

State of the art in the Mexican Drought Policy implementation

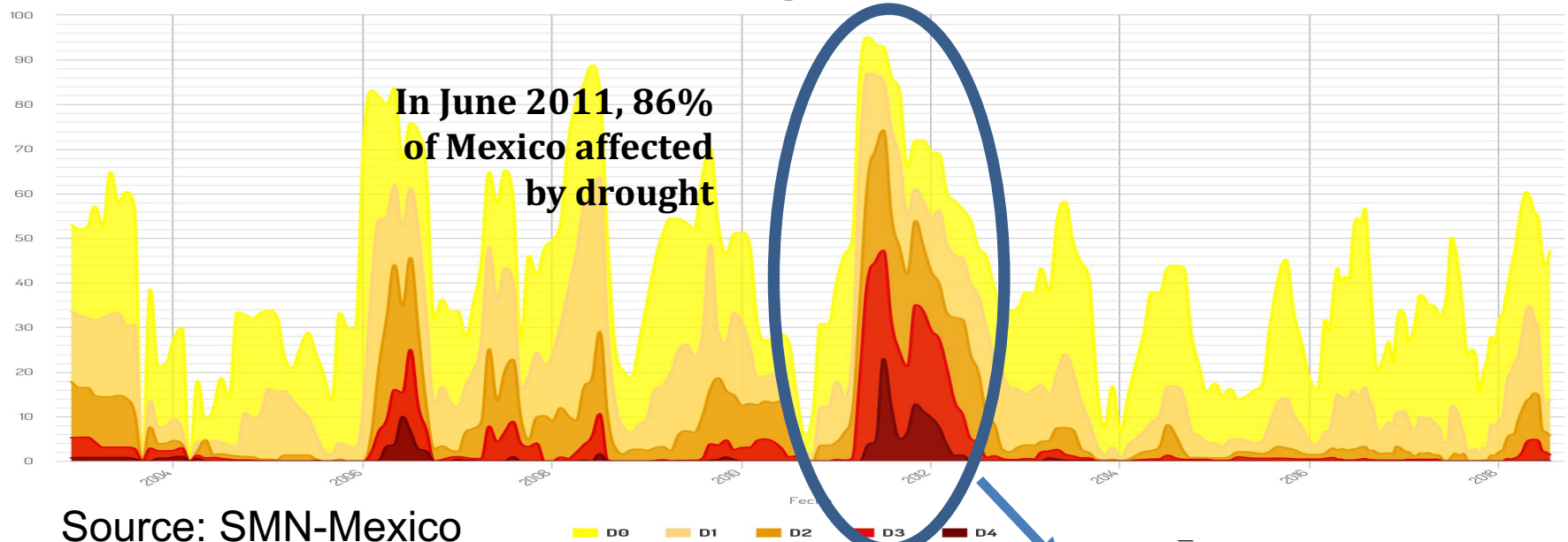
The drought in Mexico has receded and the basic tasks focus on:

- Improving the monitoring and early warning: with the Model Implementation of a Drought Persistence Monitor and drought impact reporter**
- Improving the vulnerability and risk assessment at the county level**
- Drought protocol and basin and state drought declaration agreement operational since 2014**
- Mitigation and preventive drought measures programmes no revised**
- Interministerial Committee meets 4 times a year**

Mario López-Pérez
Mexican Institute of Water Technology
August , 2018

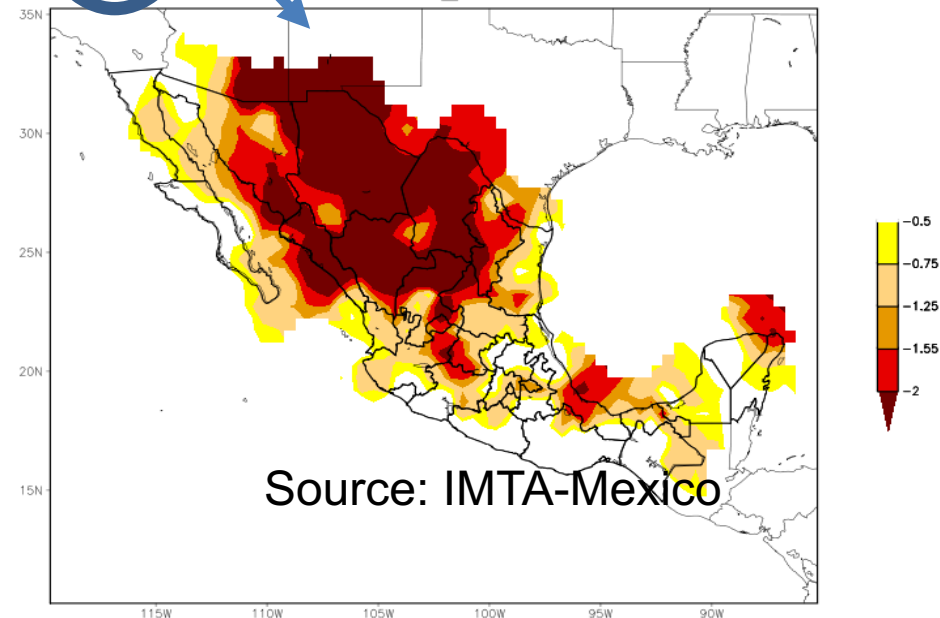
Mexico is vulnerable to drought

Percentage of area affected by droughts in Mexico until July of 2018



2011 ended up being the thirteenth driest year in Mexico's history since the last 70 years.

Six month SPI for June 2011

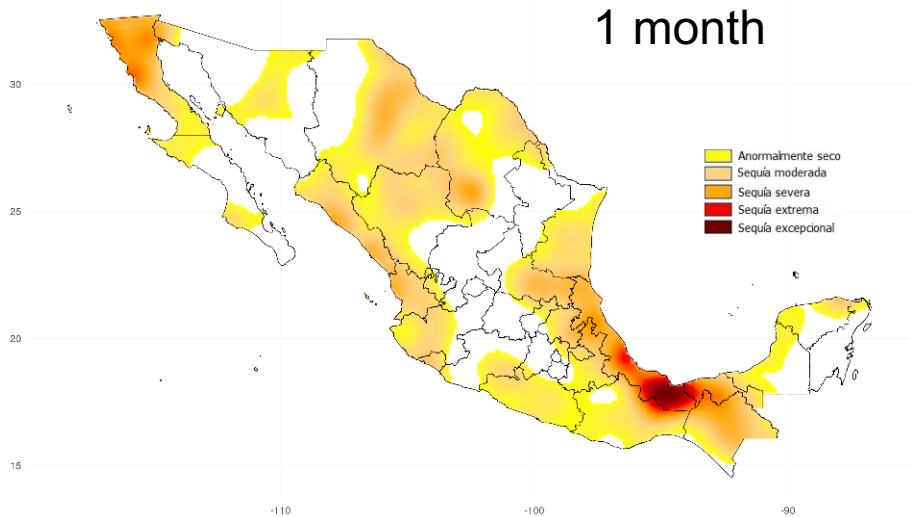


IMTA recently developed the “Drought Persistence Index” using as input:

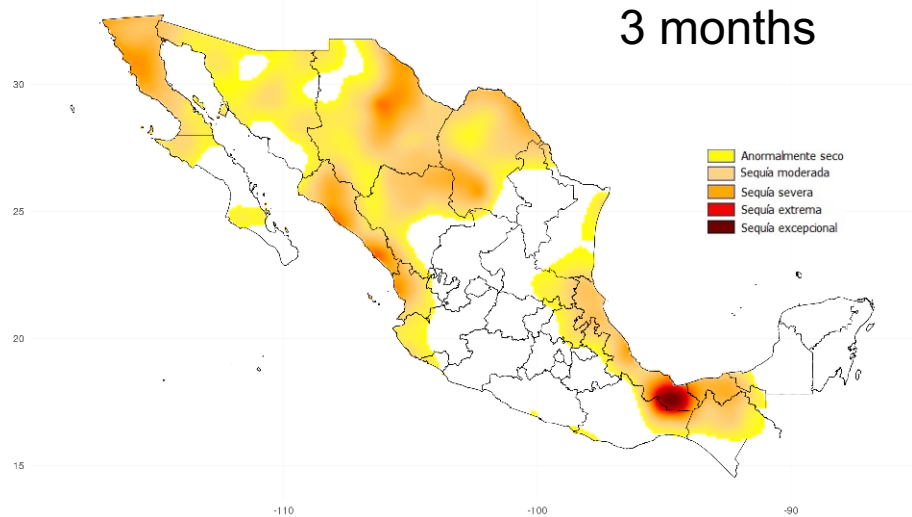
- 1) Standardized Precipitation Index**
- 2) Standardized Temperature Index**
- 3) Standardized Soil Moisture Index**
- 4) Standardized Vegetation Index**
- 5) Standardized Precipitation-Evapotranspiration Index**

Each one is computed for different time periods and represents the cumulative probability for that given period, as well as the duration, intensity and magnitude of dry spells.

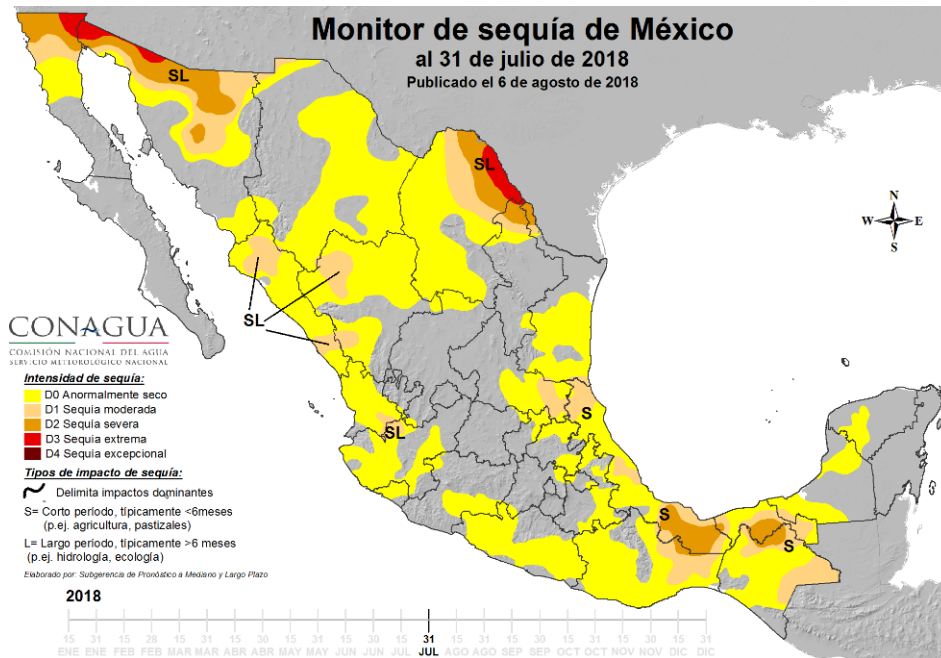
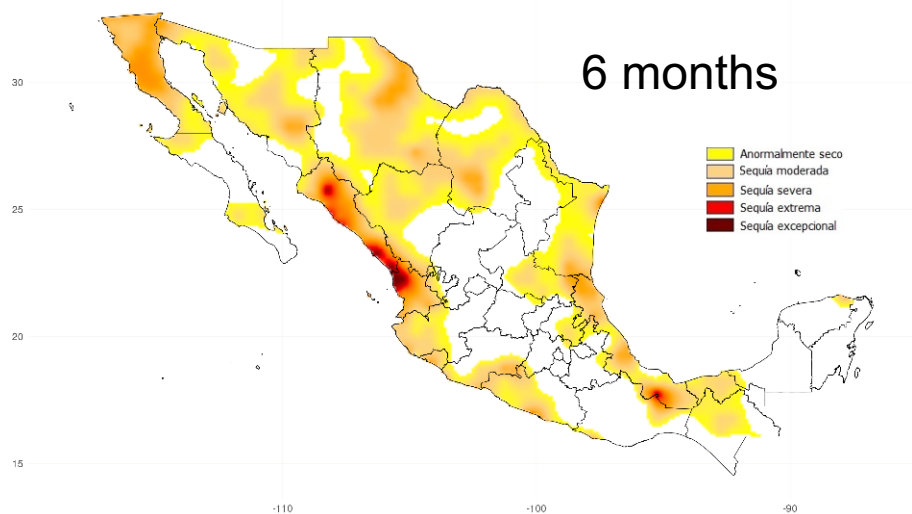
Mapa del índice de persistencia de la sequía a 01 mes
Correspondiente a: 07/2018 Elaboración: 08/2018



Mapa del índice de persistencia de la sequía a 03 meses
Correspondiente a: 07/2018 Elaboración: 08/2018



Mapa del índice de persistencia de la sequía a 06 meses
Correspondiente a: 07/2018 Elaboración: 08/2018



Aguascalientes	Michoacán
Baja California	Morelos
Norte	Nayarit
Baja California	Nuevo León
Sur	Oaxaca
Campeche	Puebla
Chiapas	Querétaro
Chihuahua	Quintana Roo
Coahuila	San Luis
Colima	Potosí
Distrito Federal	Sinaloa
Durango	Sonora
Estado de	Tabasco
México	Tamaulipas
Guanajuato	Tlaxcala
Guerrero	Veracruz
Hidalgo	Yucatán
Jalisco	Zacatecas

01

03

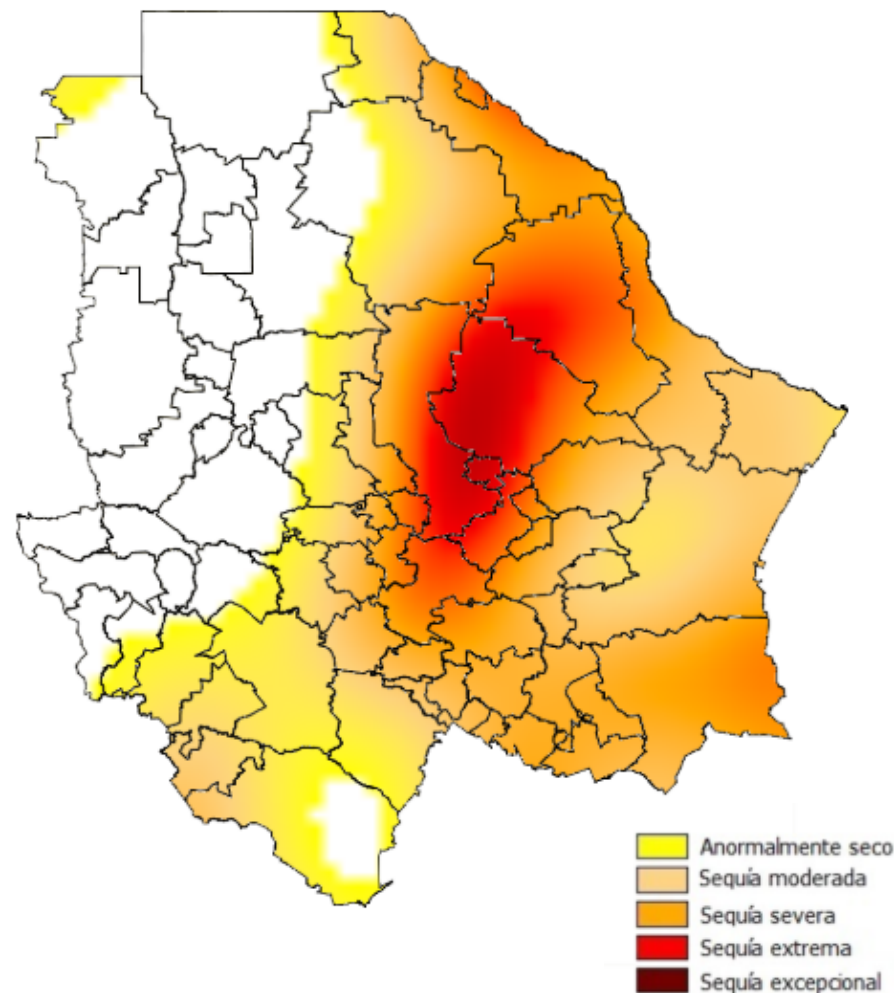
06

09

12

24

48



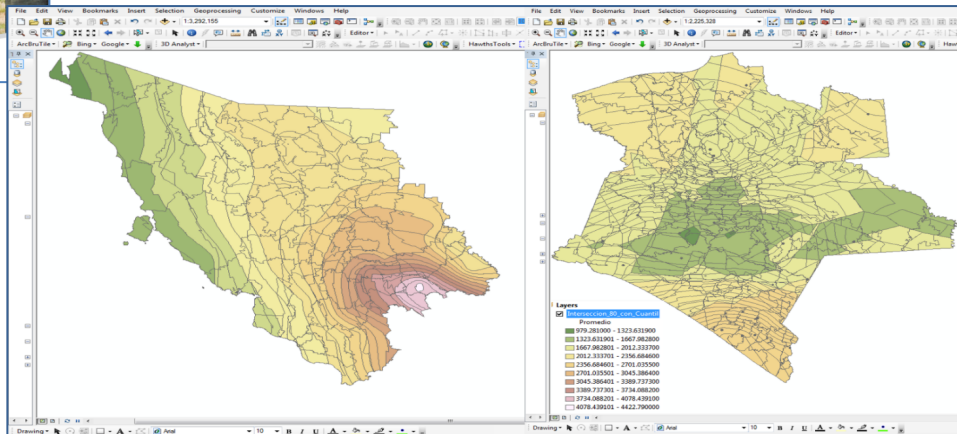
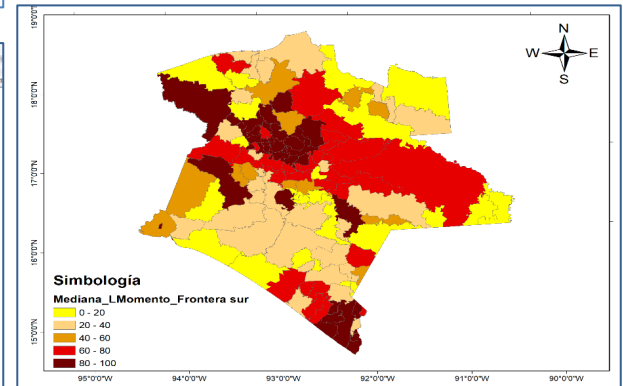
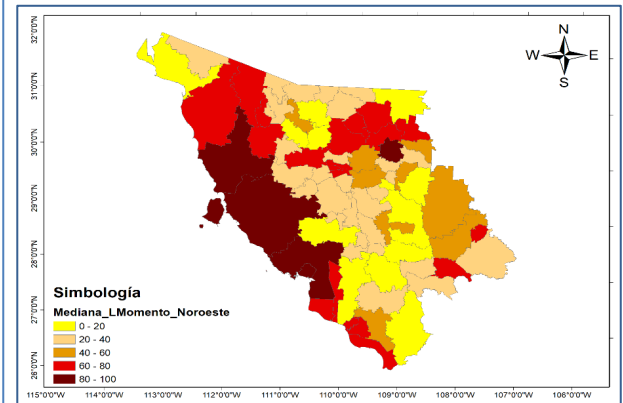
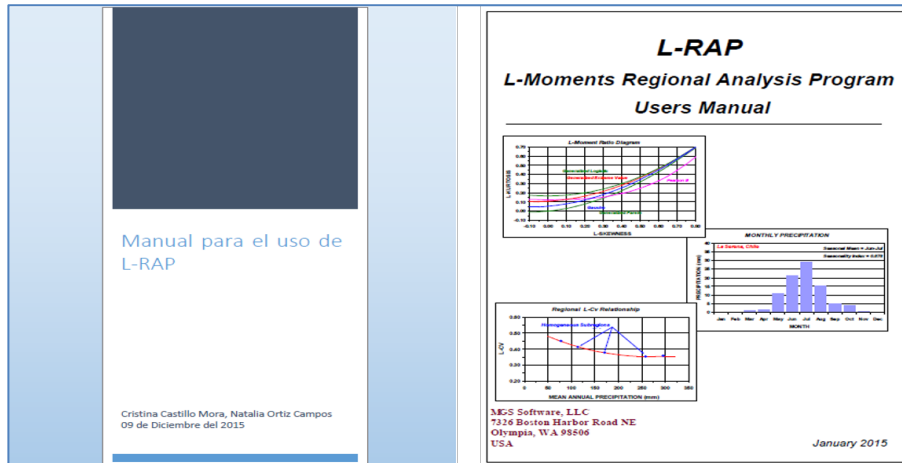
Improvement process to the system

To enhance both the spatial and time resolution, is is being incorporating data from satellite platforms.

- ✓ Soil Moisture through the satellite Soil Moisture and Ocean Salinity (SMOS) from the European Spatial Agency.
- ✓ Precipitation through the Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS).
 - Rainfall estimation based on infrared band and ground corrected.
 - Spatial resolution: 0.05 deg (~ 5km)
 - Temporal resolution: daily
 - From 1981 to date
- ✓ Starting to obtain Surface Temperature from the new platform GOES-16.
- ✓ It is required a longer calibration process, so adequate weights can be adjusted.

Vulnerability improvement at the county level: align federal and state funds investment

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International technical assistance on Drought:

through the Mexican Foreign Relations funds
(AMEXCID) for:

Nicaragua: Monitoring and early warning for the
agricultural sector and Mitigations measures

Panamá: Monitoring and early warning

Southamerica: SADIS

Thank you

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