Domestic Policy Frameworks on Adaptation to Climate Change in Water Resources

Argentina Country Case Study

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ARGENTINA  PHISIOGRAPIC CHARACTERISTICS

IMAGE NOAA

HIPSOMETRY

CLIMATE

WARM

TEMPERATE

ARID

COLD
ARGENTINA SURFACE WATER

Rivers Mean Annual Discharge (m³/s)

1. Bermejo 320
2. Juramento 15
3. Tercero 30
4. Jáchal 10
5. San Juan 60
6. Tunuyán 30
7. Diamante 35
8. Atuel 35
9. Neuquén 300
10. Colorado 130
11. Negro 1000
12. Limay 700
13. Chubut 50
14. Santa Cruz 700
15. Paraná 11800
16. Iguazú 920
17. Uruguay 2300
18. Paraná 16000
19. Uruguay 4700
Total Population: 36.3 million inhabitants
Mean Density: 13 inhab./km²

ARGENTINA POLITICAL DIVISION

1- Misiones
2- Corrientes
3- Entre Ríos
4- Buenos Aires
5- Formosa
6- Chaco
7- Santa Fe
8- Jujuy
9- Salta
10- Tucumán
11- Santiago del Estero
12- Catamarca
13- Córdoba
14- La Rioja
15- San Juan
16- Mendoza
17- San Luis
18- La Pampa
19- Neuquén
20- Río Negro
21- Chubut
22- Santa Cruz
23- Tierra del Fuego, Antártida e Islas del Atlántico Sur
24- Ciudad Autónoma de Buenos Aires
**Present climatic hazardous processes**

<table>
<thead>
<tr>
<th>Regions</th>
<th>Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metropolitan</strong> (Federal Capital and GBA)</td>
<td>Flooods produced by “sudestadas” (strong southwest winds) and precipitations. Heat blows.</td>
</tr>
<tr>
<td><strong>Centre</strong> (Córdoba, Buenos Aires)</td>
<td>Droughts. Floods. Severe storms. Tornados.</td>
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<tr>
<td><strong>Cuyo</strong> (San Juan, Mendoza, San Luis)</td>
<td>Risk due to fast floods originating in intense summer storms. Droughts. Desertification.</td>
</tr>
<tr>
<td><strong>Northeast Litoral</strong> (Formosa, Chaco, Santa Fe, Misiones, Corrientes, Entre Ríos)</td>
<td>Floods. Extraordinary low flows. Severe storms.</td>
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</tbody>
</table>
SOME RESULTS OF CLIMATE CHANGE SCENARIOS FOR ARGENTINA

• Expected increase for temperature is larger in lower latitudes and tends to decrease towards upper latitudes (expected ranks of temperature increase are between 1.6 and 5º C for 2080).
• Trend of increase of precipitation in most of the central northern region and the southern extreme.
• Trend to decrease of precipitation in the western Region of Cuyo, the Province of Neuquén and the western part of Río Negro and Chubut.
• Discharge variations expected for the Patagonian rivers show – in general - a reduction. Such reduction decreases from North to South and, at the southern extreme of the region, it turns into a moderate increase.
LEGAL ASPECTS

Argentina is a representative and federal republic

The National Constitution establishes:

Section 124:
“the provinces have the original dominion over the natural resources existing in their territories”

Thus, the main responsibilities regarding water resources planning and management are exerted by the provinces.

Among other issues: submission of water abstraction licenses; overseeing of reliable supply of safe drinking water; flood and drought predictions, plans, management and recovery actions, and the ownership of dams and reservoirs.
<table>
<thead>
<tr>
<th>Water Resources (WR)</th>
<th>Climate Change (CC)</th>
<th>CC Impact on WR</th>
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</thead>
<tbody>
<tr>
<td>Undersecretariat of Water Resources</td>
<td>Argentinean Office for Clean Development Mechanisms</td>
<td>Central Sub-Unit of Coordination for Emergency (SUCCE)</td>
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<tr>
<td>Secretariat of Environment and Sustainable Development (SAyDS)</td>
<td>Climate Change Unit (UCC)</td>
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<tr>
<td>Ministry of Internal Affairs (MI)</td>
<td></td>
<td>Emergency Federal System (SIFEM)</td>
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<tr>
<td>Ministry of Foreign Affairs, International Commerce and Cults (MRECyC)</td>
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<td>Directorate for Civil Protection</td>
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<tr>
<td>Secretariat of Agriculture, Livestock, Fisheries and Food</td>
<td>National Water Institute (INA) Warning Systems</td>
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</tr>
<tr>
<td>Secretariat of Energy</td>
<td>National Meteorological Service (SMN)</td>
<td></td>
</tr>
<tr>
<td>Undersecretariat of Harbours and Navigable Ways</td>
<td>Navy Hydrographic Service (SHN)</td>
<td></td>
</tr>
<tr>
<td>National Council of Scientific and Technical Research</td>
<td>National Commission for Space Activities (CONAE)</td>
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<tr>
<td>National Meteorological Service</td>
<td>National Agricultural Technology Institute (INTA)- Climate and Water Institute</td>
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<tr>
<td>Navy Hydrographic Service (SHN)</td>
<td>Directorate for Social Emergencies</td>
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</tr>
<tr>
<td>Argentinean Naval Prefecture</td>
<td>National Directorate for Traumas, Emergencies and Disasters</td>
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<tr>
<td>Dam Safety Regulating Organism</td>
<td>Sanitary Emergencies Committee</td>
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<td></td>
<td>White Helmets Commission</td>
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FEDERAL ORGANISATIONS

FEDERAL WATER COUNCIL
(CONSEJO HÍDRICO FEDERAL – COHIFE)

FEDERAL ENVIRONMENT COUNCIL
(CONSEJO FEDERAL DEL MEDIO AMBIENTE – COFEMA)
INTERJURISDICTIONAL ORGANISATIONS

SELECTED ORGANISATIONS NATION - PROVINCES

I. Comisión Regional del Río Bermejo (COREBE)
II. Comité de Cuenca del Río Pasaje - Juramento - Salado
III. Comité de Cuenca del Río Salí-Dulce
IV. Comité de Cuenca del Río Abaucán - Colorado - Salado
V. Comisión Interjurisdiccional de la Cuenca de la Laguna La Picasa
VI. Comité Ejecutor del Plan de Gestión Ambiental y Manejo de la Cuenca Hídrica Matanza - Riachuelo
VII. Comité Interjurisdiccional del Río Colorado (COIRCO)
VIII. Autoridad Interjurisdiccional de las Cuencas de los Ríos Limay, Neuquén y Negro (AIC)
TRANSBOUNDARY RIVERS

LA PLATA RIVER BASIN

BRASIL

PARAGUAY

BOLIVIA

ARGENTINA

URUGUAY
Intergovernmental Coordinating Committee of the Countries of the La Plata Basin (CIC) is developing the project "A Framework for the Sustainable Management of the Water Resources of the La Plata Basin, with respect to the Hydrological Effects of Climatic Variability and Change".

A good opportunity to mainstream adaptation on international shared rivers.
MAIN BASINS WITH SHARED WATER RESOURCES BETWEEN ARGENTINA AND CHILE (Argentinean sector)
WATER INSTITUTIONAL ASPECTS WHICH FACILITATE THE ADAPTIVE CAPACITY TO CLIMATE CHANGE (CC)

- CC ISSUES ARE PRESENT WITHIN THE INSTITUTIONAL STRUCTURE
- THERE EXIST INSTITUTIONAL CAPACITIES (MAINLY HUMAN RESOURCES) TO DEAL WITH CC PROBABLE EFFECTS
- A STRONG PUBLIC OPINION HAS BEEN DEVELOPED DEMANDING RESPONSES TO HAZARDS
- THE COUNTRY VARIED PHYSICAL CHARACTERISTICS OFFER MORE OPTIONS TO DEAL WITH THE PROBABLE EFFECTS OF CC (e.g. Energy, Agriculture)
WATER INSTITUTIONAL ASPECTS WHICH CREATE OBSTACLES TO THE ADAPTIVE CAPACITY TO CLIMATE CHANGE (CC)

- FREQUENT CHANGES IN THE INSTITUTIONAL STRUCTURE
- LACK OF COMPREHENSIVE NATIONAL AND PROVINCIAL WATER RESOURCES PLANNING
- WEAK RELATIONSHIP BETWEEN WATER AND CC INSTITUTIONS
- CC RESPONSES ALMOST EXCLUSIBLY FOCUSED TO EMISSIONS REDUCTION AND NOT CONSIDERING OTHER ASPECTS, SUCH AS INFRASTRUCTURE DESIGN
SELECTED POSSIBLE NEW MEASURES TO IMPROVE ADAPTIVE CAPACITY TO CC

- appropriate legal frameworks that address integrated flood and drought management approaches based on risk management strategies;
- informed decision-making based on sound scientific knowledge, as well as local knowledge;
- a participatory and transparent approach that includes a representative range of stakeholders in the decision-making process;
- regional and subregional approaches, strategies and cooperation arrangements where rivers span two or more national or provincial boundaries;
- partnerships among different levels of government, civil society, private sector groups and communities;
- decentralized decision-making through provincial and local authorities and basin committees, including the provision of adequate resources;
- effective policies to regulate further growth of human settlements in risky areas including appropriate economic policies, such as fiscal incentives for orientation of economic activities away from disaster-prone areas;
- shifting from top-down, predominantly engineering approaches for flood or drought management to a more integrated and proactive approach.
SELECTED RECOMMENDATIONS

- to establish a Risk Management Unit at national level – on the basis of an improved Emergency Federal System (SIFEM) - with a supra-sectoral character and the highest possible institutional hierarchy, in order to articulate the capacities of all the pertinent public and private organizations and of the representatives of the civil society;

- to define the risk management cycles for each of the types of potential disasters, identifying its specific characteristics in the different zones of the country and the forecasted impacts;

- to elaborate – from a participatory diagnosis – procedures and requirements in order to assist in the preparation of local contingency plans;

- to survey, organise and evaluate sectoral information related to social vulnerability (health, housing, jobs, food, transport, access to land property, access to credit, training, education, etc.) with special reference to minorities (ethnic, age, gender) and for rural and urban environments;

- to develop widely comprehensive social networks for local management of vulnerability reduction, for fostering individual, communitarian and institutional responsibilities, including education campaigns in primary and high schools all over the country.
Thank you very much!