Sharing & Learning

Interview with Roberto Lugo

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Northern Andean Transboundary Map
Ecuador and Panama, 2015

REGIONAL CONTEXT: Maps provide an easy way to understand the relationship among neighboring locations. These relationships are important factors to monitor because events that happen in one place can affect adjacent location across a political border. Facing a lack of coordinated data, mapping agencies in Central and South America agreed in 2009 to collaborate on correcting discrepancies in mapping features across country borders. Cartographers, GIS specialists and other professionals worked together to reach the necessary consensus to achieve those goals.

DOI-ITAP ASSIGNMENT: In 2015 Roberto Lugo traveled to Ecuador and Panama to provide technical guidance for the work on the Northern Andean Transboundary Map (known in Spanish as MIAN), a coordinated effort between Colombia, Peru, Bolivia, Ecuador and Panama. This work contributes to a larger goal of generating a continuous digital map of the Americas, from Canada to Patagonia, transcending political boundaries. These efforts were jointly coordinated primarily by the Pan-American Institute of Geography and History (PAIGH), DOI's International Technical Assistance Program (DOI-ITAP) and DOI-U.S. Geological Survey (USGS), and the funding provided by the U.S. Agency of International Development's Initiative for Conservation in the Andean Amazon (USAID-ICCA), the Latin American Development Bank (CAF) through its GeoSur Program, and the Spanish National Center for Geographical Information (CNIG).

What was your role in building the Northern Andean Transboundary Map?

As a representative of the USGS, my primary role was to provide GIS-related support with techniques for correcting digital map data to construct the continuous map. Previously we held workshops in 2011, 2012 and 2013 to focus on the Central America map where Panama was one of the countries involved. With these two closely related regional maps with identical structures, Panama becomes the common link that connects the Central America map with the South America maps. By previously participating in the Central America map workshop this provided valuable experience beneficial to the South America MIAN workshop.

How was your experience during preparation for this assignment?

In 2011, during the initial assignment for the Central America workshop I was unsure and concerned of the GIS skill level each country's participants possessed. Once we started the project it became clear their level of knowledge was at an appropriate level to accomplish the task. Another concern was with international boundary conflicts but these were easily resolved during the workshop. Because of the experience gained in Central America, I had a clear understanding of what we needed to do for the South America map, since I had done similar work with the Central America data.

What do you consider were your main contributions to the events´ discussions?

We were able to apply concepts, share our experience of bringing data together, and show new techniques. One of my technical contributions is the concept of the Hydrographic Network, which is the process of adding intelligence to a river layer. You start with the river dataset, connecting the river segments, defining each river segment flow direction and which segments connect together as part of the river network. We had initially figured out how we were going to do this in the Central America workshop, so guiding the South America group in the right direction was much easier. I was impressed that everyone was very receptive, very excited about getting their data ready, and willing to participate.

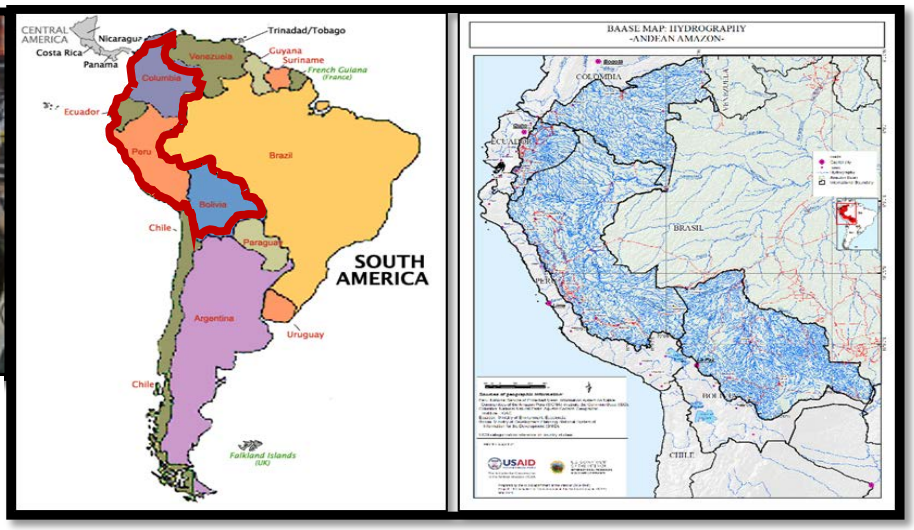
What was the impact of this experience at your professional and personal level?

It made me aware of the high GIS skill level and technical knowledge that Latin American countries have, as well as their limitations; and how these countries are working to reach a level of information technology that we take for granted here in the United States. They have a highly skilled core of mapping professionals working within their government agencies preparing their data to make it available for public use. They have made large strides in making this possible but still have lots of work to do for other data components. Their GIS data is at a level where it clearly represents real world components and can now begin adding intelligence to their data. USDOI agencies are currently doing similar work.

What would you tell someone who is considering participating in a DOI-ITAP assignment?

They should have a strong interest and openness to traveling to a foreign country. The experience gained will be incredible in a positive way. Our contributions in the form of information and knowledge can be enormous. The foreign country participants are there because they want to learn and accomplish something; they will be very appreciative of the contribution any expert is willing to provide. In terms of the travel logistics, especially for first time travelers, I would recommend having some idea of the immigration process, how you are going to move around once you get there, and how to obtain some background information on the country itself. It is not a requirement but it helps to know a little bit of the language so as to not rely on an interpreter all the time.

MIAN Team, Panama (*Photo by DOI-ITAP)*



Left: Northern Andean Transboundary Map Area (Colombia, Ecuador, Perú, Bolivia). **Right:** An example of how a regional layer of information is represented, in this case, the Hydrography Network for the Andean Amazon Area. (*Maps by DOI-ITAP)*

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