

Mexican National Drought Programme (Pronacose)



Mario López Pérez
Engineering and Binational Water Issues Manager
September 9 & 10, 2015
Geneva, Switzerland

Pronacose's political support

January 10, 2013 announced by President Peña Nieto in Zacatecas

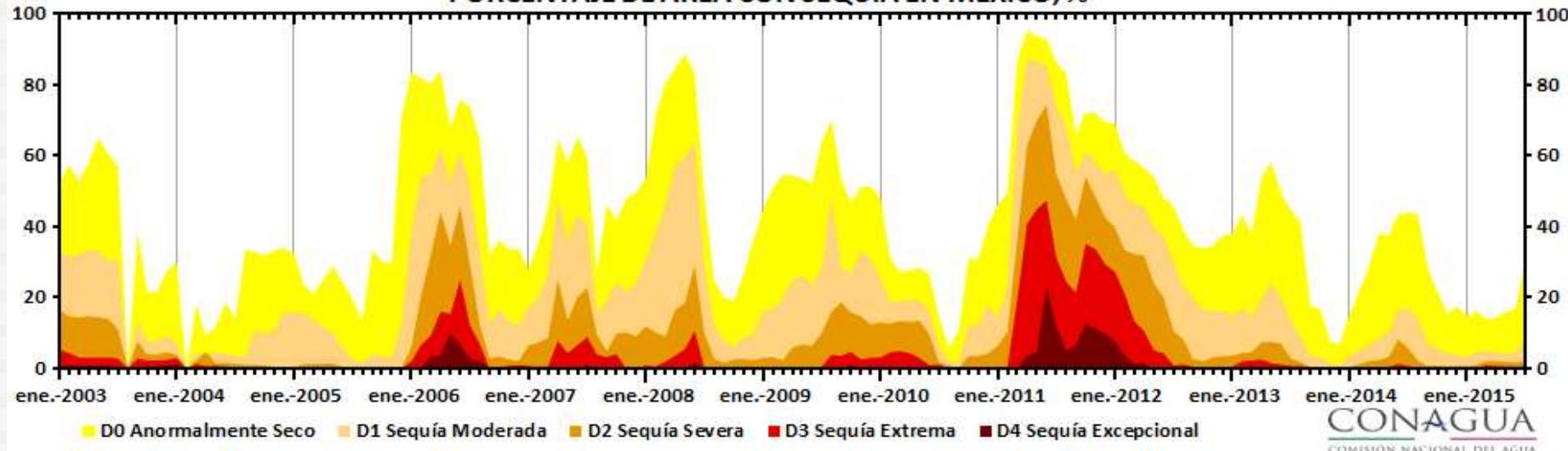


“... the main component will be, **early warning**,... and second, **early action to anticipate, prevent and act appropriately in time** against eventual climatologic contingencies that may affect the population and the agricultural productivity”.

The reason for a change in the drought paradigm



PORCENTAJE DE AREA CON SEQUIA EN MEXICO, %



1) Drought monitoring (early warning)

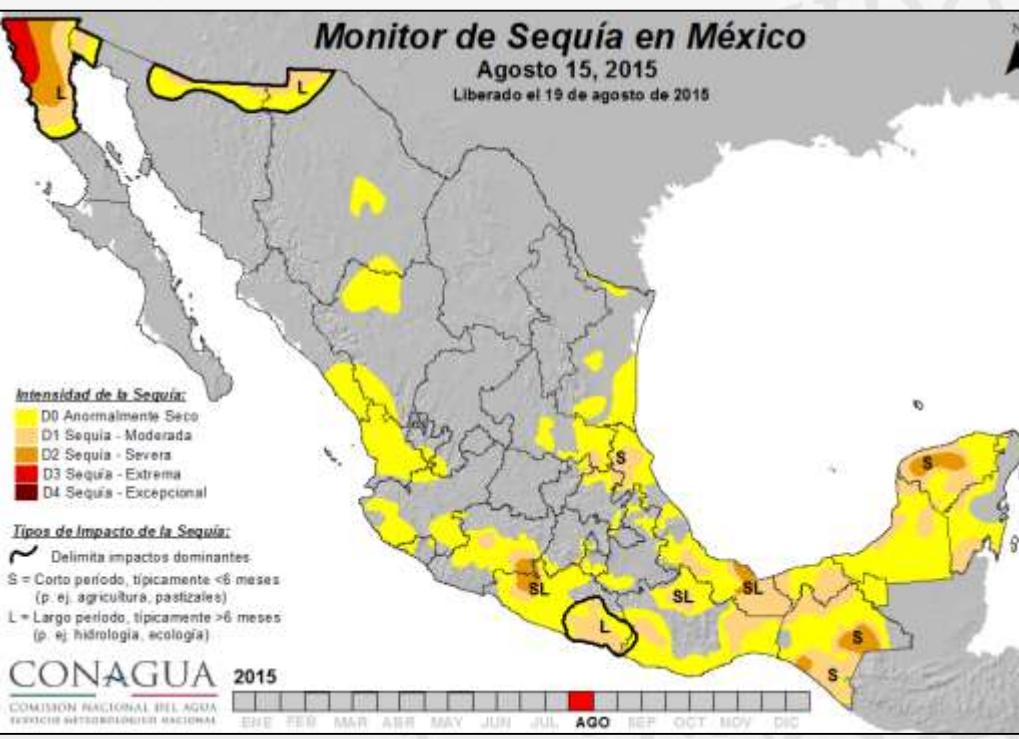
Indexes used

- SPI (precipitation in basins)(weekly)
- SDI (dams and rivers)(weekly)
- Other methods with international recognition (Mexican Drought Monitor–North American Drought Monitor)(15 days)

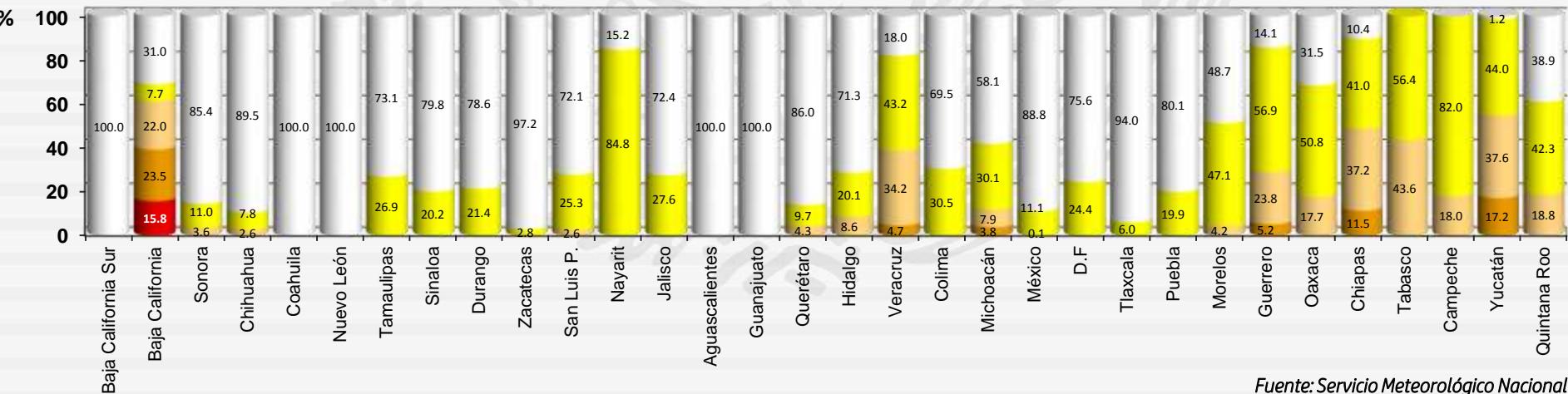
Conagua defines beginning-end, duration intensity and location of drought. Uses severe intensity as threshold for water supply actions and publishes it every 15 days for all Hidrological Regions, Basin Councils, States or Municipalities.

http://www.dof.gob.mx/nota_detalle.php?codigo=5278695&fecha=22/11/2012

Drought Evolution at the State level



Entidades Federativas	Porcentaje de área (%) 15 de Agosto 2015					
	Sin Afectación	D0	D1	D2	D3	D4
Aguascalientes	100.0	0.0	0.0	0.0	0.0	0.0
Baja California	31.0	7.7	22.0	23.5	15.8	0.0
Baja California Sur	100.0	0.0	0.0	0.0	0.0	0.0
Campeche	0.0	82.0	18.0	0.0	0.0	0.0
Coahuila de Zaragoza	100.0	0.0	0.0	0.0	0.0	0.0
Colima	69.5	30.5	0.0	0.0	0.0	0.0
Chiapas	10.4	41.0	37.2	11.5	0.0	0.0
Chihuahua	89.5	7.8	2.6	0.0	0.0	0.0
Distrito Federal	75.6	24.4	0.0	0.0	0.0	0.0
Durango	78.6	21.4	0.0	0.0	0.0	0.0
Guanajuato	100.0	0.0	0.0	0.0	0.0	0.0
Guerrero	14.1	56.9	23.8	5.2	0.0	0.0
Hidalgo	71.3	20.1	8.6	0.0	0.0	0.0
Jalisco	72.4	27.6	0.0	0.0	0.0	0.0
México	88.8	11.1	0.1	0.0	0.0	0.0
Michoacán de Ocampo	58.1	30.1	7.9	3.8	0.0	0.0
Morelos	48.7	47.1	4.2	0.0	0.0	0.0
Nayarit	15.2	84.8	0.0	0.0	0.0	0.0
Nuevo León	100.0	0.0	0.0	0.0	0.0	0.0
Oaxaca	31.5	50.8	17.7	0.0	0.0	0.0
Puebla	80.1	19.9	0.0	0.0	0.0	0.0
Querétaro de Arteaga	86.0	9.7	4.3	0.0	0.0	0.0
Quintana Roo	38.9	42.3	18.8	0.0	0.0	0.0
San Luis Potosí	72.1	25.3	2.6	0.0	0.0	0.0
Sinaloa	79.8	20.2	0.0	0.0	0.0	0.0
Sonora	85.4	11.0	3.6	0.0	0.0	0.0
Tabasco	0.0	56.4	43.6	0.0	0.0	0.0
Tamaulipas	73.1	26.9	0.0	0.0	0.0	0.0
Tlaxcala	94.0	6.0	0.0	0.0	0.0	0.0
Veracruz de Ignacio de la Llave	18.0	43.2	34.2	4.7	0.0	0.0
Yucatán	1.2	44.0	37.6	17.2	0.0	0.0
Zacatecas	97.2	2.8	0.0	0.0	0.0	0.0



Fuente: Servicio Meteorológico Nacional

2) Preventive and Mitigation Measures against Drought Programmes (PMPMS) for each of the 26 Basin Councils



26 Basin
Councils
12 Universities
CONAGUA (Headquarters and
regional offices)

Being implemented by authorities and water users since 2014.

2) Preventive and Mitigation Measures against Drought Programmes (PMPMS) for main Cities



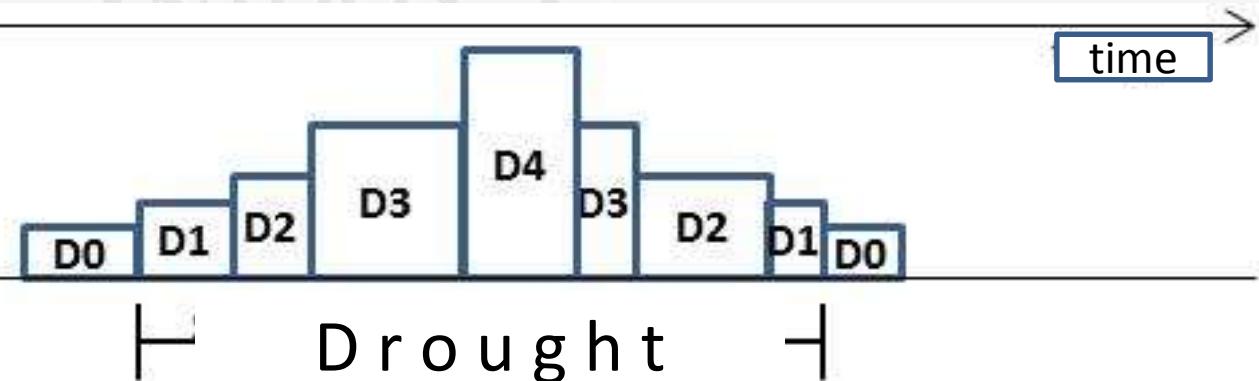
Publish in 2015 developed in 2014

Under development in 2015

PBC	Ensenada, B.C., y Tijuana, B.C.
NW	Hermosillo, Son. y Obregón, Son.
PN	Durango, Dgo., Culiacán, Sin.
PY	Mérida, Yuc., y Cancún, QRoo.
B	Puebla, Pue., y Cuernavaca, Mor.
RB	Monterrey, N.L., y Chihuahua, Chih.
CCN	Torreón, Coah., y Zacatecas, Zac.
LCHP	Guadalajara, Jal., Toluca, Edo. Méx.
GN	Cd. Victoria, Tamps. y Cd. Valles, S.L.P.
VM	Pachuca, Hgo., y Cuautitlán Izcalli, Edo. de Mex.
GC	Xalapa, Ver., y Veracruz, Ver.
PS	Oaxaca, Oax., y Acapulco, Gro.
FS	Tuxtla, Chis., y Tapachula, Chis.

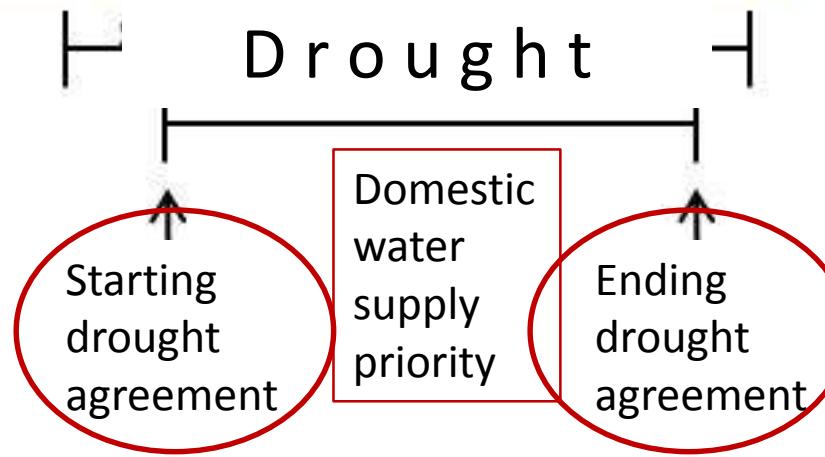
Organismo de Cuenca/Consejo de Cuenca	Ciudad
Península de Baja California Consejos de Cuenca de Baja California	Tecate, BC
Pacífico Norte Consejos de Cuenca Ríos Fuerte y Sinaloa	Mexicali, BC
Golfo Centro Consejo de Cuenca Río Coatzacoalcos	Coatzacoalcos, Ver
Península Yucatán Consejos de Cuenca Península Yucatán	Chetumal, QRoo

3) Pronacose: a new policy to address drought



Drought ranges:

- D0 Abnormally dry
- D1 Moderately dry
- D2 Severe drought
- D3 Extreme drought
- D4 Exceptional drought



Preventive and mitigation measures against drought Programmes (PMPMS) (Basin and water utility level)

INTERSECRETARIAL COMMISSION TO ATTEND FLOODS AND DROUGHTS (ICAFD)

SEGOB · SEDENA · SEMAR · SHCP · SEDESOL · SEMARNAT
SENER · SE · SAGARPA · SCT · SALUD · SEDATU · CFE.

DOF APRIL 5, 2013



Article One. A permanent Intersecretarial Comission is created to attend floods and droughts, responsible of Federal Agencies and Federal entities action coordination.

First session: 24/April/2013

Second session: 3/July/2013

Third y fourth session: 10/December/2013

Fifth session: 17/February/2014

Sixth session: 2/June/2014

Seventh session: 7/September/2014

Eight session: 4/December/2014

Nineth session: 9/march/2015

Tenth session: 28/may/2015



Working Groups:

1. Federal programmes alignment and update
2. Risk Atlas improvement
3. Drought Experts Committee

Federal programmes alignment and update

- 114 programmes/components/identified projects
- Phase 1: 19 programmes + Natural Disaster Fund (FONDEN) and Preventive Disaster Fund (FIPREDEN)
- 9 Programmes already aligned, the rest are programmed for December 2015

DEPENDENCIA/INSTITUCIÓN	PROGRAMAS
SAGARPA	42
SALUD	9
SECON	9
SECTUR	3
SEDATU	15
SEDESOL	15
SEGOB	2

DEPENDENCIA/INSTITUCIÓN	PROGRAMAS
SEMARNAT	10
SEP	1
SHCP	5
STPS	1
BANOBRAS	1
CADENA (ONG)	1

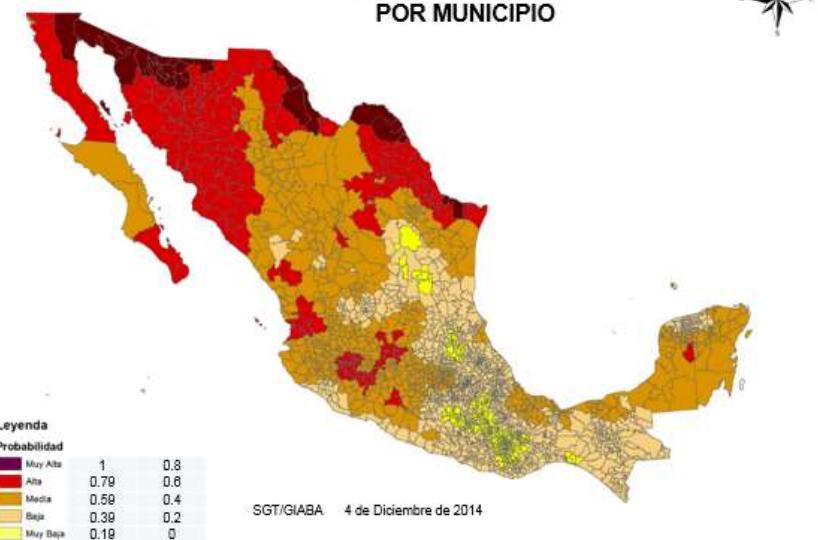
Drought vulnerability and probability of occurrence maps at the county level



Approved in December 2014 for application in 2015

Approved to be updated on a yearly basis.

PROBABILIDAD MENSUAL DE OCURRENCIA REAL DE SEQUÍA METEOROLÓGICA (Envolvente D0 a D4) DE POR MUNICIPIO



In 2015 they are being updated, and a new methodology is being implemented and a nation wide workshops are underway with WMO experts following up

Drought Experts Committee: evaluate, guide, assess and support drought research

Developed a Strategic Master Plan for Drought Research in which the 14 federal institutions of the Intersecretarial Commission participate and fund.

The ICAFD approved the Plan last May

The Drought Experts Committee has prepared 14 research proposals and Conagua has submitted them to the Fund to start the procurement process.

Plan general maestro estratégico de investigación



Cuidemos y valoremos el
agua que mueve a México

www.semarnat.gob.mx
www.conagua.gob.mx

MÉXICO
ESTADOS UNIDOS MEXICANOS



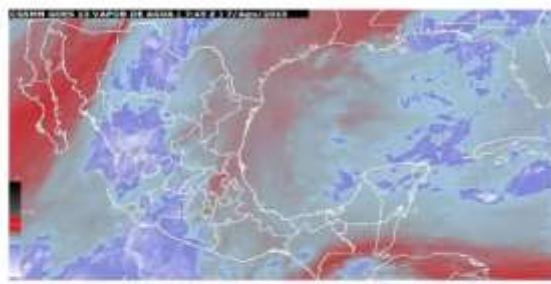
SEMARNAT
SECTOR ESTADÍSTICO
AMBIENTE
Y AGUA INVESTIGACIÓN

CONAGUA
comisión nacional del agua

Pronacose web page

CONAGUA
COMISIÓN NACIONAL DEL AGUA

Conocemos · Marco Normativo · Aguas Nacionales · Programas · Trámites y Servicios · Cultura del Agua · Sala de Prensa · Transparencia



Se pronostican nublados con lluvia moderada en la Península de Yucatán

NOTICIAS RECIENTES / JULIO DE 2013

Predomina el potencial de lluvia de moderada a fuerte en la República Mexicana.

Efficiencia en la administración del agua, clave en el Programa Nacional Hídrico 2013-2018

Henriette se fortaleció a huracán categoría I

Se prevén nublados con lluvia de moderada a fuerte en la Península de Yucatán, sureste y sur de México

Única foro de Consulta Pública para integrar el Programa Nacional Hídrico 2013-2018

VIDEOS CONAGUA



NOTAS DE INTERÉS

CONVOCATORIA
Premio Nacional de
Acción Voluntaria
y Solidaria 2013



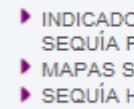
Sistema de
Pronóstico en Ríos



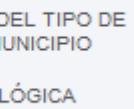
Sistema de Monitoreo de
Infraestructura de Agua y Lluvias (SIMILA)
COP 2013



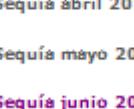
Acciones de Infraestructura de
Agua y Lluvias: evaluación y
asistencia técnica



Sistema de Seguridad de
Presas



Lineamientos de Accesos
Electrónicos



Convocatoria del Premio
Nacional



Ecoagro Internacional
Culturas 2013



Sistema de Pronóstico en
Ríos



Acciones de Infraestructura de
Agua y Lluvias: evaluación y
asistencia técnica



Sistema de Seguridad de
Presas



Lineamientos de Accesos
Electrónicos



ORGANISMOS
LOCALES

DIRECCIONES

ENLACES

SITIOS DE INTERÉS

INFORMACIÓN

Transparencia

INFORMACIÓN

Para ti

Drought status:

- Hydrologic drought
- Meteorologic drought

PRONACOSE

- ▶ TRÍPTICO DEL PROGRAMA
- ▶ [ALERTAMIENTO DE SEQUÍA EN MÉXICO](#)
- ▶ EVENTOS
- ▶ [TIPO DE SEQUIA POR MUNICIPIO](#)

Gráficos de almacenamiento en ríos y presas al 29 de mayo de 2013

Gráficos de almacenamiento en ríos y presas al 05 de junio de 2013

Gráficos de almacenamiento en ríos y presas al 06 de junio de 2013

Gráficos de almacenamiento en ríos y presas al 27 de junio de 2013

Gráficos de almacenamiento en ríos y presas al 17 de julio de 2013

Gráficos de almacenamiento en ríos y presas al 20 de julio de 2013

Gráficos de almacenamiento en ríos y presas al 31 de julio de 2013

ALERTAMIENTO DE SEQUÍA EN MÉXICO

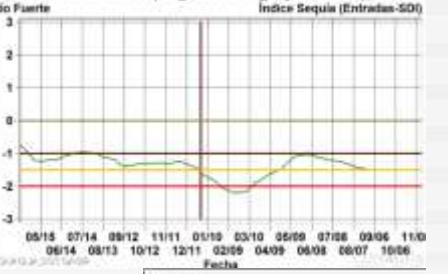
- ▶ INDICADORES DEL TIPO DE SEQUIA POR MUNICIPIO
- ▶ MAPAS SPI
- ▶ [SEQUÍA HIDROLÓGICA](#)
- ▶ [SEQUÍA METEOROLÓGICA](#)

Alpuyeca, Mor.

Índice Sequía (SOI - Gasto en Río)

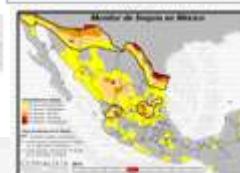


Río Fuerte



ALERTAMIENTO DE SEQUÍA EN MÉXICO

- ▶ INDICADORES DEL TIPO DE SEQUIA POR MUNICIPIO
- ▶ MAPAS SPI
- ▶ [SEQUÍA HIDROLÓGICA](#)
- ▶ [SEQUÍA METEOROLÓGICA](#)

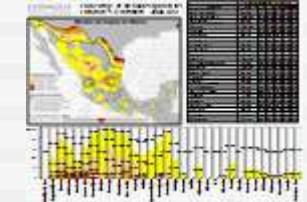


Sequía marzo 2013

Sequía abril 2013

Sequía mayo 2013

Sequía junio 2013



Progress to September 2014

Drought monitor published every 15 days

First General National Drought Agreement issued in April 9, 2015. 6 Governors alerted and reactive measures in implementation (PMPMS based)

26 Preventive and Mitigation Measures Programmes for Drought (PMPMS basin level). Basin Councils implement

24 Preventive and Mitigation Measures Programmes for Drought (PMPMS Water Utility level) developed and 5 more underway

Capacity building: PMPMS for water utilities and vulnerability workshops in progress

Historic drought review and archives phase 1 published

In 2015 the Pronacose concept and guiding document, the Cities PMPMS and the Research Plan will be officially published

Programa Nacional contra la Sequía

Documento Rector

Informe

Documento Rector

Programa Nacional contra la Sequía



Cuidemos y valoremos el agua que mueve a México
www.semarnat.gob.mx • www.conagua.gob.mx



CONAGUA
comisión nacional del agua

Technical assistance to Brazil, Turkey and Central America

- I. Drought monitor for Northeast Brazil and Central America
 - I. Capacity building and assessment
- II. Drought management programmes (Northeast Brazil, Central America and Turkey)
 - I. Assessment
- III. WB workshop

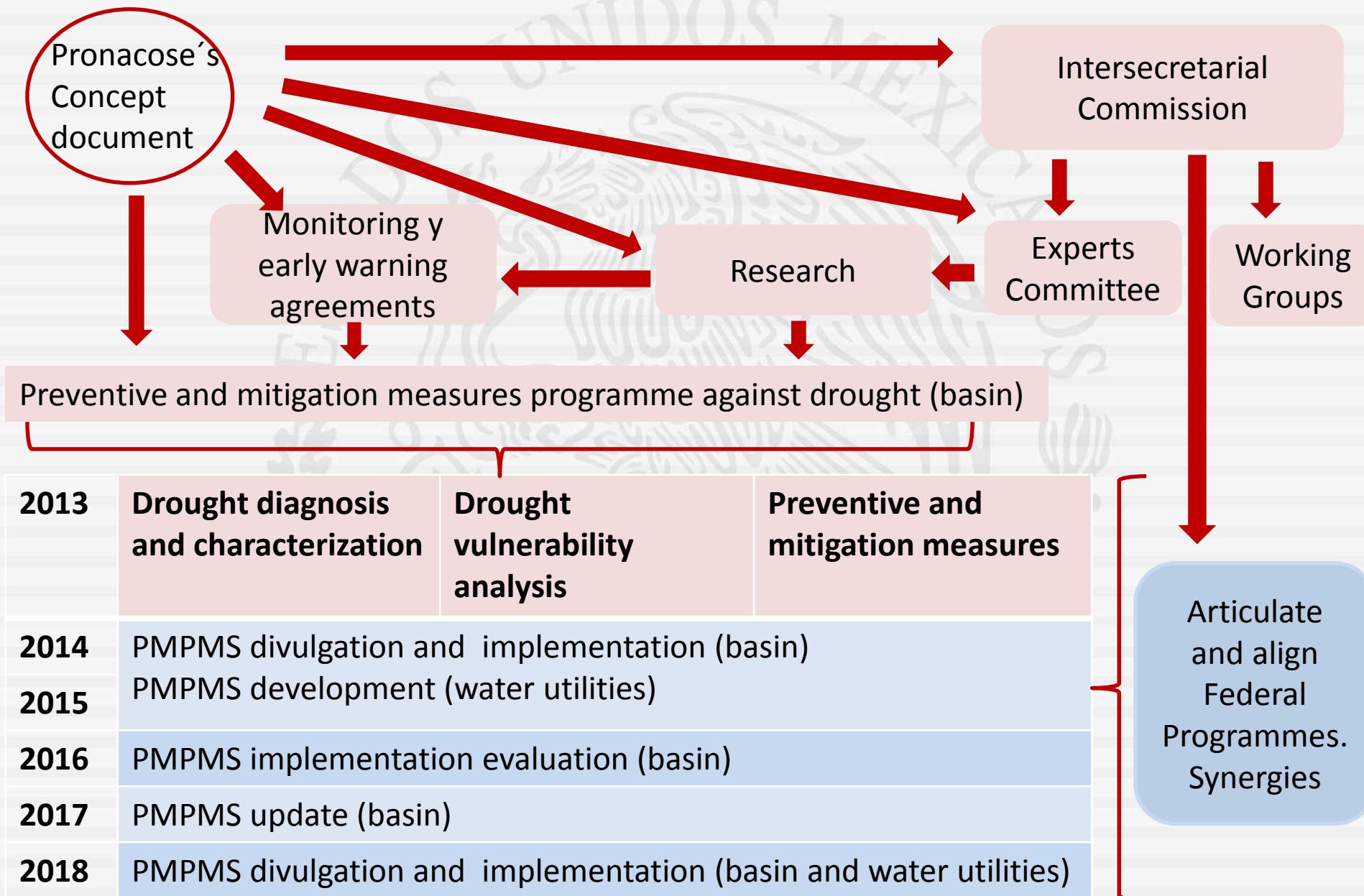


Workshop Internacional em Fortaleza reúne especialistas em seca e mudanças climáticas.

Especialistas e estudiosos do mundo todo estiveram reunidos entre os dias 12 e 16 de maio passado, em Fortaleza, para a [Conferência Adaptation Futures](#), que reuniu os eventos Terceira Conferência Internacional sobre Adaptação às Mudanças Climáticas (12 a 15 de Maio) e **Workshop Internacional sobre Políticas de Seca em Terras Áridas e Semi-áridas** (16 de Maio).

Co-organizado pelo Centro de Gestão de Estudos Estratégicos (CGEE), Ministério da Integração Nacional (MI) e Banco Mundial (BM), o **Workshop Internacional sobre Políticas de Seca** foi assistido por mais de 300 pessoas. Entre outros especialistas, Donald Wilhite, (EUA), Erwin de Nys (BM-Brasil), Joaquin Andreu Álvarez (Espanha) e Mario Lopez Perez (México) tiveram a palavra durante o intenso dia.

Pronacose's organization and implementation process



Thank you for your kind attention

mario.lopezperez@conagua.gob.mx
www.pronacose.gob.mx



PRONACOSE
Programa Nacional Contra la Sequía

Mario López Pérez
Engineering and Binational Water Issues Manager
September 9 & 10, 2015
Geneva, Switzerland

**Starting September 17, 2015
I will be the Hydrology Coordinator at the
Mexican Water Technology Institute
(IMTA)**

**IMTA is part of the Pronacose Team and
wants to be part of the IDMP Advisory
and Management Committees**

mario.lopezperez@tlaloc.imta.mx

Mario López Pérez
Hydrology Coordinator
IMTA
México