

Title: Breakthrough: The Lake Sentinel

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Short Description:	Discover how earth scientist Africa Flores-Anderson uses satellite data to help underserved communities.
Long Description:	<p>Growing up in rural Guatemala, Africa Flores-Anderson was used to seeing unregulated agricultural runoff and polluted waterways. She thought that all landscapes in her country were laden with contaminated waters. When she went to live in western Guatemala where the land is less farmed, she saw for the first time healthy rivers, lakes, and forests. It was the moment Flores-Anderson decided to dedicate her life and education to environmental sciences and sustainability. To help underserved communities like the one she grew up in, Flores-Anderson focused her studies on learning how to collect and interpret satellite data across huge landscapes and waterways.</p> <p>“From space, I can see the forest and the condition of that forest, and I can see the river and the water quality of that river,” she says. “It completely revolutionized my world of the work I was doing.”</p> <p>Today, she works as an earth scientist and regional coordinator for the SERVIR (a collaborative NASA and USAID project), where she models environmental changes in regions without science infrastructure and resources. Her work helps decision-makers visualize fire, industrial, or disaster damage, predict future risks, and influence the allocation of development funds. In addition to this work, Flores-Anderson acquired funding to monitor the water quality of Guatemala’s Lake Atitlán, a source of drinking water, fishing, irrigation, and tourism.</p> <p>Lake Atitlán is known for its pristine waters, but</p>

	<p>Flores-Anderson has been monitoring recurring harmful algal blooms. Using her GIS skills, Flores-Anderson is mapping the levels of cyanobacteria in the lake over time and finding correlations with agricultural activity on the lake's banks. With these advanced tools, she wants to identify the severity of the problem and pass insights on to local authorities to allow them to save Atitlán from the fate of the degraded landscapes of her youth.</p>
Production Credits:	<p>Produced by Science Friday in collaboration with HHMI Tangled Bank Studios Directed and Produced by Katie Garrett Director of Photography - Katie Garrett and Michelle Lotker Edited by Erika Sutter and Katie Garrett Animations by Luke Groskin Satellite Data Provided by Africa Flores Anderson Music by Audio Network On-Location Production Support Rudy Augusto Flores Cano Series Producer Luke Groskin Landsat4, 5, 6, 7, and 8 Images Courtesy of the U.S. Geological Survey Copernicus Sentinel 1 and 2 Images Processed by the European Space Agency. Additional Satellite Images by SeaWiFS Project, NASA/Goddard Space Flight Center, and ORBIMAGE Matthew R. Radcliff, James R. Irons, Cindy Starr, Rachel Kreuzinger NASA Earth Observatory image by Jesse Allen, Level 1 and Atmospheres Active Distribution System (LAADS) Additional Photos and Video Provided by Shutterstock Project Advisors for HHMI Tangled Bank Studios Richard Stone Aileen O'Hearn Project Support for Science Friday Initiative Danielle Dana, Jennifer Fenwick, Ariel Zych Nadja Oertelt, Kyle Marian Viterbo, Diana Montano Daniel Peterschmidt, Xochitl Garcia, Nahima Ahmed</p>
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