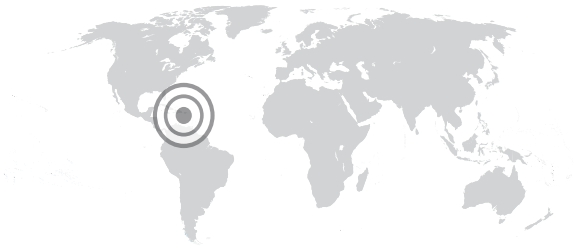
Stories of Impact

A series highlighting achievements in disaster risk management

Strengthening Haiti's Preparedness for Weather and Climate Hazards

REGION: LATIN AMERICA AND THE CARIBBEAN
FOCUS: HYDROMET
COUNTRY: HAITI



RESULTS:

- This marks the first case of collaboration between government stakeholders, local technologists, and students to create new hydromet-related apps;
- The first module of a national hydromet data platform was developed. This pilot, called SMS-Lapli, can receive data on hydromet parameters from more than 100 stations sent via SMS and other smartphone-based apps. This app will improve seasonal forecasts and allow for planting and harvesting advisories that are better adapted to local conditions, in turn enhancing the productivity of farmers;
- This is a major improvement from previous methods, in which data was handwritten on paper records or read over the phone, resulting in frequent errors and poor record-keeping.

Hydro-meteorological hazards (tropical cyclones, thunderstorms, hailstorms, tornados, floods, and drought) have had a significant impact on Haiti's development. More than 96% of its territory is at risk from these hazards. In response, the Global Facility for Disaster Reduction and Recovery (GFDRR) collaborated with the World Bank and the Climate Investment Funds' (CIF) Pilot Program for Climate Resilience to strengthen Haiti's capacity to deliver weather information and early warning systems tailored to the needs of farmers and civil protection groups.

Assistance from GFDRR's Code for Resilience initiative provided training to Haitian students to develop SMS-Lapli, a program to help the new Hydromet Unit at the Ministry of Agriculture collect, analyze, archive, and disseminate rainfall data.

GFDRR
Global Facility for Disaster Reduction and Recovery

CONTEXT:

Haiti has seen its economic growth systematically decline 2% annually due to hydromet hazards. It is particularly exposed to cyclones and droughts. The agriculture sector, the main source of revenue for rural households, is heavily dependent on rainfall and vulnerable to the effects of climate change. Additionally, over the past decade, hydromet hazards have affected 1.3 million and resulted in more than 6,000 fatalities.

In response, the "Strengthening Hydromet Services" project focuses on supporting institutional reform of hydromet services and creating a national open-data platform, giving decision-makers and the public access to information services that draw on data collected by hydromet, marine, and other stations. A $50,000 GFDRR grant provided technical and financial assistance for the first part of the project, with the aim of fostering the development of innovative data-based applications for modelling and better anticipating the impact of hydromet events by partnering with Haitian universities and scientists. This helped leverage an additional $5 million from CIF for the SMS-Lapli pilot project.

APPROACH:

GFDRR's Code for Resilience initiative forged a unique partnership that produced a locally-developed technological solution to improve meteorological data quality. The SMS-Lapli platform:

- Collects data entered by observers monitoring more than 100 manual stations scattered across the country. Data is transmitted to the national hydromet platform for verification and then stored in a database, allowing for analytics and information services;
- Can also incorporate other networks of manual stations currently existing in Haiti, consolidating fragmented data into a centralized, digitized repository.

NEXT STEPS:

The pilot data management work spearheaded with GFDRR assistance marks the first step of a process of data consolidation and rationalization. There are several other networks of hydromet stations, often set up with donor backing without coordination, that will need to be merged into a single, national hydromet data repository. A fully-centralized platform with well-established standard operating procedures for data collection, verification, and interpretation remains a critical requirement for upgrading the quality and resolution of hydrological, meteorological, and climate information, and increasing disaster and climate resilience.

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*ALL MONETARY VALUES IN USD

"This GFDRR-supported project was both an intellectual challenge and an opportunity to apply technical knowledge to concrete needs emerging from the population. We really feel we are making a contribution to improving the collection and analysis of data which is so critical for our country."

– Giovanna Blanc, 24, IT student

LESSONS LEARNED:

Local expertise represent a valuable resource to tap into for the development (and improvement) of hydromet and climate data management tools. Local experts are well placed not only to create technically strong tools but also incorporate local institutional knowledge in the design, which ensures government ownership and sustainability.This platform allows the government to generate analyses and alerts according to geographical parameters, as well as agro-climatic zones or specific watersheds best known by local experts. Additionally, the app's developers made sure it is compatible with the technical specifications of other data platforms used by government agencies.

GFDRR and the World Bank can play a critical role in helping to bring together government, the private sector, and academia, as well as catalyze partnerships to build local capacity and foster innovation. Throughout this project, GFDRR and the World Bank spoke regularly with the Ministry of Agriculture and farmers' representatives to identify specific needs and agree on an appropriate technical design.