Project on Adaptation in Wetlands in the Gulf of Mexico

Case study on co-benefits of NBS

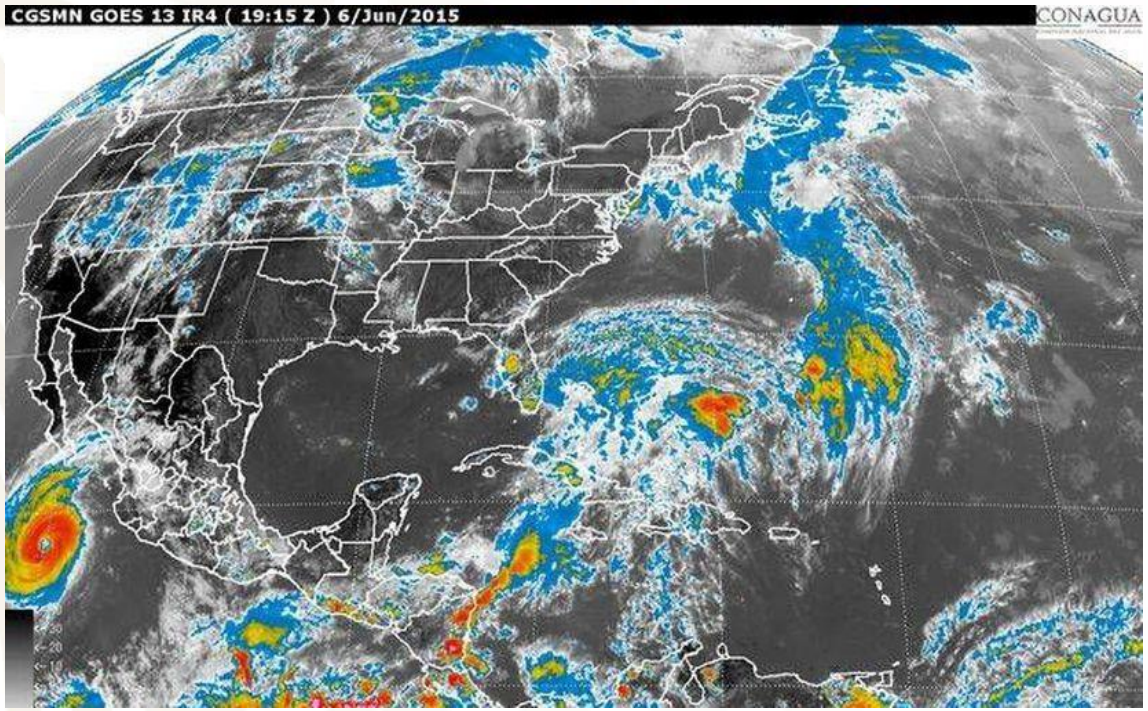
MEDIO AMBIENTE
SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

INECC
INSTITUTO NACIONAL DE ECOLOGÍA Y CAMBIO CLIMÁTICO

UNOFFICAL TRANSLATION | TRADUCCIÓN NO OFICIAL

2022 Año de Ricardo Flores Magón
PRECURSOR DE LA REVOLUCIÓN MEXICANA

MEXICO



1. Highly vulnerable
2. Mega diverse country

Nature-based solutions (NBS) are an important part of the country's national and international commitments.

PROJECT: ADAPTATION OF COASTAL WETLANDS IN THE GULF OF MEXICO TO CLIMATE CHANGE IMPACTS (2011 – 2015)

- GEF Project through the World Bank

INECC
INSTITUTO NACIONAL DE ECOLOGÍA Y CAMBIO CLIMÁTICO

IMTA
INSTITUTO MEXICANO DE TECNOLOGÍA DEL AGUA

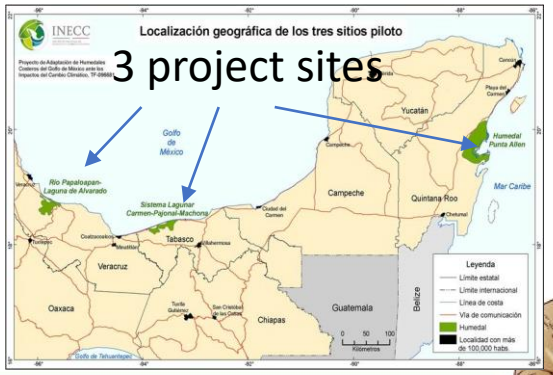
Project implementers:

- Instituto Nacional de Ecología y Cambio Climático (INECC)
- Instituto Mexicano de Tecnología del Agua (IMTA)

Project partners:

CONAGUA
COMISIÓN NACIONAL DEL AGUA

CONANP
COMISIÓN NACIONAL DE ÁREAS NATURALES PROTEGIDAS



ADAPTACIÓN AL CAMBIO CLIMÁTICO EN HUMEDALES DEL GOLFO DE MÉXICO

2022 Año de Ricardo Flores Magón
PRECURSOR DE LA REVOLUCIÓN MEXICANA

Alvarado Lagoon, Veracruz

Pollution

Activities with conflicting interests

Frequent flooding

Sea level rise – saltwater intrusion

Carmen-Pajonal-Machona lagoon system, Tabasco

Pollution

Sea level rise

Subduction

Periodic flooding – heavy rainfall

Lack of potable water

Vulnerable and marginalized communities

Punta Allen Natural Protected Area Wetland – Sian Ka'an, Quintana Roo

Natural Protected Area

Road construction impacting mangroves

Effect on coral reef – Mesoamerican Barrier Reef System

Increase in water temperatura and changes in precipitation

Mangroves

- Present in the 17 coastal states
- **905,086 hectares of mangroves (2020 – CONABIO) – 4th largest in the world**

Blue carbon ecosystems – Feeding, breeding and nursery grounds, pollutant filtering, coastal protection, carbon sequestration

Coral Reefs

- Mesoamerican Barrier Reef System - 2nd largest in the world
- Transboundary reef extending along four countries and more than 1,000 km of coastline
- Key site for the protection of biodiversity: more than 60 types of coral and 500 species of endangered fish.

https://www.wwfca.org/especies_yllugares/arrecife_mesoamericano/

Coastal protection, fish production, tourism opportunities.

Ecosystem-based adaptation - biodiversity conservation as part of a comprehensive strategy for community adaptation to climate change

Coast of Tabasco and Veracruz

Reforestation

✓ Mangroves and riparian vegetation

Restoration of hydrological connectivity

✓ Inland canals in mangrove areas

Sian Ka'an, Q. Roo- Caribbean Coast

Hydrological rehabilitation

✓ El Playón wetland –

Topographic survey - implementation of canal network, culvert cleaning, etc.

Coral repopulation

Restoration over 3,500 m^2 - specimens (fragments) of *Acropora palmata* resistant to high temperatures and low salinity.

Contribution to conservation, restoration and rehabilitation - ecosystem integrity to increase resilience to climate change impacts.

Community-based Adaptation / Adaptation based on Disaster Risk Reduction

CBA

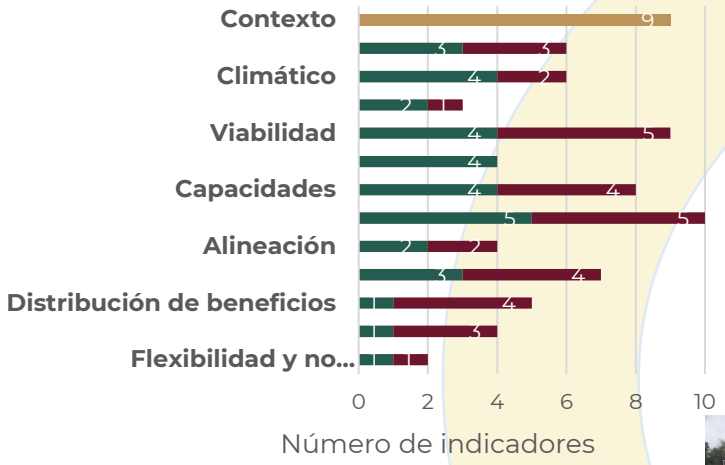
- Rainwater harvesting systems
- Raised vegetable gardens
- Social participation tools
- Capacity building

DRR

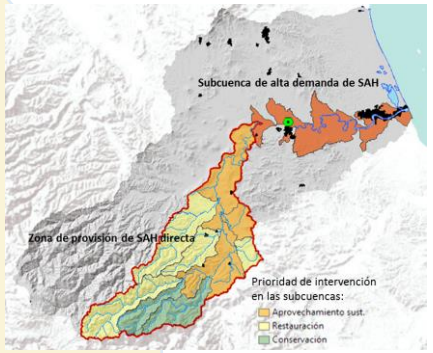
- Early warning systems
- Installation of measuring equipment (tide gauges, weather stations)
- Development of social participation tools
- Capacity building

ATLAS NACIONAL DE VULNERABILIDAD AL CAMBIO CLIMATICO México

Monitoring and Evaluation
Context, management and impact indicators



Planning tools



Rainwater harvesting

Ongoing projects

CONECTA

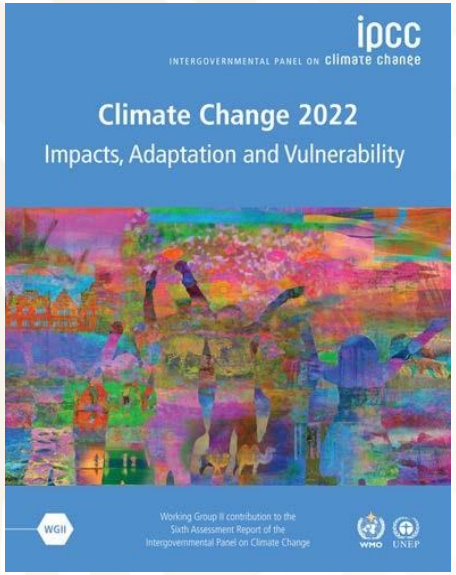
Promotes connectivity of livestock and agroforestry landscapes in watersheds of Jalisco, Veracruz, Chihuahua and Chiapas in the context of climate change.

RIOS

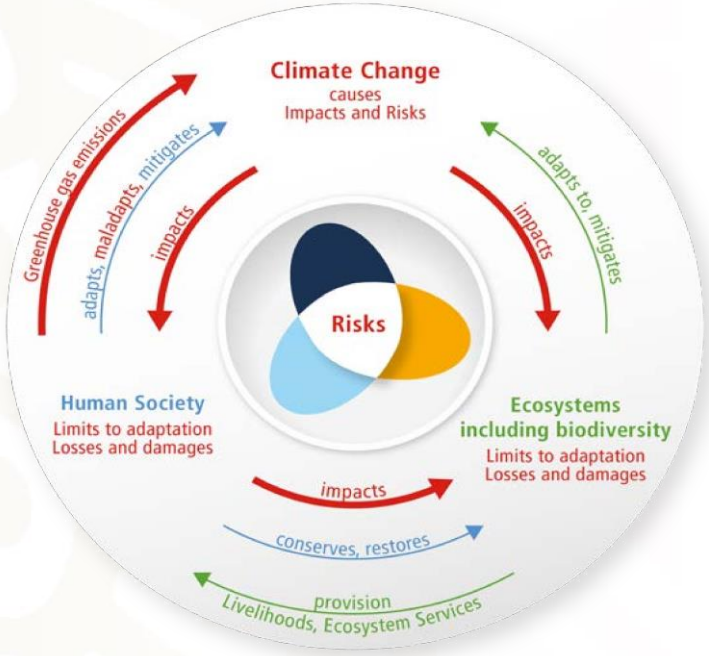
Increase the adaptive capacity of watersheds vulnerable to climate change in Jalisco and Veracruz through river restoration and ecosystem connectivity.

- ✓ Gender and human rights approach
- ✓ EbA and NBS approach
- ✓ Inter-institutional collaboration

Climate change does not affect all people in the same way: poverty, gender inequality, ethnicity, social class (among others) determine sensitivity and adaptive capacity.



There is a brief window of opportunity, which is rapidly closing to achieve a livable future.



New understanding of the interactions between climate change, human societies and ecosystems

Climate Change Adaptation (emphasizing NBS)

- ✓ Biodiversity conservation
- ✓ Caring for the most vulnerable
- ✓ Food and wáter security
- ✓ Poverty reduction
- ✓ Reduction of inequality
- ✓ Recognition and recovery of traditional knowledge
- ✓ Post-COVID-19 green recovery

Integrated vision

Lessons Learned

1. Adequate vulnerability assessment is essential (Scale, differentiated vulnerability)

2. Community participation– gender representation

3. Bringing gender and human rights approach to the field - reducing inequality gaps. Climate change aggravates asymmetries; the causes must be addressed.

4. Sharing lessons learned and best practices

5. Consider a systemic (ecosystem) approach.

6. Monitoring and evaluation

7. Promoting awareness of the importance of the ecosystem and its environmental services - social cohesion- Unexpected co-benefit

¡GRACIAS!

margarita.caso@inecc.gob.mx

MEDIO AMBIENTE
SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

INECC
INSTITUTO NACIONAL DE ECOLOGÍA Y CAMBIO CLIMÁTICO

UNOFFICAL TRANSLATION | TRADUCCIÓN NO OFICIAL

2022 Año de Ricardo Flores Magón
PRECURSOR DE LA REVOLUCIÓN MEXICANA