



EPISODE 11: THE CUBAN CONNECTION: SPILLS,
SCIENCE DIPLOMACY

<music up>

Levin: You're listening to The Loop, an audio series about the mud, microbes, and mammals in the Gulf of Mexico. I'm David Levin.

Hollander: Sometimes science can play a very important role in diplomacy.

Levin: Geochemist David Hollander says the only way to know how an oil spill will affect the entire Gulf of Mexico is to work with all the nations that touch it. Sometimes that means partnering with countries that haven't exactly been on good terms with the U.S. So how can science bridge the gap? Stay tuned.

<music out>

<AMBI: Salsa music echoing from a distance; crowd noise>

Levin: In old Havana, music spills out of clubs and echoes across the streets, as antique cars pitter by. Many of them date back to the 1950s, to the Cuban revolution... It's like the city's stuck in time.

But in the waters of the Gulf of Mexico surrounding Cuba, oil companies are looking decidedly to the future. They're drilling wells in deeper and deeper water off the Southern U.S. and Yucatan Peninsula. David Hollander thinks it may be a matter of time before another huge spill devastates the Gulf... and if that happens, Cuba will undoubtedly feel its effects.

Hollander: 6:35 In the event of an oil spill, oil doesn't know a northern boundary from southern boundary, or an eastern boundary from a western boundary. // There's a lot of connectivity among the regions of the gulf, and changes in one location can lead to changes in another.

<ambi out>

Levin: Hollander is a geochemist at the University of South Florida. He leads a team of researchers studying the long-term effects of oil spills in the Gulf. They're trying to figure out the best way to respond to the next big one. And *that* involves going beyond American shores, looking at how spills damage the Gulf as a whole.

The team has already spent more than six years doing fieldwork in U.S. waters. They've also partnered with the Mexican government to look at *their* ocean. But that adds up to only two thirds of the Gulf. The last remaining piece part is the water around Cuba.

Murawski: The northwest part of Cuba is considered part of the Gulf of Mexico, and it's also really an important piece, because it's a central location where water comes in through the channel between the Yucatan Peninsula and the west coast of Cuba, and water goes out between Cuba and Key West. So if we want to know what goes in, and what comes out, and what *stays* in, then we have to have some information about Cuba itself.

Levin: Steve Murawski runs C-IMAGE along with Hollander. He says that all the water in the Gulf flows past Cuba at some point... but researchers still don't know much about the deep ocean that surrounds the island. Since the Cuban revolution, U.S. scientists were barred from working there. And scientists in Cuba haven't had access to the tools they need to study areas deeper than 200 feet. Just off the Cuban coast, the bottom drops down to more than a *thousand* feet—and what happens *there* can have a huge impact on the rest of the Gulf.

Murawski: Cuba and south Florida are only separated by 90 miles. If something disastrous happens there, if they have an accident, it's gonna be in our water sooner or later; if we have an accident, it's gonna be in their water, so we share a mutual concern for the impacts of a particular catastrophic event.

Levin: That sort of mutual interest inspired the C-IMAGE team to try something radical. They're launching a campaign to reach across political boundaries, and they're starting to work with Cuban scientists directly. After slogging through nearly a year of red tape, they're kicking off a series of research cruises from Havana.

[Ambi: Group of students and C-IMAGE folks meeting each other:

"Yaaaay!" (clapping)

"Hi, I'm Ben."

"Misael. Nice to meet you", etc.]

Levin: In Havana harbor, Cuban and American scientists meet for the first time on the Weatherbird II, a U.S. research vessel. They're doing joint fieldwork offshore, along with a group of 18 students from all over Cuba. Together, they'll grab sediment samples from the deep ocean, and gather fish living there as well. All to establish a baseline for the health of the region—to tease apart how it might be damaged in an oil spill.

Murwaski watches the group file onto the deck of the Weatherbird.

Murawski: A cruise like this hasn't been done for fifty years. I feel like we're on the precipice of something new and exciting. So I'm really excited to go. //Hopefully this will be a sign of continued cooperation and more normal scientific relationships.

Armenteros: For me, it's a great experience. I have 20 years of experience working in the sea, but never have I been able to go out from the border. It's like an empty page that we have to fill.

Levin: This is Maickel Armenteros, an oceanographer at the University of Havana. He's leading the Cuban side of the collaboration. For him, this collaboration comes with a certain amount of urgency...

Armenteros: Mainly because we have really critical areas on in Cuba that can be really damaged with the oil appear, for instance, touristic facilities, hotels, marinas, and big cities like Havana that is facing the Gulf of Mexico.

Levin: He says that any spill that reaches both the Cuban and the U.S. coastlines would devastate tourism, the economy, and marine life. And since both nations rely heavily on the Gulf's fisheries, it could impact an entire seafood industry.

Murwaski: 40:00 We share so many things.

Levin: Again, Steve Murawski.

Murwaski: It's very likely that Cuba is the source of a lot of the larvae for spiny lobster, for example, that occur in the Florida Keys. Likewise, species like tarpon and bonefish, that are very important to fisheries in South Florida, may have origins in Cuba as well. And that's why we're very interested in understanding the interrelationships in particular between South Florida, the Cuban coast, and the Yucatan which are all relatively close together.

Levin: As oil exploration grows in the Gulf, it'll be especially important to have international partnerships like this one. Working with experienced Cuban scientists, says David Hollander, makes it suddenly possible to dig into big questions from two sides at once.

Hollander 30:35 In spite of the limitations they have for purchasing equipment, these are very smart, very poised, very mature scientists. I would say if we didn't have some of these strong partnerships, the science wouldn't be nearly as comprehensive as it is. I think this is vital to manage the Gulf of Mexico as a resource for all of us.

Levin: The team plans to continue these cruises throughout 2018. In the process, they're hoping this type of science diplomacy can bring all three Gulf nations closer together, and help protect the marine ecosystem they all share.

<Music up>

For The Loop, I'm David Levin.

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