

# Vulnerability and adaptation of Water resources of Azerbaijan to climatic changes

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# Azerbaijan, UNFCCC and The Kyoto protocol

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**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

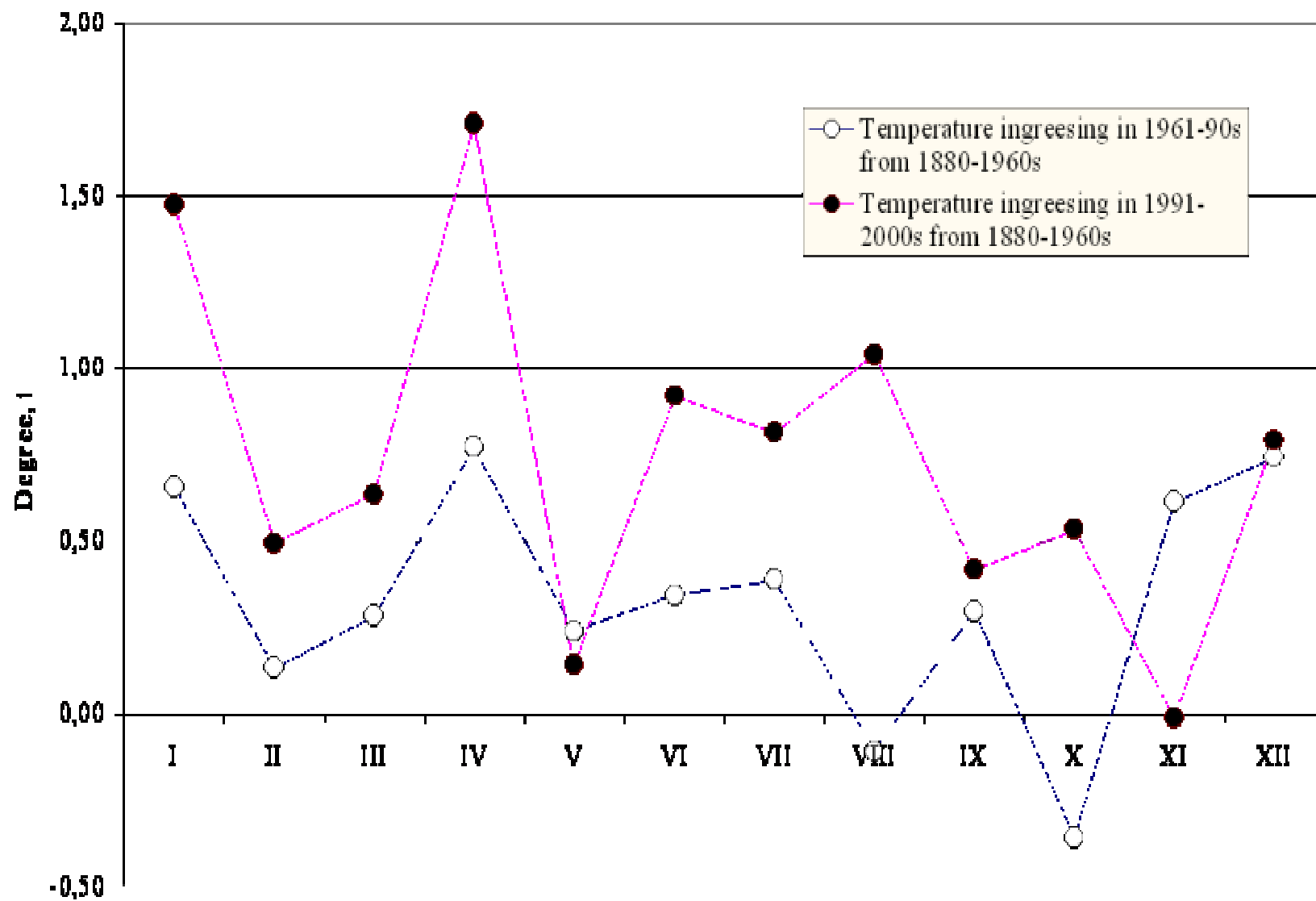
# Main results of first NC: vulnerability and adaptation

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

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- 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

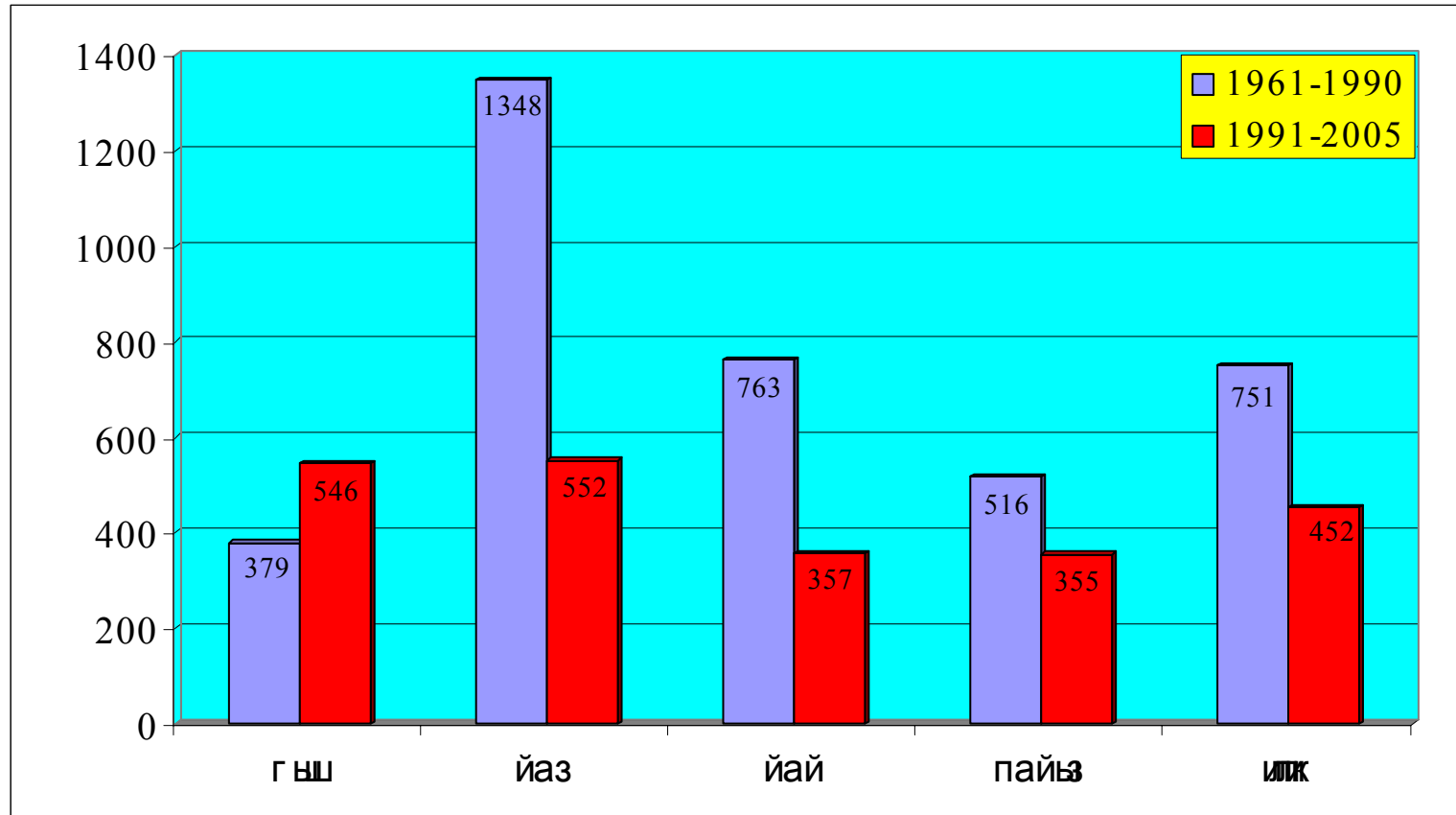
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- Water Resources- 15-20% decrease
- Agro climatic resources- increase of thermos resources (sum of  $t > 10$  degrees) from 300 to 850 degree. Boundary of warm belts in mountains may displace from 250 to 950 m
- Land resources- the decrease of productivity 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.



# Change of water resources of Azerbaijan in accordance with CC sceneries

Water discharges, m <sup>3</sup> /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 of Azerbaijan during last 15 years



# Adaptation measures on Water resources

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- Construction of reservoirs and increase of efficiency of existing (305 Million US\$)
- Improvement of WM system(12)
- Reconstruction of existing water and irrigation system (tbd)
- USE of water saving technologies (418)
- Afforestation(10)

In result saving 10 Billion cub m of water is expected.

# Main Priorities of the Second National Communication:

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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