

In summary, we think that in GeoSUR we are well on the way to preparing ourselves to use GeoNetwork as the software to provide the metadata editing service from our geoportal and to incorporating the LAMPv2 scheme (of course, according to ISO 19115-1: 2014), since it is the most used metadata catalog editor and software in the region.

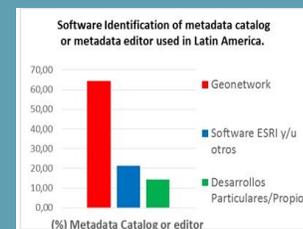


Figure 1

“...the PAIGH and GeoSUR undertook the task of conducting a survey among institutions that produce basic data in the region, in order to identify key management aspects of the available metadata catalogs in participating geographic institutes”

“...on the basis of received responses it was pointed out that 64.2% of geographic institutes have GeoNetwork as their metadata catalog management and editor tool, while 21.4% of them use commercial software”

From the CAF-GeoSUR Program

By Jesus Suniaga, jsuniaga@caf.com

About Light and Advanced Visualizers

In this opportunity I want to share a topic that has recently caught my attention, while in the making of the GeoSUR Program Geoportals redesign. It is about the so-called (in Spanish) map "viewfinders" or map "visualizers", subject of which I allow myself to share two anecdotes.

In the first instance, I was surprised that (in Spanish) there is no standardized denomination to refer to these map services. The terms "viewfinder" and "visualizer" are used interchangeably to call these services in the region.

This brings me to mind, a recent working conversation between colleagues from the GeoSUR Program and collaborating institutions of the Program, in which we had the participation of colleagues from the National Geographic Information Center of Spain (CNIG), and Professor Antonio Rodriguez casually drew our attention to the use -"in correct Spanish"-, of the term "visualizer" to refer to these tools.

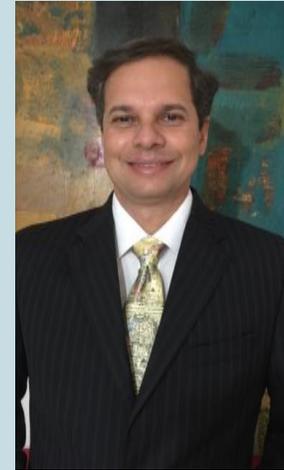
Reviewing these terms in the dictionary of the Royal Spanish Language Academy, I dare to summarize in my own words both concepts: A visualizer is a device in the form of a screen that allows the visual representation of information, in our case, geographic information thematic layers. While viewfinder, refers to optical devices through which someone looks. It is thus that viewfinders are the optical devices of cameras and the sights of firearms.

On the other hand, I want to refer to the use of visualizers (in Spanish) beyond their original function. There are cases in which visualizers are a kind of hybrids that simultaneously harbor an assortment of applications that by their level of complexity deserve to be offered as independent tools as to avoid a functionality overload that may confuse a common visitor.

This may be the case with some "advanced visualizers". Allow me to compare them with a new toy room, where the visitor can be stuck walking from toy to toy until bored, leaving the room without obtaining the expected map. I have known experiences related to lost-users who leave visualizers -like other tools- because of their complexity of functions, which results both in the loss of users as well as of their education as recurrent consumers of these tools that are so useful in Planning.

It is necessary to reflect on the way in which we serve the applications and tools in our geospatial information portals, identifying those more advanced that should be used independently for more specialized users, classifying them by complexity, and facilitating the use of "light visualizers" for less expert users to enable them to see and extract geospatial information more easily and effectively.

I hope to share with you soon the GeoSUR Program geoportals redesign experience, a task that we have been achieving with the technical support of our colleagues from the CNIG, the PAIGH, and the USGS.



Jesus Suniaga, GeoSUR Program Coordinator

"...I want to share a topic that has recently caught my attention, while in the making of the GeoSUR Program Geoportals redesign. It is about the so-called map viewfinders or map visualizers..."

"It is necessary to reflect on the way in which we serve the applications and tools in our geospatial information portals, identifying those more advanced that should be used independently for more specialized users, classifying them by complexity, and facilitating the use of 'light visualizers' for less expert users..."

From the PAIGH's Secretary General

By Rodrigo Barriga

As a contribution to the development of Spatial Data Infrastructure (SDI) of the Americas, main regional organizations for its consolidation (PAIGH, SIRGAS, UN-GGIM: Americas and the GeoSUR Program) have established the so-called Joint Action Plan 2016-2020 to accelerate the development of the SDI of the Americas, which main purpose is to harmonize the respective efforts and work plans as to promoting specialization and synergy while avoiding duplication, thus optimizing the expected results.

Therefore, the PAIGH takes its role as a key articulator of regional processes and as a capacity builder corresponding to its institutional nature as a specialized agency of the OAS. On the other hand, SIRGAS fulfills its function as responsible for defining the geodetic reference framework for the region; UN-GGIM: Americas is responsible as manager of regional policies and as a direct link with the United Nations System, while GeoSUR acts as a service and application developer from the geospatial databases of participating organizations in this program at institutional and regional levels.

In this context and in direct relationship with the PAIGH's Pan American Agenda, the Institute has been asked to propose the definition and conceptualization of Fundamental Geospatial Data (FGD).

The respective concept is related to the common denominator of all thematic geographic information data sets, which are used to

optimizing most applications, to improving interoperability, and thus to increasing and making more efficient the use of territorial data.

They comprise a common, essential and basic structure of all kinds of geographic applications and contexts, and in the most varied application fields. Thus, they are intended at sharing data sets between users, and aimed at facilitating application development.

Each data item may be provided by different suppliers who produce antecedents in their daily occupations, including road management, urban planning, land management, tax collection, natural resources, environmental management, etc.

Notwithstanding the existence of many data providers, the delivered data sets must be integrated for the purpose of creating fundamental sets out of these.

Once these data sets are shared among users, these do not have to be developed again, thus avoiding duplication efforts.

Hence, it may be said that the fundamental geospatial data are geographic data produced for the purpose of georeferencing any other thematic data set.

They provide a neutral and abstract model of reality, which assist the generation of thematic or particularized models in different application fields. Therefore, they fulfill similar functions as the basic / topographic cartography, and are intended for general purposes.



Rodrigo Barriga, Secretary General of the PAIGH

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From the PAIGH's Secretary General... *continues*

The FGD have been proposed taking as input: 1) the themes considered as fundamental data in the countries of the American continent, 2) the data considered in the Global Map of the Americas (GMA) – an initiative of the PAIGH connected to the global counterpart-, 3) the experience derived from projects of Integrated Maps of the Americas, and 4) the conceptual definition of the PAIGH, which conceives fundamental data as an instrumental resource that may be said to have no practical application as such but serve as basis for the development of all kinds of thematic applications and are designed for georeferencing data on other topics. The proposed FGD are:

- Geodetic Reference Framework
- Topography
- Administrative units
- Hydrography
- Transport networks
- Populations
- Cadastre
- Addresses

- Geographic names
- Images
- Land cover

For the drafting of this proposal the General Secretariat of the PAIGH received suggestions from UN-GGIM: Americas, SIRGAS, GeoSUR, and the National Geographic Information Center (CNIG) of the National Geographic Institute of Spain. The conceptualization and related foundations were distributed to these organizations, both in Spanish and English, as to providing a consultation document and a foundation for a regional proposal on the subject, and as a reference for projects such as: The Integrated Map of the Americas, the Catalog of Geographic Objects and Symbols of the PAIGH (COGS-PAIGH), and other initiatives that may contribute to the Joint Action Plan 2016-2020 to accelerate the development of the SDI of the Americas, and thus to achieving Sustainable Development Goals.

The complete FGD document may be reached at [this link](#).



Version 2, May 17, 2017

"For the drafting of this proposal, the General Secretariat of the PAIGH received suggestions from UN-GGIM: Americas, SIRGAS, GeoSUR, and the National Geographic Information Center (CNIG) of the National Geographic Institute of Spain. This conceptualization and its foundations have been distributed to these organizations, both in Spanish and English, as to providing a consultation document and a foundation for a regional proposal on the subject..."



How to discover and visualize data in GeoSUR?

Flooded Areas Layer from January to Current - Search and Selection in the GeoSUR Viewer

By Miguel Blanco, Consultant of Information Technologies for GeoSUR

Now the sequences to discover and visualize data may also be revisited on videos of the [GeoSUR YouTube channel](#). In this example we will show the sequence for searching and selecting the Flooded Areas layer from January to the date in the regional map viewer of the GeoSUR portal (www.geosur.info).

How to discover and visualize... continues

Please follow the steps below (which you can reexamine on the GeoSUR YouTube channel):

1. In the GeoSUR Portal main menu click on "Regional Map Viewer."
2. After loading the Viewer click on "Map Layers" and scroll down the list until you locate "LAC Floods – January to current" (Figure 1).
3. By clicking on the box to the left the named layer will become visible, indicating in red the flooded areas from January to the date (Figure 2).
4. Locate "Tucuman," a zone in Argentina with recent floods using the Search tool in the viewfinder. The zoomed sought area will be shown (Figure 3).
5. Perform a background change on the map using the "Imagery" button. Then zoom in again on the map to accurately perceive flooded sites in recent months. To do this, use the icon  located vertically to the left of the map, which allows you to zoom in by making a box (Figure 4).
6. Zooming in becomes effective and it is possible to see in greater detail the flooded area. To adjust the transparency of the layer, you may click the button to the right of the layer name and click on "Transparency"; then move the slider to display the layer in different transparency shades (Figure 5).
7. Perform another search using "Asuncion". Once this is found, an automatic zoom in is executed. Continue zooming in the area of Lake Ypacarai (Figure 6).
8. Again, you may see the flooded areas on the border of the lake in red color. Then using the transparency option you may appreciate the affected areas on the imagery map (Figure 7).
9. Finally, you may do another zooming to see populated areas affected by recent floods (Figure 8).

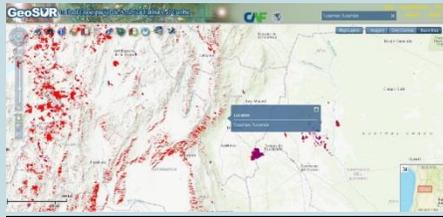


Figure 3

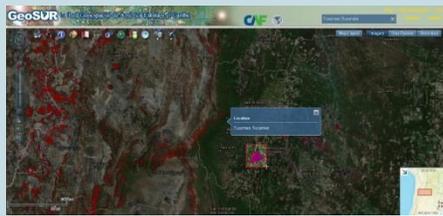


Figure 4



Figure 5

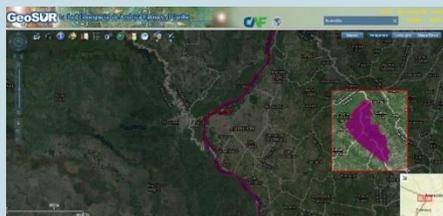


Figure 6

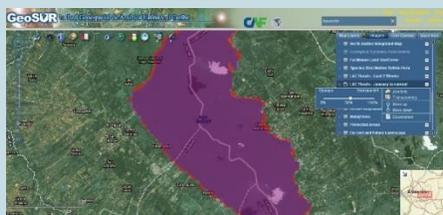


Figure 7

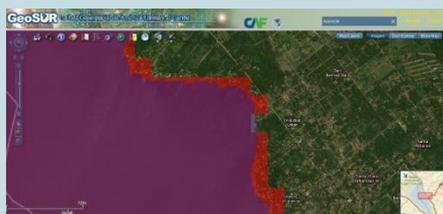


Figure 8

**CAF - Development
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Other events in the region

CAF: INCREASED MUNICIPAL MANAGEMENT FOR BETTER GREEN SPACE AGENCY IN CITIES

In order to discuss the most effective measures to empower municipal management and improve citizens' quality of life, CAF and FAO organized the Latin American and Caribbean Forum on Urban Forestry, Arboriculture and Landscaping for Urban Forests and Green Spaces; A space for discussion on urban forests and green spaces in Latin America and the Caribbean, which brought together leading experts in Lima, Peru. Participants agreed with the road map of CAF to improving regional scenarios based on establishing methodologies, which undoubtedly depend entirely on the availability of spatial information and data, including: methodology for measuring the economic impacts of Urban forests and green spaces in municipal management; Another for inventories and diagnoses of urban forests and green spaces; Another for the insertion of urban forests and green spaces in municipal planning; And another for municipal planning of the maintenance and recovery strategy of urban forests and green spaces.

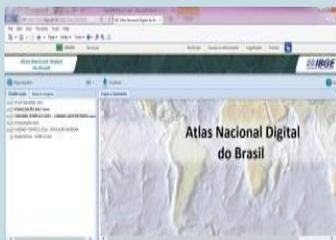
[Source: [CAF](#)]

"Participants agreed with the road map of CAF to improving regional scenarios based on establishing methodologies, which undoubtedly depend entirely on the availability of spatial information and data, including: methodology for measuring the economic impacts of Urban forests and green spaces in municipal management..."

IBGE LAUNCHES THE NATIONAL DIGITAL ATLAS OF BRAZIL 2017 UPDATED VERSION

The National Digital Atlas of Brazil 2017 includes the updated sections of "Brazil in the world" and "Society and economy", in addition to an unpublished thematic notebook on 'Sustainable Cities'. The publication incorporates, in an interactive environment, the information contained in the National Atlas of Brazil "Milton Santos", published in 2010. The 2017 edition reveals profound transformations occurring in the Brazilian geography, in parallel to changes observed in occupation processes of the national territory in the contemporary world, and is structured in four major themes: Brazil in the World; Territory and Environment; Society and Economy; and Geographic Networks. The National Digital Atlas of Brazil 2017 may be accessed at: http://www.ibge.gov.br/apps/atlas_nacional/. This application allows navigation in an interactive environment. The National Digital Atlas of Brazil 2017 is a geographic analysis application, adapted for users who wish to have access only to a set of maps and also for those who possess a more advanced knowledge in the search of online geographic information.

[Source: [MundoGeo](#)]



National Digital Atlas of Brazil
2017