



Ministerie van Verkeer en Waterstaat

Guidance towards climate-proofing of water management

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Working Group on Integrated Water resources Management

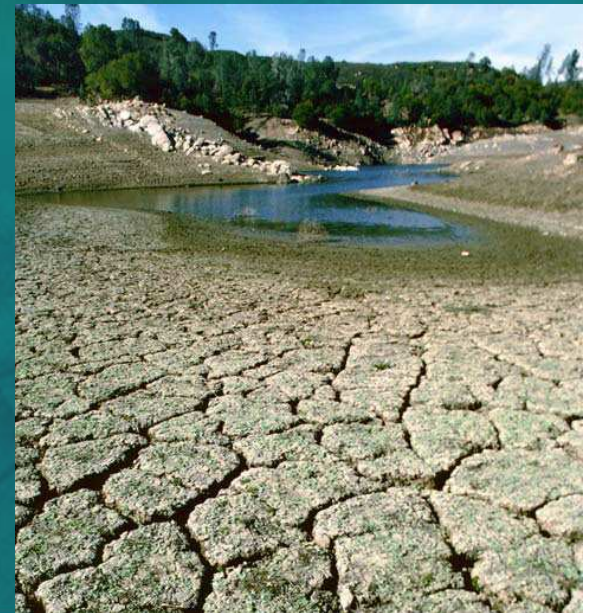
22-24 October 2008



Convention of the Protection and Use of
Transboundary Watercourses and International Lakes

Mandate to develop the Guidance

- Parties to the Water Convention:
prepare Guidance on Water and
Adaptation to Climate Change
 - tool to support cooperation and decision
making in transboundary basins
- The Guidance is to be adopted by
Parties at their fifth meeting
(November, 2009)



Background

- Guidance jointly developed by:
 - Task Force on Water and Climate (under the Water Convention)
 - Task Force on Extreme Weather Events (under the Protocol on Water and Health)
- Survey among non-EEA countries, through Questionnaire (Feb.-April 2008)
- Amsterdam Workshop (1-2 July 2008): share experiences and comment the Guidance
- EU: Guidance on Climate Adaptation under WFD



Aims of the questionnaire

- Assess the degree of awareness on climate change impacts on water resources in Southern and Eastern Europe
- Assess the vulnerability to climate change in that region
- Compile potential adaptation measures and strategies as well as information on implementation experiences



Builds on:

Survey by German Environment
Ministry in cooperation with
European Commission and
European Environment
Agency

EEA Technical report | No 2/2007

Climate change and water adaptation issues

ISSN 1725-2237



Responses from countries (10 out of 23)

- Armenia
- Azerbaijan
- Belarus
- Croatia
- FYR Macedonia
- Georgia
- Kyrgyz Republic
- Moldova
- Ukraine
- Uzbekistan
- Bosnia-Herzegovina



Assessment of future impacts

- Increase in precipitation: (5-20 %)
Azerbaijan, Kyrgyz Republic, Uzbekistan
- Decrease in precipitation: (2-6 %)
FYR Macedonia, Croatia, Moldova
- Increase /decrease depending on season:
Ukraine, Belarus, Georgia



Kolheti National Reserve bogs and marshlands

Vashlovani National Reserve savannah semi-desert



Ispani II peatland



Assessment of future impacts

Sea level decline
approx. 4 cm



Sea level rise
approx. 20 -
30 cm



Adaptation measures

- Moldova - measures necessary, but not planned yet
- Macedonia – measures planned, but not implemented yet
- Uzbekistan - measures concerning flood & drought management, both technical, economic and strategies



Adaptation initiatives

- Building adaptive capacity (Georgia, Belarus, Azerbaijan, Uzbekistan)
 - Mapping & modeling impacts, and vulnerability
 - Risk assessment
 - Developing and participating in networks
 - Training & raising public awareness
- Policy formulation (Georgia, Uzbekistan)
 - Legislation
 - Bills and acts of parliament concerning adaptation measures
- Physical/managerial implementation (Georgia, Belarus, Azerbaijan, Uzbekistan)
 - improving water system



Need for information and research

- Need for improved climate information both on long term and short term
 - strategic and planning decisions
 - operational decisions
- Research needs on:
 - Modeling of changes in water resources
 - Groundwater
 - Drinking water
 - Glaciers
 - Adaptation measures



Questionnaire conclusions

- General awareness - impacts reported
- Differences in impact assessments + possible conflict between water users
 - need for coordination between countries
- Planning and implementation of adaptation still in an early stage
 - need for national policies
- More attention for non-structural measures
 - e.g. legislation, insurance and capacity building
- General lack of data
- Common guidance for climate proofing is needed
- Climate change also creates opportunities



Amsterdam workshop conclusions (1)

- General acknowledgement of the need for guidance
- General willingness to cooperate at national and international level
- Political commitments and agreed targets at national and international level are needed
- Sound science is necessary
- Need to work cross-sectoral and inter-ministerial
- Trialogue process (Government – Public – Science) should be applied
- IWRM is elementary pillar for adaptation to climate change and needs to be implemented as a first step



Amsterdam workshop conclusions (2)

- Effect of mitigation is irrelevant to water managers because they have to adapt short-term
- More focus on non-structural measures
- Economic instruments need to be consistently applied in particular in the context of legal instruments
- Optimization of the use of limited and valuable water resources to meet changing water demands
- Planning needs to take into account human behaviour motivated by self interest



Amsterdam workshop: the way forward



Guidance should be further developed on:

- more focus on transboundary aspect
- participatory approach
- health aspects
- financial issues
- case studies in particular for the transboundary cooperation
- solidarity in sharing risks and cost issues

Important finding:

- With regard to measures concerning adaptation to climate change we are still at the beginning of the implementation process

I Introduction

- Climate change is happening and affects water availability, water services and water quality
- Climate change adaptation is therefore indispensable, but in addition to other water management measures



I Introduction: Aim of the Guidance

- Develop general roadmap for climate proofing of water management
- Provide step-wise approach on:
 - assessing impacts of climate change
 - developing policy, strategic and operational responses
- Transboundary context
- Floods, droughts and quality aspects, including health



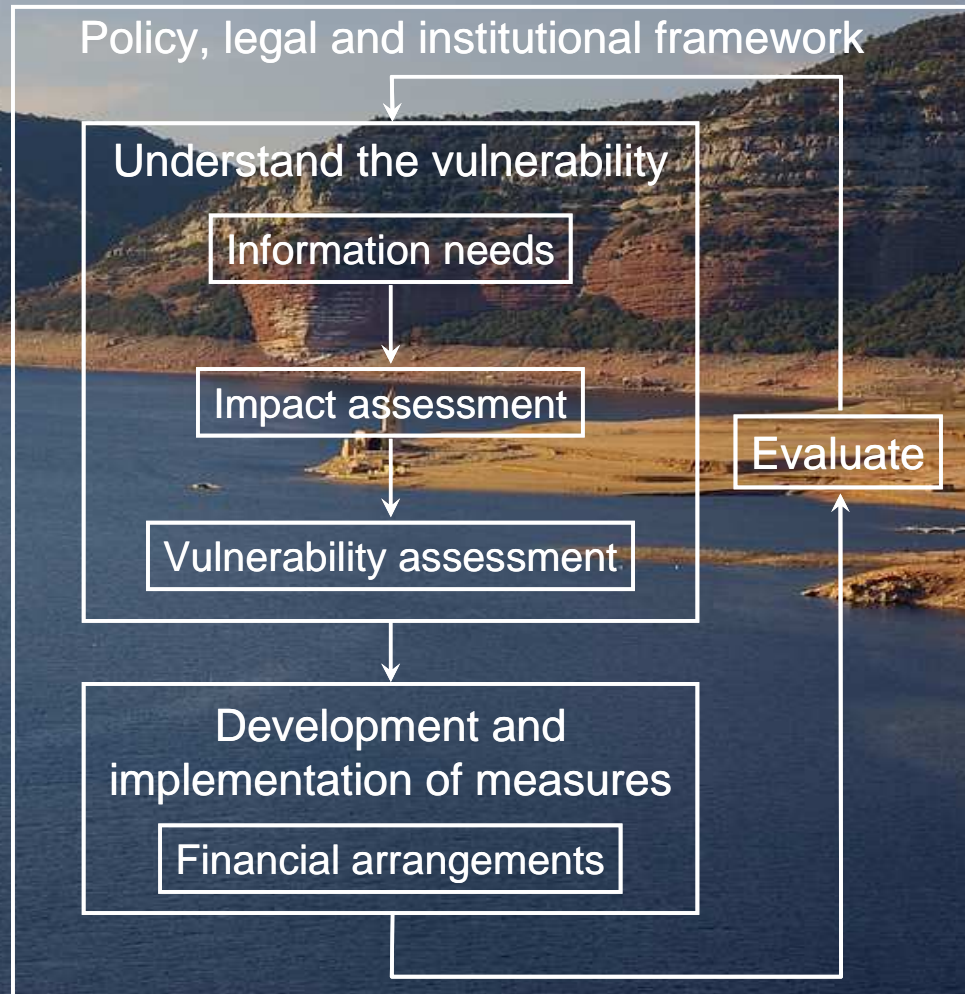
I Introduction: Target group for the Guidance



- Decision makers:
 - water management
 - health-related issues
- Officials, managers and stakeholders of other relevant sectors
- Entire UNECE region, focus on countries with economies in transition

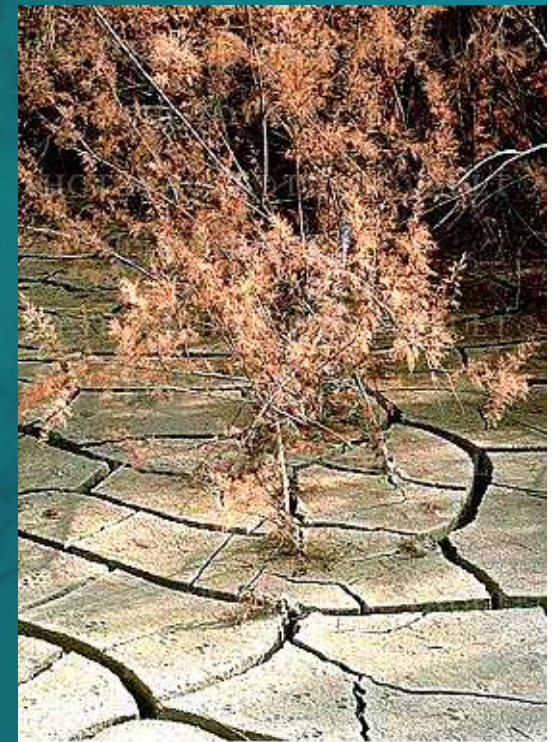


I Introduction: Structure of the Guidance



II General principles and approaches (1)

- Effective transboundary cooperation is ensured
- Riparian Parties cooperate on the basis of equality and reciprocity
- Climate-proofing/mainstreaming
- No-regret and low-regret options
- Health risk of climate change



II General principles and approaches (2)

- River basin approach and IWRM
- Precautionary principle
- Tailoring in space and time



III International commitments

- United Nations Framework Convention on Climate Change
- World health Organization International Health Regulations
- UNECE Conventions:
 - Water Convention
 - Protocol on Water and health
 - Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)
 - Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)
- European Union legislation
 - Water framework Directive
 - Flood Directive
 - European Centre for Disease Prevention and Control

IV Policy, Legislation and Institutional Frameworks

- Policy:
 - Create an enabling environment
 - Governance on multiple levels
 - Cross-sectoral approach
 - Mainstreaming
- Legislation:
 - Legislation may present barriers
 - Flexible to respond to predicted and unforeseen changes
- Institutions:
 - Participative approach
 - Capacity and means at the right level, e.g. joint bodies
- Education, capacity building and communication



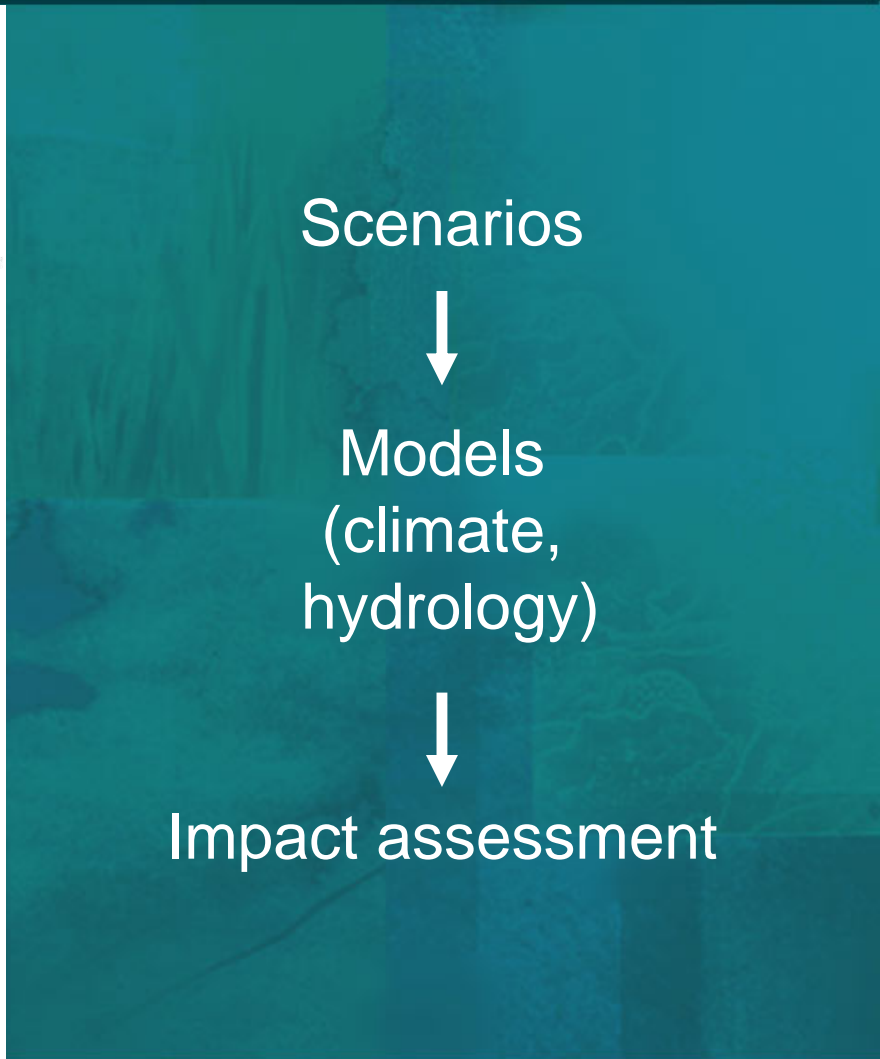
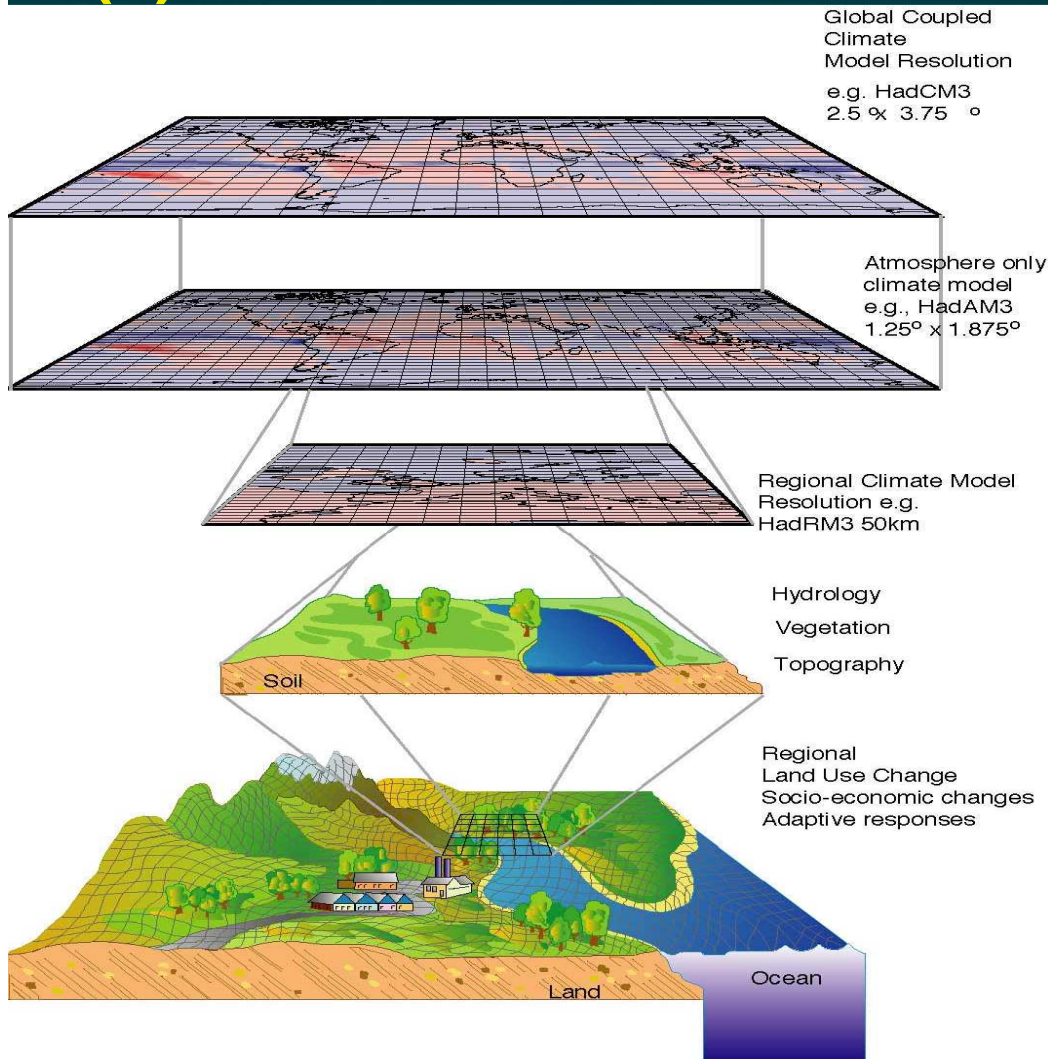
V Information and monitoring needs for adaptation strategies design and implementation



- Ensure availability of proper information
 - Input for scenarios and models
 - Environmental information (meteorological, hydrological, etc.)
 - Social information (demographic; population, ageing, urbanisation, etc.)
 - Economic information (GDP, trade, investment, etc.)
 - Historical data when available
- Joint information systems:
 - Joint information base
 - Information exchange
- Adaptive monitoring as part of policy cycle



VI Scenarios and models for impact assessment and water resources management (1)



VI Scenarios and models for impact assessment and water resources management (2)



- Joint development of scenarios
 - Climate scenarios
 - Demographic and economic scenarios
 - Agree on uncertainty
- Downscaling of models



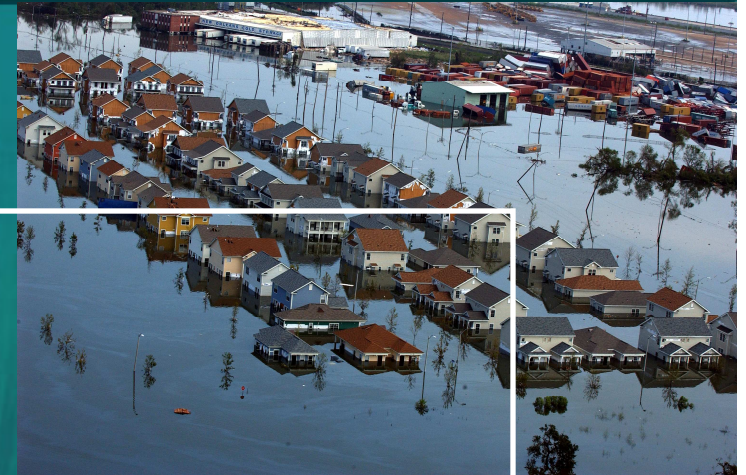
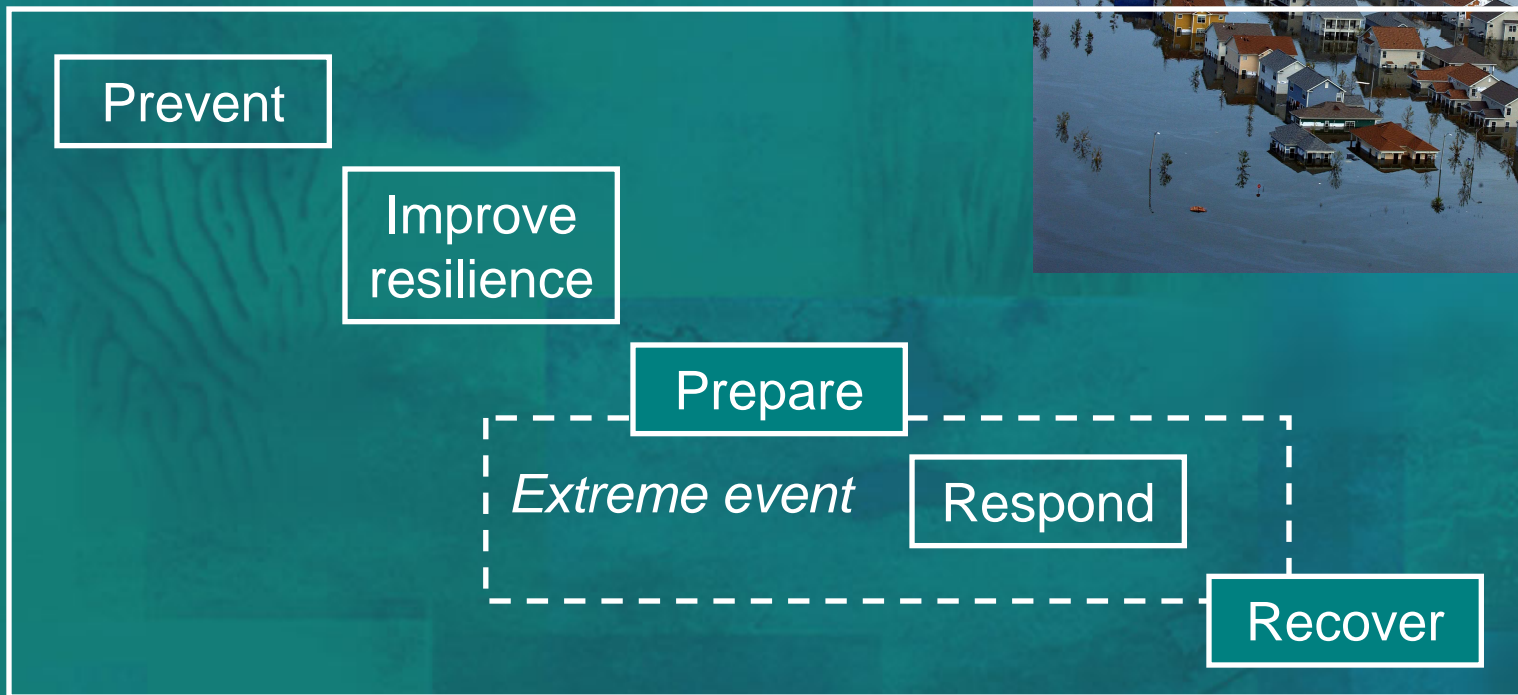
VII Vulnerability assessment for water resources management and water services



- Vulnerability:
 - Physical - damage
 - Social - livelihoods
 - Psychological – surviving traumatic events
- Based on scenarios and model outcomes
- Provide information to guide choices
 - Where and when interventions
- Existing methodologies for vulnerability assessments

VIII Measures (1)

Safety chain



VIII Measures (2)

Developing and implementing measures based on participatory approach:

- Focus attention to priority risks
- Learn from local level risk management practices
- Identify opportunities and obstacles relevant and credible to at-risk groups



IX Financial matters

Ensure adequate financial means:

- International funds
- Water pricing (not to interfere with water supply and sanitation)
- Taxes and charges
- Promotion of innovation towards water-efficiency
- Insurances
- Focus on basin-wide benefits and cost-sharing



X Evaluation of adaptation strategies

- Throughout the adaptation chain
- Different levels (strategy and measure/project)
- Monitor the progress vis-à-vis achieving objectives
- Learning by doing
- Participatory evaluation
- Social, economic, political, financial and ethical considerations



Guidance: the way forward

- Review by external experts (January 2009)
- Inclusion of case studies/boxes (January 2009)
- Meeting Task Force on Water and Climate (March 2009)
- Possible presentation of Guidance at World Water Forum in Istanbul (March 2009)
- Meeting of WG IWRM (July 2009)
- Meeting of the Parties (November 2009)

