



FINANCIANDO EL DESARROLLO • AMÉRICA LATINA



GeoSUR Program

Evaluation of the GeoSUR Technical Platform, Meeting Report

Washington, February 28th – March 1st, 2013



Eric van Praag, CAF – The Latin American Development Bank

May of 2013

Introduction

The GeoSUR Program has been in operation for 7 years, and we believed it was a good time to take a break and take a closer look at the regional geospatial resources developed during this period by GeoSUR, identify its strengths and weaknesses, discuss the new paradigms in the geospatial sciences useful to this endeavor and define what type of Latin American and Caribbean (LAC) Portal and associated geospatial resources we wished to see live in 3 to 5 years.

The GeoSUR Portal is the de-facto regional entry point for users seeking geographic information for Latin America and the Caribbean. It is worth noting that GeoSUR is one of a few existing regional Spatial Data Infrastructures (SDIs) in the developing world, and that, together with INSPIRE (the European SDI), it is probably one of the most advanced in terms of available geospatial resources and number of participating agencies.

Launched in 2007, more than 90 spatial data producers from 25 LAC countries contribute data to this regional network. Its geoportal offers access to more than 300 WMS services, 20 WFS services, 80 map viewers, 13,000 metadata records, 15 spatial catalogs, more than 150 regional datasets and thousands of national and local spatial datasets staged by partner agencies.

In other words, we are talking about a fairly complex set of geospatial resources, spatial datasets and an ICT infrastructure that need to work together seamlessly and that need to take advantage of new developments in the ICT and geospatial sciences. We are also talking about services that need to be fairly advanced but, that at the same time, need to be simple to use by decision makers.

We needed to get our act together and define how we moved forward with the development of this complex network, and after a long period of discussing these topics during phone calls and Webinars over the last couple of years, we decided that it was time to meet face to face and make some progress, and thus we ended up organizing a meeting at the U.S. Department of Interior (DOI) office in Washington D.C. in late February, 2013, with support from DOI, USGS, CAF and PAIGH to do just that, with the participation of key geospatial specialists from our stakeholder community (see list of participants in Annex 1 and meeting agenda in Annex 2).

During the meeting we:

- Reviewed geospatial services implemented in other countries and regions.
- Reviewed the existing GeoSUR platform.
- Reviewed the current status of ESRI's SDI tools.
- Discussed current ICT and geospatial technologies trends that can be leveraged by GeoSUR.
- Identified elements and functions to be incorporated to the GeoSUR Portal, Regional Map Service (RMS) and Topographic Processing Service (TPS)
- Set the foundation for the development of a GeoSUR Platform Road Map for the next 3 to 5 years.

In the remainder of the document we provide an overview of the discussions that took place during the meeting and of the recommendations that came out of it.

Meeting Overview

Day 1 included presentations of the state of the art and status of the geospatial resources of several agencies and initiatives, such as the IDEE - Spain, INSPIRE - Europe, SNIT - Chile, ICDE - Colombia, the US National Map and the Interamerican Development Bank's (IDB) NEXSO Project. During the day we presented the GeoSUR platform and ESRI presented the status and future plans for the main SDI geotools that are used and/or could be leveraged in the future by GeoSUR. Day 1 closed with an overview of SDI and ICT technologies that participants felt could benefit GeoSUR in the near future.

It became apparent during the day's discussion that GeoSUR can greatly improve its existing platform with new GIS resources that have become available over the last couple of years, and that we can learn a lot and model some of our work on the initiatives led by ICDE, SNIT, INSPIRE, FGDC, IDEE and other national and regional SDIs.

The day's discussion centered on the following topics:

- Increasing the GeoSUR presence in ArcGIS online (AGOL). We have created a GeoSUR corporate account in AGOL, but need to make it public shortly. ESRI participants highlighted the benefits of combining the functionality of an AGOL account with the functionality of the existing GeoSUR Portal.
- Considering moving the RMS Viewer to JS/HTML5.
- Having ESRI Innovation Studio provide support to GeoSUR, in order to review the existing RMS Viewer, with emphasis on data display and presentation, and provide recommendation that complement a GeoSUR analysis conducted by CNIG.
- Increasing collaboration with CATHALAC/Servir, in order to get their services registered in GeoSUR.
- Taking advantage of the WMS-T protocol to serve GeoSUR's regional datasets.
- Having GeoSUR involved in GEOSS and other US-EU spatial initiatives, as well as with Caribbean regional entities, such as CARICOM and the Caribbean Development Bank.
- Increasing collaboration with IDB's spatial initiatives such as Databasin and MapAmericas.
- Incorporating national SNIT (Chile) and ICDE (Colombia) partners to GeoSUR.
- Making the GeoSUR regional datasets available through GeoPDFs for download and viewing.

The discussion also centered on the need to increase GeoSUR's visibility. ESRI recommended using Facebook and Twitter for this purpose, and offered to assist using the ESRI media channels when possible.

The group recommended that the RMS viewer data display capabilities be revamped in order to offer a more pleasant and useful experience to the end-user. There is room for restructuring the data categories in its table of contents, for re-combining the datasets into more appropriate categories, for improving the symbology and the scale dependency, and for making the INFO results more appealing, among other changes suggested.

Participants recommended the use of new geotools, protocols and software in GeoSUR, such as Apache Solr, faceted indexing, ISO 19190 profiles GitHub, OpenGeo AWS, Open Stack, and Google Earth Builder, among others.

It is important to note that CNIG, the Spanish Center for Geographic Information, conducted an assessment of the GeoSUR Platform, focused on its Portal and RMS, on December of 2013. We did not have time during the meeting to review all its recommendations, but they were considered as part of the discussion and will be included as part of the Geoportal and RMS improvement plan to be executed in 2013.

During Day 2 the discussion centered on specific improvements that should be made to three GeoSUR tools: the Portal, the RMS service/viewer and the TPS. The group also reviewed other tools that could help improve the GeoSUR Platform functionality. In the closing session the group looked at synergies between GeoSUR and the agencies present in the meeting, at the possibilities of furthering collaboration with them and for linking GeoSUR to regional and global spatial and environmental data initiatives.

The day's discussion centered on:

- Using blogs, Twitter, Facebook and other media tools to disseminate information on GeoSUR.
- Defining who the GeoSUR user community is and adapting its the message and content to serve this community.
- Improving the handling of WMS services in the Portal, by linking the Atom Feed used by the Status Checker with the ISO19119 metadata holdings.
- Studying the INSPIRE rules and regulations to evaluate which ones are applicable to GeoSUR, with support from IGN Spain.
- Having GeoSUR make a branch of code to contribute our customizations (translations, CSW profiles).
- Implementing metadata harvesting using filters in GeoSUR to discriminate between metadata that describes spatial and non-spatial data.
- Offering more information on the users connected to the Portal, taking advantage of existing Joomla capacities.
- Improving the help modules and making them available in 3 languages: Spanish, English and Portuguese. Eric will contact ESRI to see if help modules have been translated to Spanish and/or Portuguese recently.
- Strengthening collaboration with UNEP-Live and Eye on Earth.
- Using federated search to connect to CEOS catalogs.
- Hiding the advanced functionality in the RMS Viewer in order to improve the experience of non-technical users.
- Taking advantage of JS and HTML5 to reach mobile phone users.
- Maintaining an open channel of communication with the ESRI team in charge of developing the GeoPortal Server.
- Considering adding new RMS viewers to reach new audiences (e.g., mobile phone users, general public, environmentalists).

The GeoSUR Coordinator emphasized the need to improve metadata management in the Portal, as he recognized that this is one of the great weaknesses of the Platform today. There are only a few catalogs registered and the metadata harvesting process is not fully operational for them. CAF and IGAC will look into this issue in order to activate and re-energize the metadata component of GeoSUR in the short term.

The Coordinator also dwelt on another area that needs improvement: availability of human resources. The team of specialists working in GeoSUR dedicate the same time to its development as they did when GeoSUR was an infant regional SDI with 20 participating agencies from South America and no more than 20 WMS services, 2,000 metadata records and 5 catalogs available on its Portal. Five years later we operate with the same level of human resources, but need to maintain a system that has probably grown ten-fold.

GeoSUR was recognized by the group as a robust regional SDI implementation, with a view to expanding its reach to new topics and agencies in the mid-term. Currently, there is low presence in GeoSUR of agricultural agencies, health ministries, disaster prevention agencies and transport institutes, universities, NGOs, and local governments, to name but just a few. It was recommended that GeoSUR invite key representatives of these types of agencies to join the network in 2013.

Actions items

The two-day meeting generated very positive ideas and recommendations that will be considered for implementation in the coming months. The results of the meeting will be shared with GeoSUR's stakeholders and will provide a valuable input for an upcoming GeoSUR Strategic Meeting, scheduled to take place in September of 2013 in Caracas. During this meeting many of the recommendation and action items generated as part of the Washington meeting will be incorporated into the GeoSUR Action Plan for the period 2014-2016.

The main action items are:

- Conduct a review of the RMS Viewer, with support from ESRI and the USGS. A visit by USGS staff to Redlands could be organized as part of the review.
- Incorporate agencies from areas that are currently underrepresented in GeoSUR, including universities, NGOs and the private sector.
- Increase PR efforts to spread the word about GeoSUR to new communities and potential new users.
- Prepare a GeoSUR monthly Newsletter, with support from PAIGH.
- Register the GeoSUR data and services with GEOSS, SERVIR, INSPIRE, Eye on Earth coalition, UNEP Live and other regional and global data networks.
- Increase GeoSUR's functionality by incorporating new viewers, protocols, and regional datasets and by taking advantage of new ICT tools.
- Improve GeoSUR's metadata management, with support from IGAC.
- Incorporate CNIG's recommendations into the next cycle of GeoSUR Platform upgrades.
- Incorporate new models to the TPS, and research the possibility of using OGC processing protocols for this service.
- Expand the search for new regional datasets to be staged in the RMS.

We wish to thank the following agencies for making this meeting possible: PAIGH, CAF, USGS, and DOI. We also wish to thank all participants for their contribution to a great and very successful meeting.

Annex 1. Meeting participants

1. **Jean Weaver**, USGS
2. **Michelle Anthony**, USGS
3. **Mat Cushing**, USGS
4. **Mark DeMoulder**, USGS
5. **Jean Parcher**, Department of the Interior
6. **Eric Van Praag**, CAF
7. **Alberto Boada**, Geographic Institute of Colombia
8. **Emilio López**, Geographic Institute of Spain
9. **Fernando Echavarría**, US Department of State
10. **Ives Les Infant**, Interamerican Development Bank.
11. **Christine White**, ESRI
12. **Andrea Huber**, ESRI
13. **Doug Nebert**, FGDC (via Webex)
14. **Paul Smith**, INSPIRE (via Webex)
15. **Alvaro Monet**, National Land System of Chile (via Webex)
16. **Jorge Montesinos**, National Land System of Chile (via Webex)
17. **Mick Wilson**, UNEP (via Webex)
18. **Victor Vilacha**, Cartogeo (via Webex)
19. **Miguel Blanco**, GeoSUR (via Webex)

Annex 2. Meeting Agenda

Thursday, Feb. 28th

Time	Topic	Presenter
9:00 a.m	Opening remarks and introduction of participants	USGS
9:15 a.m	Review of meeting scope and objectives	Eric Van Praag
9:30 a.m.	The GeoSUR Platform, review of its three regional components	Van Praag, Cushing, Anthony
10:45 a.m.	Coffee Break	
11:00 a.m.	Review of the INSPIRE Platform for Europe (via Webex)	Paul Smith
11:30 p.m.	Overview of ESRI's SDI Tools	Marten Hogeweg
12:30 p.m.	Lunch at DOI	
2:00 p.m	The Spanish National SDI Architecture	Emilio López
2:30 p.m	The Colombian SDI, a technological perspective	Alberto Boada
3:00 p.m	IDB's NEXSO platform	Yves Les Infant
3:30 p.m	The Chilean Land Information System SDI and the role of CP-IDEA in Latin America (via Webex)	Alvaro Monett
4:00 p.m	Review of current technologies to be leveraged by GeoSUR	Group
5:00 p.m	Adjourn	

Friday, March 1st

Time	Topic	Presenter
9:00 a.m	GeoSUR's Geoportal: definition of new functionality	Group
10:00 a.m.	GeoSUR's Topographic Processing Service: definition of new functionality	Group
11:00 a.m.	Coffee Break	
11:30 a.m.	GeoSUR's Regional Map Service: definition of new functionality	Group
12:30 a.m	Identification of new components for the GeoSUR Platform	Group
1:00 p.m.	Lunch	
2:00 p.m	Identify synergies and possibilities for collaboration among agencies in the meeting	Group
3:00 p.m.	Next steps	Van Praag
3:30 p.m	Adjourn	