



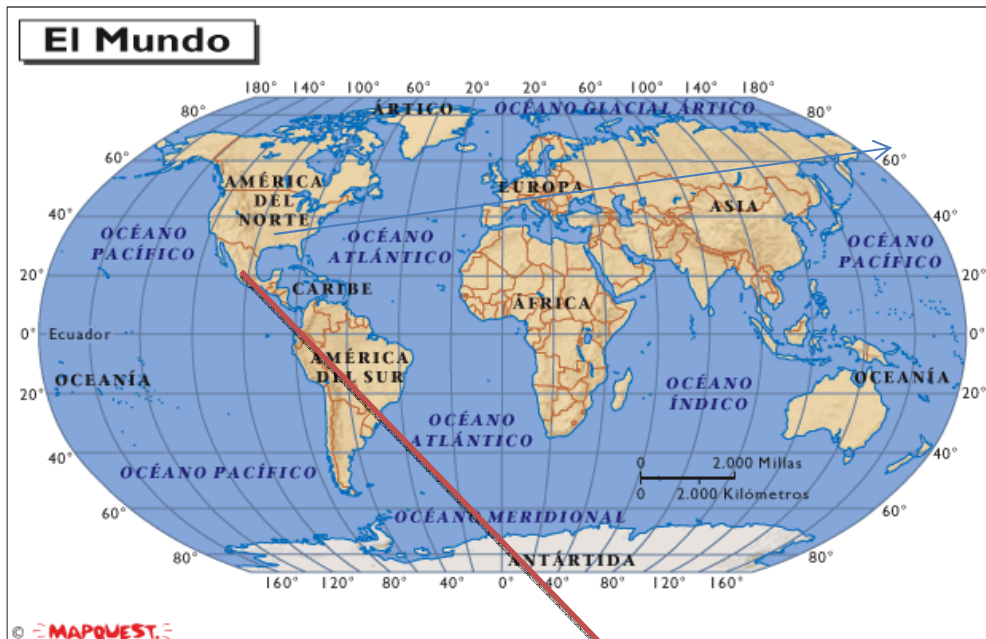
# Territorial Approach to Climate Change State of Mexico

**Alma Abreu Aguirre**

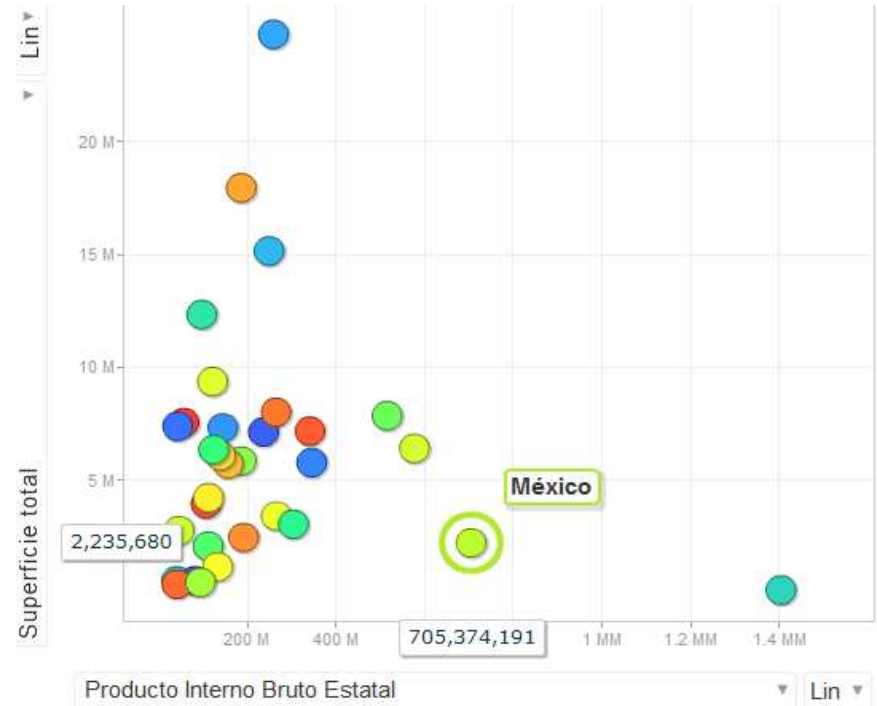
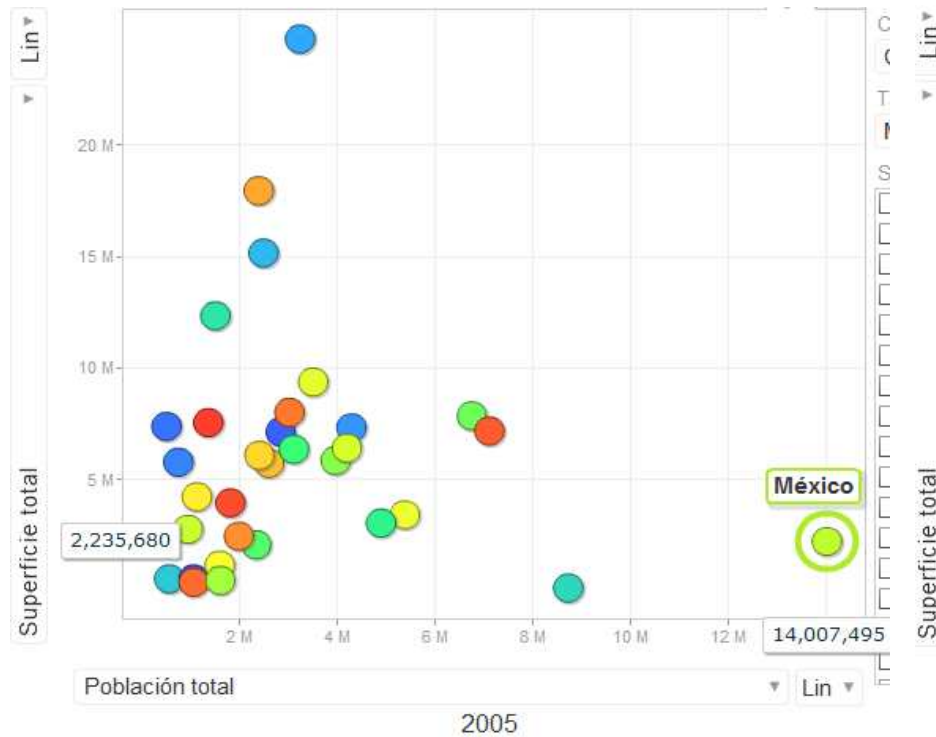
State of Mexico, October 25, 2010



SECRETARÍA DEL MEDIO AMBIENTE



# STATE OF MEXICO: MAIN STATISTICS

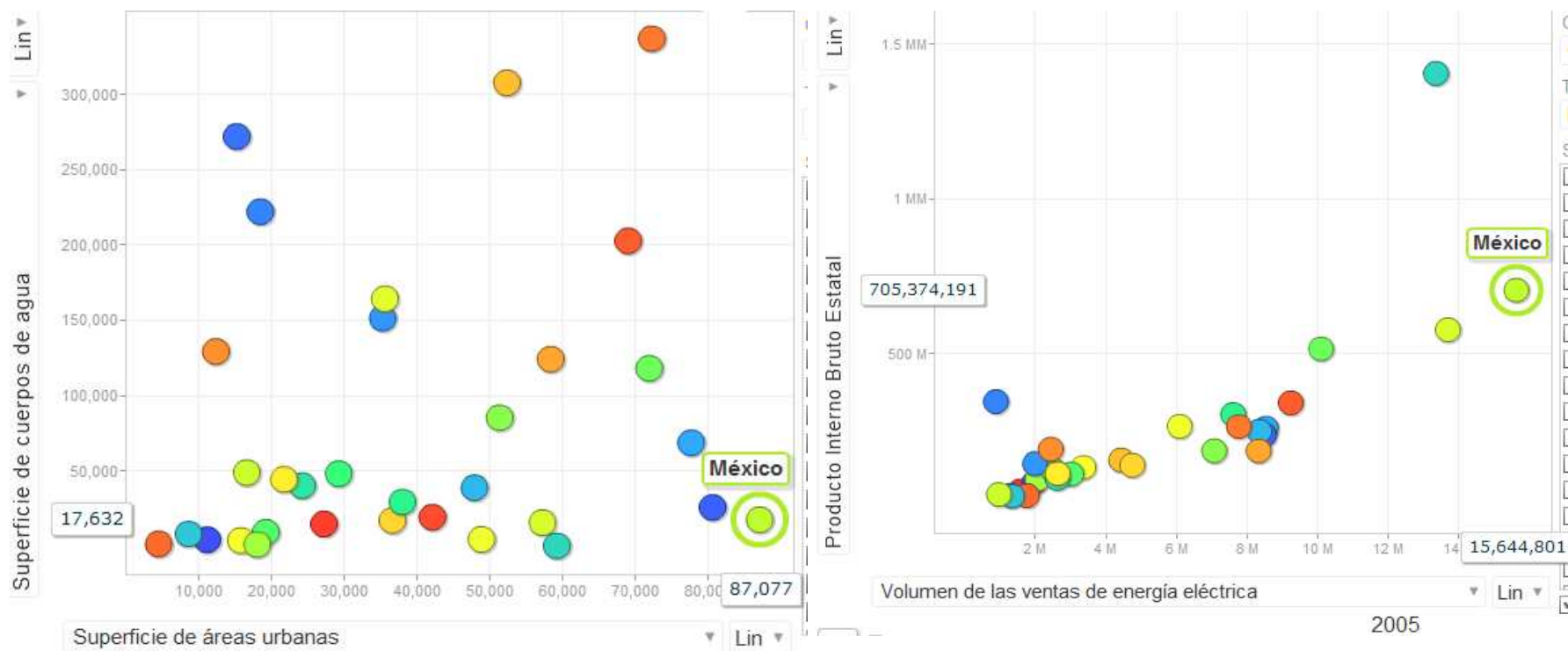


Source: INEGI



SECRETARÍA DEL MEDIO AMBIENTE

# STATE OF MEXICO: MAIN STATISTICS

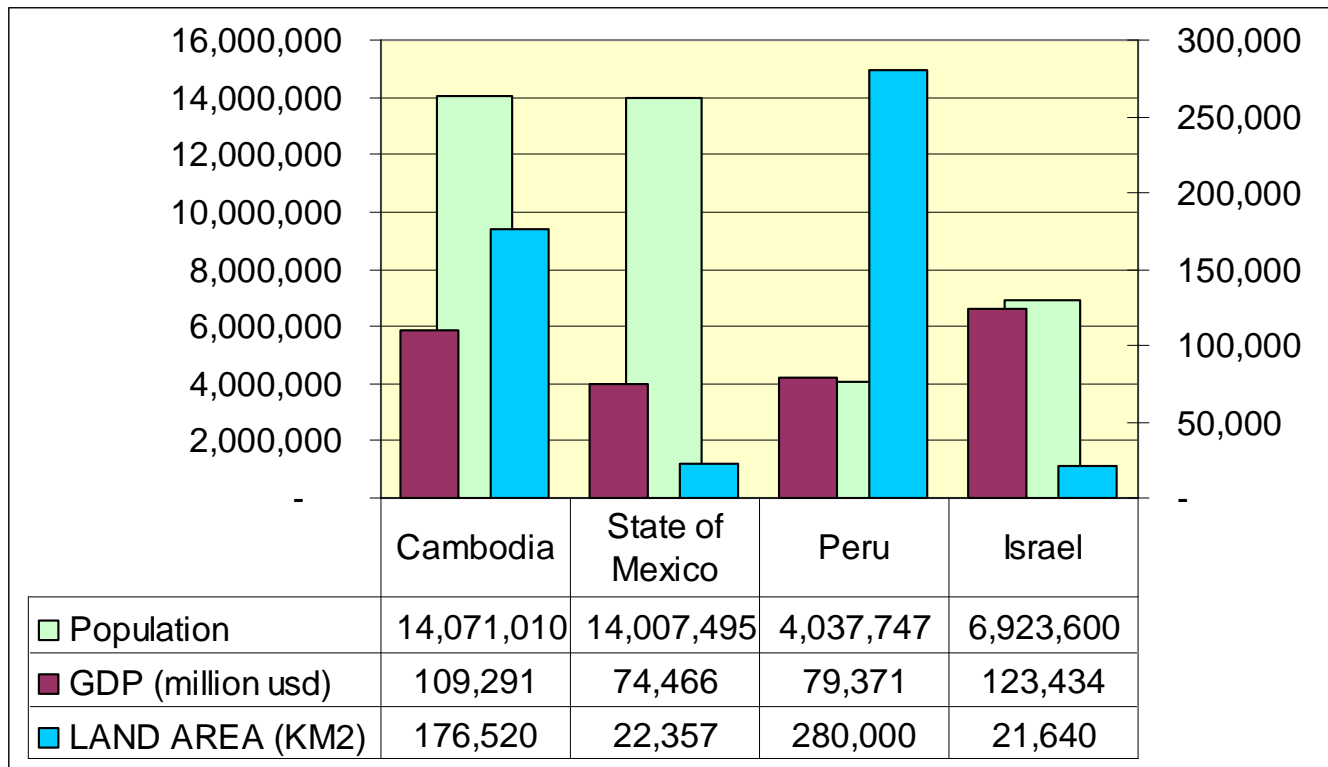


Source: INEGI



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## STATE OF MEXICO: INTERNATIONAL COMPARISON

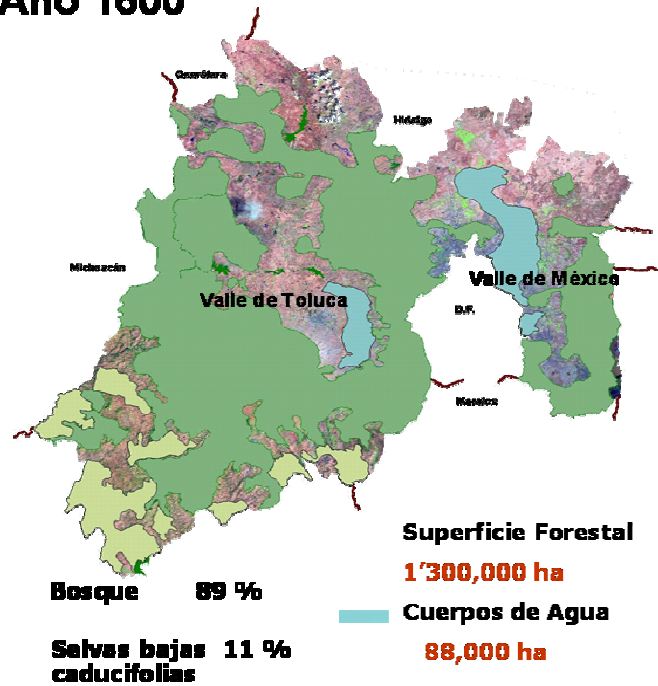


Source: Nation Master

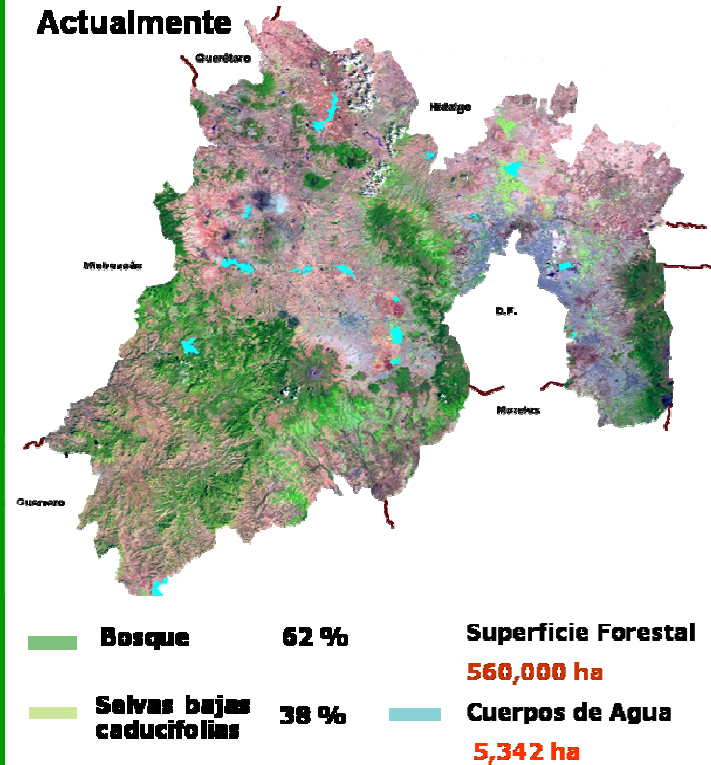


# ENVIRONMENTAL DIAGNOSIS

**Año 1600**



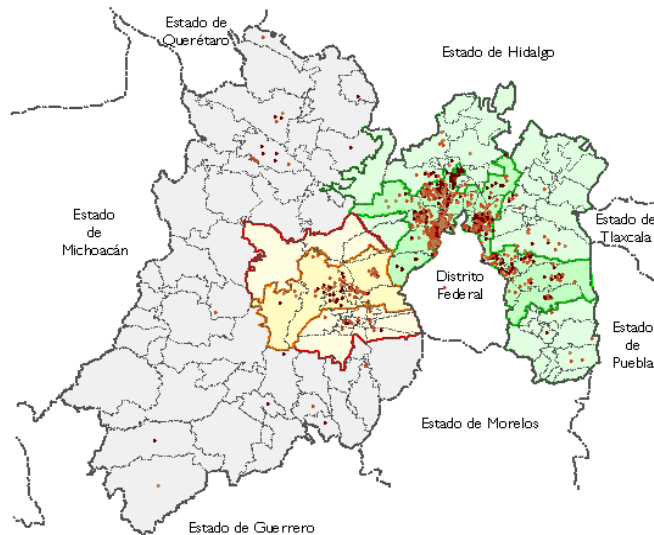
**Actualmente**



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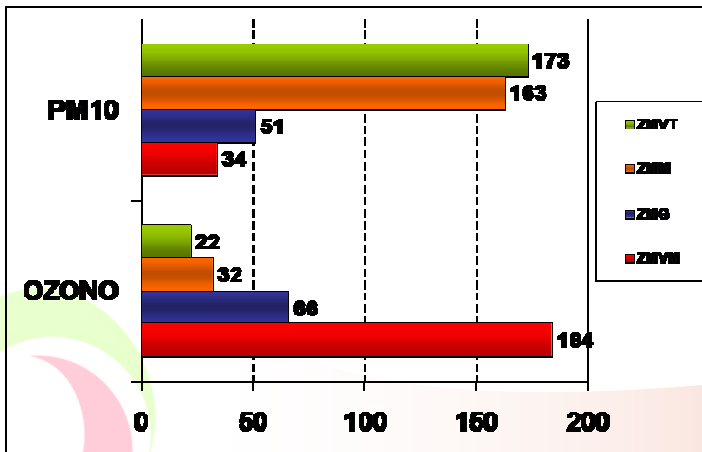


## ENVIRONMENTAL DIAGNOSIS

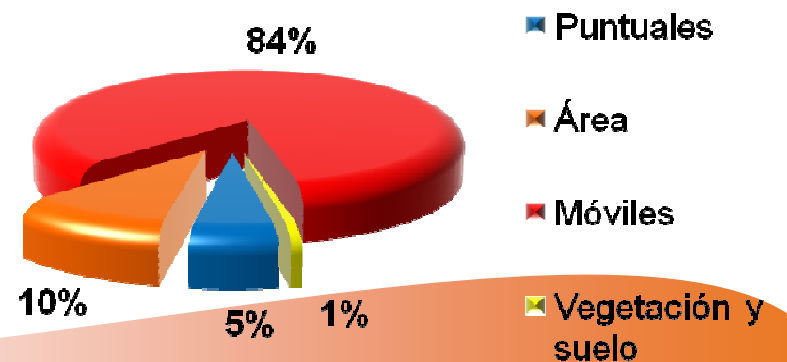


- ✓ The State of Mexico has 2 metropolitan areas: Mexico Valley (59 Municipalities) and Toluca Valley (22 Municipalities)
- ✓ 14 million inhabitants, 70% living in the MCMA, where TACC workshop was held
- ✓ 50,000 industries located in México Valley
- ✓ 4.5 million vehicles in the MCMA
- ✓ 3.2 million ton/year of air pollutants
- ✓ 15,000 ton/day of urban solid waste

**METROPOLITAN AREAS IN MEXICO**



Days above standard

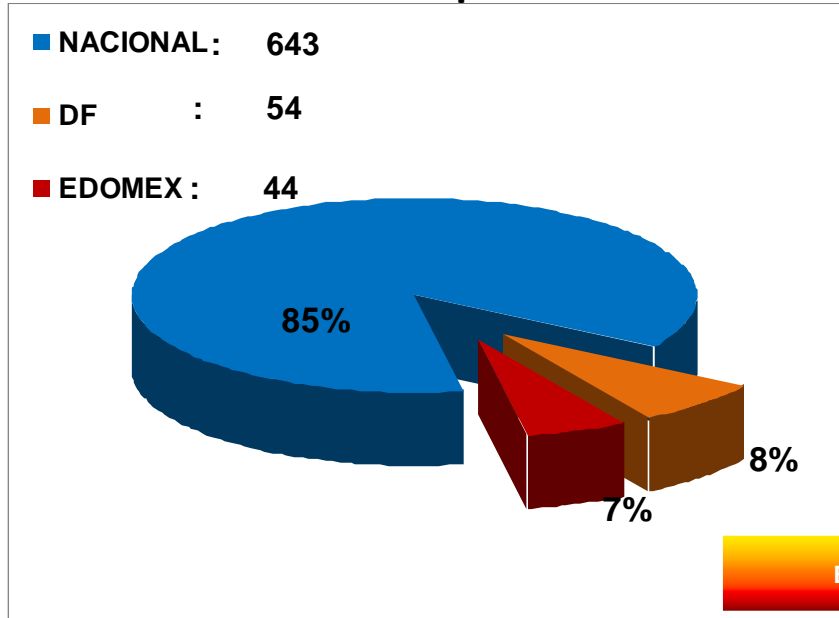


SECRETARÍA DEL MEDIO AMBIENTE

## EMISSION OF GREENHOUSE GASES

- ✓ Mexico is ranked 12 in GHG emissions worldwide, participating with 1.5% of global emissions.

### CO2 Million Equiv. Tons



### GHG emissions by source

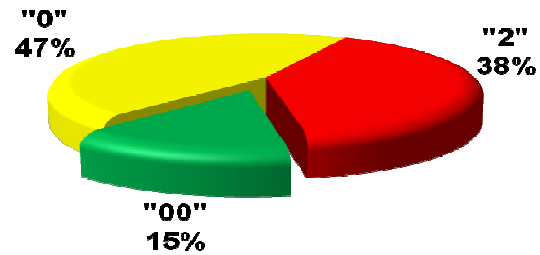
	Energy	Industry	Agriculture	Waste and Wastewater.	Land use
National	61 %	8%	7%	10%	14%
State of Mexico	59 %	20%	7%	14%	n/e



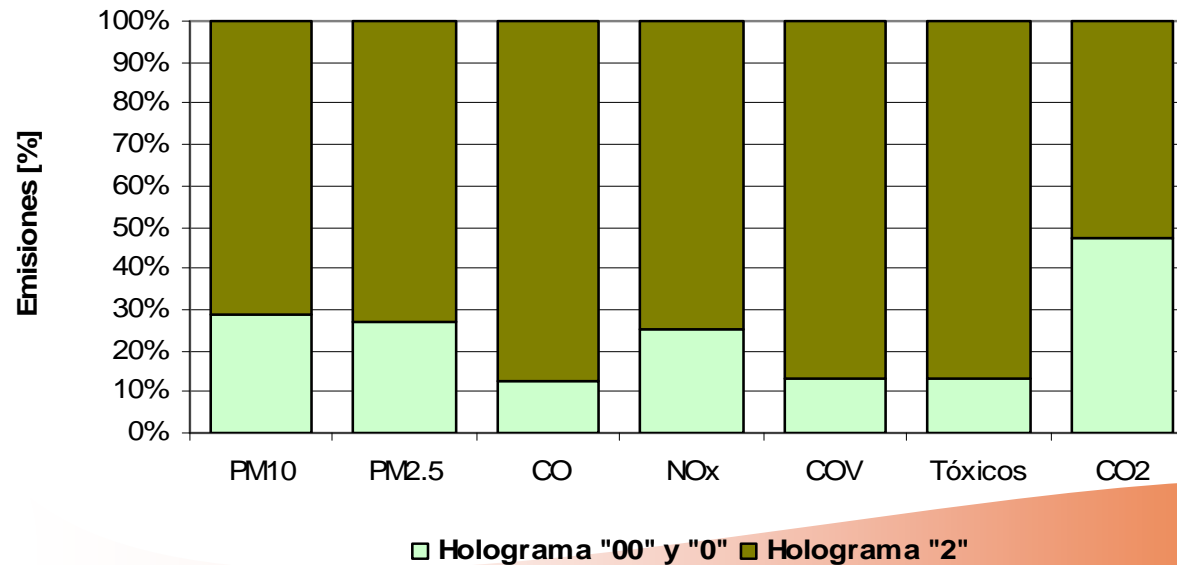


## VEHICLE FLEET

### Hologramas



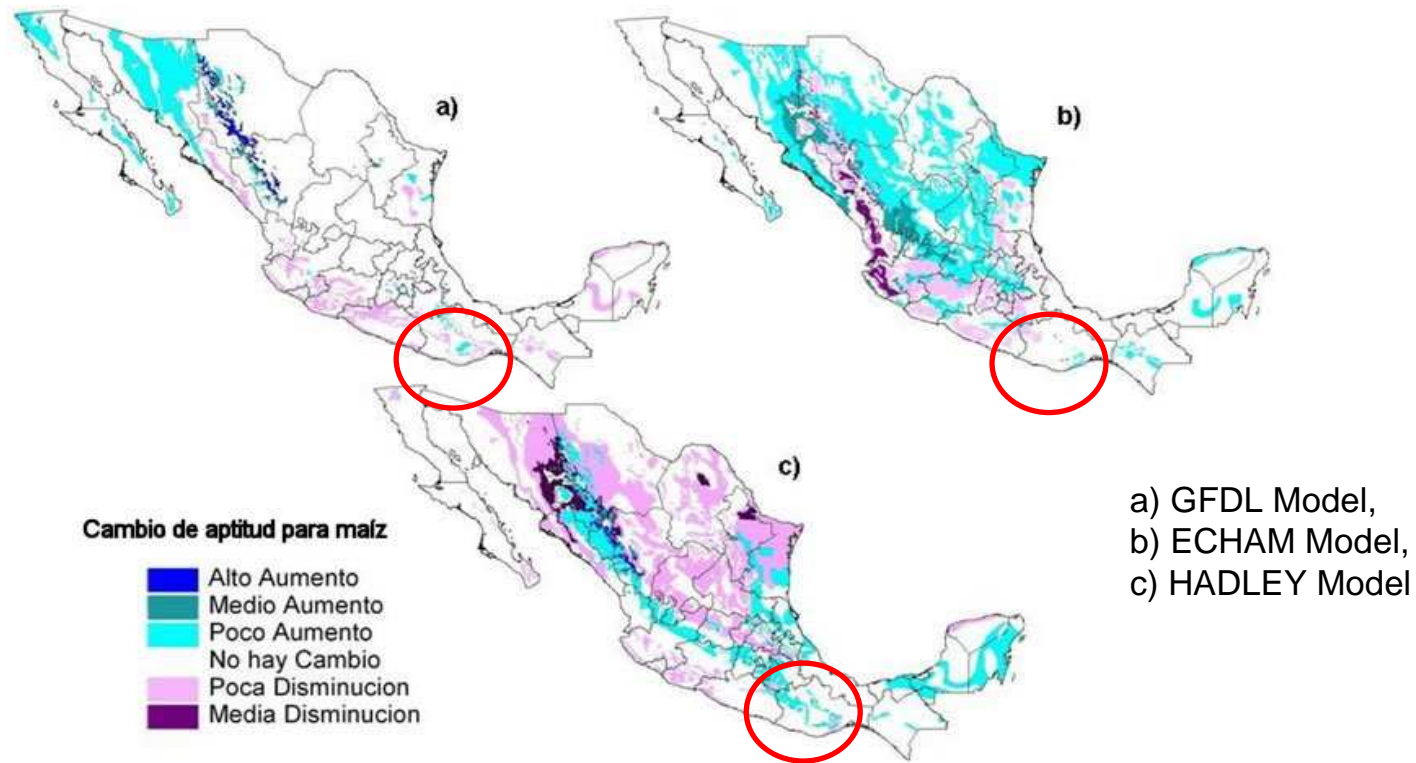
✓ Vehicles with holograms "00" and "0" are more efficient in fuel consumption because of technology



## EFFECTS OF CLIMATE CHANGE



# IMPACT OF CLIMATE CHANGE ON AGRICULTURE



Climate scenarios for 2020 involve moderate reductions in fitness for rainfed maize cultivation and increases in inappropriate area of up to 4.2%.

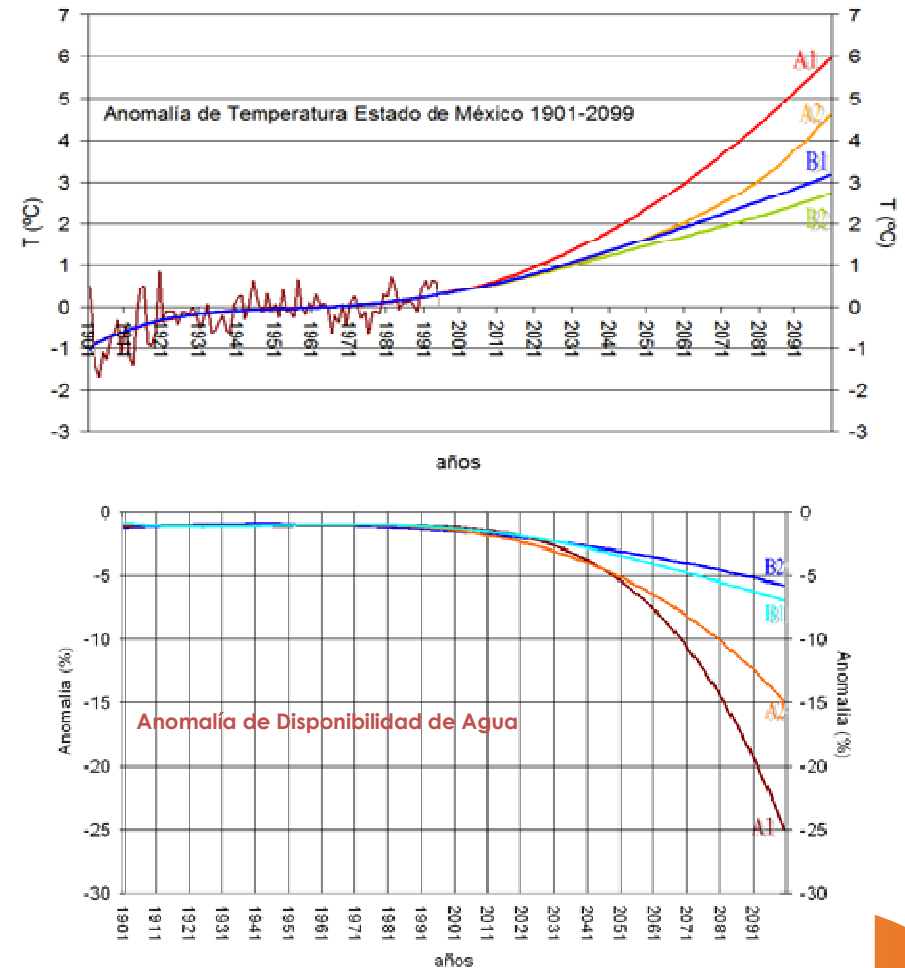


SECRETARÍA DEL MEDIO AMBIENTE

Source: INE. Impacts for México under Climate Change Scenarios

# SCENARIOS FOR THE STATE OF MEXICO

- Average temperature between 2 and 4 ° C higher for 2020-2080
- More intense hydrogeological cycle: more droughts and more severe storms, but with 5 to 20% less water availability



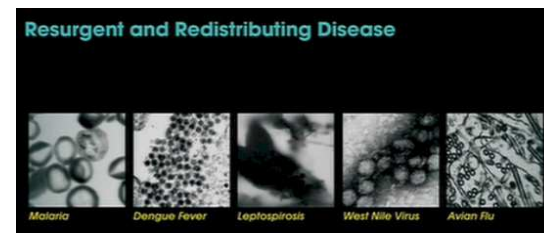
Fuente: [www.ine.gob.mx](http://www.ine.gob.mx)

SECRETARÍA DEL MEDIO AMBIENTE





# RISKS IN THE STATE OF MEXICO



Sources: Probosque, [www.informaticamilenium.com.mx](http://www.informaticamilenium.com.mx), Una Verdad Incómoda

## ✓ BIODIVERSITY

130 animal and vegetal threatened species

## ✓ FORESTS

More than 50% of afectation (partial or total lost of vegetation cover)

## ✓ WATER

Extreme rains, floods, lost of runofs (escorrentia), lost of disponibilidad, high vulnerability in the available water in the state territory

## ✓ SOIL AND INFASTRUCTURE

Lost of productive capacity and of the soil itself because of erosion

## ✓ AIR

At the biosphere level (ZMVM) there has been an improvement, but with enourmus efforts

## ✓ ICE MELTING

Lost of more than 40% of the Iztacíhuatl icecap in the last 30 years

## ✓ HUMAN HEALTH

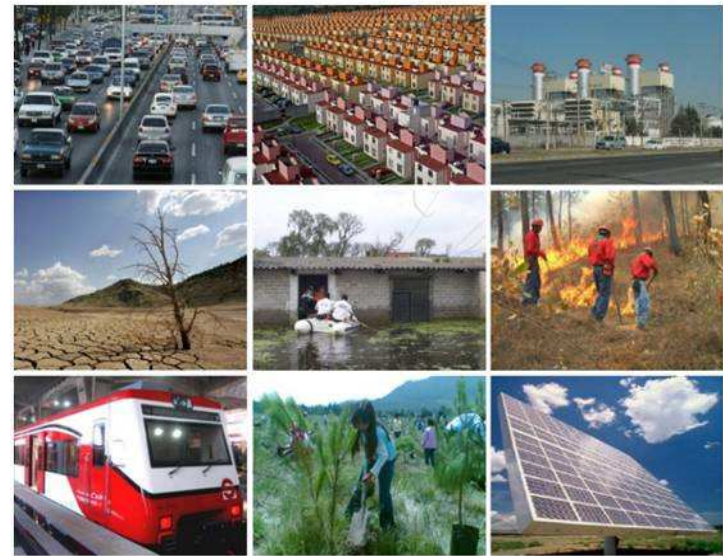
Infectious deseases, cold wabes, heat strokes

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# ACTIONS IN THE STATE OF MEXICO

- ✓Inducing actions that contribute to the reduction of greenhouse gases
- ✓Energy efficiency measures
- ✓Improving the performance of transport sector
- ✓Energy saving
- ✓Increase forest cover
- ✓Clean Industry
- ✓Satellite monitoring systems for monitoring soil and forest conservation
- ✓Design activities for adaptability to temperature rise Strategic lines

## Iniciativa ante el Cambio Climático en el Estado de México



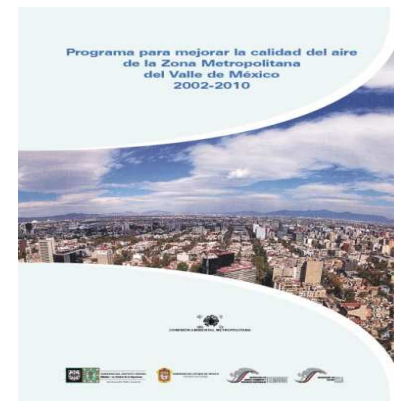
SECRETARÍA DEL MEDIO AMBIENTE



# ACTIONS IN THE STATE OF MEXICO

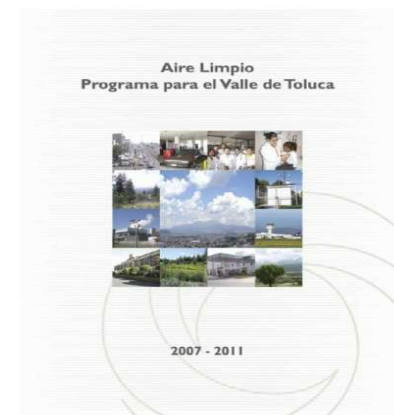
## Program to Improve Air Quality in the MCMA 2002-2010

- ✓ 89 measures aimed at vehicles, transport and natural resource conservation.
- ✓ The goal is to reduce 2.2 million tons of CO<sub>2</sub> in 2010.



## Clean Air Program for the Toluca Valley 2007-2011

- ✓ 27 measures aimed at protecting forests, reforestation and recovery of eroded soils



# AIR QUALITY PROGRAMS (CC CO-BENEFITS)

## Main Programs

- ✓ Program a Day Without a Car and a Saturday Without a Car
- ✓ Environmental regulation of foreign vehicles
- ✓ Adjustment to the levels of activation of atmospheric environmental contingencies
- ✓ Inspection and Maintenance Program
- ✓ Incentives for energy efficient and ultra low emissions vehicles .
- ✓ Visible Polluting Vehicles Removal Program
- ✓ Buenavista-Cuautitlan suburban train.
- ✓ Coordinating actions with Federal District
- ✓ Payment for environmental services conservation

- ✓ **Business regulation** (Operating License, Wastewater Registration, Profesional Services of Special Solid Waste Management)
- ✓ **Significant potential in energy efficiency in industry**



SECRETARÍA DEL MEDIO AMBIENTE

# ACTIONS IN THE STATE OF MEXICO

## Permanent Reforestation

- ✓ State-of-the-art tree nursery at Tecámac producing 1.5 million trees per year.
- ✓ 50,000 hectares reforested.

## Hydrological Environmental Services Payment Program

- ✓ Financial support for the conservation of 6 000 hectares.
- ✓ Economic support to the work of protection and conservation of plantations with a survival rate of over 70%

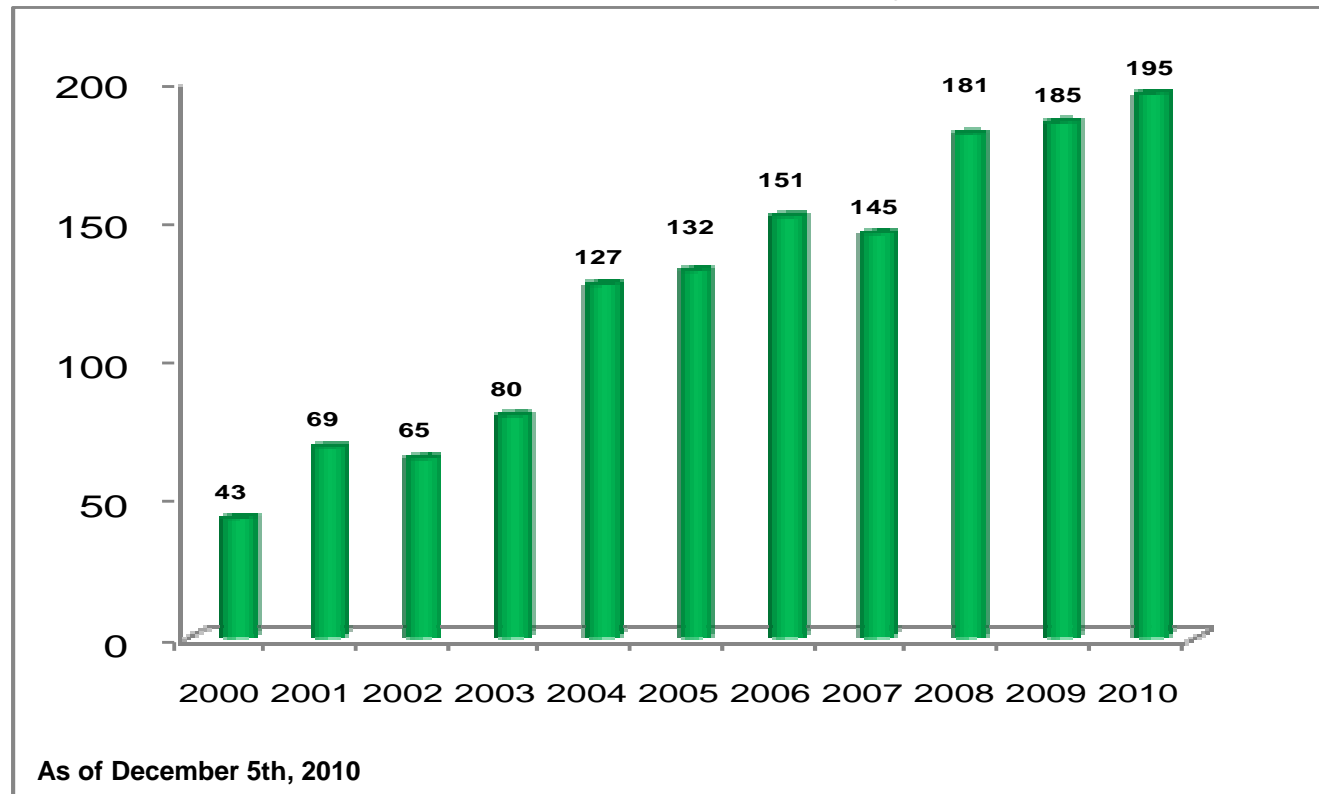
## State program of prevention, control and combat of forest fires

- ✓ Equipment and technical capacity building for forest fire control
- ✓ Telematic system for monitoring of the NPA's.



# PROGRESS IN AIR QUALITY IMPROVEMENT

Days per year within the Ozone Standard  
Metropolitan Area of Mexico Valley (2000-2010)



# **Territorial Approach to Climate Change**

**Regions: a solution to climate change**

**A global partnership between the  
United Nations and Sub-national authorities**



# MUNICIPALITIES PARTICIPATING IN THE TACC

- 125 municipalities in the State of Mexico
- 16 regions
- TACC Invitation for Metropolitan Municipalities in several regions: among others, the 5 regions with worst environmental indicators
- Basically urban characteristics
- Dissimilar resources, vulnerability and resilience differentiated



**Providing tools to assess urban greenhouse gas emissions**

**Undertaking risk assessments: hazards, vulnerability and adaptive capacity**





# NEEDS IDENTIFIED IN MUNICIPALITIES

**Adaptability to Climate Change:** Extreme rainfall, floods, fires, extreme temperatures

**Health Effects:** Early Alert, Civil Protection

**Water:** Contamination of water bodies, water availability for human use

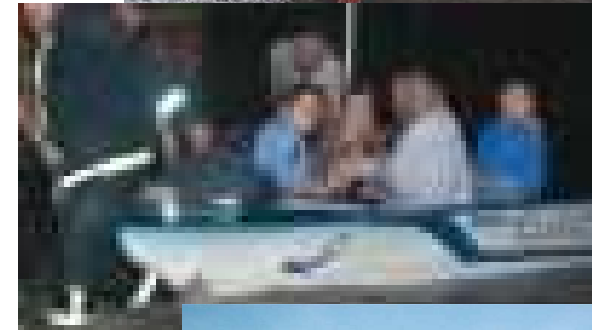
**Solid waste:** collection, handling and disposal

**Land Use:** Zoning and Regulation

**Transportt and Mobility**

**Environmental protection:** forest cover and biodiversity

**Environmental Education:** Dissemination and training





**GOBIERNO DEL  
ESTADO DE MÉXICO  
SECRETARÍA DEL MEDIO AMBIENTE**

**Thanks ! ! !**

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