

CAF

FINANCIANDO EL DESARROLLO + AMÉRICA LATINA



Geo**SUR**

The Latin American and Caribbean Geospatial Information Network

ESRI UC, San Diego, 2013



Eric van Praag
CAF – The Development Bank of Latin America

Scope: Latin America and the Caribbean

- **Area:** 21 MM Km²
- **Population:** 610 MM
- **GDP:** \$ 5.16 trillion
- **Countries:** 33
- **Biodiversity:** Highest in the world
- **2050 projection:**
2 LAC economies among the
worlds 5 biggest (Goldman Sachs)



INSPIRE and GeoSUR are the two most advanced geospatial networks - with a regional dimension - in the world today

CAF – the Latin American Development Bank



- Supports sustainable development, integration and competitiveness
- **Type A member countries** : Argentina, Bolivia, Brasil, Colombia, Ecuador, Panamá, Paraguay, Perú, Uruguay and Venezuela.
- **Type C member countries**: Chile, Costa Rica, España, Portugal, Jamaica, México, Portugal, República Dominicana and Trinidad & Tobago.

CAF – The Latin American Development Bank



Topics

Education, infrastructure, health, social services, water treatment, banking, mining, energy, urban transport.



The New Paradigm: The GeoWeb

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Special report: Technology and geography

Maps

The world in your pocket

Mapmakers are competing for your smartphone

Oct 27th 2012 | From the print edition

WHAT IS A map? "There are two things you want," says Peter Birch, product manager for Google Earth. "One is to find your way...how do you remove all the information except [what] you really need to answer your question?" The other is the "opposite of the cartographic aim: to create a sense of reality, a completely comprehensive representation of the world."

To do the first, you have to do the second. So that anyone can find precisely what he is looking for, he must be able to look for anything. Google's plan for the physical realm, in other words, is the same as for the digital one: "to organise the world's information to make it universally accessible and useful". It wants to map every last hiking trail and park bench, and then make it easy to fi

The detail being brought to digital mapmaking by Google and others is breathtaking. A fast-growing portion of the world is being mapped in three dimensions. Nokia is collecting minute details about roads to feed into advanced driving systems; anticipating a hill, a car can speed up in order to cruise rather than labour up the slope; or it can slow down if the driver is going too fast for a bend ahead.

Above the tarmac you can already fly, digitally, through several cities. So far Google has generated 3D versions of



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Maps on smartphones

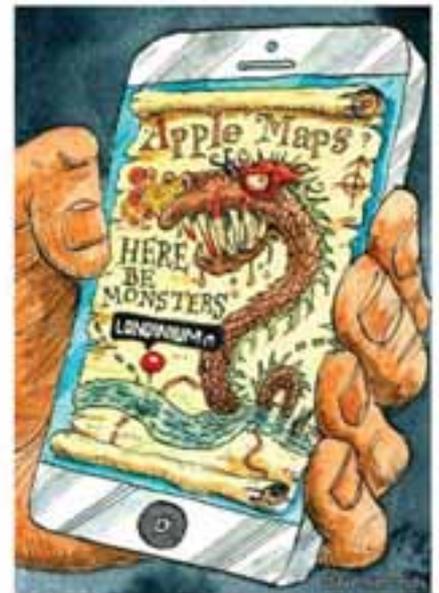
Lost

The criticism heaped on Apple shows the growing importance of cartography

Sep 28th 2012 | From the print edition

Update: On September 28th Tim Cook, Apple's chief executive, published an [open letter](#) apologising to customers for the shortcomings of the company's maps. Mr Cook even directed users to alternative map apps, writing that they could be downloaded from Apple's App Store and that Google's and Nokia's maps were available as web apps.

OLD hands at *The Economist* have fond memories of Mokaris, a café near our office in St James's. There was nothing fancy about the food, the prices or the service. Mokaris closed in 2005, and Franco's, the smarter Italian restaurant next door, expanded to take over the premises. But in the parallel universe of the iPhone, hungry hicks can still enjoy an omelette and chips for around a fiver. Mokaris is still on the map—at least, the map on Apple's new mobile operating system, iOS 6.



High Bandwidth Connectivity in Latin America

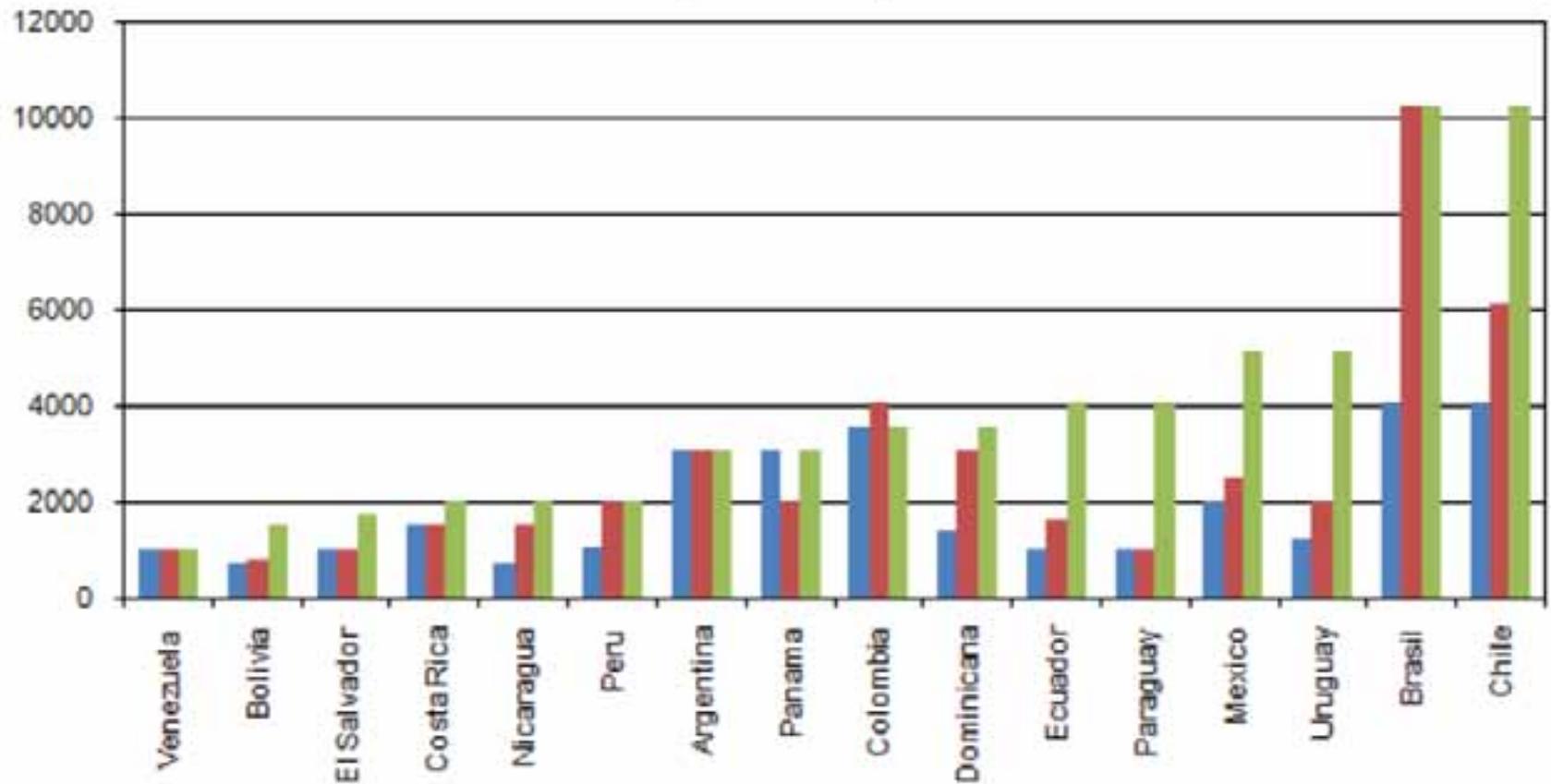
Cuadro 5. América Latina: Penetración nacional de la banda ancha fija

Pais	1er Trimestre 2010	1er Trimestre 2011	4to Trimestre 2011	TACC (2010-2012)
Argentina	8.89 %	9.88 %	10.53 %	10.14 %
Bolivia	0.98 %	0.88 %	0.71 %	-16.70 %
Brasil	6.09 %	7.39 %	8.56 %	21.48 %
Chile	9.94 %	10.86 %	11.65 %	9.53 %
Colombia	4.72 %	6.05 %	6.94 %	24.61 %
Costa Rica	4.49 %	7.02 %	8.68 %	45.79 %
Ecuador	1.61 %	2.32 %	4.22 %	73.43 %
El Salvador	2.53 %	2.99 %	3.31 %	16.60 %
México	8.75 %	10.19 %	10.62 %	11.70 %
Nicaragua	1.18 %	1.67 %	1.79 %	26.73 %
Panamá	6.89 %	7.49 %	7.92 %	8.31 %
Paraguay	0.30 %	0.61 %	0.96 %	95.31 %
Perú	2.89 %	3.26 %	3.49 %	11.33 %
R. Dominicana	3.17 %	3.75 %	3.99 %	14.15 %
Uruguay	9.45 %	11.76 %	13.47 %	22.47 %
Venezuela	0.76 %	0.82 %	0.87 %	7.83 %
Total	5.78 %	6.84 %	7.54 %	16.39 %

Fuentes: UIT; análisis del autor

Median Internet Download Rates

Gráfico 16. Velocidad mediana de descarga disponible para banda ancha fija (2010-2012)



Main Objective

To provide decision-makers and the public with local, national, and regional geodata that facilitates the planning of physical infrastructure, environmental conservation, climate change adaptation, regional integration and other development goals.

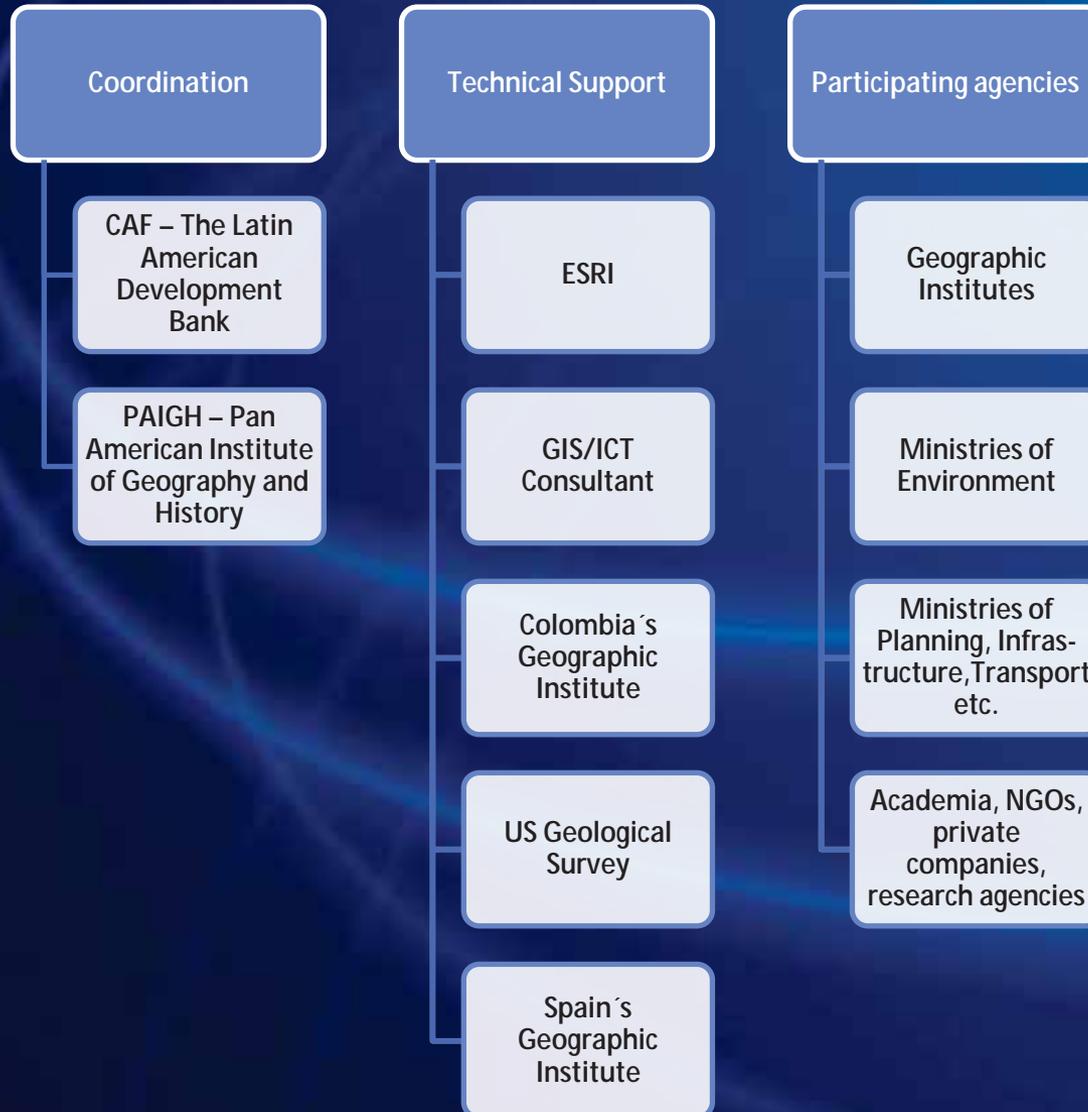


GeoSUR Program – Basic Facts

- Led by CAF and PAIGH, the Program seeks to facilitate access by decision makers and the public to Latin American and Caribbean (LAC) geospatial data.
- More than 85 national and regional institutions are currently participating in the Program – with more invited to join.
- The geospatial network promoted by GeoSUR in LAC is fully decentralized – data is kept close to its producers.
- GeoSUR is the first Regional SDI development to be established in the LAC region.
- The SDI geoservices developed by, or with assistance from, GeoSUR are available at no cost on the web.



GeoSUR s Institutional Framework



1. Instituto Geográfico Nacional , Argentina
2. Instituto Geográfico Nacional , El Salvador
3. Instituto Geográfico Nacional , Costa Rica
4. Instituto Geográfico Nacional , Perú
5. Instituto Geográfico Nacional , Guatemala
6. Instituto Geográfico, Venezuela
7. Instituto Geográfico, Colombia
8. Instituto Geográfico Militar, Chile
9. Instituto Geográfico Militar, Ecuador
10. Instituto Geográfico Militar, Bolivia
11. Instituto Cartográfico, Rep. Dominicana
12. Instituto Geográfico, Panamá
13. Servicio Geográfico Militar, Uruguay
14. Servicio Geográfico Militar, Paraguay
15. Land Information Center, Belize
16. Centro Información Espacial, Haiti
17. Management Instituut, Suriname
18. Land Information Council , Jamaica
19. IBGE, Brasil
20. INETER, Nicaragua
21. INPE, Brasil
22. Surveys and Mapping Division ,Trinidad
23. INEGI, México
24. SNIT, Chile
25. Geobolivia
26. CONCAR, Brasil
27. CLIRSEN Ecuador
28. Ministerio del Ambiente, Perú
29. Ministerio Ambiente, Rep. Dominicana
30. Ministerio del Ambiente, Costa Rica
31. Ministerio del Ambiente, Guatemala
32. Ministerio de Ambiente, Ecuador
33. Ministerio de Ambiente, Brasil
34. Dirección Medio Ambiente, Uruguay
35. IDEAM , Colombia
36. CIREN, Chile
37. Instituto Von Humboldt, Colombia
38. Secretaría de Ambiente, Paraguay
39. Autoridad Nacional Ambiente, Panamá
40. Ministerio de Medio Ambiente, Chile
41. Ministerio Obras Públicas, Chile
42. Ministerio Obras Públicas, Paraguay
43. Ministerio de Transporte, Perú
44. Ministerio de Transporte, Colombia
45. Ministerio Desarrollo Urbano, El Salvador
46. Consejo Nacional de Electricidad, Ecuador
47. SEGEPLAN, Guatemala
48. ANATI Panamá
49. IVIC, Venezuela
50. CPDI, Venezuela
51. Instituto Nacional de Estadísticas, Bolivia
52. Instituto Nacional Estadística, Panamá
53. Instituto Nacional Estadística, Costa Rica
54. Instituto Socio Ambiental, Brasil
55. Programa Catastro, Costa Rica
56. Instituto Geológico INGEMMET ,Perú
57. Intendencia de Montevideo
58. Alcaldía de Bogotá
59. Alcaldía de Chacao
60. Gobernación de Miranda, Venezuela
61. Gobernación de Santa Cruz, Bolivia
62. Sistema Emergencias, Uruguay
63. Ministerio de Agricultura, Nicaragua
64. Water Resources Authority, Jamaica
65. Electoral Office, Jamaica
66. Universidad Tecnológica de Pereira
67. Institute of Marine Affairs, Trinidad
68. Guyra Paraguay
69. Empresa SIGIS
70. University of the West Indies, Trinidad
71. The Nature Conservancy
72. Universidad del Azuay, Ecuador
73. UNIGIS
74. Banco Interamericano de Desarrollo
75. Centro Internacional Agricultura Tropical
76. Comunidad Andina
77. JRC, Unión Europea
78. OneGeology
79. OTCA
80. IIRSA
81. ITC
82. Nature Serve
83. Proyecto USAID Andes Amazónicos

Regional and Global Relations



The GeoSUR geoservices



Services of more than 60 participating agencies

GeoSUR s Portal

The screenshot displays the GeoSUR portal interface. At the top, the logo 'GeoSUR' is accompanied by the tagline 'Find Geospatial Information Online'. Navigation links include 'SEARCH FOR DATA', 'REGIONAL MAP VIEWER', 'NEWS', 'REGISTER', and 'CONTACT US'. The main content area features a large map with a 'Map of the Month' title and a text box stating: 'New geospatial service developed by the Inter-American Development Bank to visualize its project portfolio'. A sidebar on the left lists 'PARTNER RESOURCES' such as 'Map Viewers', 'Web Services', 'API Services', 'ESRI Services', and 'Topographic Services'. A 'LATEST NEWS' sidebar on the right contains several bullet points about GeoSUR's participation in OGC and UNCTAD committees, published articles, and a new search feature. Below the main map, a 'WELCOME TO GeoSUR' section provides an overview of the portal's purpose and lists 'GeoSUR RESOURCES' including 'About the Program', 'Technical Systems', 'Participants', 'GeoSUR's Library', 'Frequently Asked Questions', and 'Feedback'. A 'Training Corner' section highlights a 'GeoSUR Workshop 2011' held in August 2011. The bottom of the page features a 'Decision Support Tools, by ITC (Webinar)' link.

- Point of entry to all of GeoSUR s maps and services
- All the GeoSUR platform was built by the USGS using ESRI s software
- Available at www.geosur.info

GeoSUR s Latin American Map Service



- Provides access to more than 100 regional maps
- Free access, user can view and download the datasets at no cost
- Developed with support from the U.S. Geological Survey

Topographic Processing Service



- Free tool.
- User can produce a watershed delineation, slope map, watershed analysis, elevation map, and carry several other analysis.
- First of its kind in the developing world.
- Can be enhanced to incorporate climate change analysis.

GeoSUR s Guiding principles

- Respect of participating agencies data policies.
- Decentralized approach, each data producer operates and maintains its own geoservices.
- Technological neutrality, support of open source and commercial platforms.
- Emphasis in the use of standards and protocols to reach interoperability.
- Work is aligned with National SDIs.
- Geospatial information is considered a public good which supports the development of the LAC region.

2013: The way forward



New regional datasets



Cloud hosting, virtual workshops, and more . .



Cloud hosting, Map Service,
CNR El Salvador

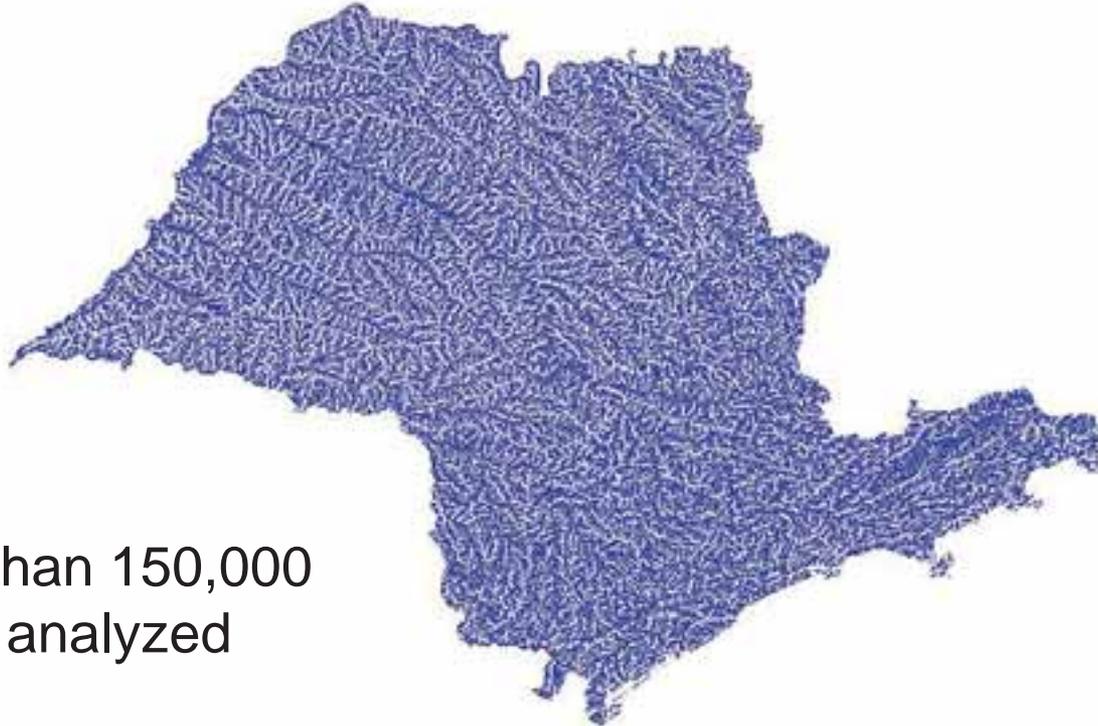


Cloud hosting, Map Service,
Cadastral Agency, Honduras



Virtual training on environmental
indicators and map services, with
IGN Spain and UNEP

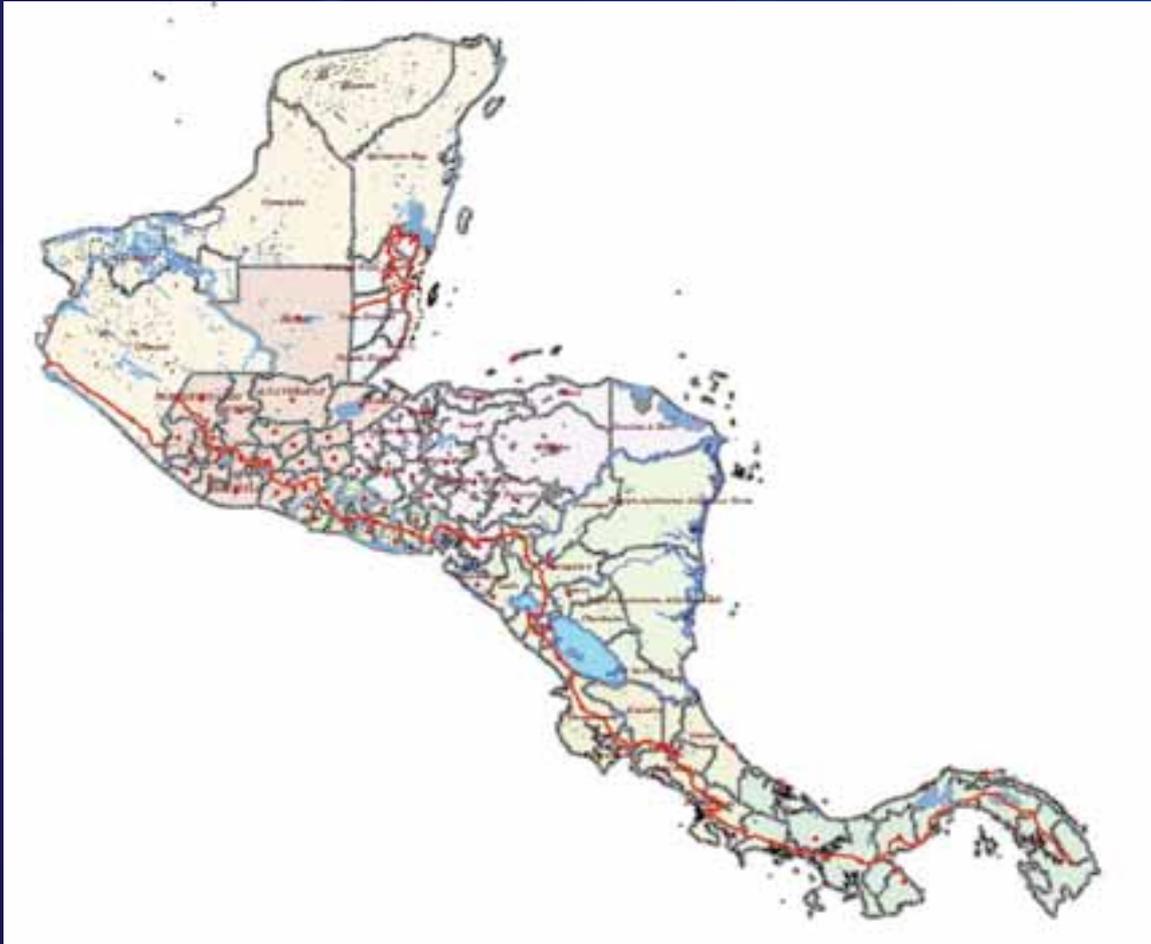
Hydropower Assessments Sao Paulo State, Brasil



More than 150,000
points analyzed

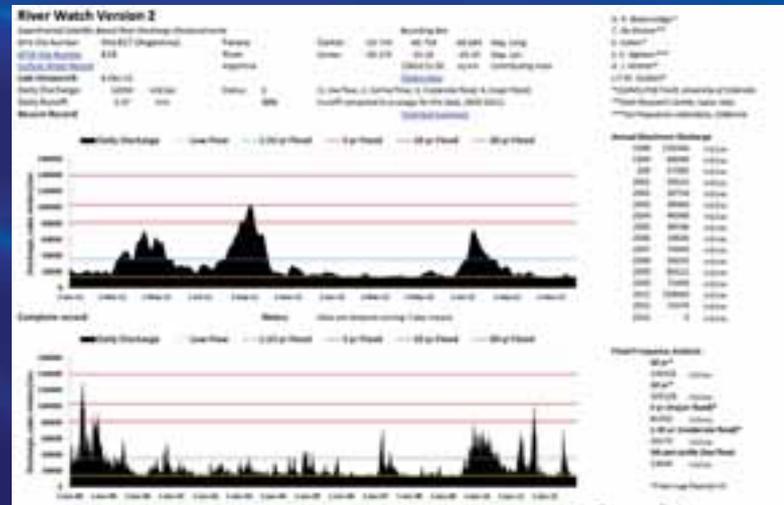
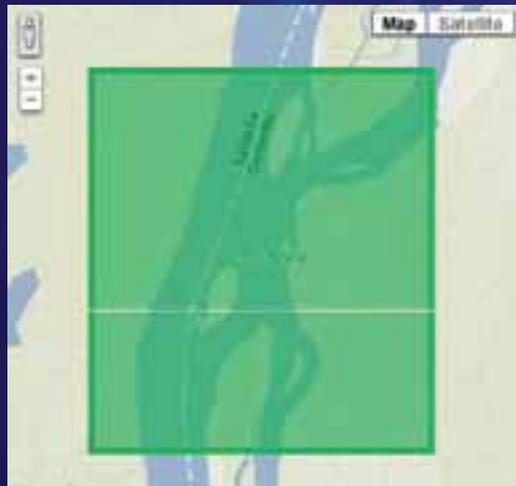
- The SRTM 30-meter and ANA's flow and climate data used as input
- Hydropower assessment done for each 1 km. river segments
- Assessment is underway in Peru and will soon be initiated in Bolivia

Integrated Mesoamerican Map



- 8 thematic layers
- 1:250.000 scale
- Produced in 3 regional workshops with SMA specialists
- Supported by PAIGH, CAF, the USGS and the SMAs of Mesoamerica
- Will be available in GeoSUR in July
- Methodology could be expanded to South America

Flood Mapping in near-real-time



Online decision-making tools

Oil

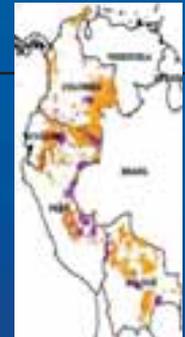
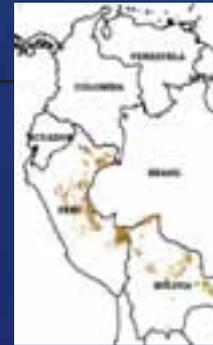
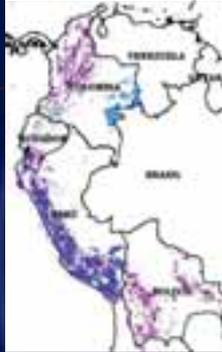
Mining

Road
infraestructure

Forest
Extraction

Protected
Areas

Indigenous
territories



Extractive and infrastructure projects

Conservation Landscapes

Watersheds and administrative units

Towns

Aquifers

Extractive and infrastructure projects

Conservation Landscapes

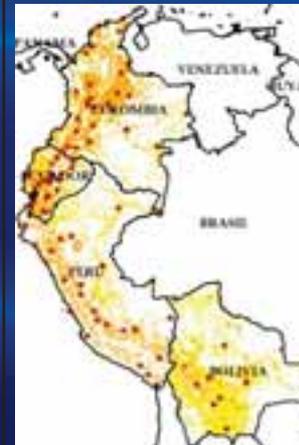
Overlapping interests (Conflicts)

Extractive and infrastructure projects

Components affected

Critical affectations

Land management strategies



Components affected

Specialists with GeoSUR



Yousif Malik
USGS



Victor Vilacha
Cartogeo



Melissa Wegner
USGS



Jesús Suniaga
CAF



Michelle Anthony
USGS



Miguel Blanco
Consultor



Alberto Boada
IGAC



Mathew Cushing
USGS



Antonio Rodríguez
CNIG

Awards



2010: ESRI, Especial Achievement in GIS, San Diego, California

2011: Latin American Geospatial Excellence Award
Rio de Janeiro, Brasil



2011: Model regional network
Eye on Earth, Abu Dhabi, 2011

2012: ESRI s Presidential Award



2012: ESRI NASIG Award
Venezuela



2013: MundoGeoConnect
Special Award
Sao Paulo, Brazil

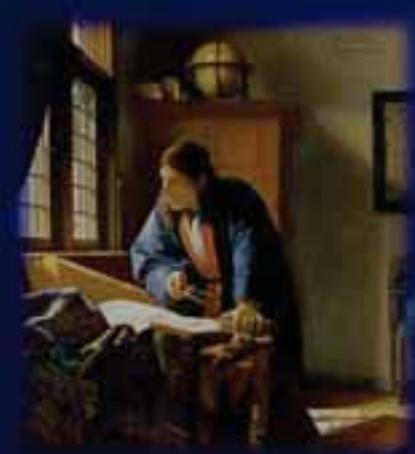


Collaboration GeoSUR - ESRI

ESRI has, over the last 7 years, provided the following key support to the GeoSUR Program:

- Several software donations to participating agencies.
- Support for the establishment of the GeoSUR AGOL account.
- Technical review of the GeoSUR Portal and regional map service.
- Co-hosting of partner map services in the Cloud.
- Guidance and overall support for building new GeoSUR components
- Capacity building
- Webinar support
- **Great partnership!**





More information:

Eric van Praag
evanpraag@caf.com



Portal: www.geosur.info

THANKS!

