

This country profile was compiled by the OECD Secretariat and reflects information available as of June 2013. Further information and analysis can be found in the publication: OECD (2013) *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters*, OECD Studies on Water, OECD Publishing. <http://dx.doi.org/10.1787/9789264200449-en>. Country profiles for all OECD member countries are available for download at: www.oecd.org/env/resources/waterandclimatechange.htm. These profiles will be regularly updated and it is planned to expand coverage over time to include key partner countries.

Mexico

Climate change impacts on water systems

Observed changes and trends	<ul style="list-style-type: none"> Annual mean temperature has risen on average 0.6 °C over the last four decades. Intense rainfall in 2010 marked the second rainiest year on record. Intense drought in 2011 to 2012 was the worst over the last 70 years. July 2009 was the second driest July with an average monthly rainfall of 99.1 mm in the period between 1941 and 2009. 				
Projected impacts	<ul style="list-style-type: none"> Increase in mean temperature, with the highest warming in the North and Northwest. Most projections show a decline in average annual rainfall, although the percentage reduction varies significantly between models. The reduction in rainfall impacts on runoff in rivers, water stored in dams, and aquifer recharge. Diminished water quality as a result of a rise in temperatures. Salt water intrusion in both surface and groundwater. Increased severity of drought, especially in Central, Jalisco and Chiapas region. More frequent and intense <i>El Niño</i> and <i>La Niña</i> phenomena. Sea level rise. 				
Primary concerns	Water quantity	Water quality	Water supply and sanitation	Extreme weather events	Ecosystems
	✓		✓ (major cities, competition among uses)	✓ (droughts and floods)	✓ (competition among uses)
Key vulnerabilities	<ul style="list-style-type: none"> Overexploitation of aquifers and over allocation of surface water in the context of significant demand from industrial and agricultural production, and growing urban areas. 				

Sources: Galindo, L. (2009), *The Economics of Climate Change in Mexico: Synopsis*, Ministry of the Environment and Natural Resources (SEMARNAT), Mexico City; Ministry of Environment and Natural Resources (2009), *Fourth National Communication of Mexico to the UNFCCC*, http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php (accessed 20 June 2012); National Water Commission (CONAGUA) (2008), *National Water Program 2007-2012*, www.conagua.gob.mx/home.aspx (accessed 12 August 2012).

Key policy documents

Document	Reference to water?	Type	Year	Responsible institution
National Strategy on Climate Change (ENACC)	Y	National climate change strategy	2007	Inter-ministerial Commission on Climate Change (CICC)
National Development Plan (PND)		National development plan	2007-12	Federal Institutions
Special Programme on Climate Change (PECC)	Y	Programme to implement the National Climate Change Strategy	2009-12	Federal Institutions
National Water Program (PNH)	Y	National water program	2007-12	National Water Commission (CONAGUA)
2030 Water Agenda	Y	Strategy document	2011	Water agencies at federal, state and municipal levels, as well as Society at all sectors
National Strategy for Water Resources and Climate Change (NSWR&CC)	Y	Strategy document	Under review	National Water Commission (CONAGUA)
The Economics of Climate Change in Mexico ¹		National assessment on climate change impacts and costs	2009	At the request of Ministers of Finance and Ministers of Environment and Natural Resources (SEMARNAT)

Key policy documents (cont.)

Document	Reference to water?	Type	Year	Responsible institution
Prioritisation process for "Joint Grant Contribution Program for Drinking Water and Wastewater Infrastructure Projects for Communities in the US-Mexico Border Area"	Y	Transboundary responses	2011-12	Border Environment Cooperation Commission (BECC)

1. Study co-ordinated by Dr. Luis Miguel Galindo Paliza of the Faculty of Economics of the National Autonomous University of Mexico at the request of the Ministers of Finance and for the Environment and Natural Resources.

Policy instruments

Areas	Policy mix	Regulatory instruments	Economic instruments	Information and other instruments
Water quantity		<ul style="list-style-type: none"> • Lerma Chapala Surface Water Allocation Agreement:¹ Reformed existing allocation arrangements to restore sustainable levels of abstraction and adequate levels for environmental use. 		<ul style="list-style-type: none"> • Capacity building for CONAGUA staff on climate change adaptation includes training course on climate change adaptation, technical handbooks, and operation manuals with climate change information. • Water Reserves for the Environment: Technical studies in pilot basins to be launched.
Water quality				
Water supply and sanitation				
Extreme weather events		<ul style="list-style-type: none"> • Drought guidelines require Basin Councils to prepare and implement actions before, during and after any drought. 	<ul style="list-style-type: none"> • Promoting insurance as an aid to reducing vulnerability is identified as one of the priorities for adaptation. 	
Ecosystems				

1. Ratified in January 2005 by the Governors of the states of Mexico, Queretaro, Guanajuato, Michoacan and Jalisco and water stakeholders.

Main research programmes

- Research programme on the impacts of climate change on thirteen hydrological administrative regions.

Principal financing mechanisms and investment programmes

- Fund for Disaster Prevention (FOPREDEN) to support action for integrated risk management.
- Adaptation Contingency Fund: The 2030 Water Agenda proposes to establish an Adaptation Contingency Fund that would improve Mexico's capacity to effectively replace or significantly modify water supply systems and flood systems. CONAGUA is still analysing alternatives for implementing the Fund. The recently adopted General Law for Climate Change specifies the need to create a fund for projects, studies, actions. In addition, the Mexican Institute of Water Technology (IMTA) was accredited as the National Implementing Entity of the UNFCCC's Adaptation Fund.
- Joint investment programme (Mexico-USA) on the Bravo River: Under the "Joint investment programme (Mexico-USA) on the Rio Grande" each project goes through a process involving four main institutions: EPA, BECC, NADB and CONAGUA. Every two years a new process starts with a call for registration of projects to address needs related to water supply, sewerage or sanitation. Projects are then selected through a prioritisation process and certified based on environmental studies (among others) on both sides of the border.
- Colorado river joint co-operation projects to face water scarcity due to climate change: Includes investments in a bi-national desalination plant (cost: USD 140 million), expansion of the Colorado-Tijuana aqueduct from 4.0 to 5.3 m³/s (cost: USD 150 million), aquifer recharge at Mexicali valley, modernisation and conservation of Irrigation District Colorado river (conserving 767 hm³/year at a cost of USD 936 million) and Irrigation District 014 (conserving 89 hm³/year at a cost of USD 85.7 million), wastewater reuse "Las Arenitas" (Mexicali II System) (cost: USD 18 million) which is now in place for irrigation. These projects are at various stages of implementation.

Highlights and innovative initiatives

- **Lerma Chapala Surface Water Allocation Agreement:** Since the implementation of the Agreement in 2005, Lake Chapala levels have shown remarkable recovery, www.conagua.gob.mx/LermaWeb.
- **Water Reserves for the Environment:** Technical studies in pilot basins to be launched. Funding secured in 2012. A visualisation tool is available at: <http://sigagis.conagua.gob.mx/RESERVAS%20POTENCIALES%20DE%20AGUA%20PARA%20EL%20MEDIO%20AMBIENTE>.