

Ecuador case study: Weather and Climate Early warning systems for adaptation to Climate Change

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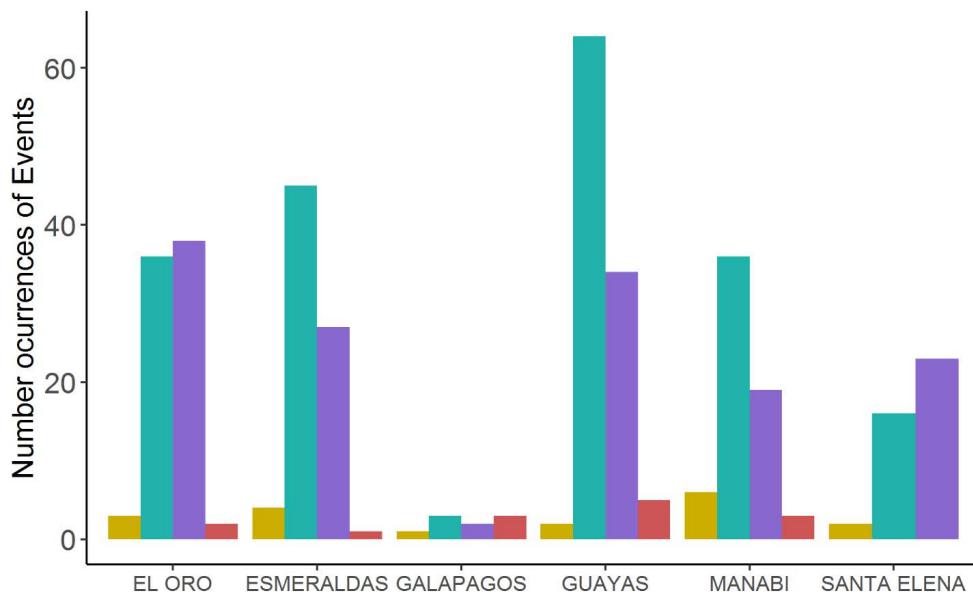
www.fimcbor.espol.edu.ec

Ecuador case study

- Early warning Systems
- Risk Transfer
- Building Resilience

Ecuador: a multihazard country

Events Occurrence in coastal provinces 1990 – 2015



Data taken from: <https://www.desinventar.org/es/>

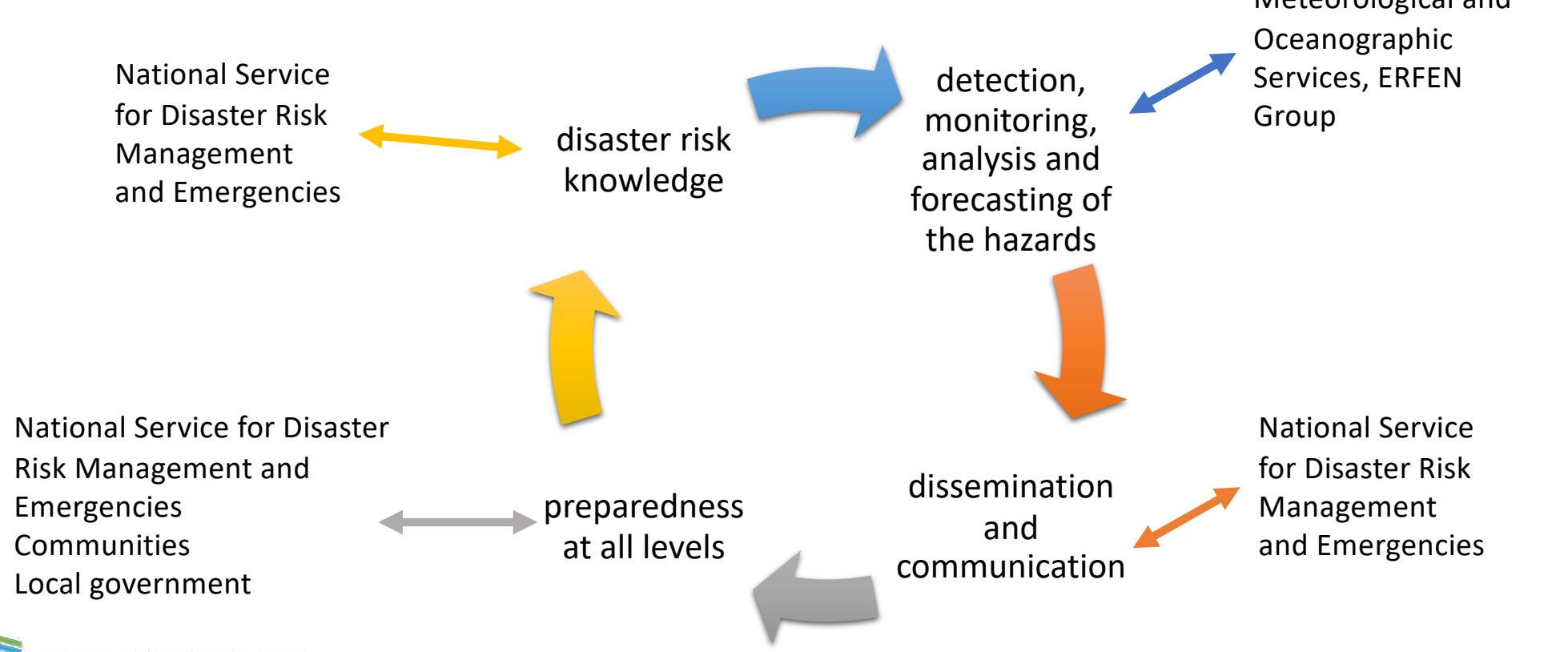
Early warning system

How we define an Early Warning System (EWS)?

- An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events. (UN General Assembly, A/71/644, December 2016).



Early warning system



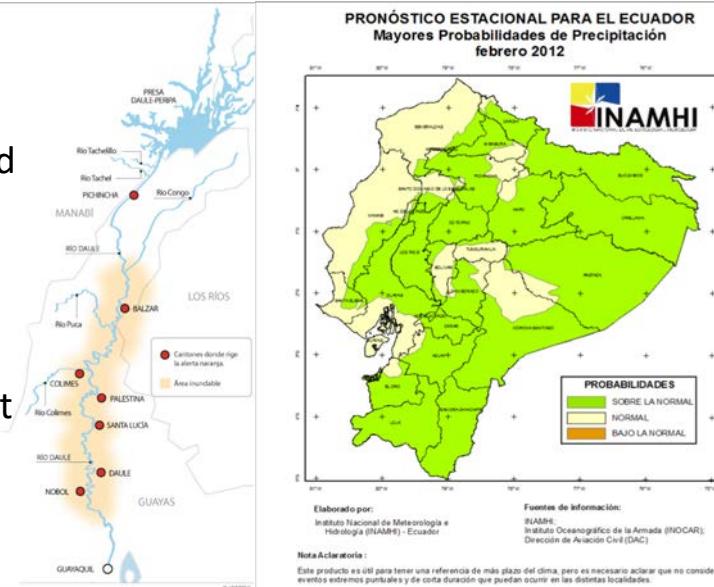
Early warning system

But... how do we set up an EWS? , how much technological development is required? How do we effectively communicate with people? With the community?

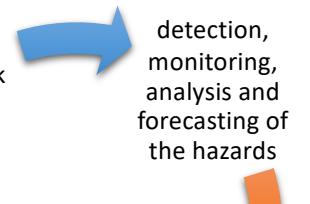
Community based EWS steps:

- a threshold for danger in river level is established,
- flood vulnerability maps are available,
- The met service announces extreme rainfall
- The community by the river checks river levels, and phones the SGR (30 cm in 3 days, March, 2012)
- SGR analyzes information and established alert level
- Risk management service (SGR) calls community network for auto-protection and local government to be ready for response.

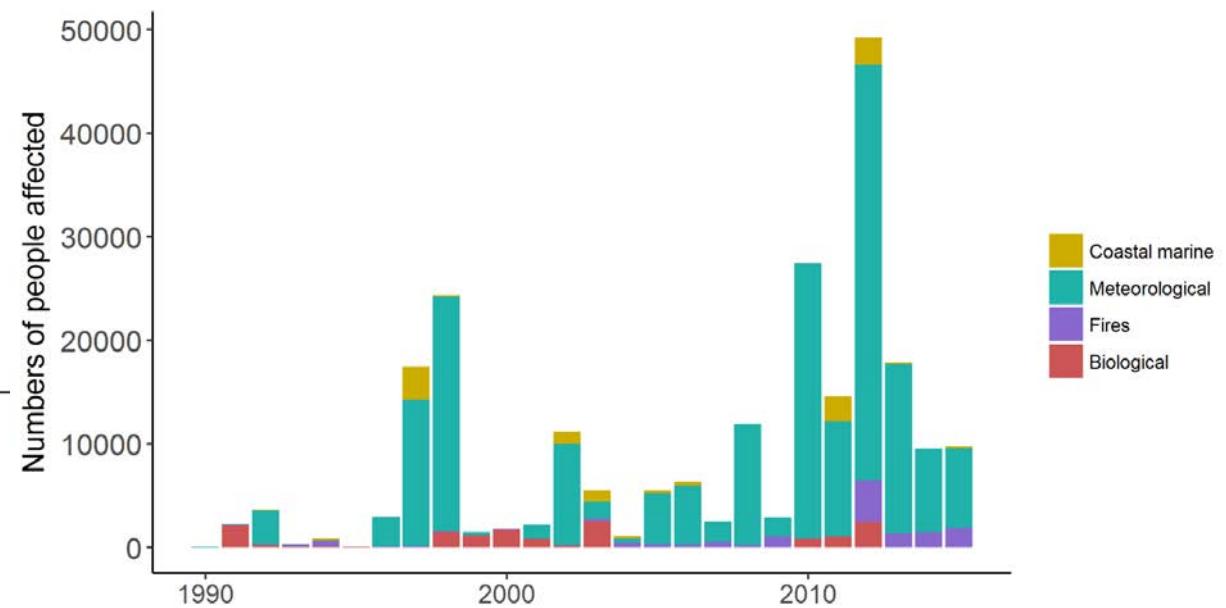
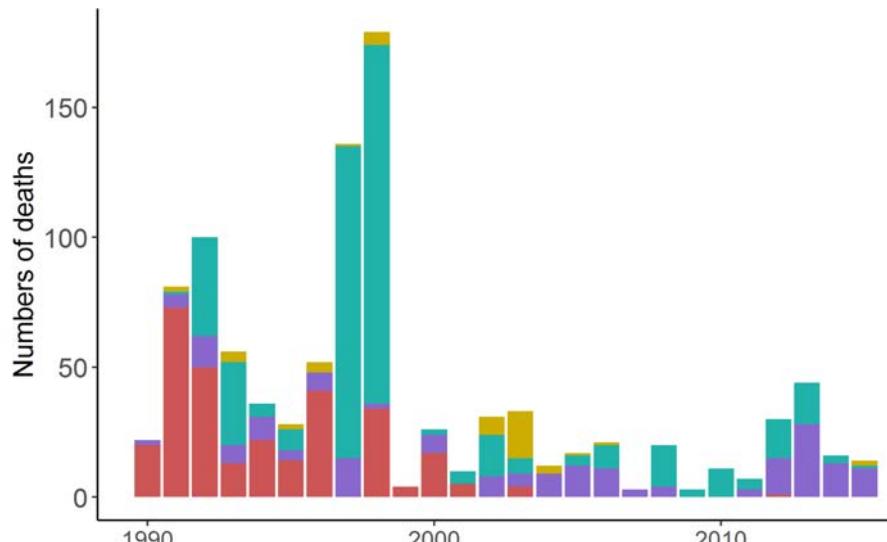
Source: Ecuadorian Risk Management Secretary 2009-15



disaster risk knowledge



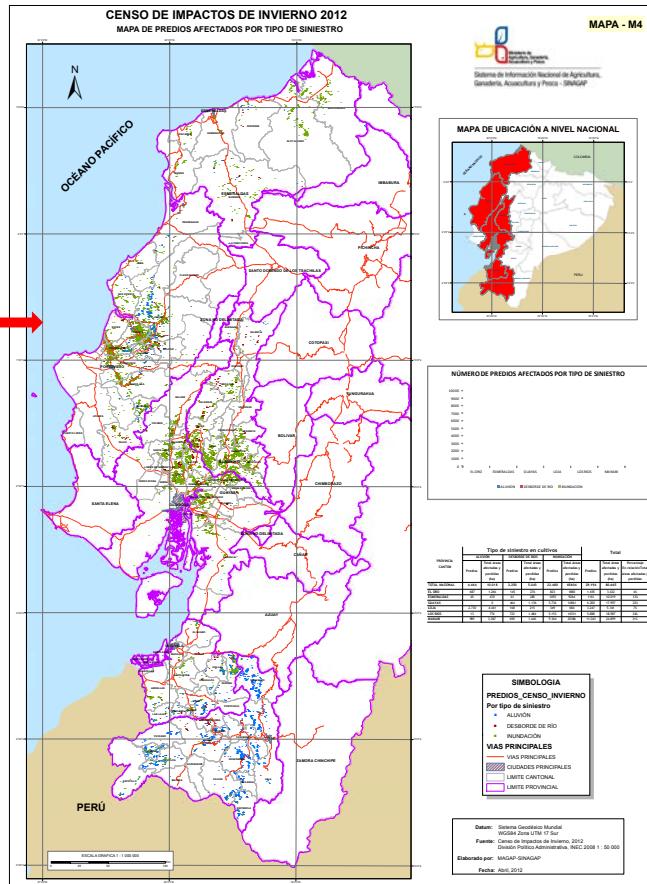
Early warning system



Data taken from: <https://www.desinventar.org/es/>

Minister of Agriculture (MAGAP) made a census to identify how many farms were affected.

Risk transfer



Based on:

- A reduction of 17% of area flooded between 2008 and 2012
 - The implementation of structural DRR practices
 - The 2012 census results

Then MAGAP creates Agroseguro
Program to implement a crop insurance
for small and medium farmers

The insurance is subsidized (60%) and it is accompanied by support for improving agriculture practices.

<http://agroseguro.agricultura.gob.ec>



agroseguro.agricultura.gob.ec

MINISTERIO DE AGRICULTURA Y GANADERIA

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Inicio AgroSeguro Productos Servicios Noticias Multimedia Contáctenos

Tarifa 0% del IVA en el Seguro Agrícola

Con la Ley de Fomento Productivo los agricultores ahorrarán aproximadamente 1.6 millones por año por concepto de IVA.

60% de subsidio al costo de la póliza

Verifique su Acreditación

Cotiza el seguro

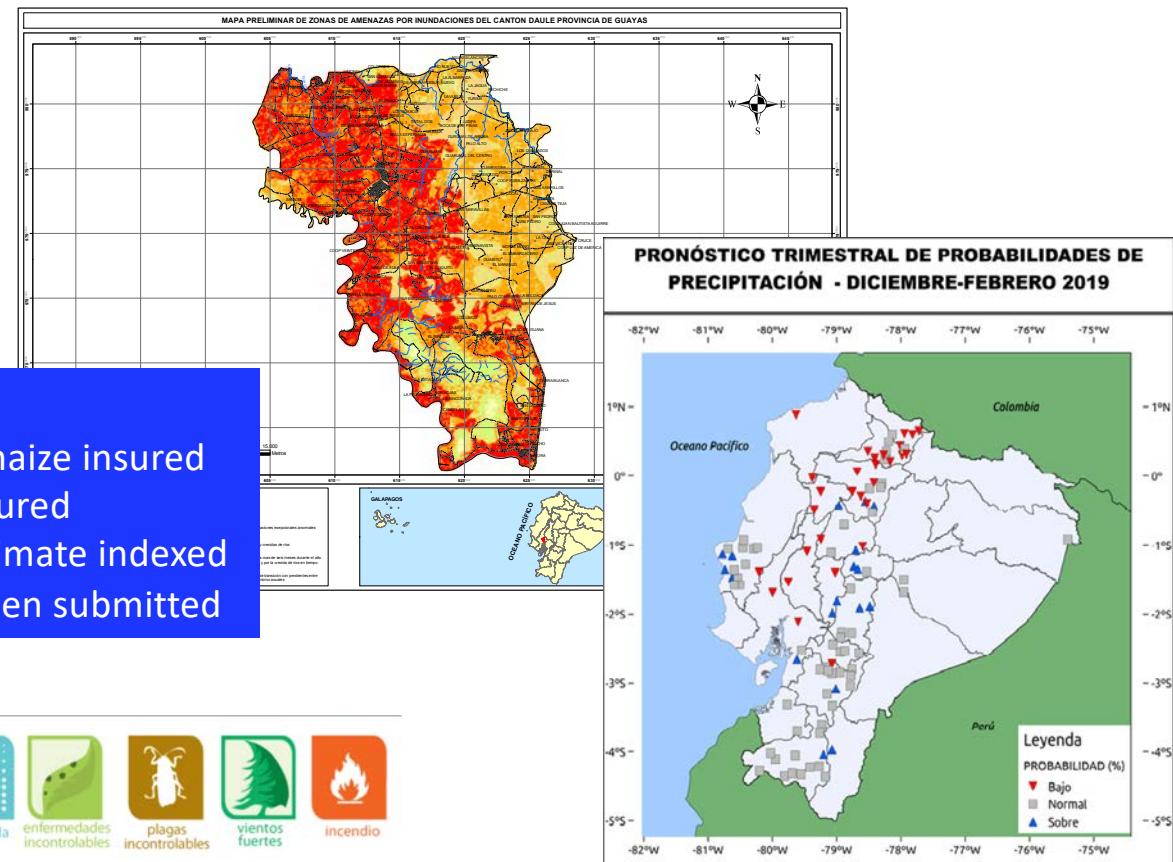
Consulta estado siniestro

Intranet - SIAS

Se elimina el pago del IVA en los Seguros Agropecuarios

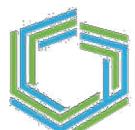
sequia inundación helada granizada enfermedades incontrolables plagas incontrolables vientos fuertes incendio

Risk transfer

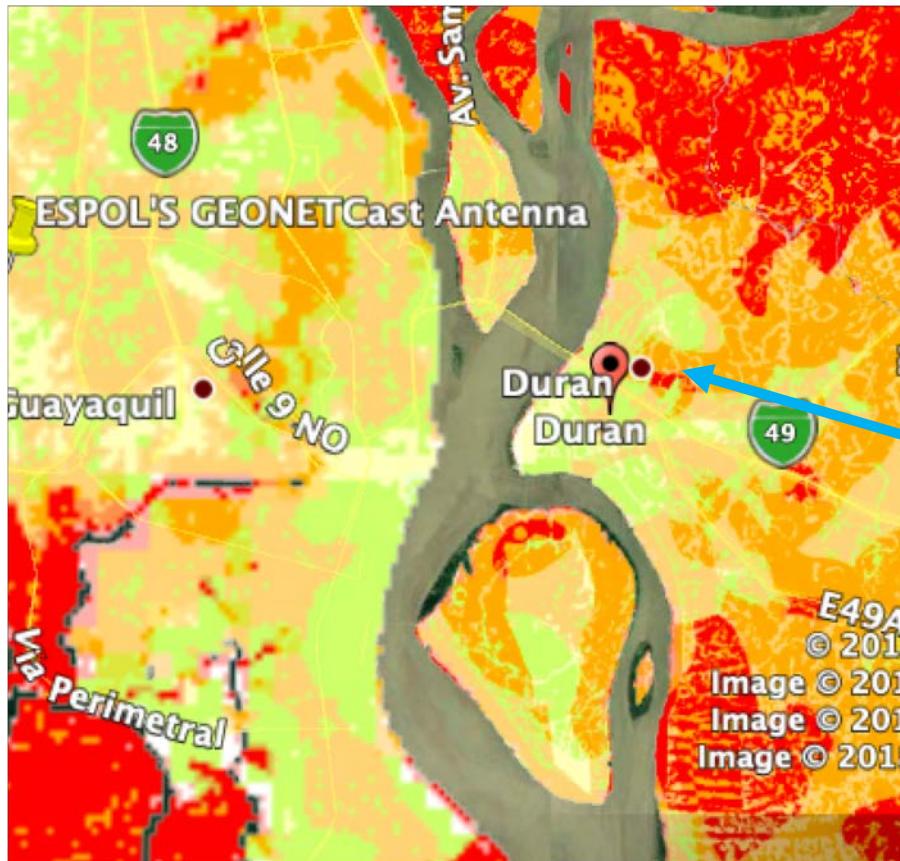


2018

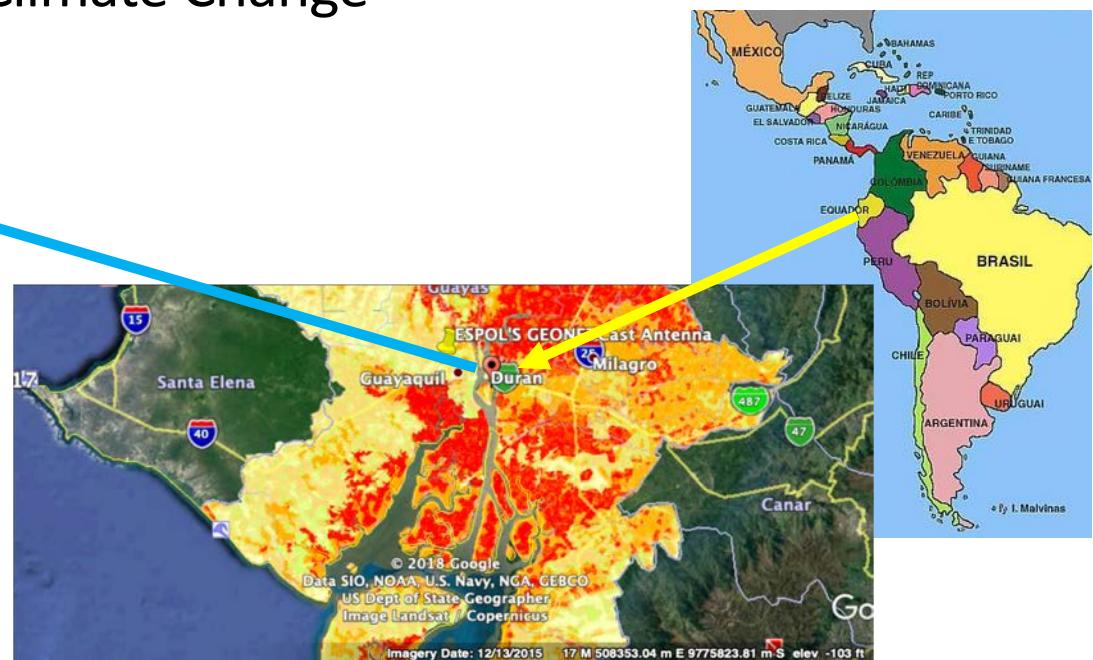
- 104k has. hard maize insured
- 30k has. Rice insured
- A proposal for climate indexed insurance has been submitted



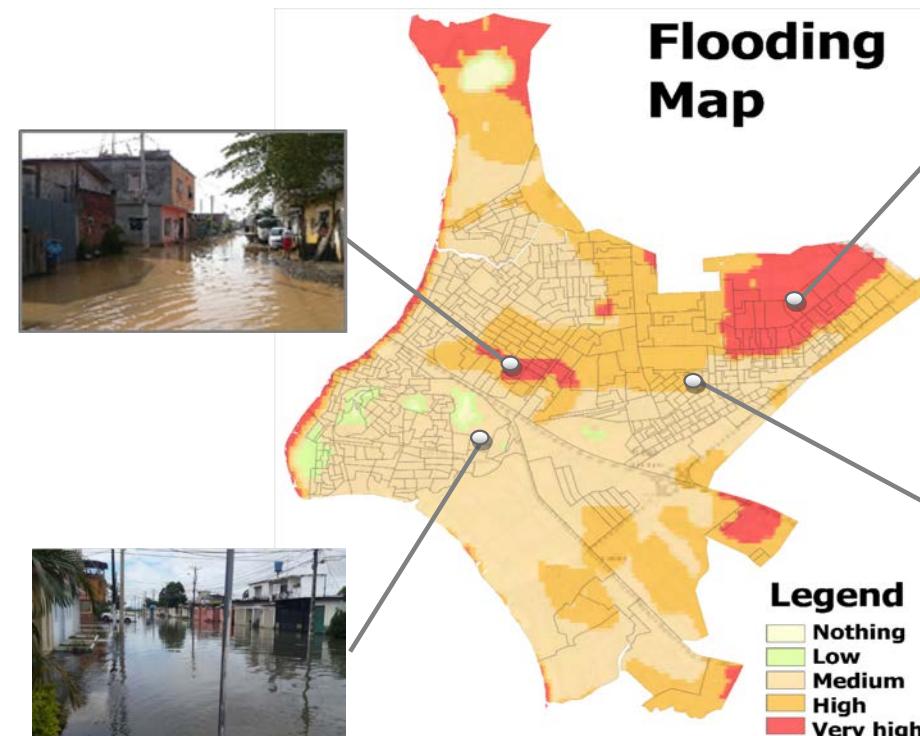
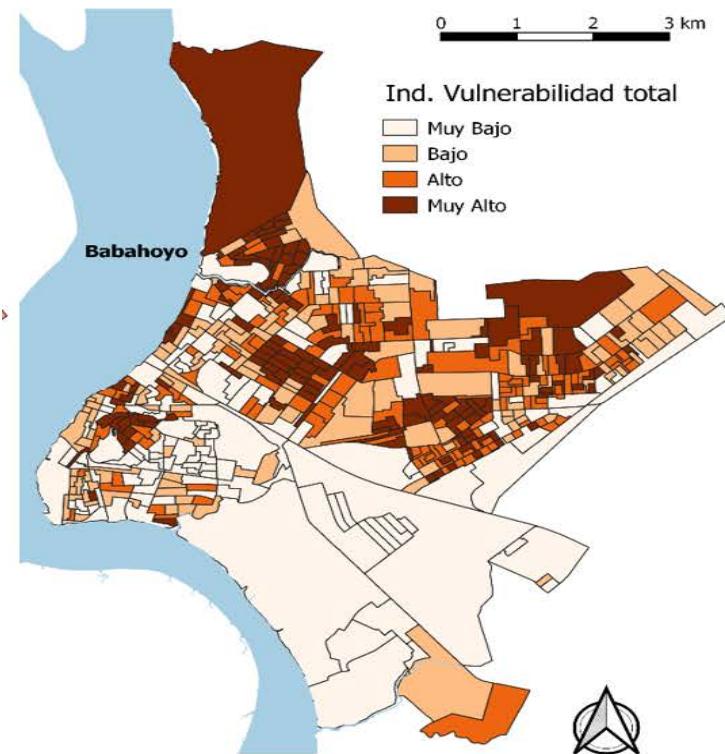
Building resilience to Climate Change



Durán Research Project to build a resilient city: Strategies to reduce vulnerability to Climate Change



Building resilience to Climate Change





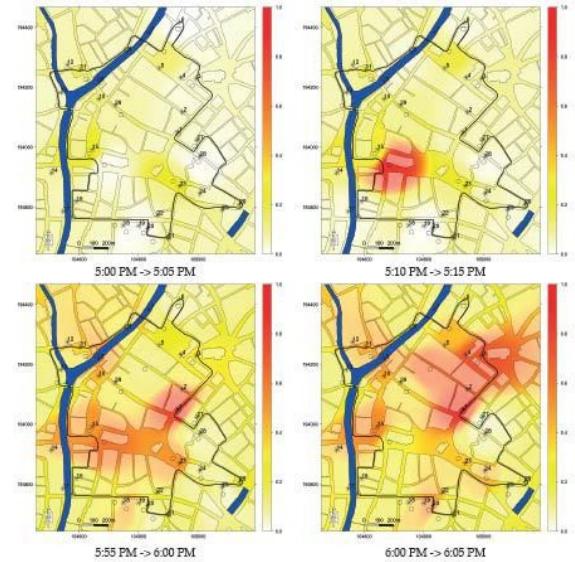
Building resilience to Climate Change



The infographic features logos for Ghent University, the Government Autónoma Descentralizado Municipal del Cantón Durán, and ESPOL. It highlights the 'DURAN RESILIENTE' campaign against climate change. It shows a map of Durán with icons for walking, cycling, and public transport. A QR code links to the 'Connect Duran' app, which is available on Google Play. The app interface displays a map with a route and various icons. Text instructions guide users through the process: 1. Descarga el app Connect Duran, 2. Registra tu recorrido, 3. Envía tu recorrido, and 4. Optimiza tu recorrido. The app also provides information about energy consumption and privacy.

Development of a technological platform

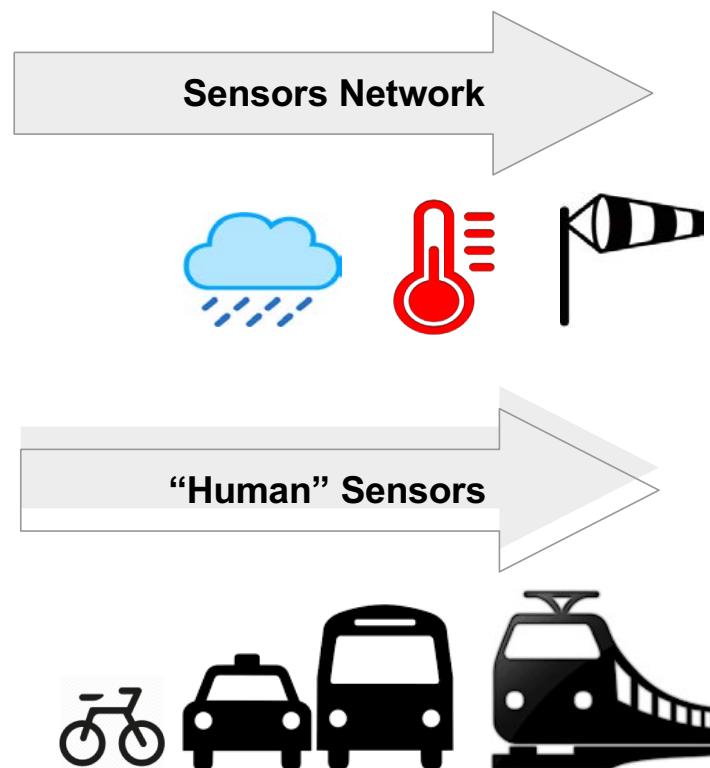
- Deployment of an urban network for monitoring environmental variables through different sensors
- Development of a crowdsourcing network for monitoring environmental variables based on smart phones
- Geospatial platform for displaying hazards and the monitored information



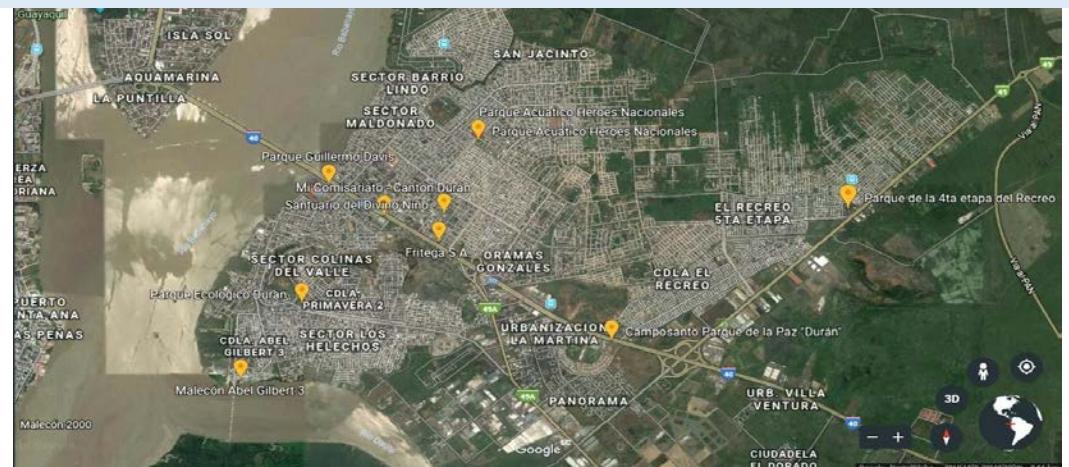
"Implementing Food-Energy-Water Security Early Warning Systems for Adaptation to Climate Change"



Building resilience to Climate Change



Sites for Meteorological Monitoring with Wifi



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Thank you!