

Vulnerability and adaptation of Water resources of Azerbaijan to climatic changes

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Azerbaijan, UNFCCC and The Kyoto protocol

1995: Azerbaijan ratified the CCC and relates to the group of parties to the convention and protocol who are non Annex 1 countries

1998-2000: Azerbaijan prepared the Initial National Communication

2000: Azerbaijan joined to Kyoto Protocol

2004-2005: Project on potential assessment for preparation of National Communication of Azerbaijan;

2004: Memorandum of understanding with Denmark on Kyoto protocol

September 2006: Azerbaijan is in the process of preparation of Second National Communication

Content of the First NC

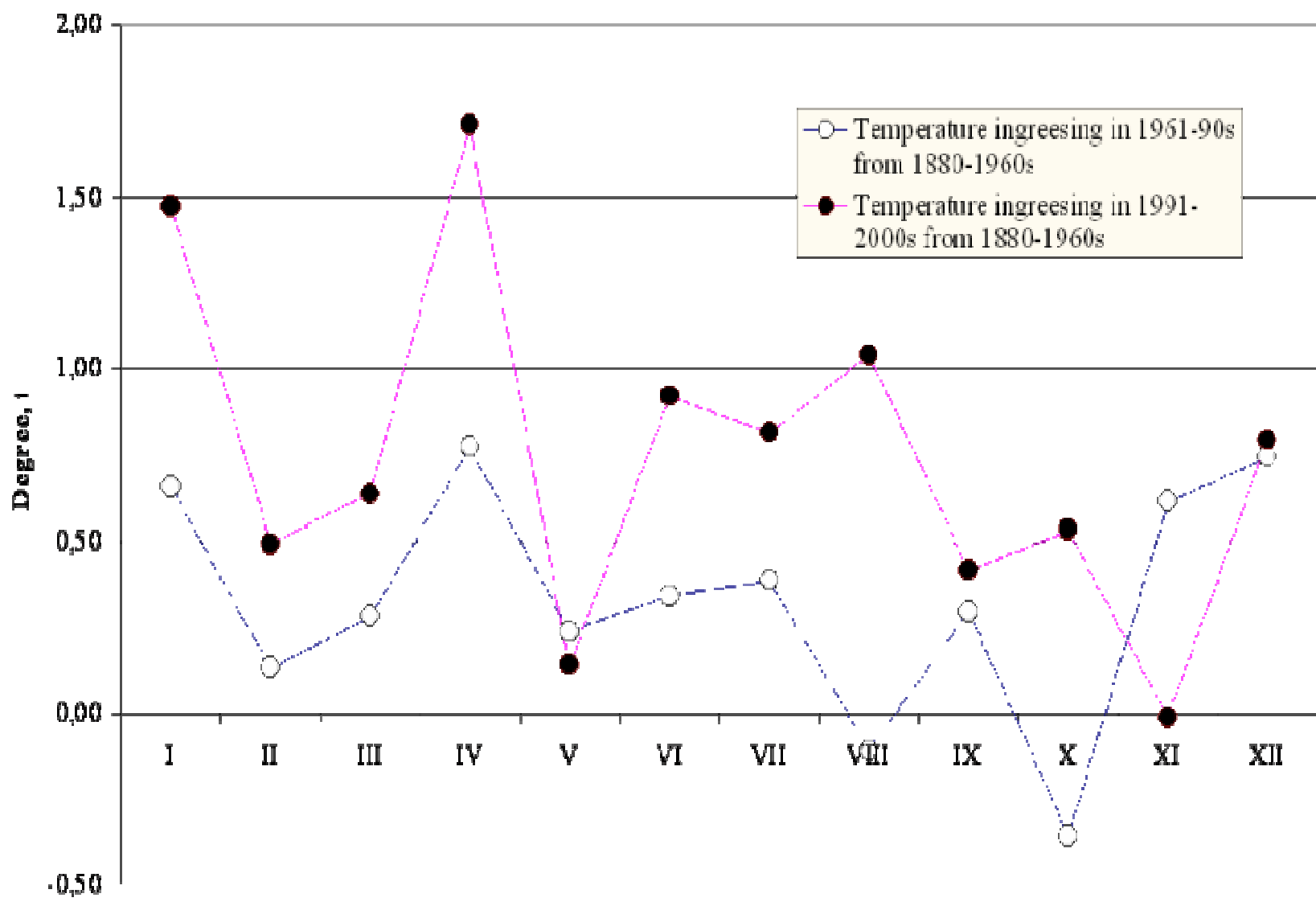
- Background
- Inventory of GHG and Removals
- CC forecasts and Mitigation measures
- Assessment of vulnerability to CC and adaptation measures
- Education and public awareness
- Challenges and prospects of Future Studies

Main results of first NC: vulnerability and adaptation

No.	Sector	Degree of vulnerability		
		Low	Middle	High
1.	Water resources			X
2.	Ecosystems			X
3	Agriculture			X
4.	Forestry		X	
5.	Energy			X
6.	Tourism			
7.	Human health			
8.	Coastal areas			X

CC vulnerability and Adaptation assessment

- 1960-1990- warming level made up-0.3-0.6 and precipitation decreased by 10%
- For assessment of future CC GISS,CCCM,UKMO, GFDL-3, GFDL-T models have been used.
- The obtained warming results: 4.1-5.8-degree , C



Climate change impact for sectors

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- Water Resources- 15-20% decrease
- Agro climatic resources- increase of thermos resources (sum of $t > 10$ degrees) from 300 to 850 degree. Boundary of warm belts in mountains may displace from 250 to 950 m
- Land resources- the decrease of productivity will be observed
- Forest: the upper boundary of forest may rise by 550-950 m, and lower by 50-200m
- By 2020-2040 rise of Caspian Sea level by 120-250 cm is expected
- There is need for increased Public awareness and preparation of specialist on various aspects of CC is required.
- Several workshops have been conducted and materials published.

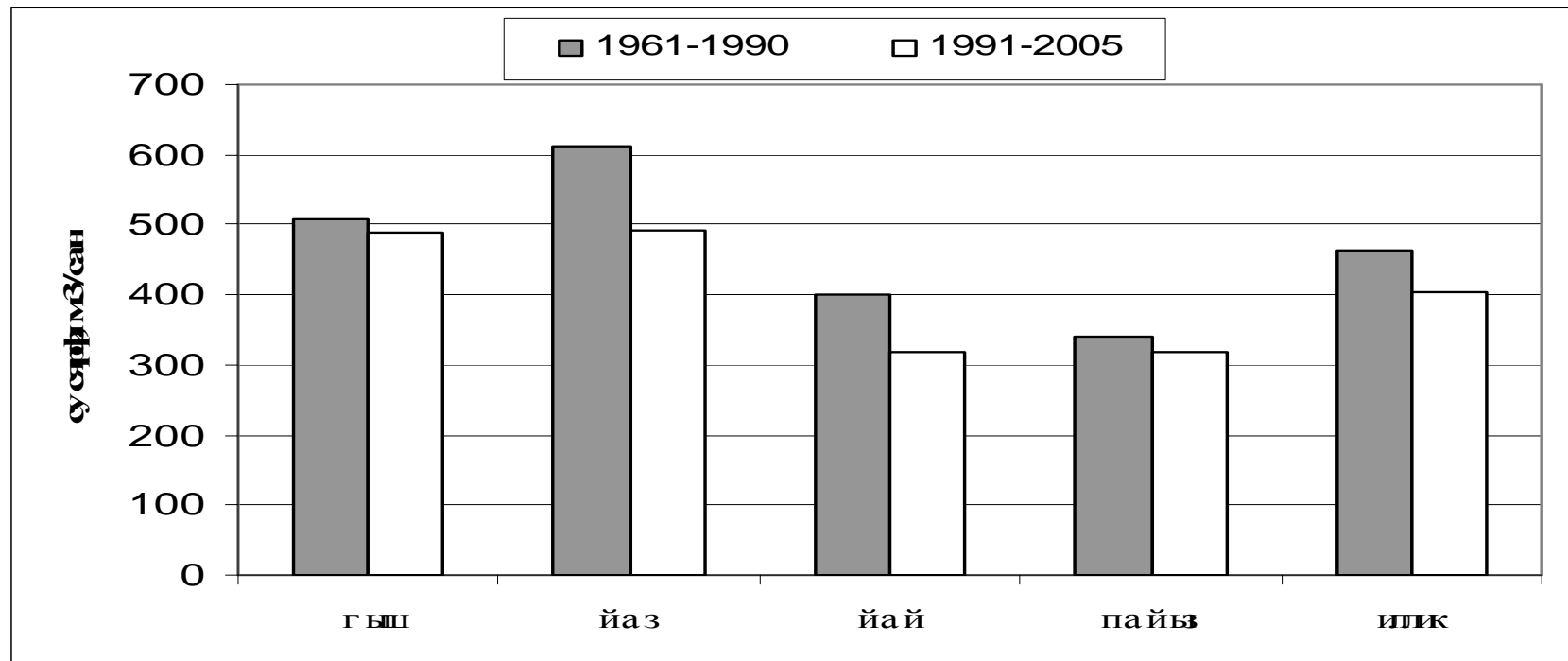
Water Resources

- Total water resources of Azerbaijan rivers make up 31.5 km³.
- Kura is major transboundary river. Total water resources of the Kura river are 26.6 km³
- Only 25-30% of total water resources of rivers is formed within the Azerbaijan Republic.

Change of water resources of Azerbaijan in accordance with CC sceneries

Water discharges, m ³ /s	Period				
	Winter	Spring	Summer	Autumn	Annual
(1961-1990)					
Observed	379	1348	763	516	751
%	12.6	45	25.3	17	100
GISS					
Observed	298	1064	644	412	605
%	12.3	44	26.6	17	100
GFDL-3					
observed	313	1178	498	389	594
%	13.1	49.5	20.9	16.3	100

Change of Water Resources(Monitored) of Kura river during last 15 years



Water balance of Azerbaijan

Components of the balance	Existing mln. m ³	Expected, mln. m ³		
		T=2°C, dR=0	G/SS	GFDL-3
Water Use and Sanitary flow	24887	24976	24976	24976
Water losses	3000	3500	3500	3500
Water use and losses together	24887	28476	28476	28476
Existing surface waters	23400	-0995	20200	19000
Use of water from trans-boundary river Samur	1000	1000	1000	1000
Water deficit	2487	6481	7276	8476

Adaptation measures

Needed measures of adaptation	Existing mln. m ³	Expected, mln. m ³		
		T=2 ^o C, dR=0	G/S S	GFDL- 3
1. Water deficit	-2487	-6481	-7276	-8476
2. Ground waters available for yearly exploitation	3400	3500	3500	3500
3. Economy of water in result of reconstruction of water supply network	4500	4500	4500	4500
3. 4.Cleaning of about 4 40% of polluted waters	2000	2500	2500	2500
5.Decrease of deficit in result of measures	+7413	4019	3724	2024

Main Priorities of the Second National Communication:

Main attention will be given to CC and Adaptation:
(Coastal areas, Ecosystems, Water Resources, Human Health)

- Preparation of GHG inventory in accordance with IPCC methods
- Public awareness
- Support of realization of UNFCCC and Koto protocol
- Fundraising
- Projects within the Clean Development mechanism

Thanks for your attention!