



“GeoSUR develops geographic services on a free-access web platform”

The Editor's Note

Inside this issue the importance of legislation, funding, and administrative decentralization for effectively applied SDI and geographic information are emphasized. Leveraging disaster prevention through an updated and interoperable SDI is stressed in the interview of the month, while making informed decisions based on the possibility of production, integration and continuous updating of geographical information to effectively achieve the global sustainable development goals is enhanced in the permanent columns of this edition. The international "Alliance" to support the Eye on Earth initiative as to leading the world community of environmental data, as well as a

proposal on an integrated Mesoamerican GIS are exemplified.

GeoSUR newsletter seeks to disseminate GeoSUR Program's achievements and characteristics as well as events, projects and best practices for the application of GI 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: cnaguire@ipgh.org.

Inside this Issue:

- The interview of the month with Cesar Leon, coordinator of the Spatial Data Infrastructure of Peru, highlights the importance of legislative developments for the progress of this initiative in the country.
- From the coordination of GeoSUR, Santiago Borrero underlines the significance of geographic information in making informed decisions for sustainable development in our region and the potential role of CAF in this context.
- The General Secretariat of the PAIGH stresses the meaning of collaborative and participative initiatives towards achieving a continental integrated map, and a Mesoamerican GIS.



Cesar Leon is Manager of the Permanent Coordination Committee for the Implementation of the Spatial Data Infrastructure of Peru (CCIDEP) in the National E-Government Office. He is a Geographic Engineer and member of the Technical Committee for Geographic Information / Geomatics Standardization of Peru (CTN-085), and has been involved in the supervision of GIS and SDI projects, territorial conflicts and disputes, and the development of regulations, procedures and standards related to land issues and geoinformation management.

Regulatory framework has been key to the Spatial Data Infrastructure of Peru, says Cesar Enrique Leon Pereira, Coordinator of this initiative

The Spatial Data Infrastructure of Peru (in Spanish IDEP) is defined as an articulated set of policies, regulations, standards, organizations (public and private), technological and human resources that facilitate georeferenced information production, use and access in the country, as to support socio-economic development and promote timely decision making (Ministerial Resolution 325-2007-PCM).

The IDEP is organized by Federated Nodes that provide information to all systems and processes that use spatial data.

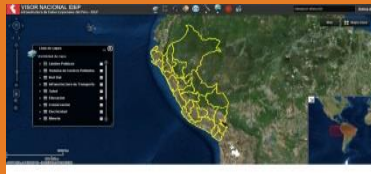
Since the IDEP was established in 2007, how has its policy framework evolved?

In 2007 was defined the Spatial Data Infrastructure of Peru (IDEP) and was

also created a Multi-sectorial Committee to coordinate spatial data and information services-development, sharing and use between all levels of government and society.

However, this regulation did not define competencies, responsibilities and procedures regarding geospatial information production, use or distribution in Peru, which resulted in an inoperative rule and Committee.

Currently, our legislation explicitly requires any public organization –that manages state geographic information based on pertinent competences and functions- to provide information access in accordance with established standards.



IDEP National Viewer



IDEP Portal

"...Federated Nodes to IDEP are autonomous but share and exchange their data in accordance with certain standards and procedures established under the Peruvian law."

"...we intend to connect this infrastructure with the most numerous user-community in the country -project developers-, and to support a very important process in a geographically complex country like Peru: Disaster Risk Management."

"Definitely, the major achievement is the development of a coherent regulatory framework that controls and visibly shows interoperable exchange of spatial data between public administration institutions."

Regulatory framework has been key... continues

The latter reform, which is being implemented since December 2013, has proven to be the big push we needed both to implement the infrastructure and to involve all public institutions in the country.

What are the effects of organizing the IDEP through Federated Nodes?

The concept of Federated Node is a direct reference to respecting responsibilities granted to public institutions in the country. However, regarding this, we have established "mandatory coexistence rules" to ensure that organizations effectively share their data, both among them and with society and businesses.

Thus the Federated Nodes to IDEP are autonomous but share and exchange their data in accordance with certain standards and procedures established under the Peruvian law.

One of SDI purposes is to expand the user base by providing access to geospatial information to a growing number of interested parties. From the IDEP how it is perceived the user community?

Just one of the problems identified for the implementation of IDEP is that there is still a "small interaction with users and information seekers."

As a result the infrastructure's implementation is focused on a priority given in our legislation to the key role of information to disaster risk management and public investment.

The governing bodies of these processes have prepared a list of layers

that have been declared critical in the context of those policies. Thus, we are moving forward to making this information available nationwide.

Based on this initiative, we intend to connect this infrastructure with the most numerous user-community in the country - project developers-, and to support a very important process in a geographically complex country like Peru: Disaster Risk Management.

What is the main success achieved so far by the IDEP, and the future expectations?

Definitely, the major achievement is the development of a coherent regulatory framework that controls and visibly shows interoperable exchange of spatial data between public administration institutions.

The IDEP's near future is promising, especially because we have a law that defines an overall implementation process, responsibilities for producers and users, numerous processes, and finally, standard technologies.

Currently, eight regional governments (30% of the total) are implementing their Spatial Data Infrastructure (i.e. Regional Federated Nodes); and at least 29 public organizations are integrated into the IDEP Portal and are sharing their information with 102 geoservices, 46 map viewers, and 9 metadata Catalogs.

"...based on our needs' knowledge, we are open to any kind of support or synergies that may arise with GeoSur..."

Regulatory framework has been key... *continues*

GeoSUR remains the main geoportal in Latin America at the regional level. For example, do you see synergies? Or, it is possible to increase the number of WMS or WFS geospatial information services available for Peru on the GeoSUR Program?

Although we still need approval on some regulations, we believe that the IDEP and its Nodes are currently facing

their actual implementation. To achieve this goal, and based on our needs' knowledge, we are open to any kind of support or synergies that may arise with GeoSUR or any other organization.

What is said from the Coordination of GeoSUR?

By Santiago Borrero

Second Summit of the Eye on Earth Initiative, established in 2011, will take place on October 6-8, 2015 in Abu Dhabi, United Arab Emirates under the theme "Informed Decision-Making for Sustainable Development."

I think that the CAF, in its capacity as regional development bank, can help to raise awareness among our government officials on the importance of geographic information as a key factor in development, and on the need to keep updated the geographic repositories of our countries.

As to support Eye on Earth, on October 1, 2014 in Gland, Switzerland, an Alliance between the World Resources Institute (WRI), the International Union for Conservation of Nature (IUCN), and the Group on Earth Observations (GEO) was established, which aims at becoming a world leader to the environmental data community for the achievement of UN Sustainable Development Goals. This Alliance recognizes that decisions should be based on data and information.

They suggest that policy makers should be aware that continued investment in data acquisition and knowledge management is a long-term commitment intended to providing free information access. They insist that the lack of funding for data acquisition projects is a great challenge for informed action on the environment and sustainable development, and consider that donor institutions should increase their funding for data acquisition.

During this Summit, GeoSUR, PAIGH and UNEP will conduct a workshop to sharing results on the project financed by Eye on Earth and the Environment Agency of Abu Dhabi, and to assess possibilities of replicating these results in other world regions.

<http://www.eoesummit.org/summit-2015/>



Santiago Borrero, GeoSUR Program Coordinator

"As to support Eye on Earth ... an Alliance... was established, which aims at becoming a world leader to the environmental data community for the achievement of UN Sustainable Development Goals. This Alliance recognizes that decisions should be based on data and information."

From the PAIGH's Secretary General

By Rodrigo Barriga

The General Secretariat has been promoting Spatial Data Infrastructure consolidation and by this way is contributing to geospatial information management in our region.

We believe that it is very important to have an integrated continental map in the near future; the Mesoamerican Integrated Map is already produced as will also be the Integrated Northern Andean Map by early 2016.

That is why as a next step, we are proposing in conjunction with the Texas Tech University and soon after with CAF support, a project towards advancing an Integrated Mesoamerican Geospatial Information System, which will be useful for applications on climate change adaptation and environmental resource management.

This initiative seeks building an application that will serve not only this region but may be replicated in the rest of our continent through collaborative experience and involvement.

Moreover we are scheduling the Third Joint Technical Meeting of the Commissions of PAIGH, an opportunity for a fruitful exchange between our specialists. We cordially invite you to join by visiting the [PAIGH website](#) where you will find more information and detailed updates on the agenda in the coming days.

Picture 1: Members of the "Latin America Geospatial Forum 2015" Organizing Committee while visiting the headquarters of the General Secretariat of PAIGH. This event will take place on November 10-12 in

Mexico City, and be an opportunity to sharing GeoSUR Program achievements, and coordinating cooperation activities for consolidation of the PAIGH / SIRGAS / GGIM: Americas / GeoSUR Joint Action Plan.

Picture 2: In the framework of the American Association of Geographers Annual Meeting it was held a panel on "Pan-American Partnerships: Working with Higher Education Institutions in Latin America to enrich Research and Education," in order to foster a new paradigm of Pan American cooperation focused on applied and sustainable knowledge communities working on regional importance topics to the Americas. This panel included members of the PAIGH, among them, the Secretary General, the Vice-President of the Commission of Geography, the US National Member of the Commission of Geography, and one member of the Institute's Cartographic Journal Editorial Board.

Picture 3: The Secretary General of the PAIGH presented a report on the Institute at OAS headquarters where he highlighted, among other aspects, the many activities that are jointly carried out with CAF and GeoSUR.



3rd Joint Technical Meeting of the Commissions of PAIGH, June 2015, Mexico D.F.

"...we are proposing in conjunction with the Texas Tech University and soon after with CAF support, a project towards advancing an Integrated Mesoamerican Geospatial Information System..."



Picture 1



Picture 2



Picture 3

Novelties in GeoSUR Portal

Annual flood hazard maps for Latin America and the Caribbean

By Albert J. Kettner, Co-Director of the DFO, Research Scientist and CSDMS, INSTAAR, University of Colorado

The Dartmouth Flood Observatory (DFO) has in cooperation with GeoSUR produced several annual or multi annual flood hazard maps for Latin American and the Caribbean (LAC). Each of these flood hazard maps, that can be interactively viewed or downloaded as open GIS format through the GIS portal of GeoSUR, provides geospatial information of surface water extents (or floods) during a specific time period.

The following four annual flood hazard maps are provided: 2011, 2012, 2013, and 2014. For the period before 2011 (2000 – 2010) a one-decade map is provided, representing all flooded area for LAC over a 10 year period.

All these flood hazard maps are derived from Satellite imagery of the MODIS that cover almost the entire earth within a day by providing two images of any area of interest with a resolution of ~250 meter. DFO has developed a technique to detect water surface, using the visual spectrum MODIS data.

Before 2011, once a news flood report was detected, MODIS imagery was analyzed for the reported area and time. These manual flood maps were sometimes enriched by analyzes of other satellite imagery, for example Landsat data, with much better spatial resolution (30 meters versus 250 meters).

Early 2011 this process of analyzing MODIS data was automated by DFO in cooperation with NASA and now we map water on a daily basis for the entire world.

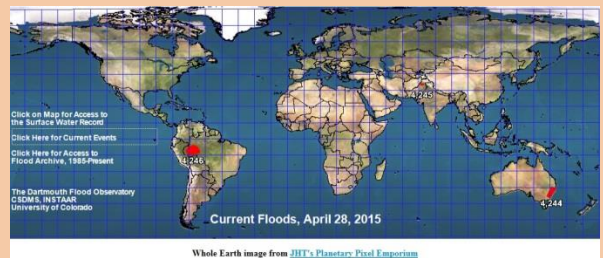
The manually analyzed floods, so before 2011, were all merged together for the LAC region, providing the 2000 – 2010 water extent map. After 2011, DFO merged all daily water extent maps, including for regions that were not flooded, into annual maps.

The user should keep in mind that there are a few technical limitations to the applied techniques. Floods that are smaller than the image resolution of 250 meter will not be detected. Secondly, DFO analyzes mostly the visual spectrum of the MODIS data.

So for example, clouds could hamper the view of an area that is flooded. Same is true for urban areas as well, were tall building that are higher than a flood could block the view of water as the imagery of the satellite is almost always taken under an angle.



Four annual (2011 to 2014) and one decadal (2000-2010) flood hazard maps are made available for the LAC region by the Dartmouth Flood Observatory (DFO). These flood hazard maps form a solid basis to determine which areas have been flooded over the last one and a half decade. Each layer can be viewed through the GeoSUR GIS portal or downloaded as shape file

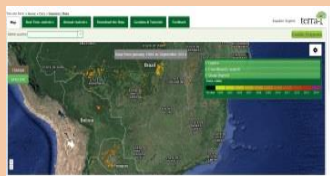


Flood hazard map of April 8, 2015 at [DFO website](#)

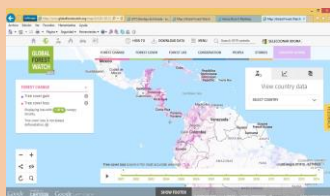
GeoSUR Program: Basic Figures

Years in Operation	8
Participating Institutions	110
Beneficiary Countries	26
GeoSUR Network Specialists	550
Officials Trained (6 Regional Workshops)	314
CAF Officials Trained	130
Virtual Workshops Offered	41
Available Digital Maps	20,000
Available Metadata	14,000
Map Services (WMS)	310
WFS Services	25

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



Terra-i - Loss of natural vegetation in 2004-2014



Global Forest Watch (GFW) Platform - Loss of tree cover in 2001-2014

Other events in the region

TERRA-I: NEW HABITAT LOSS DATA UPDATED TO SEPTEMBER 2014

Terra-i lens detects natural vegetation loss in different Latin American ecosystems, and has announced that they have updated new data to September 2014 (<http://www.terra-i.org/terra-i/data/data-statistics.html>).

They are also proud to announce the incorporation of CIAT's Terra-i into the Global Forest Watch GFW platform (<http://www.globalforestwatch.org/>). It was launched in the Global Landscape Forum by the World Resources Institute (WRI) on December 2014. Louis Reymondin, the Terra-i's developer and technical coordinator, spoke at the launch event showing an example of the use of Terra-i in Peru and shared the plans to expand the system in 2015 to cover the pan-tropics. "The implementation of this project involved the management and analysis of huge datasets (images of about 10 GB and one billion pixels each) which have to be analyzed each 16 days for the last 10 years" as stated in [Terra-i website](#). Thus, according to WRI, Terra-i is a pivotal addition to the GFW platform.

[Source: 8th edition of Terra-i Newsletter by way of Santiago Borrero]

"Terra-i lens detects natural vegetation loss in different Latin American ecosystems, and has announced that they have updated new data to September 2014... Louis Reymondin, the Terra-i's developer and technical coordinator ... shared the plans to expand the system in 2015 to cover the pan-tropics."

GAZETTEER OF COLOMBIA NOW AVAILABLE ON THE WEB

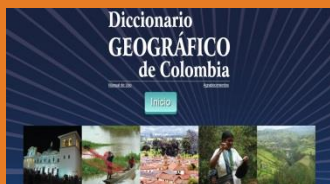
Fourth edition of the [Gazetteer of Colombia](#) published on the website of the IGAC www.igac.gov.co, embodies the prestige, know-how, technology, knowledge and experience, accumulated for decades by the Geographic Institute "Agustin Codazzi". Built on a multivariate database composed of more than 190,000 place-names' descriptions it provides users with updated and dynamic explanations on national geographical-features. Behind this publication that has been traditionally presented both to the country and the knowledge society, there is a matured conceptual and methodological development obtained through the years, which is the result of research, publications and previous editions of this work.

[Source: Ana Victoria Rincon, Coordinator of Geographical Studies, IGAC, Colombia]

ACADEMIC PROGRAM - CIAF, COLOMBIA-2015

The Geographic Institute "Agustin Codazzi" (IGAC), through its Geographic Information Research and Development Center (CIAF), promotes and coordinates technology transfer activities on geographic information management and application with the use of Remote Sensing, Geographic Information Systems (GIS) and related technologies. Training programs and short courses are offered in partnership with universities. For further information please log on to IGAC website at: <http://www.igac.gov.co> and/or contact: cursosciaf@igac.gov.co

[Source: Evy G. Jaramillo, GIT Coordinator - Geomatics Development and Knowledge Management (IGAC-CIAF)]



Gazetteer of Colombia, 4th Edition

CAF - Development Bank of Latin America

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PAIGH

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GeoSUR Program

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www.geosur.info

Other events... continues

CAF AND THE UNIVERSIDAD DE LA HABANA WILL WORK JOINTLY TO GENERATE KNOWLEDGE FOR DEVELOPMENT

Both institutions signed in Havana an agreement for mutual cooperation to promote training, study and applied research in support of sustainable development and integration in Latin America. Within the framework agreement activities of mutual interest related to knowledge generation and dissemination and to promoting joint reflection among academics and public policy managers will be advanced. "The link between CAF and a wide network of think tanks and universities at a regional and global scale allows it to deepen its task in favor of exchange and generation of knowledge regarding Latin America and the critical factors for its development" said Enrique Garcia, Executive President of CAF. The subscribed agreement foresees the coordination of research activities and exchange of information, organization of events, joint publications, and other mechanisms agreed upon by both parties.

[Source: [CAF](#)]

"The link between CAF and a wide network of think tanks and universities at a regional and global scale allows it to deepen its task in favor of exchange and generation of knowledge regarding Latin America and the critical factors for its development" said Enrique Garcia, Executive President of CAF."

SDI-Open 2015

Registration for the pre-conference on Spatial Data Infrastructure, standards, open source and open data for geospatial (SDI-Open 2015) jointly organized by the ICA Commission on Geoinformation Infrastructures and Standards, the Commission on Open Source Geospatial Technologies and the Open Geospatial Consortium (OGC) to be held on August 20 and 21, 2015 at the Brazilian Institute of Geography and Statistics (in Portuguese IBGE) in Rio de Janeiro, Brazil, is now open at <http://www.labgeolive.ufpr.br/>. For registration information, please contact the local organisers: Prof. Silvana Camboim, Head of ICA-OSGeo-ISPRS lab at Universidade Federal do Paraná (UFPR) - silvanacamboim@gmail.com and Dr. Julia Celia Mercedes Strauch, IBGE - julia.strauch@ibge.gov.br

[Source: Serena Coetzee, Centre for Geoinformation Science, Department Geography, Geoinformatics and Meteorology, University of Pretoria, South Africa]



International Geomatics Week,
Bogotá, August 10-14, 2015

INTERNATIONAL GEOMATICS WEEK 2015

The Geographic Institute "Agustin Codazzi" (IGAC) of Colombia, as part of the celebration of its 80 years, launches the sixth edition of the International Geomatics Week: <http://semanageomatica2015.igac.gov.co/>; Contact: semanageomatica2015@igac.gov.co

[Source: IGAC]