

SCIENCE NEWS

Mapmaking Makes a Difference in Belize

By Gregg Verutes, WWF GIS Analyst

As an expert in Geographic Information Systems (GIS) mapping, I expect my maps to work behind the scenes. The multilayered depictions I construct to illustrate the ways we use and value nature usually inform scientists, practitioners, and policy makers. They rarely feature prominently on televised efforts to secure sustainable national energy policy.

But exactly that happened recently in Belize. A simple map I made at the urging of a tour guide helped defeat proposals to intensify offshore oil drilling.

Our team was in Belize to train local practitioners and decision makers. We were teaching them to measure and map the benefits that nature provides to people in Belize. Hurricane Rina forced us to cancel. I took advantage of the free time to visit the Mayan ruins of Altun Ha, which were sufficiently inland to be safe from the storm.

As we bounced along the winding road in a jeep, my guide Carlos inquired about my occupation. I explained that I translate data about the potential environmental impacts of natural resource use, such as fish-farming and marine transportation, into visual representations of how nature benefits people.



WWF GIS analyst Gregg Verutes checks out a leatherback turtle on Matura Beach, Trinidad, in the Caribbean Sea.

Courtesy Gregg Verutes

"Oh, so you make maps?" he asked.

"Yes, basically."

His face took on an excitement I rarely see when discussing GIS. "You know what would be great? Make a map of the U.S. Gulf oil spill and put it on top of Belize!" he said. "People are arguing about oil drilling around Belize. It would help to show what's at stake if a similar disaster happened here."

It was one of those lightbulb moments. "That's a good idea," I told him.

As a mapmaker, I have a pretty good sense of the relative size of various landmasses, countries, and bodies of water, but the map I created surprised even me. I knew that the oil spill would look large compared to Belize, but I was taken aback to see how

thoroughly the black splotch covered its coastline. The oil even oozed over a substantial part of Belize's land and slicked portions of the coasts of neighboring Guatemala and Mexico.

The map showed how an oil spill of this magnitude off the coast of Belize would devastate the country. Almost half of Belizeans live near and draw their livelihoods from the coast, whether from fishing, tourism, or other ocean-oriented occupations. The healthy coastal ecosystem not only supports these industries with its abundant fish stocks and photo-worthy coral reefs, but its mangroves and other habitats protect the coastal lands from damaging storm surges.

An oil spill like the one that devastated the U.S. Gulf Coast simply could not be allowed to happen in Belize. The only way to guarantee that was to stop the proposed oil exploration and offshore drilling.

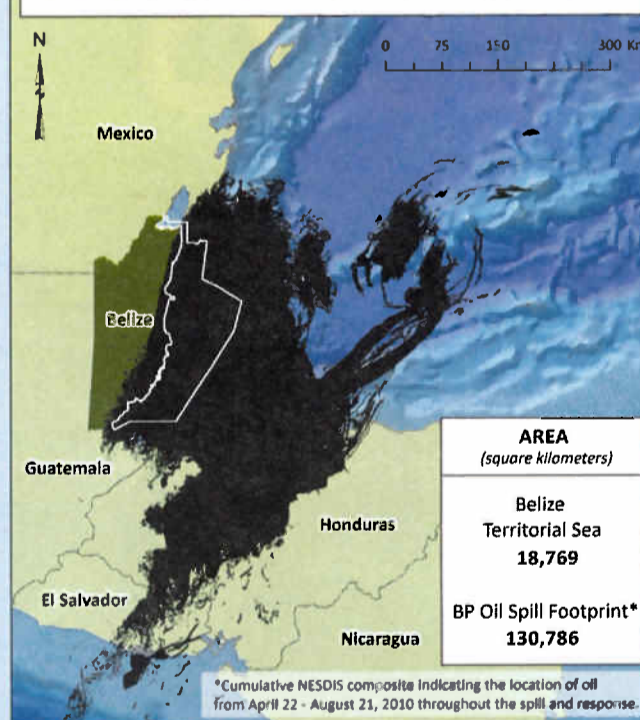
I sent the map to a Caribbean-based organization called the Healthy Reefs for Healthy People Initiative, which started incorporating the image into signs and television ads that urged people to vote "no" in the upcoming People's Referendum.

In the end, over 90 percent of Belizeans voted against allowing oil exploration and drilling offshore. The map was made with advanced technology, but needed no explanation. The arresting image showed starkly how valuable nature is to the health and well-being of average people. And those people took action to protect the ecosystem they depend on.

What more could a humble mapmaker ask for?

BELIZE UPDATE: WWF is working with Belize's Coastal Zone Management Authority and Institute to develop an integrated plan informed by WWF science that shows the impacts of alternative future development plans on nature and people. These maps are already shaping thinking—one showed how a proposed new port in Punta Gorda would significantly increase vulnerability to storm surge and inundation because it required clearing mangroves. As the Belizean Cabinet makes decisions regarding their natural resources, we hope they will choose a plan informed by WWF science to benefit both people and nature.

SIZE OF GULF OIL SPILL RELATIVE TO BELIZE'S TERRITORIAL SEA



Courtesy Gregg Verutes

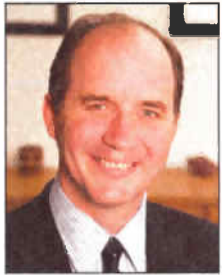
Scientific data and expert mapmaking combine to tell a complex story in a simple way. The visual impact of the Deepwater oil spill's geographic spread in the Gulf of Mexico, when shown against the span of Belize's coast and countryside, helped the people of Belize decide to protect their coasts rather than open them up to potentially harmful oil and gas exploration.

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Frontier



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“ Myanmar is a treasure trove in terms of the value that intact rivers, forests and marine systems bring to its people, particularly the ethnic minorities who occupy Myanmar's rural periphery. ”

decades of military art—it offers the ir screen—President the first ever by an r just a few weeks WF's journey to open

palpable; you can literally feel it in the air. I felt it as soon as rt of Naypyitaw, a shiny, modern and oddly quiet city. I saw d empty fields punctuated by massive government build- re economic growth and the planning of a new tomorrow—a rse of the word. And of course with that construction comes its natural resources, along with a tsunami of foreign inves- to capitalize on a country just beginning to introduce itself to i-needed investment.

entry wants—clean water, rich minerals, lush forests. It is th a capacity to generate electricity, sequester carbon, mine duce food for export to its neighbors. It is also a treasure rivers, forests and marine systems bring to its people, par- upy Myanmar's rural periphery.

Myanmar that includes both critical development and envi- in opportunity for the government to apply the best available s of this region and make smart choices. But it is critical the doors on its abundant natural resources. Myanmar has hard choices necessary to keep its resources intact—just e vast Chinese-funded Myitsonne Dam, a \$3 billion project rawaddy River to provide electricity largely for China's use. underscored the global importance of the Mekong region, more than 20 years. As Myanmar charts a new course, th a modern conservation path and craft a future in which out losing nature's value in the process.

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as and other species and their habitats. o symbolically adopt a species. Your donation F's conservation efforts around the world.

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