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Interactive workshop 2: Drought planning and water resources allocation in Central Asia, Austral Africa and America

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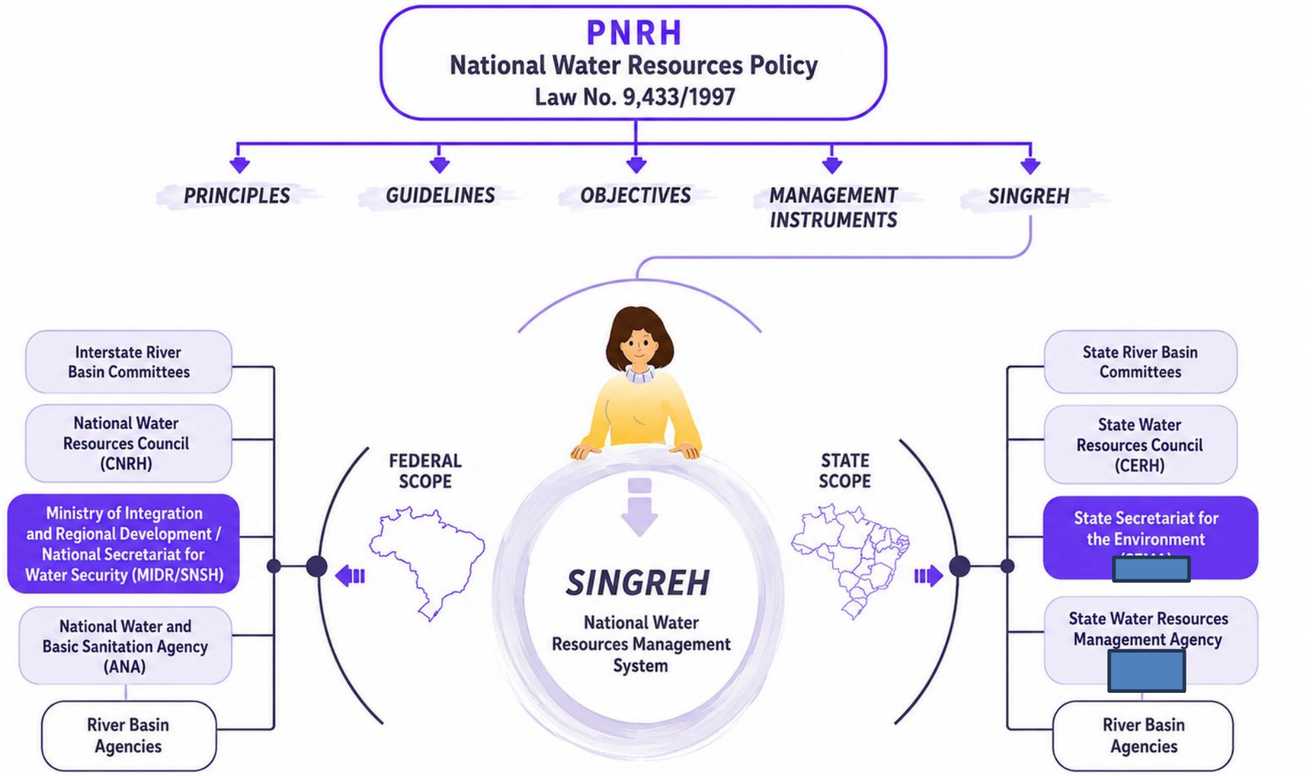
National Water Resources Management System- Brazil

National Water Resources Management System- Brazil



https://conjuntura-2025.webflow.io/singreh

Dual Dominiality of Water - Brazil

Concept: It occurs when a basin or water system comprises Union-owned rivers (interstate) mixed with state-owned water bodies or groundwater.

Challenge: To avoid conflicts in the use of shared water resources.

Solution: The National Water and Basic Sanitation Agency (ANA) and state agencies carry out shared management and negotiated water allocation.

Union Domain (ANA): Grants water rights and manages water resources for rivers that cross state lines or international borders.

State Domain: State management agencies manage state tributaries and groundwater.

Plataforma Águas Brasil (Brazil Waters Platform)

Brazil Waters Platform **aims to modernize water use regulation in Brazil by unifying, simplifying, and improving the processes related to water use in the country.**

The States of **Pará (PA), Rio de Janeiro (RJ), and Tocantins (TO)** use the Plataforma Águas Brasil (Brazil Waters Platform) as a prerequisite for water right permits under state jurisdiction (groundwater from shallow or deep wells, or surface water from state-jurisdiction rivers and reservoirs). Therefore, it is necessary to register the use on the Platform before approaching the respective water resources management agency.

ANA
AGÊNCIA NACIONAL DE ÁGUAS E SANEAMENTO BÁSICO

https://www.gov.br/ana/pt-br/assuntos/regulacao-e-fiscalizacao/outorga/solicite-sua-outorga

National Water Resources Management System

Water allocation is a management process employed to regulate multiple uses in conflict regions, as well as in systems facing emergency situations or suffering from intense droughts.

With a **participatory approach**, meetings are held in the affected locations, bringing **together water management agencies, reservoir operators, and community representatives to find solutions and alternatives to meet these multiple uses.**

The decisions made are recorded in the **Water Allocation Agreement** (Resolution 46/2020) to adjust current water permits and ensure transparency throughout the process.

The National Water Agency (ANA) plays an important role as an interlocutor between the users and the entities involved, providing essential data and technical information for better decision-making.

ANA
AGÊNCIA NACIONAL DE ÁGUAS E SANEAMENTO BÁSICO

RESOLUÇÃO Nº 46, DE 26 DE OUTUBRO DE 2020
Documento nº 02500.051502/2020-45

Regulamenta o Termo de Alocação de Água para sistemas hídricos com corpos de água de domínio da União.

A DIRETORA-PRESIDENTE DA AGÊNCIA NACIONAL DE ÁGUAS E SANEAMENTO BÁSICO – ANA, no uso da atribuição que lhe confere o art. 115, inciso III, do Anexo I da Resolução nº 76, de 25 de setembro de 2019, publicado no DOU de 14 de outubro de 2019, torna público que a DIRETORIA COLEGIADA, em sua 808ª Reunião Deliberativa Ordinária, realizada em 26 de outubro de 2020, com fundamento no art. 13, inciso III, da Lei nº 9.984, de 17 de julho de 2000, com base nos elementos constantes do processo nº 02501.000122/2019-07 e em conformidade com a Resolução ANA nº 19, de 15 de abril de 2020, resolveu:

Art. 1º O Termo de Alocação de Água constitui ato que estabelece limites, regras e condições de uso dos recursos hídricos e de operação de reservatórios em corpos hídricos de domínio da União, situados em sistema hídrico considerado crítico em termos de comprometimento hídrico.

https://www.gov.br/ana/pt-br/assuntos/regulacao-e-fiscalizacao/alocacao-de-agua-e-marcos-regulatorios/00462020_Ato_Normativo_26102020_20201028082814.pdf

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Resolution No. 237/2025

ANA AGÊNCIA NACIONAL DE ÁGUAS E SANEAMENTO BÁSICO

In response, the National Water and Basic Sanitation Agency (ANA) issued **Resolution No. 237/2025** to **establish guidelines for implementing special water-use rules in Local Water Systems (SHLs).**

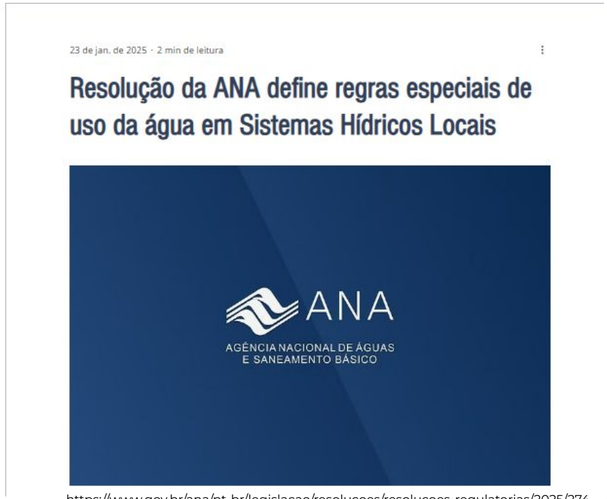
This legal framework directly enables and regulates initiatives like the Preto River experiment through the following pillars:

Formalizing Local Solutions: The resolution formalizes different approaches used by ANA to address local shortages and conflicts that go beyond conventional permitting procedures. While "Regulatory Frameworks" combined with annual water allocation remain the most established approach (especially in the semi-arid region), the resolution introduces newer methods.

- **Regulatory: It officially allows the testing of innovative models within experimental regulatory environments (sandboxes), specifically naming OGP (Water Right Allocation with Guarantee and Priority management), OGA (Autonomous Management), and OGC (Shared Management).**

- **Triggers for Action: Special regulations can be triggered by water scarcity, user conflicts**, or when reference flows are completely exhausted. Requests can originate from state management agencies, basin committees, user associations, lawsuits, the Public Prosecutor's Office, or ANA itself.

- **Preparatory Measures:** Before drafting a special regulation, ANA is empowered to take preliminary steps to assess the system, such as identifying and revoking inactive permits, standardizing allocated volumes, and holding preliminary allocation meetings with local stakeholders.



https://www.gov.br/ana/pt-br/legislacao/resolucoes/resolucoes-regulatorias/2025/274

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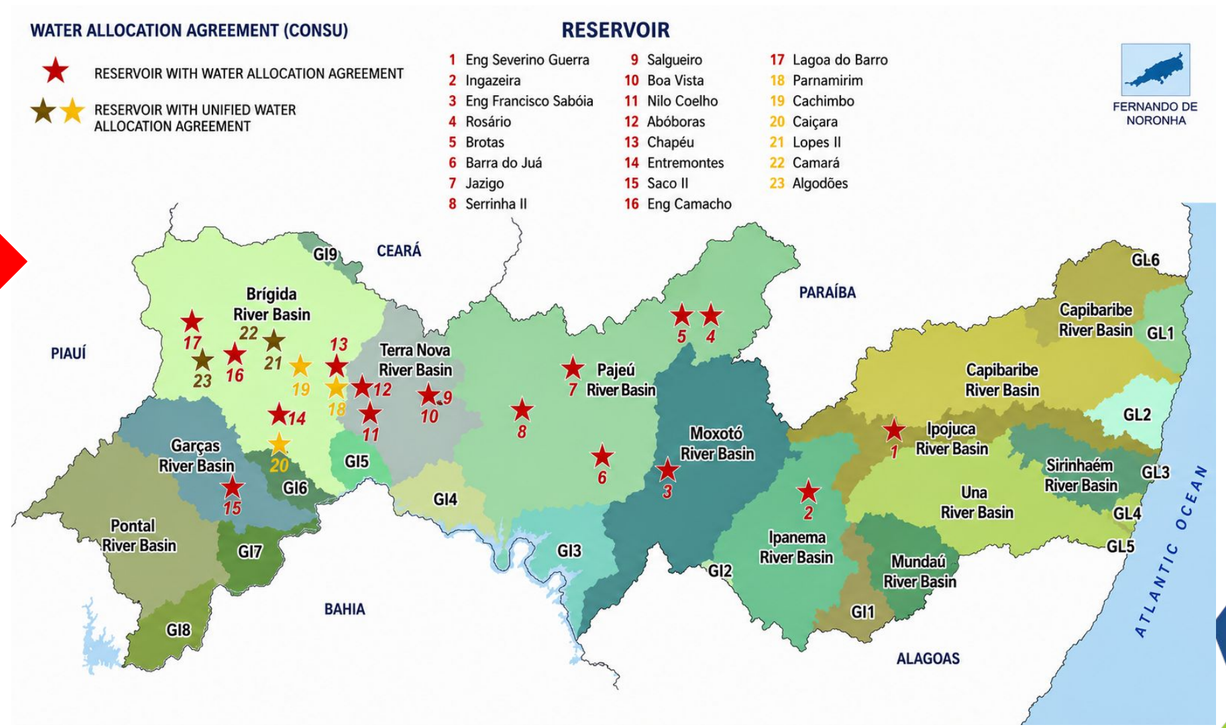
Participatory Water Resources Management in Pernambuco



Expansion of Collective Water Allocation and Negotiation with Users

Agility in the analysis and issuance of water permits for the collective regularization of users belonging to established Water Systems. Carried out based on participatory Water Allocation processes, with social and user-sector discussions through their respective Civil Water Users Organizations with the support of APAC (issued in 2025 for the Serrinha II, Barra do Juá, and Brotas reservoirs, registering and/or regularizing around 350 users).

- ✓ Agility
- ✓ Cost Efficiency
- ✓ Self-Registration
- ✓ Participatory Management
- ✓ Sustainability
- ✓ Effectiveness

1. Establishment of the Water Resources System
2. Launch of the Water Allocation Process
3. Water Allocation Agreement with Registration Annex
4. Opening of the Water Use Permit Process
5. Analysis of the Water Use Permit Application
6. Issuance of the Water Use Permit

Manuíno and Sítio dos Remédios dams in Bezerros, Pernambuco

Agência Pernambucana de Águas e Clima
Apac

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Thank you!

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Apac – Agência Pernambucana de Águas e Clima
Secretaria de Recursos Hídricos e Saneamento
Governo de Pernambuco – Estado de Mudança
ABRHidro – Associação Brasileira de Recursos Hídricos

Rio de Janeiro, Brazil

INBO WATER SUMMIT
16 June 2026,
RIO DE JANEIRO, BRAZIL

Presented by:
Ms. Sindy Mthimkhulu
Executive Secretary

INMACOM

STRENGTHENING TRANSBOUNDARY WATER GOVERNANCE, DROUGHT RESILIENCE AND EQUITABLE WATER ALLOCATION IN THE INCOMATI AND MAPUTO RIVER BASINS

South Africa Eswatini Mozambique

BACKGROUND

A tri-national river basin

BASIN MAP

From shared watercourses to shared resilience

The Incomati and Maputo basins connect upstream water, productive landscapes, protected areas and Maputo Bay.

3
Member States cooperating through INMACOM

2
Adjacent basins flowing into the Maputo Bay

3.4M
Combined basin population

PROFILE OF THE INCOMATI AND MAPUTO RIVER BASINS

Incomati Basin

46,800 km²	basin area
450 km	river length
2M	people supported
Irrigation **Hydropower** **Domestic supply**	dominant uses
Seasonal Droughts and Floods	hydrology risk

Maputo Basin

30,000 km²	basin area
1.4M	people supported
Usuthu **Ngwavuma** **Phongola**	main tributaries
Wetlands **Estuary** **Mangroves**	ecological assets
37	proclaimed nature/game reserves

Both basins discharge into Maputo Bay, requiring joint management from headwaters to coastal ecosystems (A Source to Sea Approach).

Transboundary Economic Context
- High-Demand Basin Dynamics -

The Incomati and Maputo River Basins are strategic transboundary systems that support:

- Large-scale irrigation and food production
- Hydropower generation and industrial development
- Urban and rural water supply
- Tourism and biodiversity conservation
- Wetlands, estuaries and coastal ecosystems

The basins also connect inland economies to the Indian Ocean, supporting regional trade and the blue economy.

REGIONAL WATER AND CLIMATE CHALLENGES

Southern Africa continues to experience increasing climate variability characterized by:

Increasing demand from agriculture, energy and urbanization

Rising competition between sectors

Environmental degradation and pollution

More frequent droughts and floods

Declining water availability

These pressures require stronger transboundary governance, adaptive planning and joint investment in resilience.

GOVERNANCE AND INSTITUTIONAL COOPERATION

INMACOM's governance framework is built on cooperation, inclusivity and joint accountability. Key institutional structures include:

The Commission promotes policy harmonization, stakeholder participation, gender inclusion and collaborative decision-making across Member States.

Management Region	Authority	Core Responsibilities
Upstream (Eswatini/SA)	KOBWA	A bi-national entity managing infrastructure like the Maguga and Driekoppies dams.
Upstream (SA)	IUCMA	Oversees the South African portion of the catchments.
Downstream (Mozambique)	ARA-Sul	Responsible for localized allocations, licensing, and managing downstream reservoirs like Corumana.

While INMACOM coordinates overarching strategies, operational execution relies on local, domestic water authorities:

DROUGHT MANAGEMENT IN PRACTICE

INMACOM promotes coordinated drought management through:

- Basin-wide hydrological monitoring
- Joint drought preparedness and response planning
- Early warning systems and climate information sharing
- Environmental flow assessments
- Strengthening ecosystem resilience through restoration
- Promoting water-use efficiency and climate-smart practices

The Disaster Management Plan and communication strategy developed under INMACOM provides a coordinated framework for preparedness and response

WATER ALLOCATION AND BENEFIT SHARING

INMACOM is advancing a transition from traditional water sharing approaches toward broader benefit sharing. This approach recognizes that transboundary cooperation should optimize coordinated water management through promoting:

- Food security
- Energy generation
- Livelihoods and employment
- Ecosystem services
- Regional trade and investment

DISASTER RISK MANAGEMENT PROTOCOLS

INMACOM tackles severe climate extremes through integrated disaster risk reduction frameworks:

- **Triple Hazard Focus:** The Joint Disaster Management Plan targets the three main basin hazards: floods, droughts, and major pollution events.
- **Standardized Communication:** Explicitly maps out pathways to seamlessly share early-warning signals across borders.
- **Multi-Agency Nexus:** Regional basin organizations work directly with national disaster relief entities.

Water sharing is legally anchored by the Tripartite Interim Agreement (Piggs Peak Agreement, 1991), which mandates strict downstream flow guarantees.

- **Unified Reservoir Operations:** Upstream dams are integrated to run collaboratively as a unified system rather than individual nodes.
- **Legal Minimum Flow:** South Africa and Eswatini are legally bound to support a minimum continuous cross-border release of **2.6 m^3/s** into Mozambique.

DIGITAL TRANSFORMATION AND DATA SYSTEMS

INMACOM is investing in digital systems to improve evidence-based decision-making and transparency. Current initiatives include:

- Basin-wide Management Information System (MIS)
- GIS and remote sensing applications
- Decision Support Systems for planning and forecasting
- Water quality and environmental monitoring
- Real-time information sharing platforms
- These systems support drought forecasting, water allocation and coordinated basin management.

KEY LESSONS FROM THE INMACOM EXPERIENCE

Key lessons emerging from INMACOM's experience include:

- Political commitment is essential for transboundary cooperation
- Trust and transparency strengthen regional stability
- Data sharing improves drought preparedness and planning
- Ecosystem protection must be integrated into water governance
- Financial sustainability is critical for long-term institutional resilience
- Inclusive participation improves ownership and implementation effectiveness

STRATEGIC OUTLOOK: 2026–2030

STRENGTHENING IMPLEMENTATION CAPACITY AND INSTITUTIONAL SUSTAINABILITY

EXPANDING CLIMATE RESILIENCE AND ECOSYSTEM RESTORATION INTERVENTIONS

OPERATIONALIZING INTEGRATED BASIN DASHBOARDS AND DIGITAL SYSTEMS

IMPROVING MONITORING, REPORTING AND KNOWLEDGE MANAGEMENT

MOBILIZING SUSTAINABLE FINANCING AND PARTNERSHIPS

POSITIONING THE COMMISSION AS A LEADING AFRICAN RIVER BASIN ORGANIZATION

CONCLUSION

The experience of the Incomati and Maputo River Basins demonstrates that shared water resources can become a platform for cooperation, resilience building and sustainable development.

INMACOM remains committed to strengthening transboundary water governance, advancing equitable water allocation and building climate resilience for communities, ecosystems and economies across the basin system.

Our Motto:

CONTACT DETAILS

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P2P Peer-to-Peer for Basin Organisations

16-19 JUNE 2026 . RIO DE JANEIRO - BRAZIL

World Basin Summit

INBO

COOPERATIVE BASIN GOVERNANCE FOR WATER SECURITY

DROUGHT MANAGEMENT IN TAJIKISTAN

Challenges, Impacts, and Adaptation Strategies

Presenter:
Afroz Azizov

Date:
16 June 2026

Location:
Dushanbe, Tajikistan

Focus:
Building resilience through cooperation


RUSSIA
Belarus
Poland
Ukraine
Austria
Romania
Italy
Greece
Türkiye
Kazakhstan
Mongolia
Uzbekistan
Kyrgyzstan
Turkmenistan
Tajikistan
China
Mediterranean Sea
Syria
Iraq
Iran
Afghanistan
Pakistan
JK
HP
PB
UK
UP
Nepal
AR
RJ
BR
ML
NL
Libya
Egypt
Saudi Arabia
GJ
India
WB
Myanmar
(Burma)
Oman
MH
OD
Map data ©2025 Google

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TAJIKISTAN – OVERVIEW

Capital: Dushanbe

Total area: 143,100 km²

Altitude range: 300 – 7495 m.a.sl

Official languages: **Farsi**/Tajiki

Government system: Presidential

Population: 10.786,7 million (2025) World Bank

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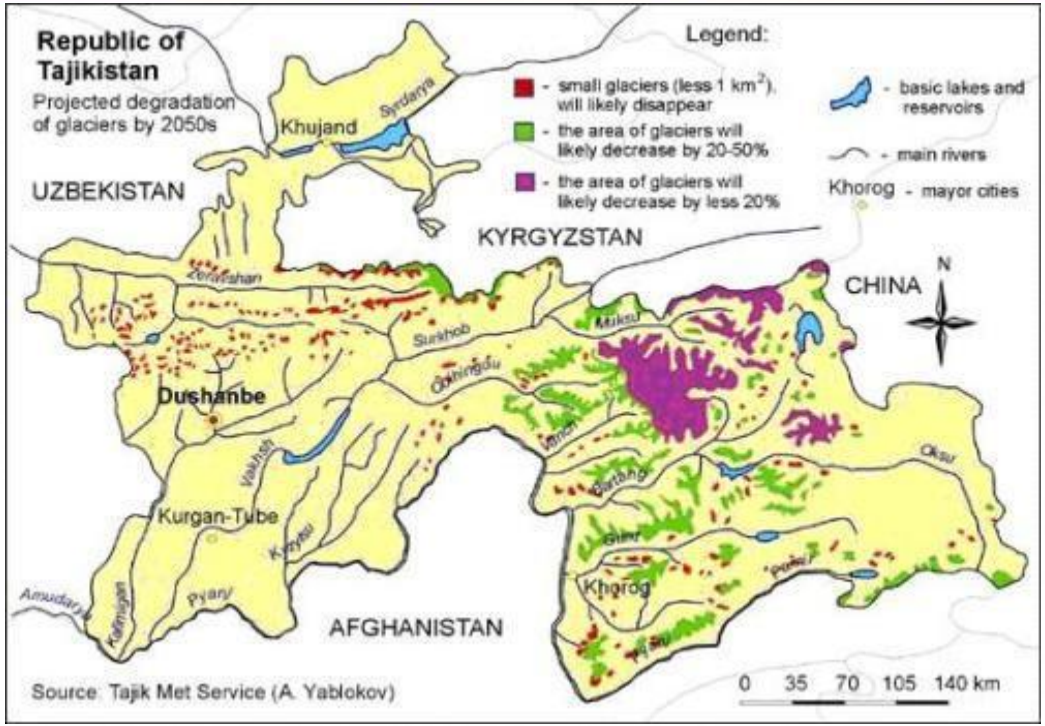
Drought Challenges in Tajikistan



- 🏔️ **93%** of territory covered by mountains
- 🧊 **Over 13,000 glaciers**
- ❄️ **Around 1,000 glaciers disappeared** during the last decades
- 💧 **60% of Central Asia's water resources** originate in Tajikistan
- 🌾 **More than 80% of agriculture depends on irrigation**

Why Drought Matters in Tajikistan

1. POLLUTION

2. OVERUSE

3. CLIMATE CHANGE

Water pollutions are mostly from mining works by Industries. Agriculture heavily depends on water resources.

Why Drought Matters in Tajikistan

1. POLLUTION

2. OVERUSE

3. CLIMATE CHANGE

Water shortages directly affect food security and livelihoods.
Rural communities are particularly vulnerable

Why Drought Matters in Tajikistan

1. POLLUTION

2. OVERUSE

3. CLIMATE CHANGE

Vulnerability to climate change impacts, such as reduced glacier-fed flows, erratic rainfall and drought.

Risks & Opportunities

Pests & Diseases

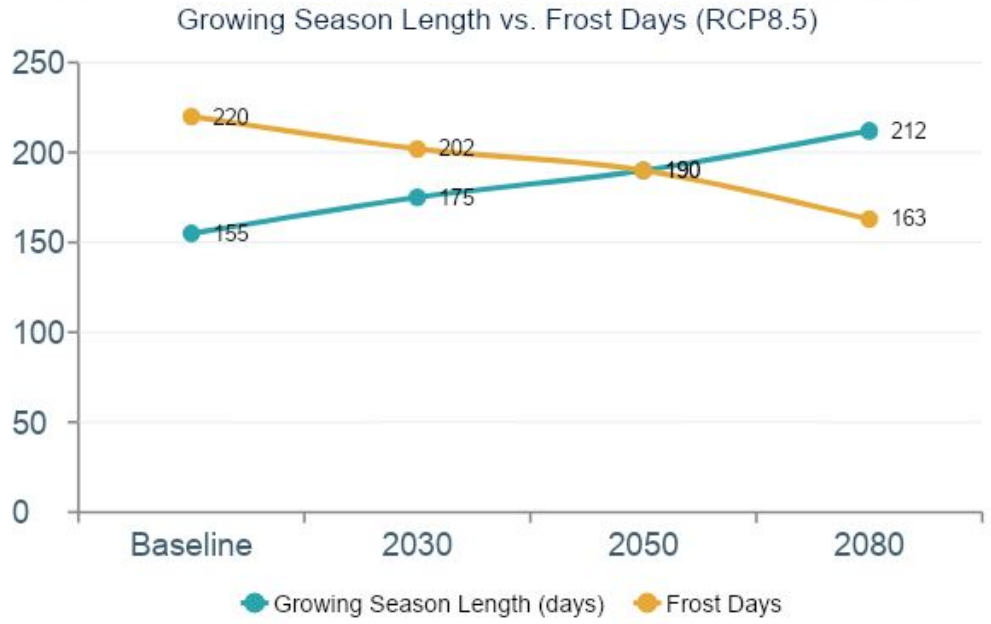
Fewer frost days reduce natural pest eradication, increasing disease risk for crops and livestock.

Longer Growing Season

GSL reaches ~212 days by 2080 (RCP8.5), extending the potential planting window.

Adaptation Priority

Climate-resilient agriculture, diversified income, and improved seasonal forecasting are needed.



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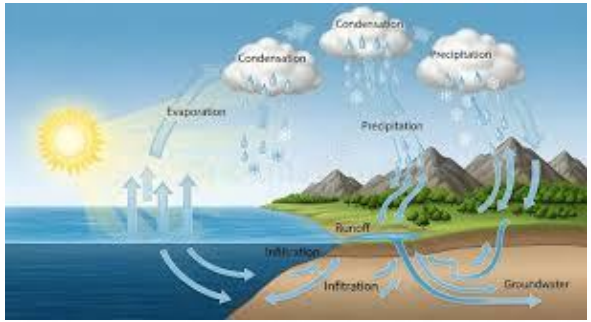
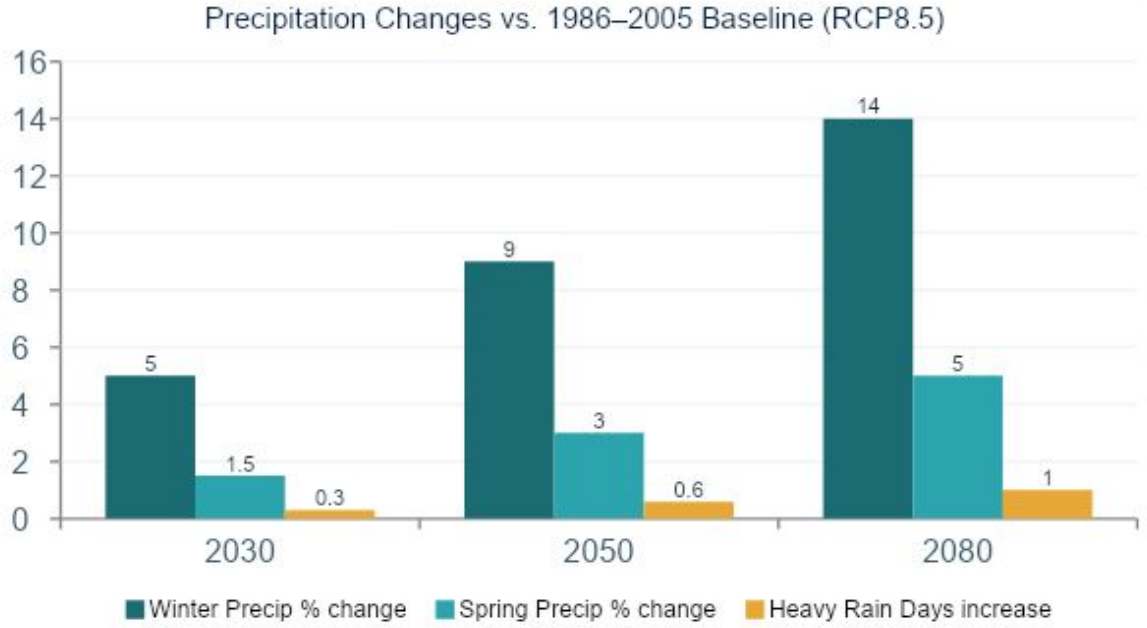
PRECIPITATION & EXTREME WEATHER EVENTS





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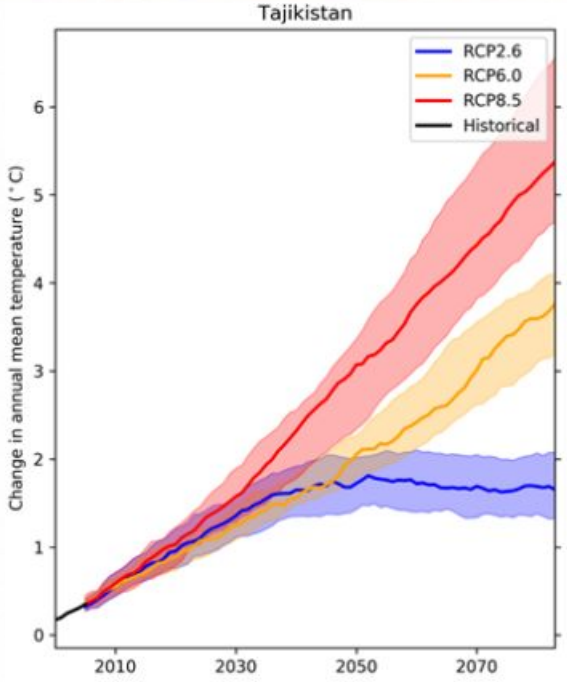
Changes in Temperatures

Temperatures Compared to the 2010-2070 level, the annual mean temperature is projected to rise **between 1.3°C and 6.3°C by 2080,** depending on the future GHG emissions scenario. Under the high emissions scenario, RCP8.5 (red), its multi-model mean (colored line) **temperature will increase approximately by 1.7°C in 2030, 3.1°C in 2050, and 5.4°C in 2080.**



TAJIKISTAN DROUGHT ISSUES
ZARAFSHAN VALLEY CASE

From Glacier to Downstream: Understanding Drought Risk in the Zarafshan Valley

The Zarafshan River is the lifeline of central Tajikistan. Rising temperatures, glacier retreat and decreasing flows are increasing drought risk from upstream to downstream communities.

Glacier area (Zarafshan Basin)
~1,075 km² (1970s)
~762 km² (2020s)

Temperature increase
+1.2°C (since 1970s)

Summer flow reduction
15–30% (in recent decades)

Population in the valley
0,6 million people

UPSTREAM
GLACIERS & MOUNTAINS

VERY LOW

1 GLACIERS
Retreating glaciers reduce long-term water storage and dry-season flows.

2 UPPER CATCHMENT
Changing snowfall and increased evaporation reduce water availability.

LOW

Panjakent

3 MID-VALLEY
Reduced summer flows impact irrigation, hydropower and ecosystems.

ZARAFSHAN RIVER

MEDIUM

4 DOWNSTREAM
Water scarcity affects agriculture, livelihoods and drinking water.

Uroteppa

HIGH

DOWNSTREAM
FARMLANDS & COMMUNITIES

N

IMPACTS

- More frequent and severe droughts
- Lower agricultural productivity
- Reduced river flows and water quality
- Livelihood stress and rural migration

DROUGHT RISK LEVEL

- **HIGH** — High water stress, severe drought risk, major impact on agriculture & livelihoods
- **MEDIUM** — Moderate water stress, seasonal shortages, impact on crops
- **LOW** — Low water stress, manageable with current resources
- **VERY LOW** — Reliable water availability, low drought risk

THE CONTINUUM OF DROUGHT RISK: FROM UPSTREAM TO DOWNSTREAM

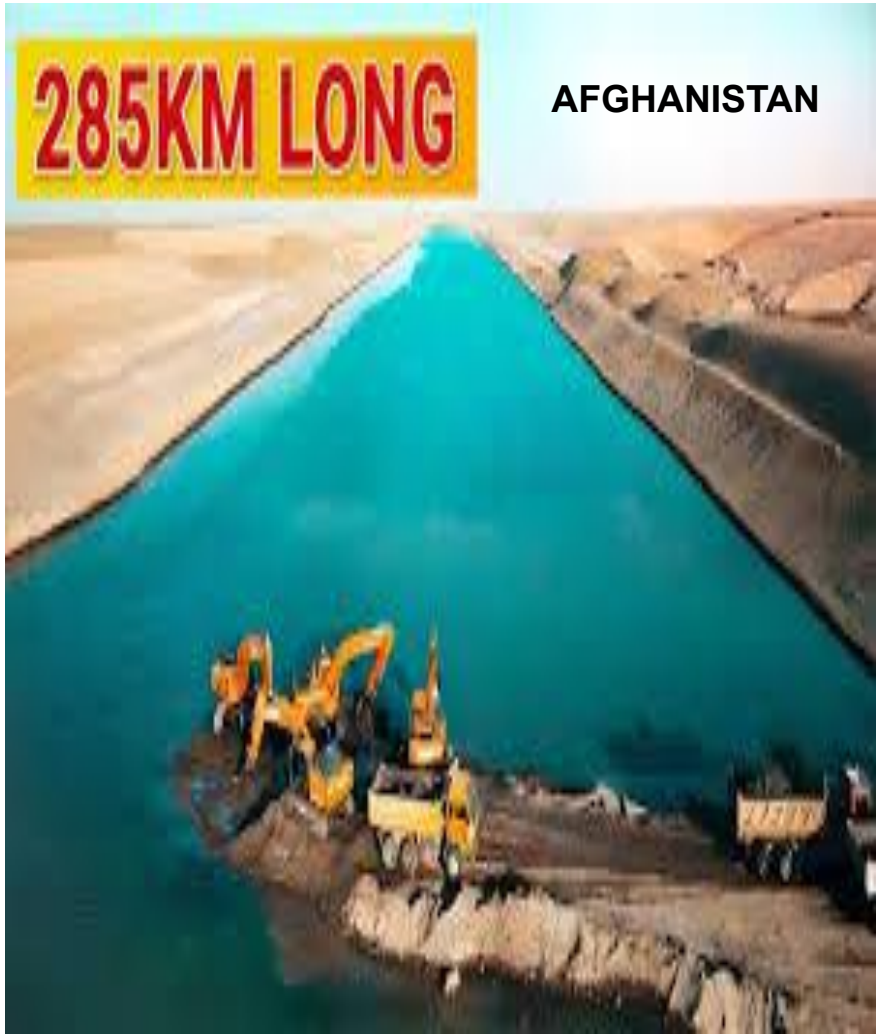
GLACIER RETREAT → LESS SNOW & HIGHER TEMPERATURES → REDUCED RIVER FLOW → MORE WATER SCARCITY → IMPACT ON PEOPLE, FOOD & ECONOMY

RISK INCREASES

Source: ICIMOD, World Bank, FAO, national reports
(Data: glacier area from 1970s vs 2020s, flow reduction in recent decades)


Qush
Tepa
Canal
project


QOSH TEPA CANAL
4K
ENGLISH


285KM LONG
AFGHANISTAN


KAZAKHSTAN
Southern Aral Sea
seasonal lake
Aral Kum
Muynak
Karakalpakstan 7.9
Planned collector
Sarygamysh Lake
Dashoguz 6.5
Horezm 4.4 (UZB)
Golden Age Lake (under construction)
Dashoguz Collector (under construction)
Lebap 3.9
UZBEKISTAN
TURKMENISTAN
Great Turkmen Collector (under construction)
Ashgabat
Karakum Canal 11
Murgab
Tejen
IRAN
Amu Darya
Amu-Bukhara 5.2
Kashkadarya 1.2
Karshi 4.19
Sherabad
Prospective expansion of irrigation
Rivers of Northern Afghanistan: 6.1
AFGHANISTAN
Kunduz
Kabul
Hari Rud
Syr Darya
KAZ 10
Chirchik-Charwak
Tashkent
Bishkek
KYRGYZSTAN
Naryn
Ahangaran
UZB 10
KYR 3
Kara Darya
Rivers of Ferghana Valley: 8
TJK 2
UZB 5.3
Aydar Lake
Zarafshan
KYR 0.1
CHINA
Kafarnigan
Vakhsh
TJK 6.6
Dushanbe
TAJIKISTAN
Surhandarya
UZB 1.4
Panj
Kokcha
0 250 500 750 1000 km
Map produced by ZoiEnvironment Network, December 2010
Average river flow and water intake by canals (km³/year)
70 Water discharge
30 (km³/year)
10
5
Mountain regions above 2000 metres
Irrigated lands
Drainage and irrigation runoff
Re-use of drainage

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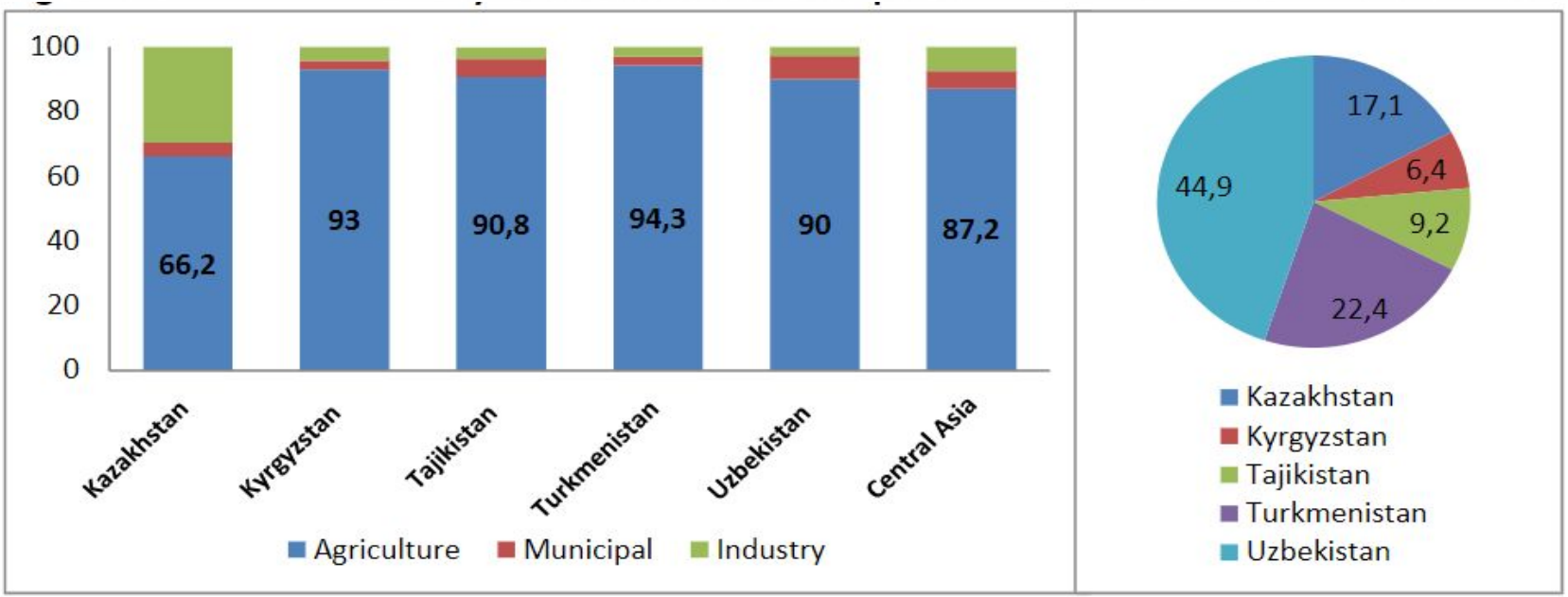
Water usages in the region



The chairmanship of IFAS is transferred on a rotational basis every three years to one of the Central Asian countries.

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INBO
Horn Basin Organizations of Central Asia Network

Tajikistan's Policy Framework for Climate Resilience and Drought Risk Management

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Historical and Current Approaches

1 **Traditional Era**

Community-managed irrigation using gravity-fed canals and water-sharing agreements

2 **Soviet Period**

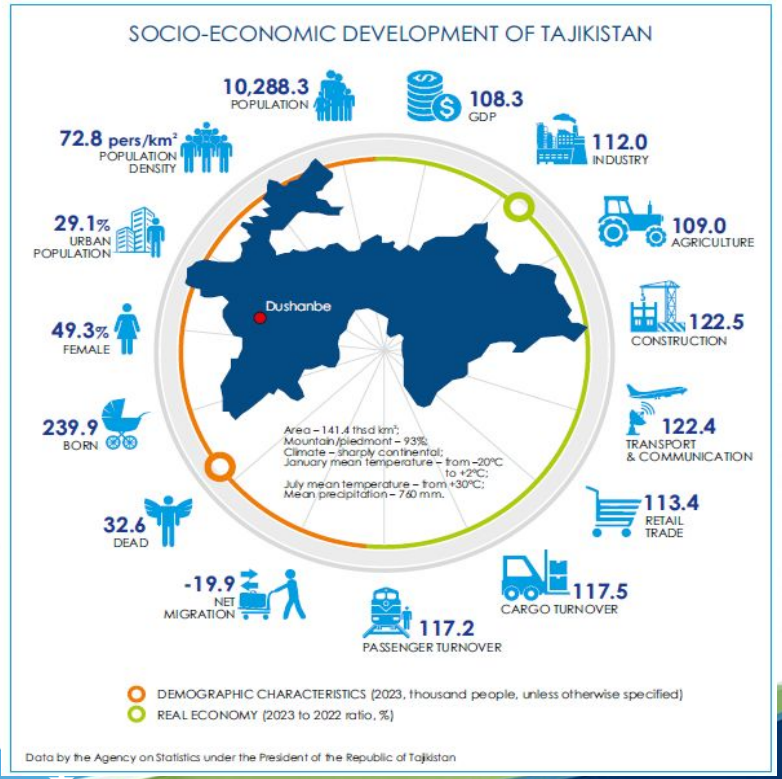
Large-scale reservoirs and centralised allocation prioritising cotton production

3 **Post-Independence**

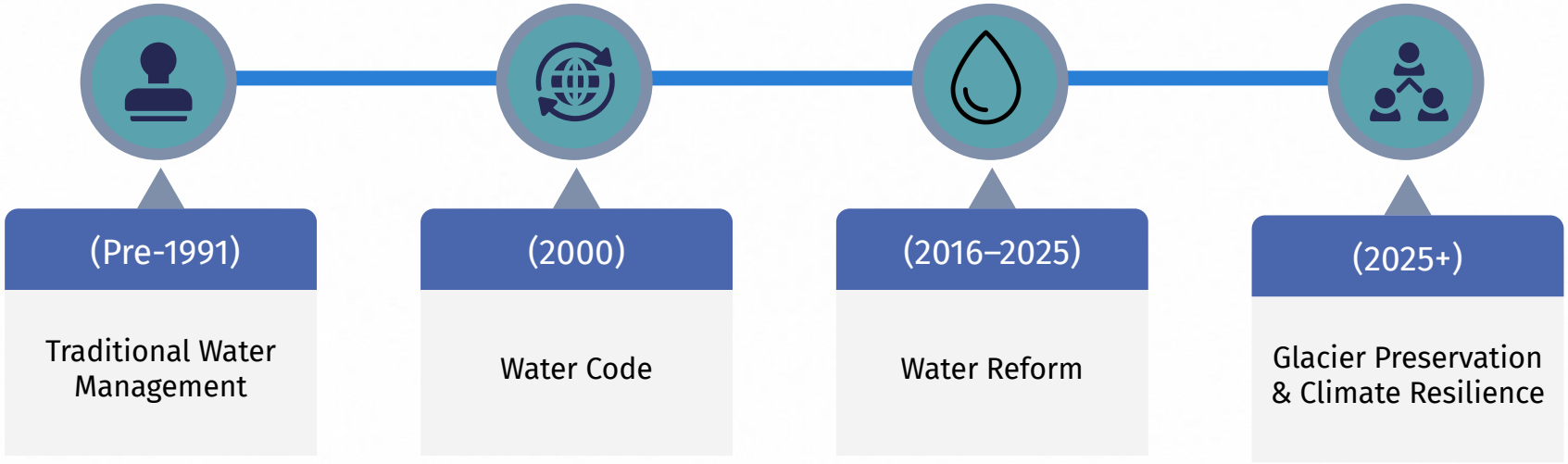
Water user associations restoring local control whilst maintaining infrastructure

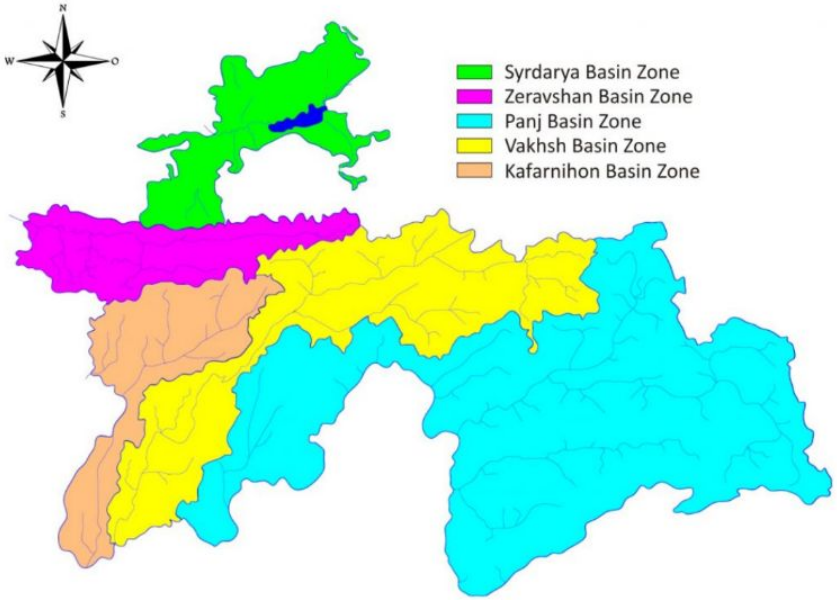
4 **Modern Era**

Climate-smart agriculture and early warning systems integrated with traditional knowledge



Legislations





(2016–2025)- Water Sector Reform

- 2020- Established 5 River Basin Organization
- 2020-River Basin Plan
- 2021-River Basin Councils
- 2025-National Water Council

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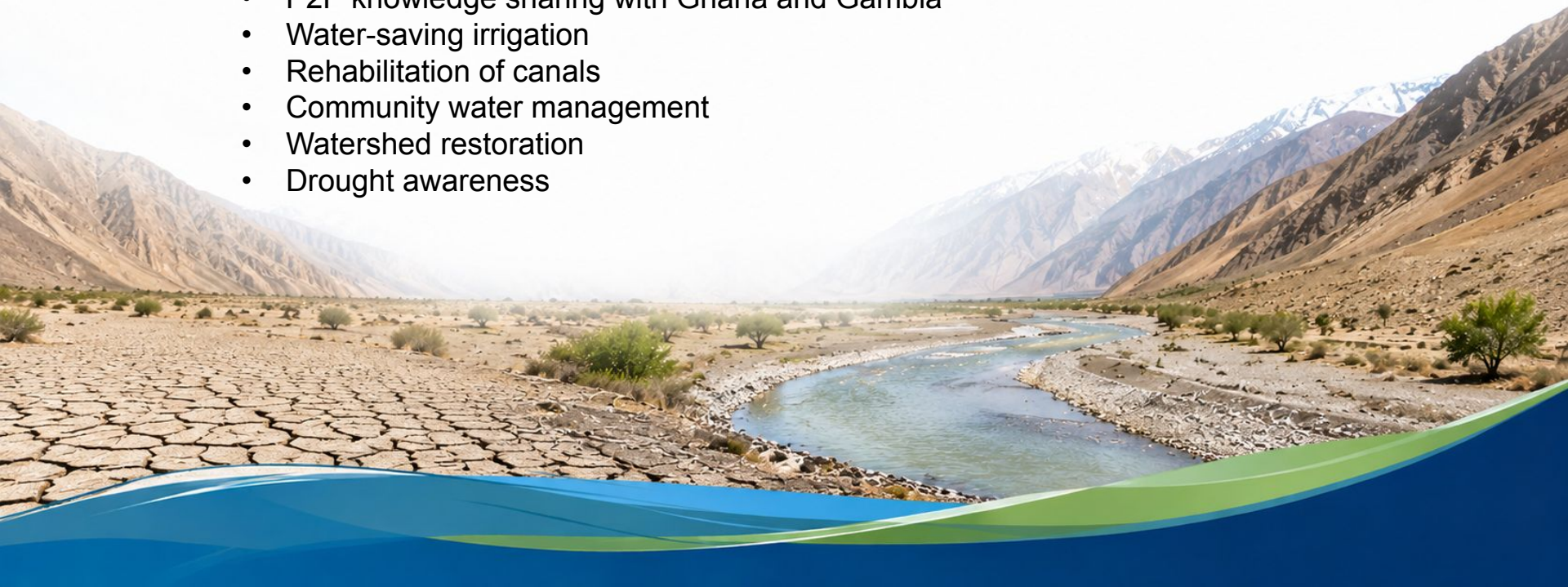
What We Are Implementing in Tajikistan

- IWRM
- P2P knowledge sharing with Ghana and Gambia
- Water-saving irrigation
- Rehabilitation of canals
- Community water management
- Watershed restoration
- Drought awareness



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Results and Achievements

Activity	Key Result
IWRM Implementation	Improved integrated water resources management /RBOs
P2P Knowledge Sharing (Ghana & Gambia)	Enhanced institutional capacity and knowledge exchange
Water-Saving Irrigation	Increased water-use efficiency
Rehabilitation of Canals	Improved water delivery and reduced losses
Community Water Management	Strengthened stakeholder participation
Watershed Restoration	Enhanced ecosystem resilience and water retention
Drought Awareness	Increased preparedness and community resilience

Recommendations

1. Improve drought monitoring systems
2. Strengthen basin management through RBOs and IC
3. Promote efficient irrigation
4. Increase watershed restoration
5. Scale up climate-resilient agriculture
6. Improve regional cooperation

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INBO
Inter Basin Organizations of Eurasia Asia Network

OiEau
Office International de l'Eau
30 ANS D'UTILITÉ PUBLIQUE

Thank you for your attention !

INBO
International Network of Basin Organizations

INTERNATIONAL BOUNDARY AND WATER COMMISSION
COMISIÓN INTERNACIONAL DE LÍMITES Y AGUAS

DROUGHT PLANNING AND WATER RESOURCES ALLOCATION

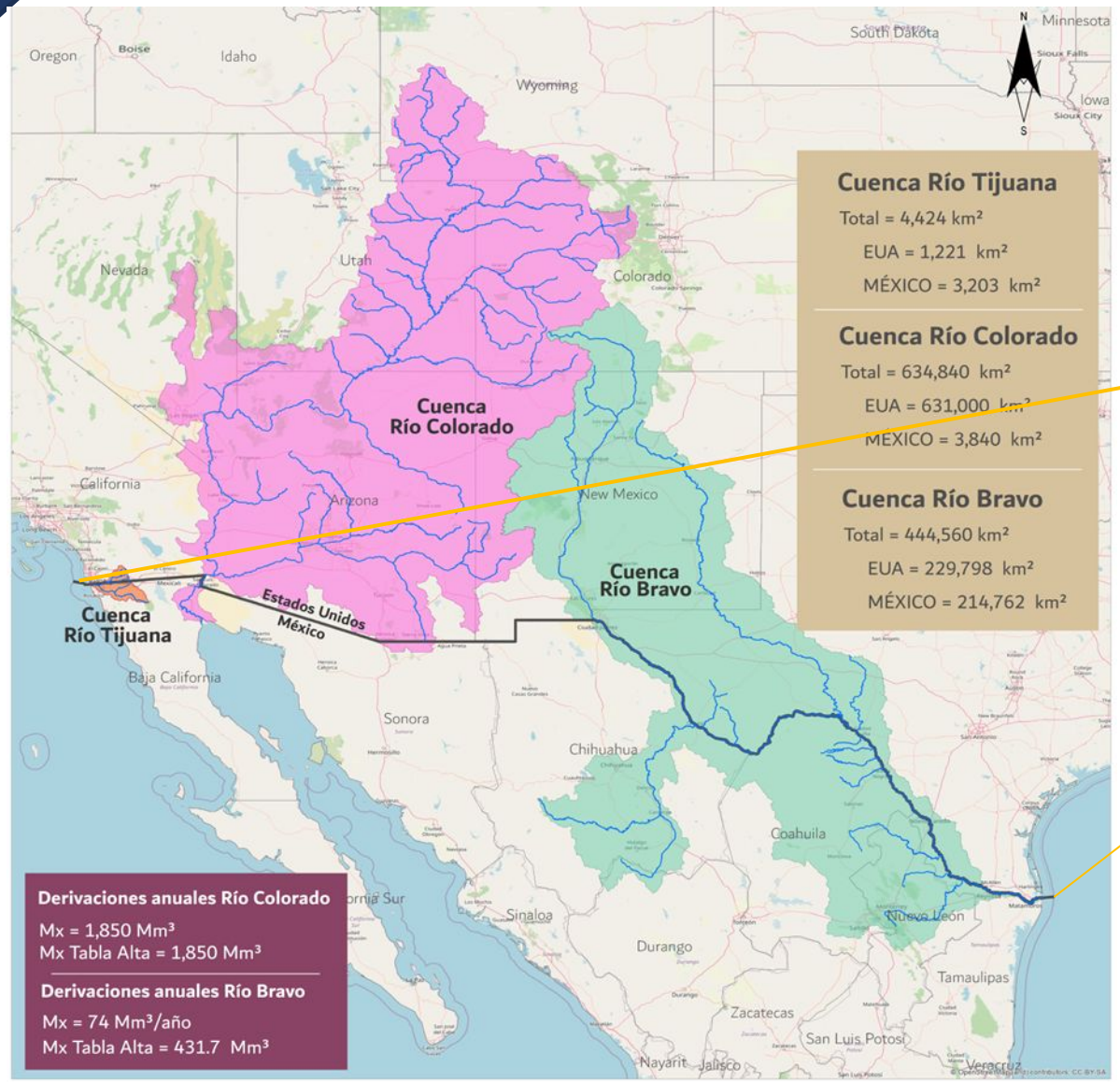
COLORADO RIVER

June 16, 2026

Río de Janeiro, Brasil

1.

International Basins.- México and the United States.

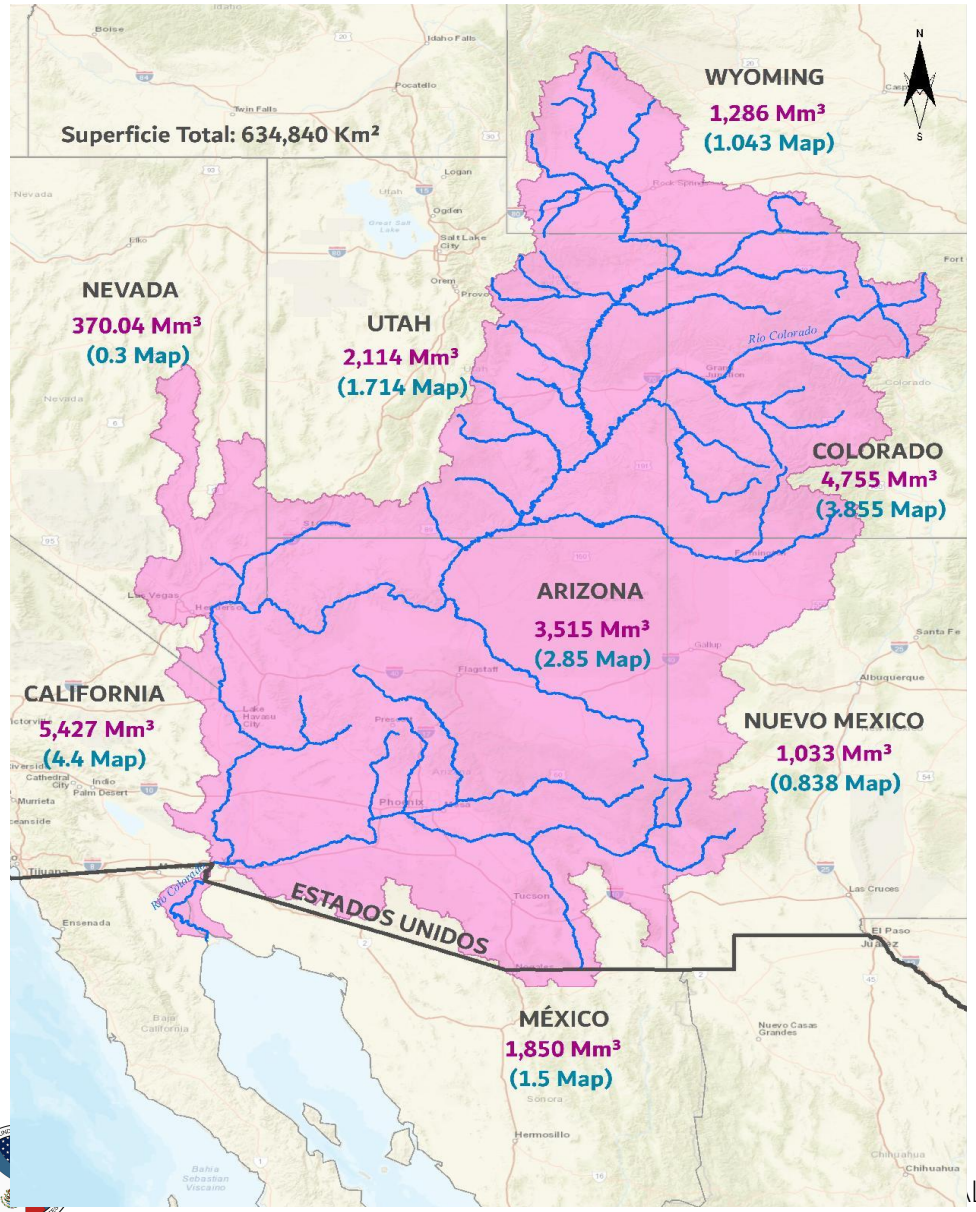


1944 Water Treaty MEX-USA

- Tijuana River Basin
- Colorado River Basin
- Bravo River Basin

1.

Colorado River Basin.-.



Annual water distribution

Country	Amount	
	Million cubic meters	Million Acre feet
United States		
• Wyoming	1,287	1.043
• Colorado	4,755	3.855
• Utah	2,114	1.714
• Nuevo Mexico	1,033	0.838
• Arizona	3.515	2.850
• California	5,427	4.400
• Nevada	3,454	0.300
México	**1,850**	**1.500**
TOTAL DEMAND	**23,352**	**16.500**
TOTAL PRODUCTION (2001-2026)	**15,529**	**12.590**

DEFICIT 3.91 map

1.

Colorado River - Background

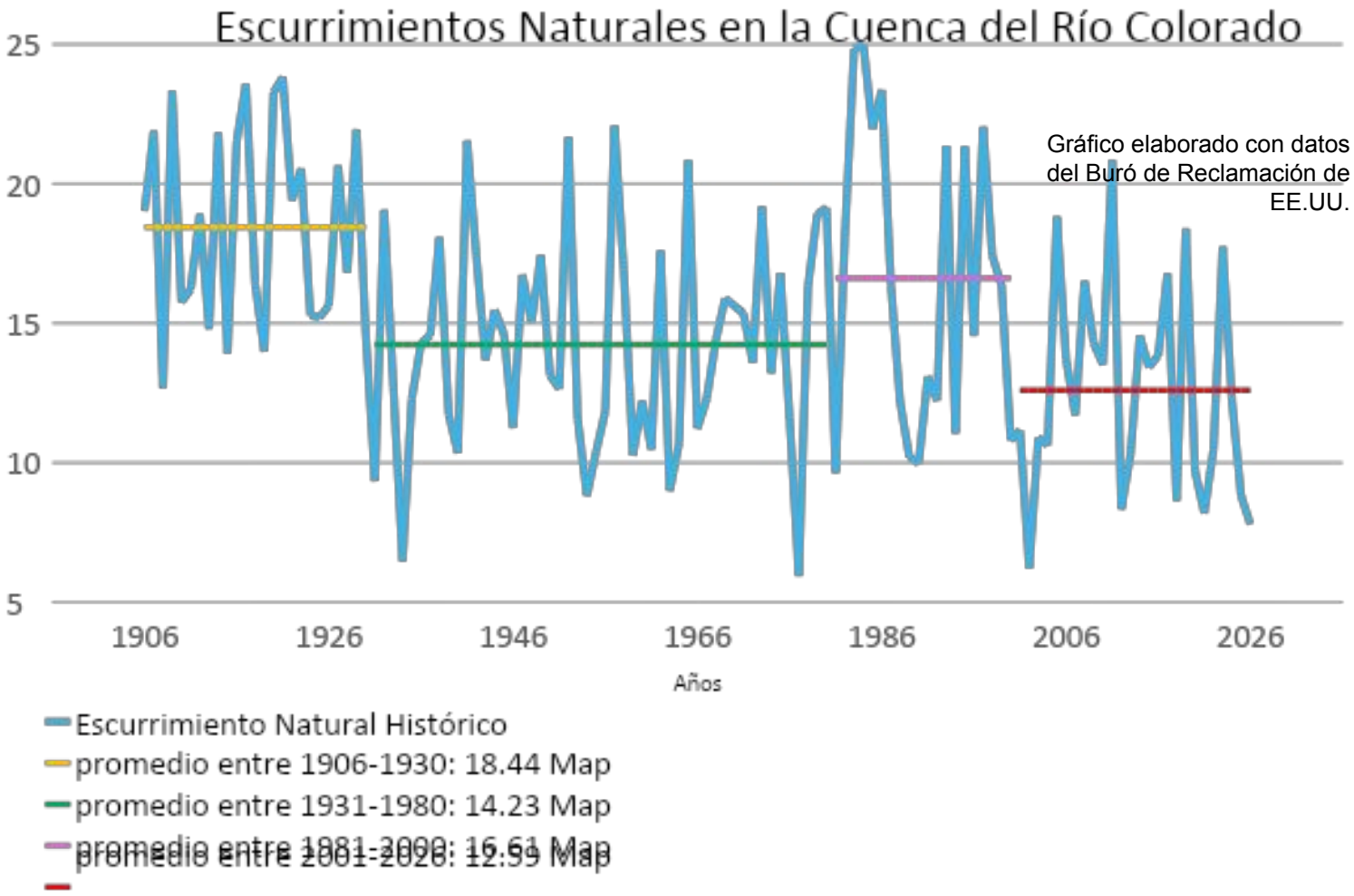


Gráfico elaborado con datos del Buró de Reclamación de EE.UU.

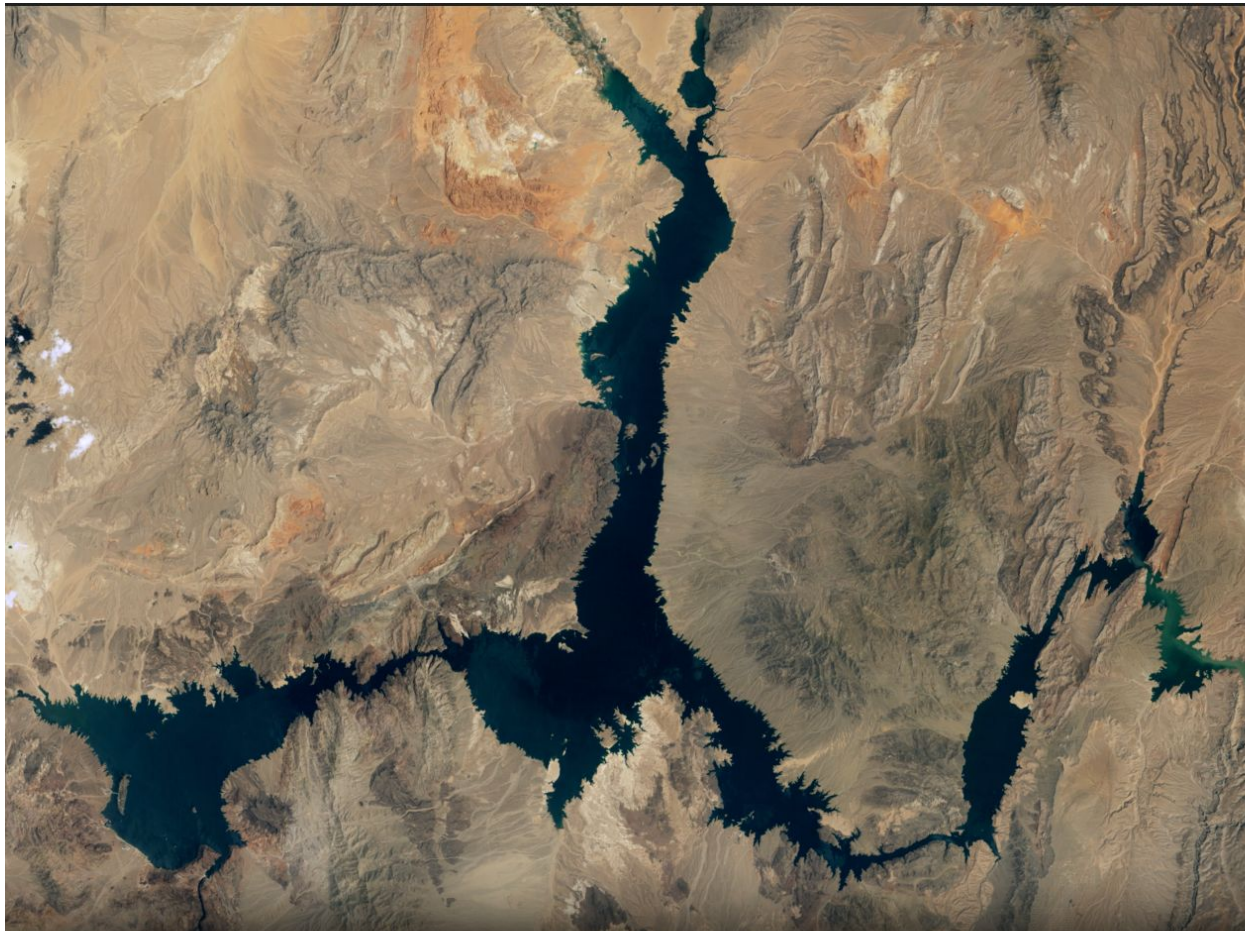
- Since the beginning of the 21st century, the Basin has been experiencing a 27-year period of the worst drought in more than 100 years of records and one of the worst in the last 1,200 years.

Nota: 1 millón de acre-pies (Map) = 1.23 km³

1.

Colorado River.- Satellite image of Lake Mead, 1985–2026, source: NASA.gov

1985

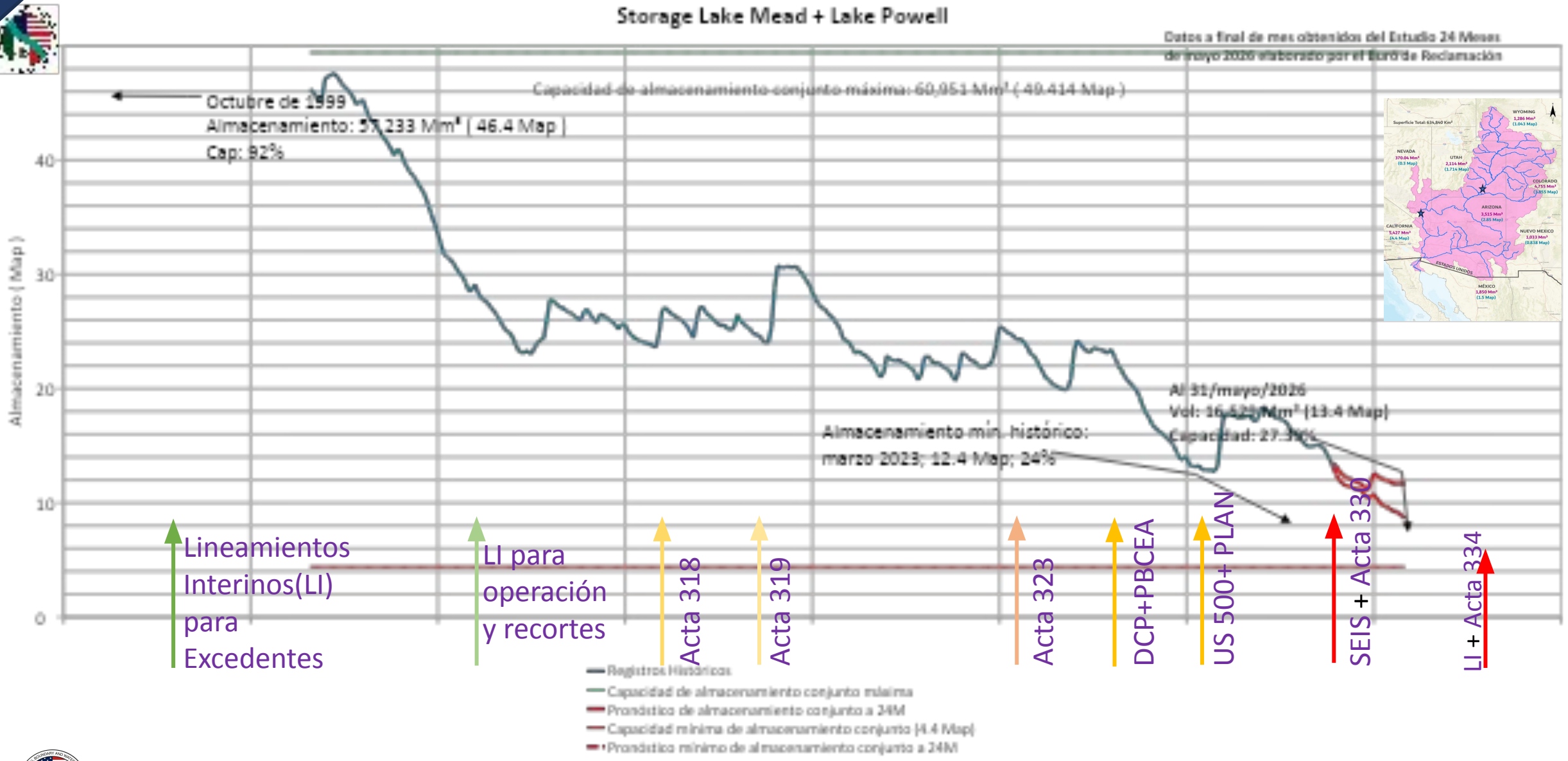


2025

Credito de la imagen: NASA's Goddard Space Flight Center

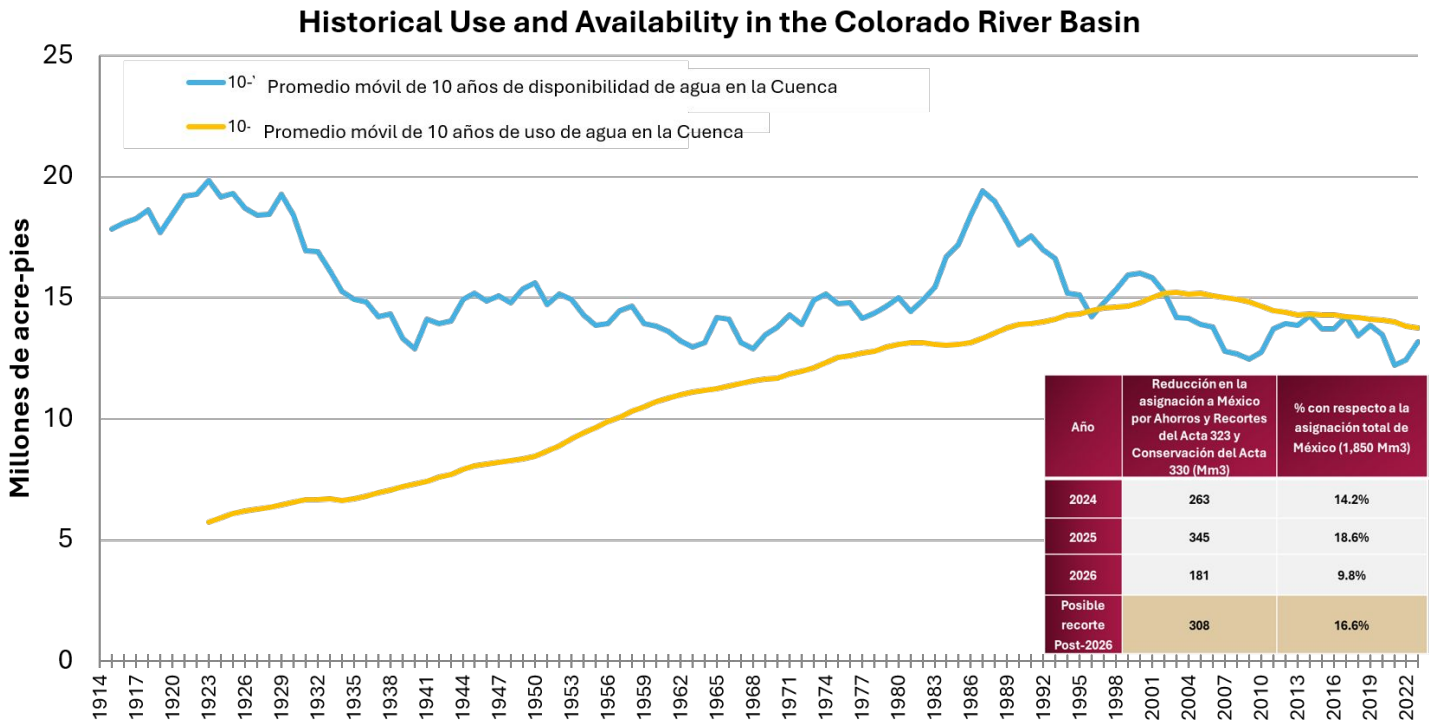
1.

Colorado River.- Agreements



1.

Colorado River .- Water use and availability



Año	Reducción en la asignación a México por Ahorros y Recortes del Acta 323 y Conservación del Acta 330 (Mm3)	% con respecto a la asignación total de México (1,850 Mm3)
2024	263	14.2%
2025	345	18.6%
2026	181	9.8%
Posible recorte Post-2026	308	16.6%

Data from US Bureau of Reclamation

- To attend Shortage conditions, Mexico and the U.S. adopted international cooperation measures in the Basin through CILA Minutes 306, 317, 318, 319, 323, and 330 to:
  - ✔ Conduct joint studies and research;
  - ✔ Allow Mexico to store water in the U.S. dams;
  - ✔ Establish cooperation mechanisms regarding operations, water releases and surpluses, salinity, the environment, conservation, etc.;
  - ✔ Develop contingency plans; Among other measures.
  - ✔ Binational working groups

- 9.8 % PERCENTAGE REDUCTION IN MEXICO'S ALLOCATIONS
  - Allocation reductions
  - Voluntary conservations actions
  - Water Scarcity Contingency Plan

COMISIÓN INTERNACIONAL
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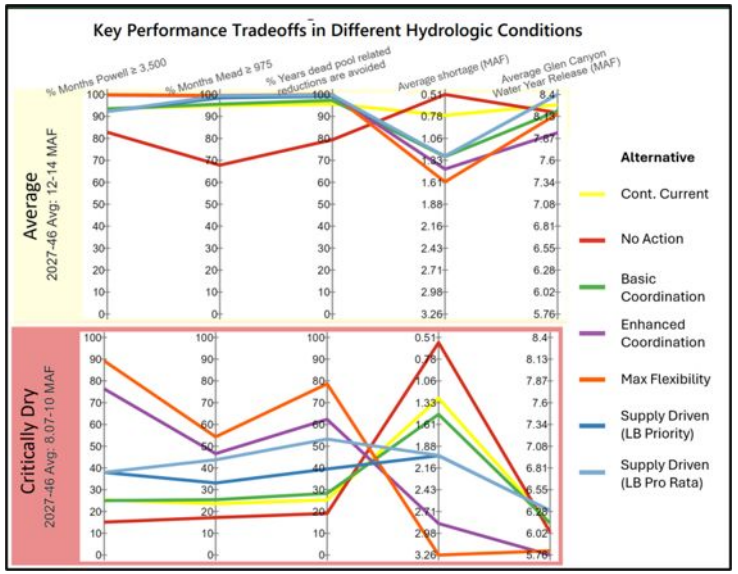
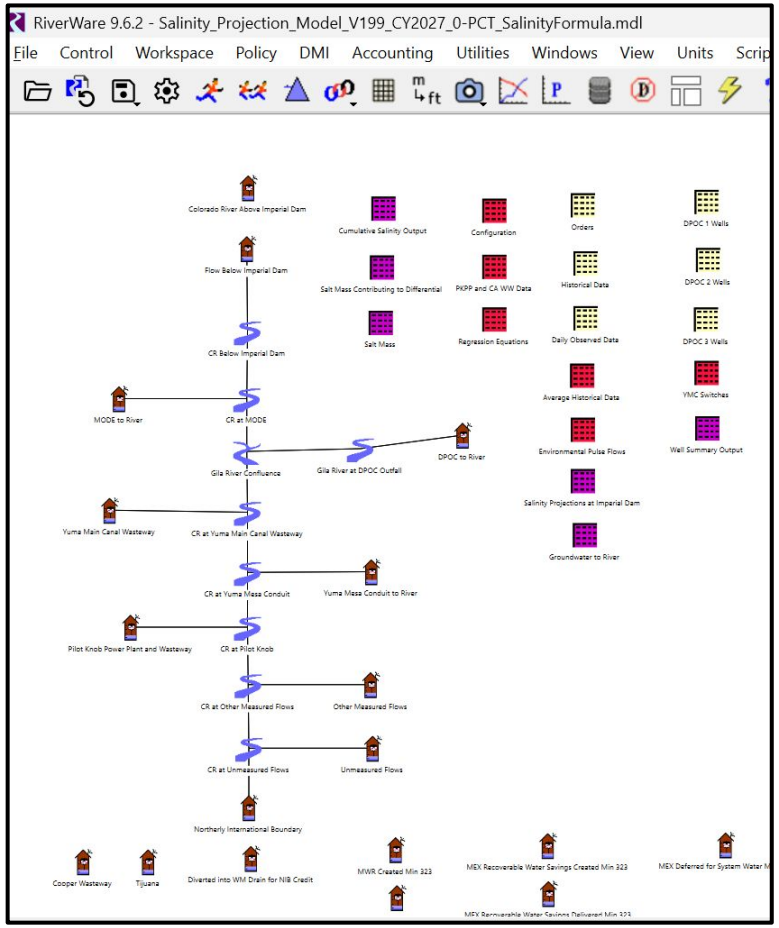
MEASURES TO ADDRESS DROUGHT CONDITIONS

EXCHANGE INFORMATION

Evaluation of Operational Alternatives



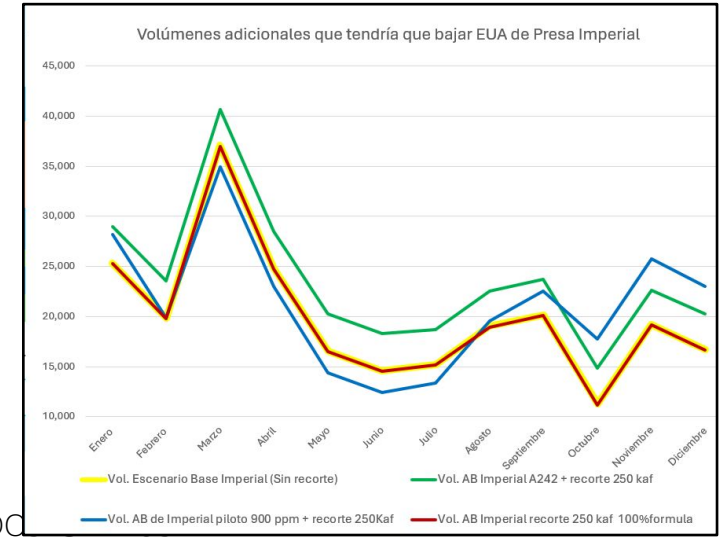
MODELS (RIVERWARE)



ANALISIS OF THE INFORMATION

Mes	Vol. Escenario Base Imperial (Sin recorte)	Vol. AB Imperial A242 + recorte 250 kaf	Vol. AB de Imperial piloto 900 ppm + recorte 250Kaf	Vol. AB Imperial recorte 250 kaf 100%formula
Enero	25,355	28,996	28,207	25,290
Febrero	19,853	23,523	19,905	19,792
Marzo	37,059	40,637	34,932	36,993
Abril	24,790	28,484	23,021	24,722
Mayo	16,561	20,243	14,357	16,499
Junio	14,596	18,304	12,417	14,530
Julio	15,209	18,732	13,398	15,143
Agosto	19,010	22,499	19,593	18,944
Septiembre	20,153	23,737	22,550	20,089
Octubre	11,250	14,826	17,774	11,184
Noviembre	19,194	22,640	25,729	19,126
Diciembre	16,694	20,243	22,983	16,625
TOTAL ANUAL	239,723	282,863	254,867	238,937

Vols. adicionales que tendrían que bajar desde Presa Imperial:	
Base (sin recorte) vs A242	**43,141** acre-pies
900 ppm vs A242	**-27,996** acre-pies (Agua no descargada de PI)
Base vs 250 kaf recorte 100% formula	**-785** acre-pies (Agua no descargada de PI)



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MEASURES TO ADDRESS DROUGHT CONDITIONS

Investments in conservation projects

- Canal lining
- On farm conservation
- Regulating reservoirs
- Fallowing
- Modernization and Technical improvements to irrigation districts
- System operational improvements

WHAT'S EXPECTED NEXT FOR…

- **1- DEVELOPMENT OF NEW AGREEMENTS AN RULES:**
  - WORKING WITHIN A FRAMEWORK OF COOPERATION
  - MONITORING DROUGHT CONDITIONS
  - STUDY CLIMATE CHANGE
  - SEARCH OPPORTUNITIES TO CONSERVE WATER
  - ENGAGE ALL THE STAKEHOLDERS

- **2.- CONCEPTS OF THE NEW AGREEMENTS:**
  - PROPORTIONAL SHORTAGE AND SURPLUS GUIDELINES TO BOTH COUNTRIES
  - WATER CONSERVATION
  - INFORMATION EXCHANGE (WORKING GROUPS)

TRUST AND COOPERATION

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