POLITICAL DYNAMICS OF CLIMATE CHANGE

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İSTANBUL

CONTENT

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- National Climate Change Strategy of Turkey
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CLIMATE CHANGE (UNFCCC definition)

A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods.

IMPACTS OF CLIMATE CHANGE

- Environmental,
- Social,
- Economic,
- Security impacts

on

- Habitats,
- Ecosystems,
- Human development

POLITICAL CHALLENGES

- The management of risk
- Planning for long term development
- Need for creating a political and public consensus
- Social justice
- International policy

BUILDING BLOCKS OF RESPONSE TO CLIMATE CHANGE

- Mitigation
- Adaptation
- Technology
- Finance

TWO DIMENSIONS OF THE RESPONSE

Mitigation: (preventing the problem)

- Reducing emission of greenhouse gases
- Removal of carbon dioxide from the atmosphere

Adaptation: (living with the problem)

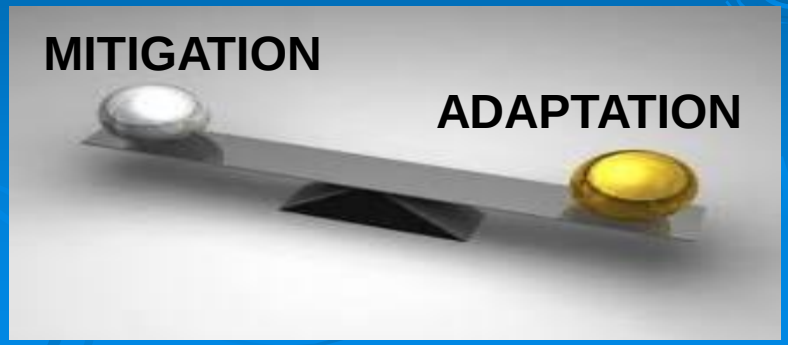
- Reducing vulnerability to climate change impacts

MITIGATION

IPCC Definition of mitigation: ***An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.***

GHG stabilization in the atmosphere:

1. **should take place within a time-frame sufficient to allow ecosystems to adapt naturally to climate change;**
2. **to ensure that food production is not threatened and;**
3. **to enable economic development to proceed in a sustainable manner**



ADAPTATION

Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Types of adaptation (IPCC) :

- **Anticipatory and reactive adaptation,**
- **private and public adaptation,**
- **Aautonomous and planned adaptation.**

ADAPTATION

- Dynamic process
- Economic development and equity issue
- Multi level: local, regional, national, trans-border, international, global
- Multi-sectoral: water, health, ecosystem services, infrastructure, forests, fish, agriculture,tourism
- Multiple risks, floods, droughts etc.

ADAPTATION IN UNFCCC

Article 4.1 The Convention commits countries to prepare for and facilitate adequate adaptation to climate change.

Article 4.4 Developed countries are required to assist developing countries in meeting costs of adaptation to the adverse effects of climate change.

Article 4.8 All Parties are required to take actions to meet the specific needs and concerns of developing countries arising from the adverse effects of climate change

Article 4.9 All Parties are required to take account of the specific needs and special situations of the least developed countries.

INTERNATIONAL NEGOTIATIONS ON ADAPTATION

COP 7 (Marrakech) – 2001

Decision 5/CP.7

Implementation of Article 4.8 and 4.9 of the Convention

Decision 27/CP.7

Guidance to an entity entrusted with the operation of the financial mechanism of the Convention, for the operation of the least developed countries fund;

Decision 28/CP.7

Guidelines for the preparation of national adaptation programmes of action;

INTERNATIONAL NEGOTIATIONS ON ADAPTATION (Cont.)

COP 9 (Milan) – 2003

Decision 10/CP.9 requested the SBSTA to initiate work on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change

COP 10 (Buenos Aires) – 2004

Decision 1/CP.10 "Buenos Aires programme of work on adaptation and response measures"

COP 11 (Montreal) – 2005

Decision 2/CP.11 Parties adopted the five-year programme of work of the Subsidiary Body for Scientific and Technological Advice on impacts, vulnerability and adaptation to climate change.

INTERNATIONAL NEGOTIATIONS ON ADAPTATION (Cont'd)

COP 12 (NAIROBI) : NAIROBI WORK PROGRAMME (NWP)

Aim

- To assist all Parties to improve their understanding and assessment of impacts, vulnerability and adaptation;

- To assist all Parties to make informed decisions on practical adaptation actions and measures

Areas of work

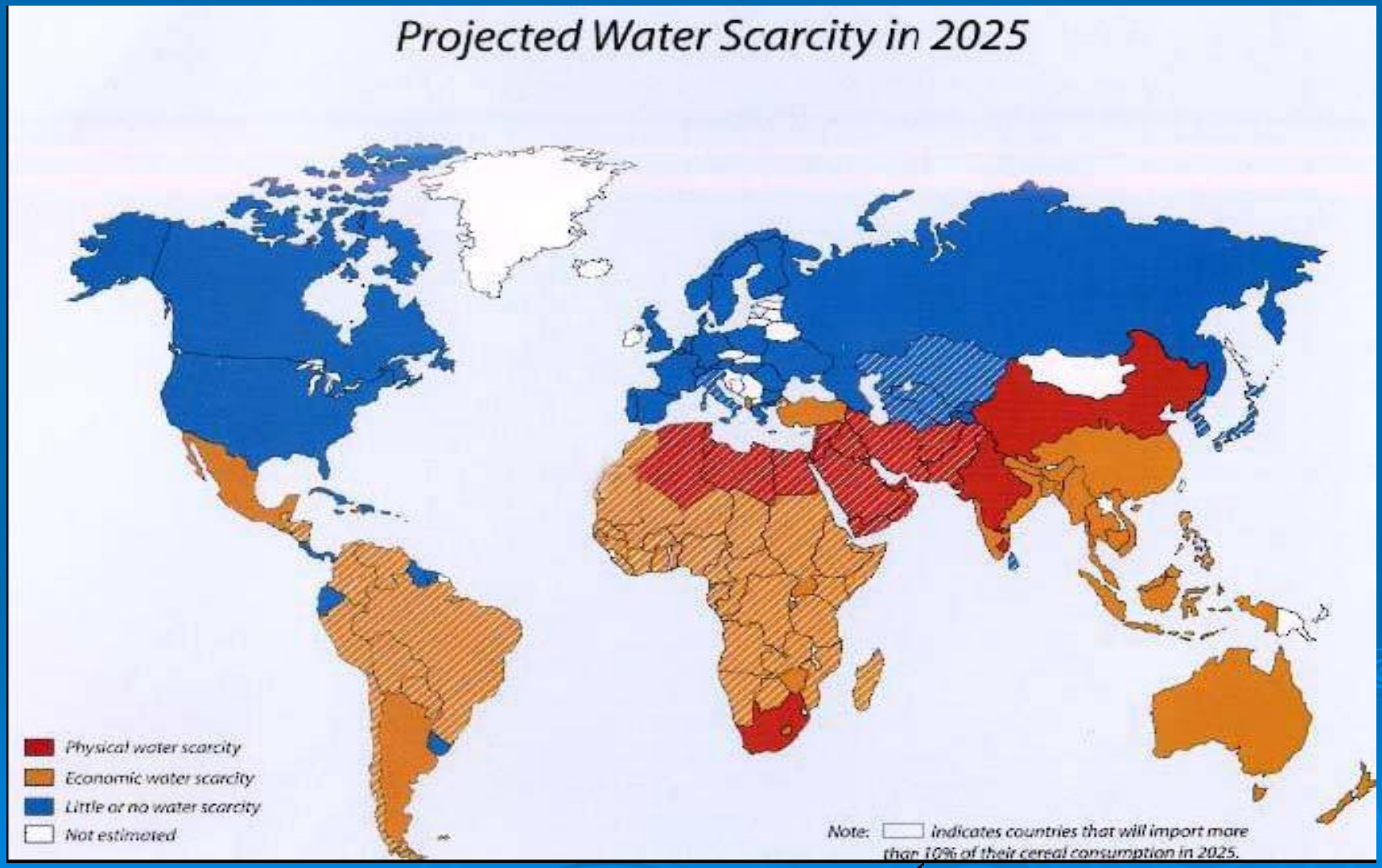
- Methods and tools
- Data and observations
- Climate modelling, scenarios and downscaling
- Climate related risks and extreme events
- Socio-economic information
- Adaptation planning and practices
- Research
- Technologies for adaptation
- Economic diversification

INTERNATIONAL NEGOTIATIONS ON ADAPTATION (Cont'd)

COP 16 (CANCUN)

- In Cancun Agreements, Parties affirmed that adaptation must be addressed with the same level of priority as mitigation
- Cancun Adaptation Framework
- Adaptation Committee
- Strengthening and establishment of regional centres and networks on adaptation.

PROJECTIONS OF WATER SCARCITY



ADAPTATION MEASURES AGAINST IMPACTS OF CLIMATE CHANGE IN WATER MANAGEMENT

- Integrated management of river basins,
- Protecting catchement areas,
- Protecting underground water,
- Protection of water providing infrastructure and conventional water resources,
- Changing irrigation systems and ways

ADAPTATION MEASURES AGAINST IMPACTS OF CLIMATE CHANGE IN WATER MANAGEMENT

- Better use of existing water infrastructure
- Improvement in irrigation management practices.
- Restrict water losses from irrigation infrastructure starting from the high evaporation regions
- Adopting more efficient water application technologies

ADAPTATION TO CC IN AGRICULTURE

- Improved water harvesting, storage, and small scale irrigation techniques
- Innovative farming and water management techniques
- Introduction of new crops better suited to changed climate conditions
- Improved Early Warning System, and capacity building at local and national levels

IMPACTS OF CLIMATE CHANGE IN TURKEY

- IPCC report makes it clear that future climate change could critically undermine efforts for sustainable development throughout the world and especially in the Mediterranean Basin.
- Turkey is one of those countries in the Eastern Mediterranean Basin highly vulnerable to climate change.
- Climate change may add to our existing problems of desertification and water scarcity.
- Climate change may introduce new threats human health, ecosystem and economy of Turkey.

POTENTIAL IMPACTS OF CLIMATE CHANGE IN TURKEY

Temperature

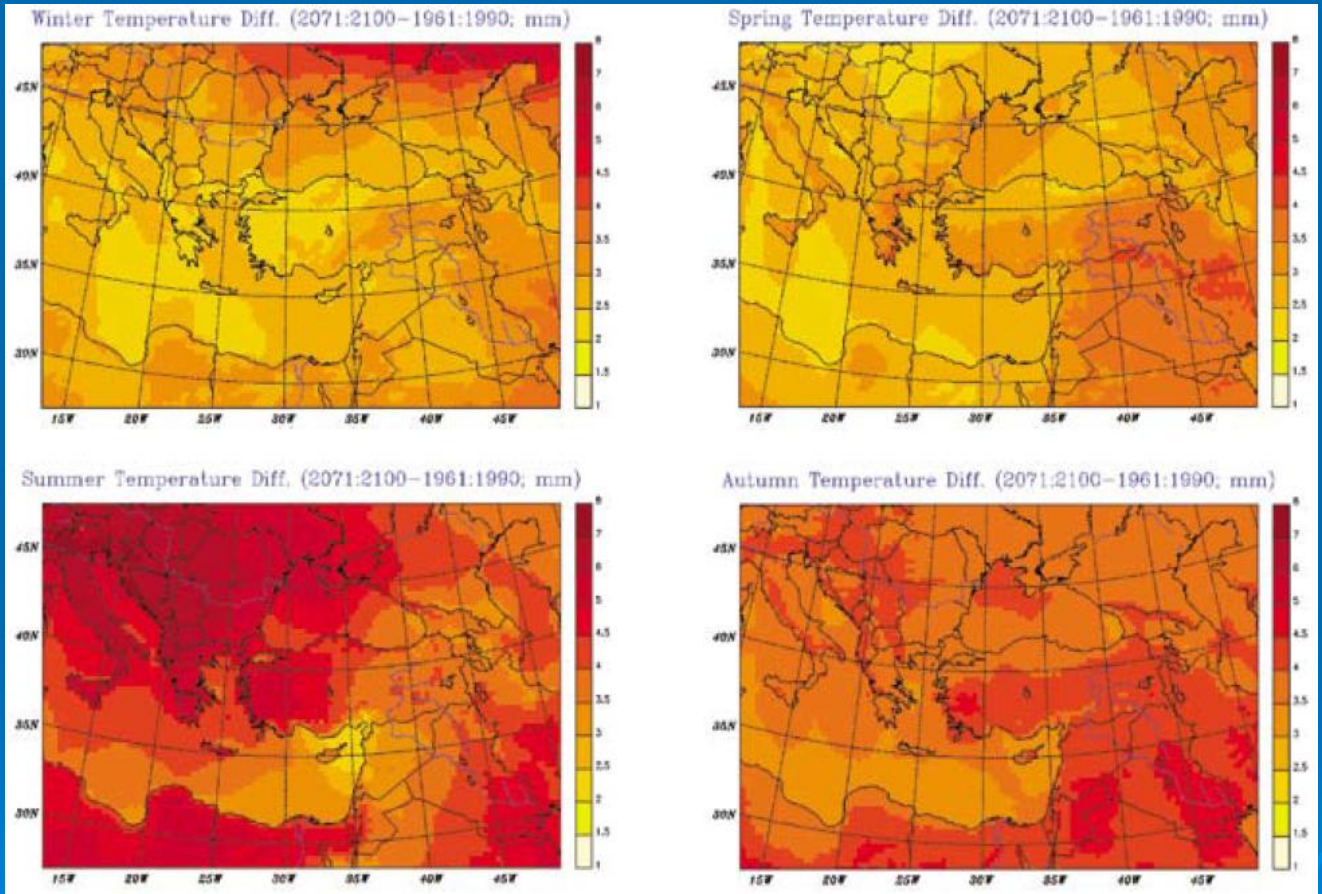


Fig. 6.6 Climate Change Projections for Turkey: Changes in Temperatures for All Seasons (Onol and Semazzi, 2006)

Winter: Higher temperature increase in eastern of Turkey up to 3 °C

Summer: Higher temperature increase in western of Turkey up to 6 °C

Average annual mean temperature increase for the entire country: 2-3 C

POTENTIAL IMPACTS OF CLIMATE CHANGE IN TURKEY

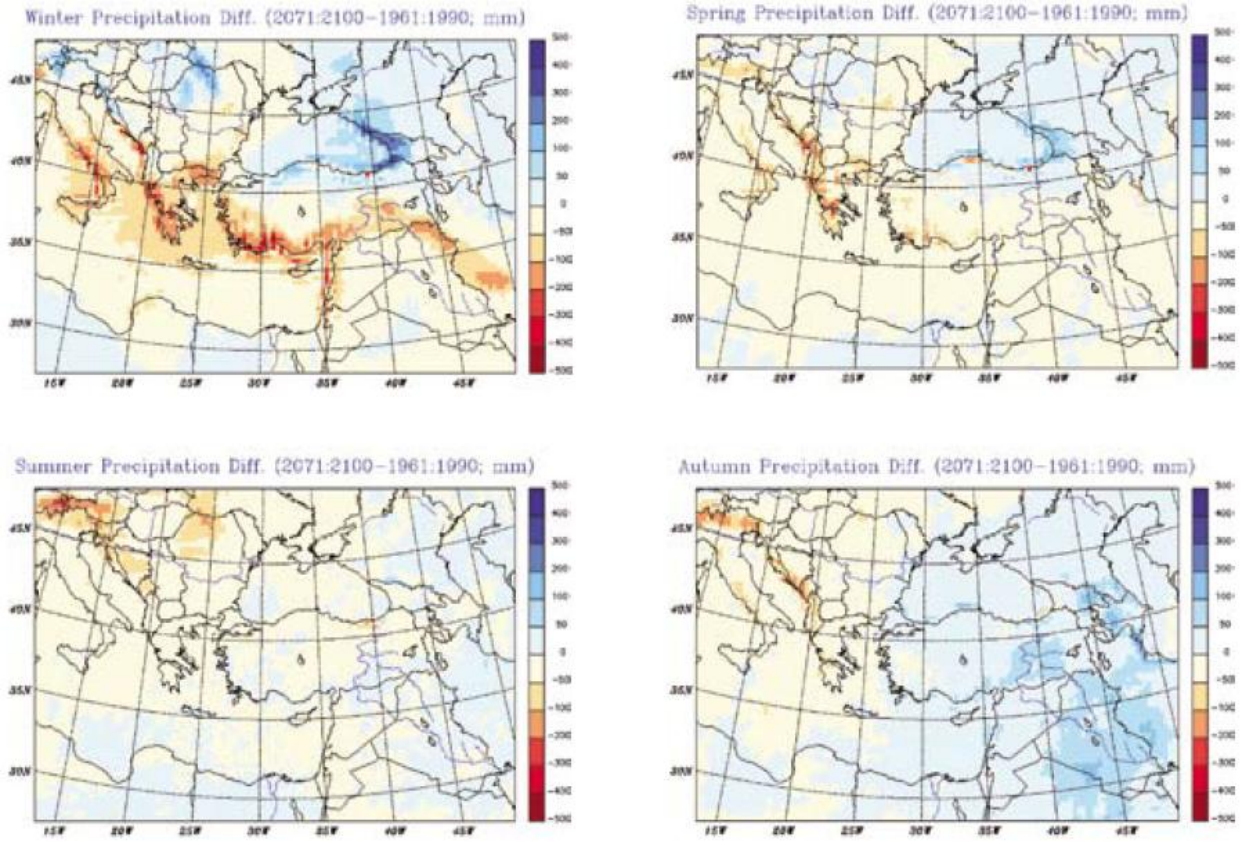


Fig. 6.5 Climate Change Projections for Turkey: Changes in Precipitation for All Seasons (Onol and Semazzi, 2006)

Winter and Spring Precipitation:

Decrease along Aegean and Mediterranean coasts

Increase along Black Sea coast

Summer Precipitation:
Not much change

Severe reductions will be observed on the SW coasts and slight total precipitation increase expected for fall season over the whole area.

POTENTIAL IMPACTS OF CLIMATE CHANGE IN TURKEY

Snow Water Equivalent

Reduction to be up to 200 mm for Eastern Anatolia and Black Sea Regions
→ Major changes may occur in the river basins streamflow for river basins

Sea Level Rise and Coastal Implications

Sea level rise has been 12 cm across Mediterrenean and Aegean Coasts

Although coastal cities cover less than 5% of the total area, over 30 million people live in coastal areas

PER CAPITA/YEAR WATER CONSUMPTION(lt)

COUNTRIES	1999	2020
Water Rich Countries*	10000+	8000+
Iraq	2110	950
Turkey	1700	1150
Syria	1420	780
Israel	300	150
Jordan	250	90
Palestine	100	40

* USA,Canada, North and West European Countries

WATER RESOURCES OF TURKEY

Annual Mean Precipitation	: 643 mm
Annual Total Mean Precipitation	: 501 billion m3

SURFACE WATERS

Annual Surface Runoff	: 186 billion m3
Usable Surface Water	: 98 billion m3

UNDERGROUND WATERS

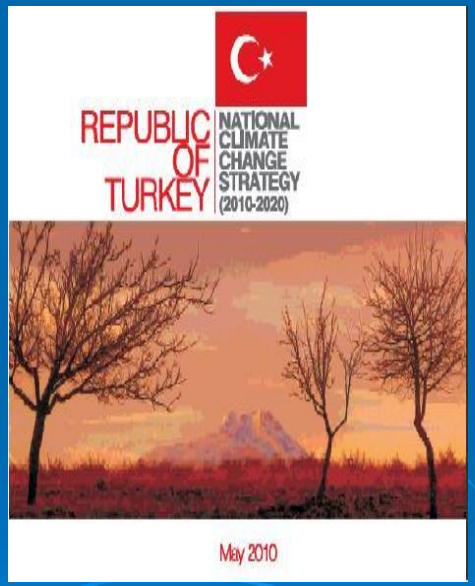
Annual withdrawable underground water	: 12 billion m3

TOTAL USABLE WATER : 110 billion m3

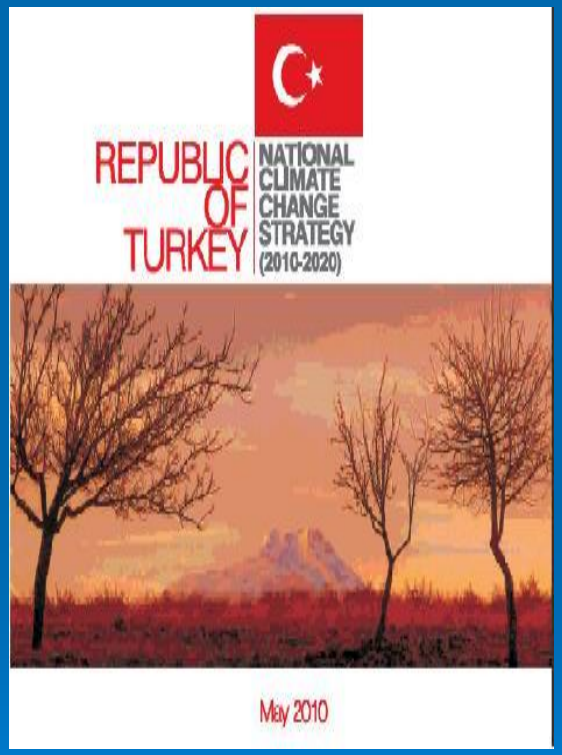
NATIONAL CLIMATE CHANGE STRATEGY

VISION

- fully integrating climate change-related objectives into its development policies,
- disseminating energy efficiency,
- increasing the use of clean and renewable energy resources,
- actively participating in the efforts for tackling climate change within its special circumstances
- providing its citizens with a high quality of life and welfare with low-carbon intensity.



CONTENT OF CLIMATE CHANGE STRATEGY



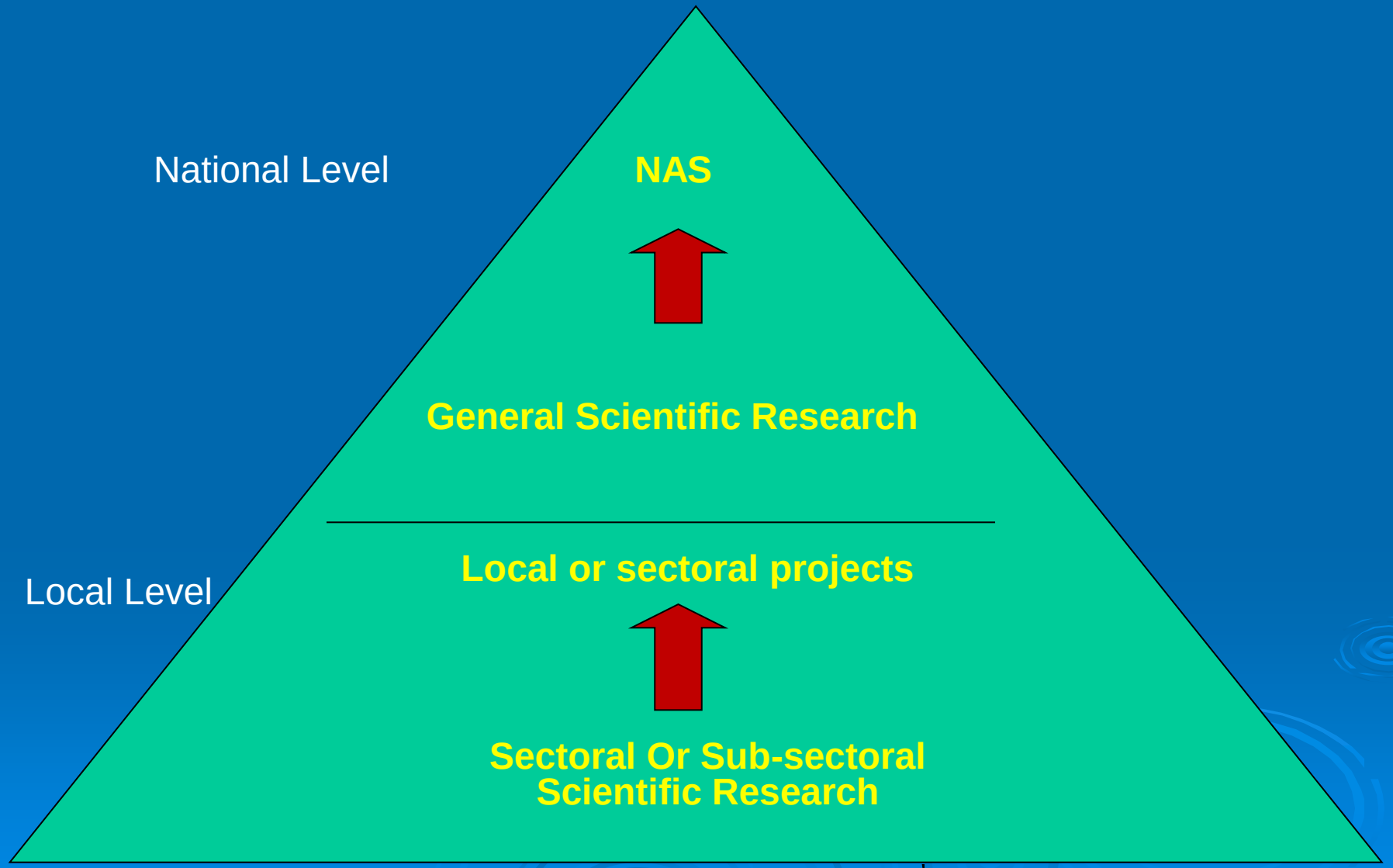
- Greenhouse Gases Emissions Control
- Climate change adaptation measures
- Technology development and transfer
- Finance
- Training and capacity development
- Project evaluation
- Monitoring and evaluation

TURKEY'S PROJECTS

- The project on "Enhance Turkey's Capacity to Adapt to Climate Change" is planned to be finalized in August 2011.

- The project called "Developing Turkey's Climate Change Action Plan" is envisaged to be finalised in February 2011.

NATIONAL ADAPTATION STRATEGY ROADMAP



FUTURE PROJECTS

- Project on Awareness Raising on the Impacts of Climate Change and Adaptation
- Project on Assesment of the Regional and Sectoral Vulnerability regarding the Adaptation to Climate Change

THANK YOU...

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International Water Association