





The Conflict of Río Bravo between the United States of **America and Mexico:** A Case for Hydro-Diplomacy

Úrsula Oswald Spring 21 of March 2006

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- 3. Repercussion for Mexico: Physical & Social Vulnerability
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- 7. Human, Gender and Environmental Security (HUGE)

1. Global Climate Change: Temperature Increases & Sea Level Rise

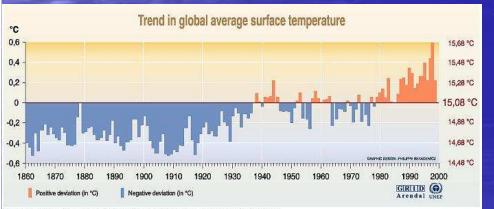
2 Climate Change Impacts: Temperature & Sea level Rise

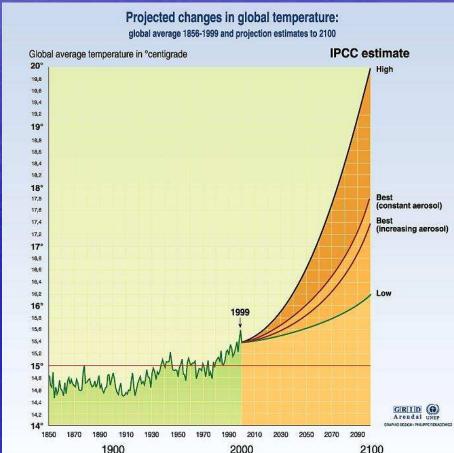
Global average temperature rise in 20th century: + 0.6°C

Proj. temperature rise:

1990-2100: +1.4 - 5.8°C

Sources: IPCC 1990, 1995, 2001





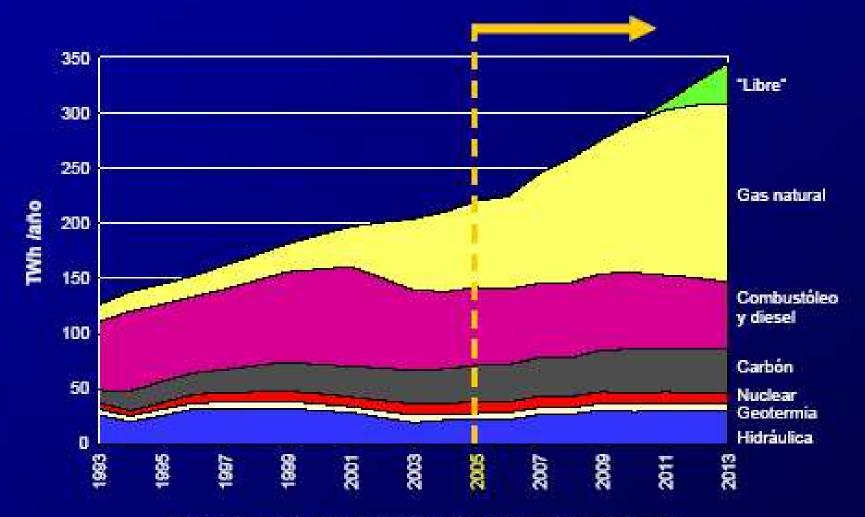
2. Climate Change as a New Security Challenge, Social and Physical Vulnerability: Water Wars: Climate change may spark conflicts

- Britain's Defence Secretary, John Reid, pointed to violent collision between a rising world population & shrinking world water resource: global warming.
 Climate change may spark conflict between nations and British armed forces must be ready to tackle violence.
- "We see uncertainty growing ... about the geopolitical and human consequences of climate change. "Impacts such as flooding, melting permafrost & desertification could lead to loss of agricultural land, poisoning of water supplies & destruction of economic infrastructure.
- "More than 300 million people in Africa currently lack access to safe water; climate change will worsen this dire situation".



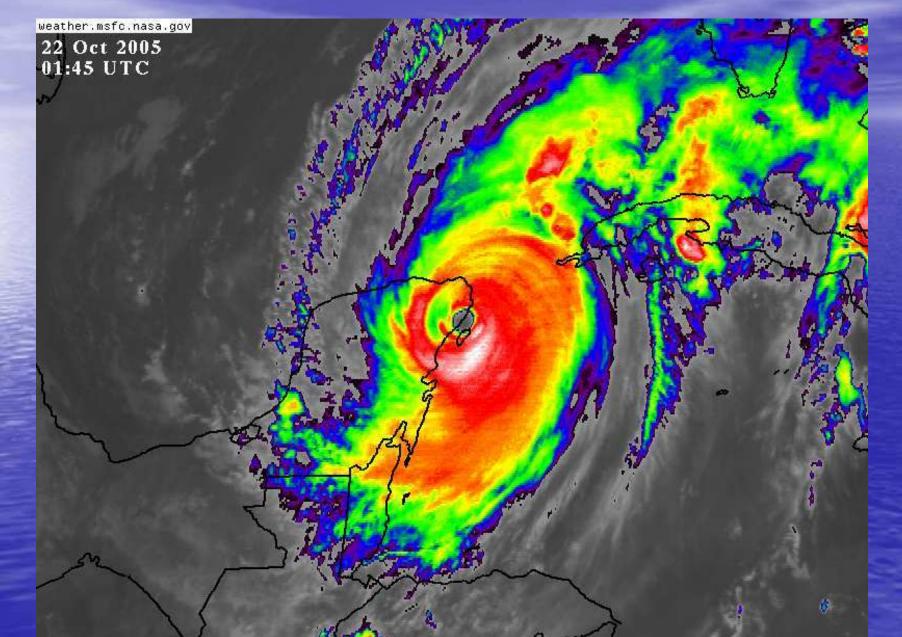
3. Repercussions for Mexico: Use of Energy

Power sector: A growing dependence on natural gas...



Elaborado a partir de la Prospectiva del Sector Eléctrico 2004-2013

3.1. Hurrican Wilma

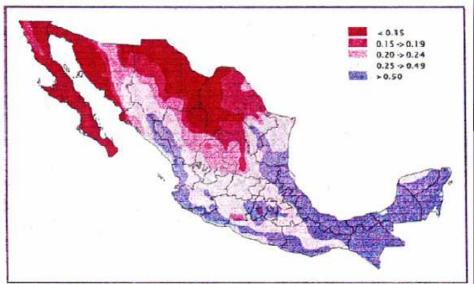


3.2. Desertification, Migration and Conflict - Case of Mexico: Annual Aridity & Precipitation

Index of Aridity

Atlas Marianal del Nedro Fishio de Mèvico de INSC

Macan Remattens, de INCC



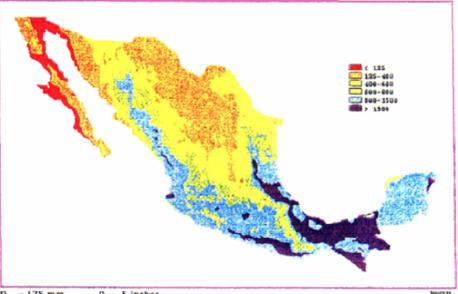
Ratio between annual precipitation and average evaporation

0.20 - 0.25

very arid area (desert) arid area semi arid area

0.25 - 0.50 dry and subhumid area

humid area



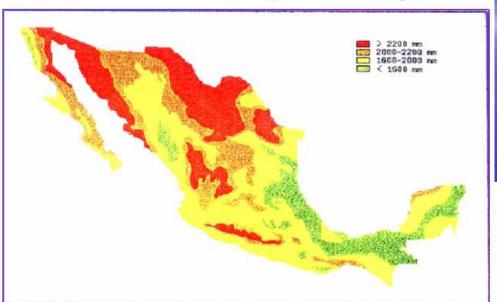
- 125 mm 0 - 5 inches 125 - 400 mm 5 · 16 inches 400 - 600 mm 16-24 inches 600 - 800 mm 24-31 inches 800 - 1500 mm 31-59 inches > 1500 mm > 59 inches

relies hectorul del Medio Fisico de Brecico, de PIECA Allen Presidental de Ablanta de la Minada

Annual Precipitation

3.3. Dryness and Desertification in Mexico: Annual Evaporation & Dry months per year

Average Annual Evaporation

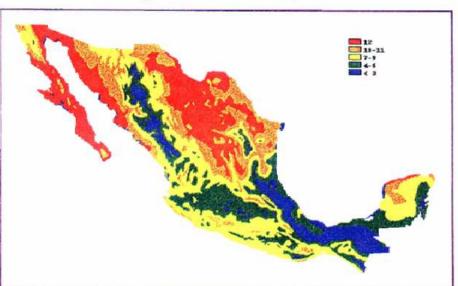


2200 mm 2200 - 2000 mm 2000 - 1600 mm

> 83.6 inches 78.7 - 86.5 inches 62.9 - 78.6 inches < 62.8 inches

Millan, Martinnal del Medito i inflor de Mérico, de MIGO Magaz terraticas de P4001 Acies National de México de IJ-8484

Average Number of Dry Months Per Year



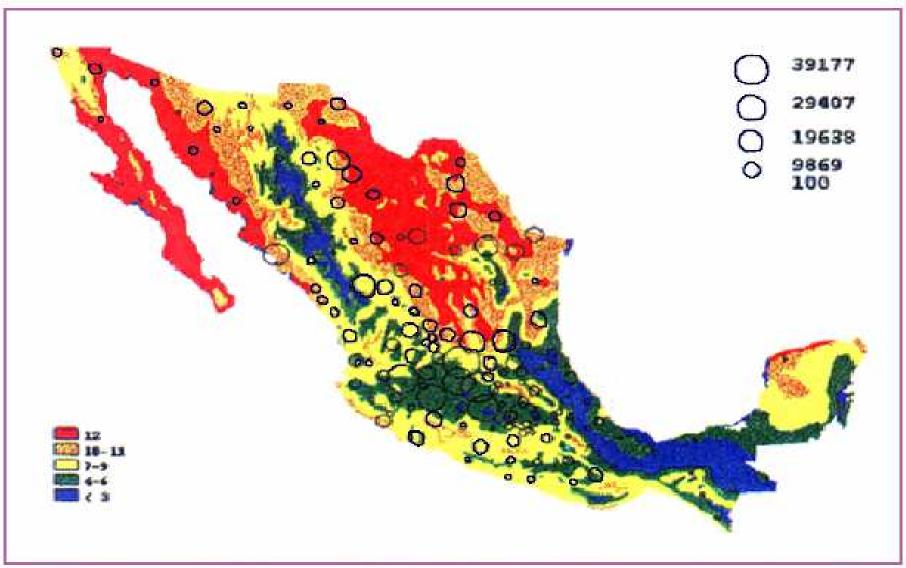
humid area

arid area

semi-arid area dry and subhumid areas very humid area

Mini Ricernal del Modia Phico de Mission de INEC Mugan remarkus de milió Albus Nacional de Wexico de Unical

3.4. Number of Dry Months and Migration



Number of dry months and flow (estimation for 1993) of Mexican migrants living and working in the US, surveyed on the border on their return to Mexico (spatial distribution according to their region of birth in Mexico, rural and urban localities).

Sources

Survey on Michican IC majoratory Blow (COLE)

After Nachonal do Michica de 1894a

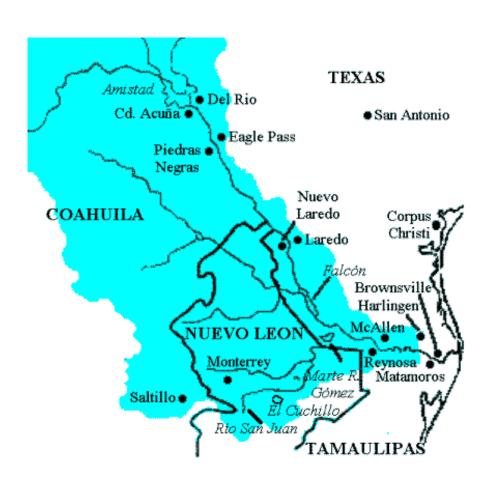
Solerma de información Ceográfica y Estadistica de la

Frontesia Monte (COLE) DIS FORE

3.5. Social Vulnerability: Internal Inequity in Mexico

Concept	% of	% of GDP	% of
	Population		Financial Savings
Very Rich	0.23	40.3	78.0
Poor	52.7	18.4	10.0

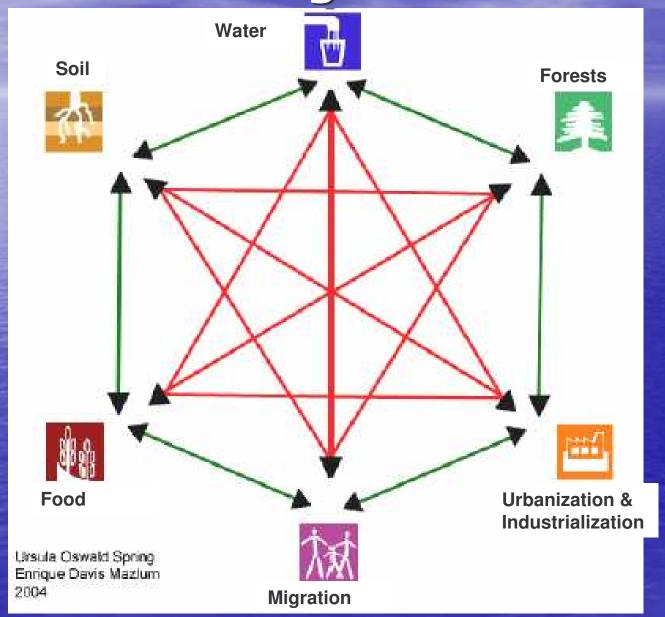
4. Border Region of Río Bravo



4.1. Localization of Río Bravo or Río Grande

- Source in the State of Colorado
- Length 1,900 miles
- Fifth largest river in USA
- Used by the US States of Colorado, New Mexico and Texas
- The Colorado River Storage Project Act (1956) authorized
 Clen Canyon dam and Central Arizona Project (1986)
- Used by 5 states and 11 municipalities in Mexico
- Used for domestic, industrial and agricultural purposes in Mexico
- Irrigates the Desert of Chihuahua, one of the most biodiverse deserts in the world

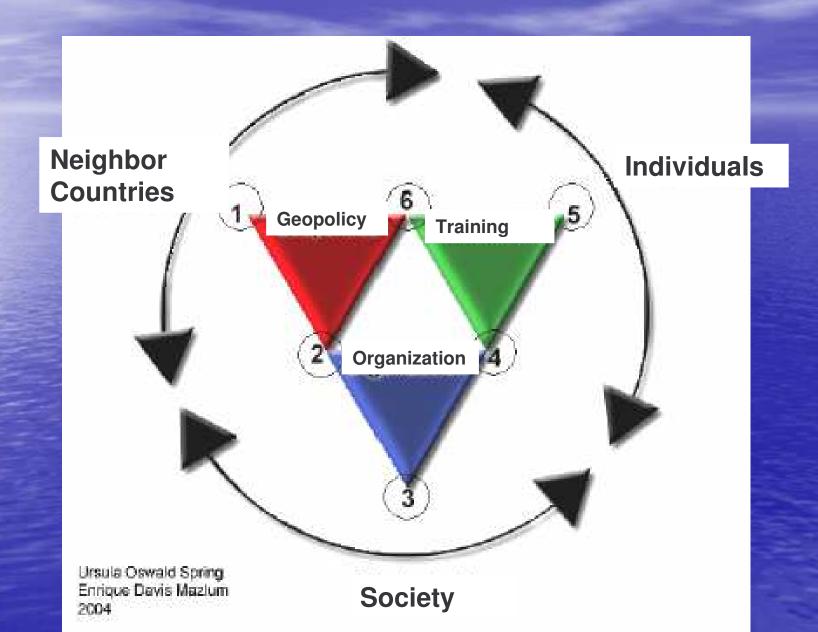
5. Growing Conflicts between Neighbors



5.1. Socio-Physical Vulnerability in Río Bravo

- International Treaty signed in 1944
- Increase of population to 10 million by migration
- Less precipitation and higher dryness
- Intensification of productive processes:
 - Growth of maquila and other industries
 - Higher demand of agricultural water
- Overexploitation of river for irrigation
- Dry-out of the river and affluents during dry season
- Depleting of aquifers
- High pollution by agrochemical, domestic and industrial waste and waste water without treatment
- Modification of ecosystems
- Destruction of biodiversity in very fragile environment

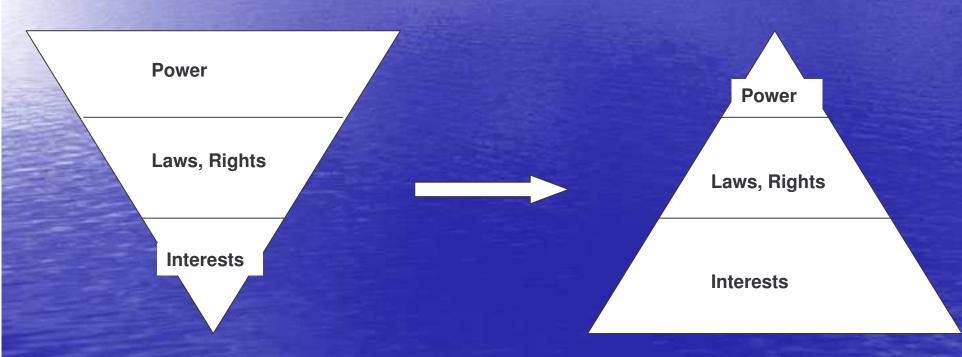
6. Hydro-Diplomacy



6.1. From an False System of Conflict Resolution to an Effective One

What is false?

What should we do?



Source: Ury, Brett, Goldberg, 1993

6.2. Circular Diagramme of Mediation

¿What should we do? ¿What is false? **Second step:** Third step: Go **Analysis further** ◆ Diagnsis of the ♦ Posible strategies problem & concrete receipts ◆Categorization of ◆Theoretical help in theory ◆Global idea for symptoms ◆ Determination of future actions missing processes Existing obstacle avoiding solution Fourth step: Ideas First Step: **Problem** of Resolution ♦ What is false? ♦ What can b done? in reality ♦ ¿What are the ◆ Development of symptoms? concrete stepts Which are the oriented to conflict facts opposed to resolution change the situation for solution?

Fuente: Roger Fisher, William Ury, Bruce Patton, 1991: 104

7. Human, Gender and Environmental Security (HUGE)

Level of expansion	Determination Which security?	Mode of expansion Reference object Security of whom?	Value at risk Security of what?	Source(s) of threat Security from whom or what?
Without expansion	National security (political, military dimension)	The State	Sovereignty, territorial integrity	Other States, terrorism, sub-state actors, guerrilla
Increased	Societal security	Nations, social groups	National Unity, national identity	(States), Nations, Migrants, Alien cultures
Radical	Human security	Individuals (Humankind)	Survival, quality of life, cultural integrity	The State, globalization, nature, GEC, poverty, fundamentalism
Ultra-radical	Environmental Security	Ecosystem, urban and agricultural system	Sustainability	Nature Humankind
Trans-radical	Gender security	Gender relations, indigenous, minorities	Equity, identity, social relations	Patriarchy, totalitarian institutions (élites, governments, religions, culture), intolerance

Source: Bjørn Møller, 2003:279 and Úrsula Oswald, 2001, 2004

7.1. Ethics of Sustainable Peace-Building Security with Cooperation and Solidarity

GS – Gender Security

ES – Environmental Security

HS –**Human Security**

Ecofeminism
Ecoindigenism

Sustainable
Development
Descentalized,
Multicultural &
Diverse

Environmental,
Cultural &
Social
Diversity

HS

Multiculturalism
Dissipative System
Technological Diversity
Pleasure, Happiness
Creative Efforts
Agathos & Kalos
Local Self-Sufficency

Civilizational Process
Globalization/Solidarity
Nets and Relations
Ethics to Care
Multiplicity /Plurality
Transversal Polícy
Plural Decision-making

Bottom-up Political Participation Bio-Socio Cultural Collaboration Care for Vulnerable Permanent Evaluation & Adaption Regional Peace Building Global Well-being Healthy and Beautiful Environment



nttp://www.afes-press.de/html/download_oswal

