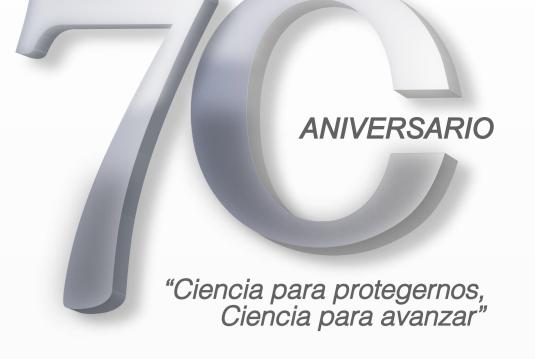
IMPACTS OF EL NIÑO PHENOMENON IN THE PROVISION OF ECOSYSTEM SERVICES IN THE MANGROVE OF TUMBES (PERÚ)

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El Niño

phenomenon

The northern coast of Peru is exposed to the impacts of El Niño phenomenon (FEN) in rural and urban areas; however, there is no synthesized information on the impacts on the mangrove ecosystem of Tumbes.

DISTRIBUTION OF BIODIVERSITY IN THE MANGROVE:

The distribution depends on the interaction of incoming freshwater, marine waters, and the tolerance to salinity of each specie.

WHAT IS FEN?

Various months of anomalous climatic events including high sea surface temperatures and intense rains on the north coast of Peru.



PHYSICAL IMPACTS OF THE FEN IN THE MANGROVE:

General level

Increased air temperature

Increased sea surface temperatura

Increased precipitation

River/Basin level

- Increased river flows
- Increased erosion
- Increased dissolved
- oxygen

Mangrove/Local level

- Increased sediments
- Decreased salinity
- Local erosion
- Local stuarines clogging



IMPACTS IN ECOSYSTEM SERVICES:

Regulation:

- Reduction of salinity of the estuaries caused by the increase of the flows
- Catchment of estuaries caused by the increase of sediments coming from the rivers

Provision:

- Decreased vegetation cover: Mangle rojo and colorado (Rhizophora mangle and harrisonni)
- Decreased populations of "Concha negra" (Anadara tuberculosa) and "manglero crab" (Ucides occidentalis)



Culture:

- Alteration of scenic beauty
- Decrease in tourism







Changes in biodiversity

Support:

CONCLUSIONS AND RECOMMENDATIONS:

- One of the main impact caused by the FEN is the decrease in salinity, a physical change that alters and negatively impacts supply services in particular.
- This information should be included within the management and / or management plans, in order to have contingency plans in view of the potential occurrence of an FEN.