

Water Framework Directive and Climate Change

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SNIFFER Workshop
23rd June 2009**

Presentation

- ▶ EU
 - ▶▶ Steering Group
 - ▶▶ Implementation mechanisms

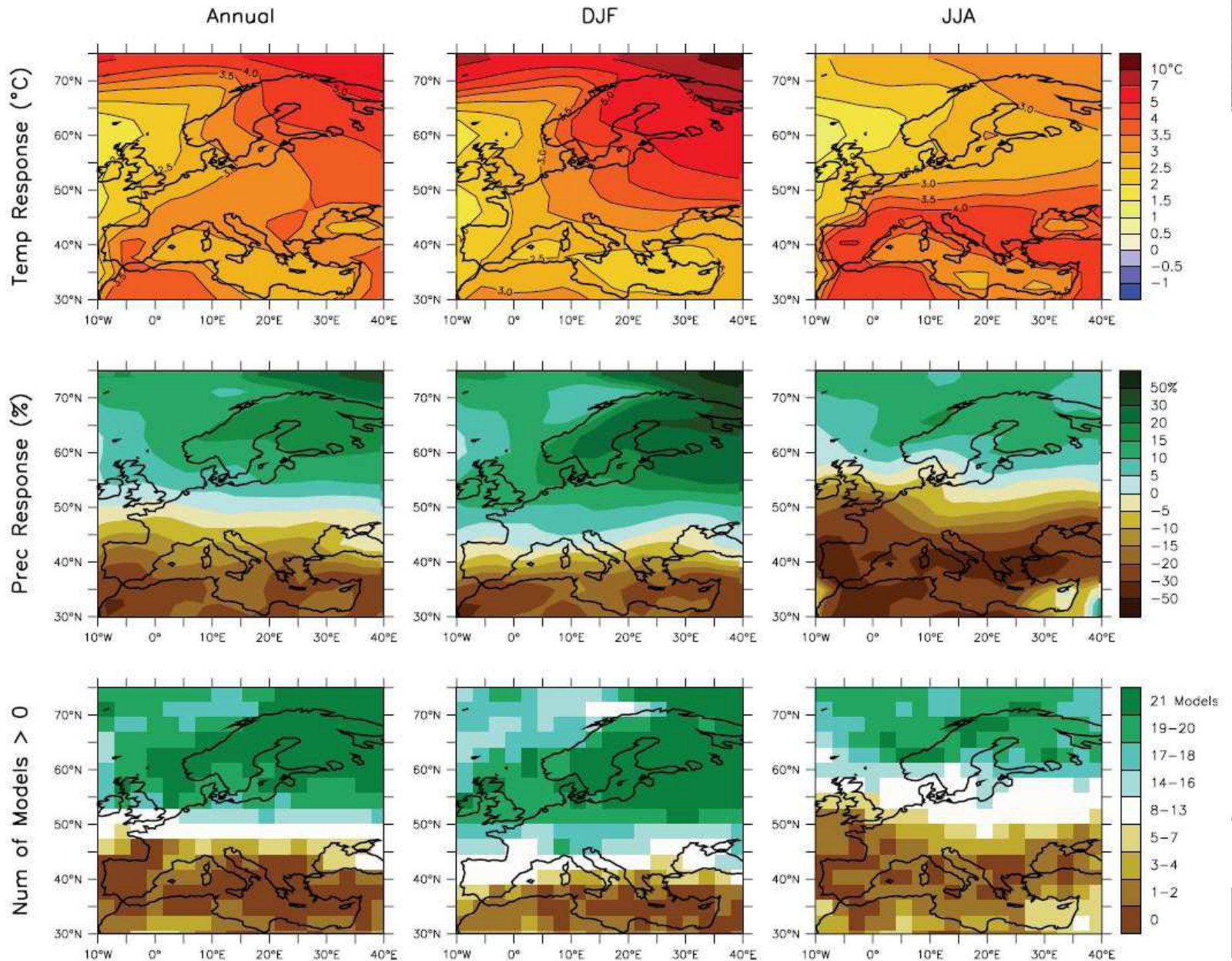
- ▶ RBMPs
 - ▶▶ Opening position
 - ▶▶ Programme of Measures

- ▶ Questions

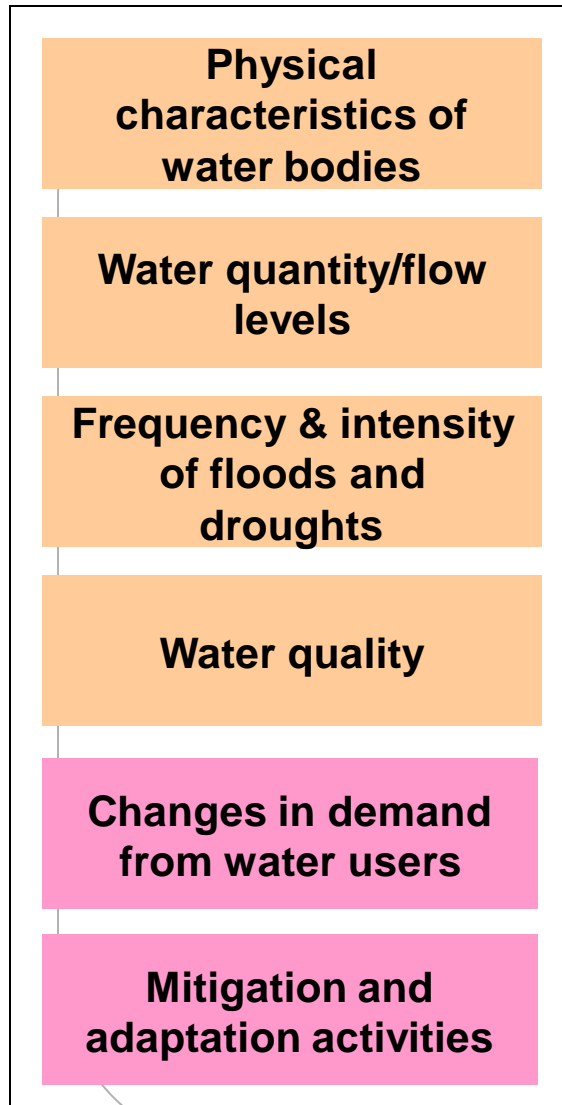
Europe: Opening Position

- **Climate is changing** and will have impact on water cycle and water resources
- **Research results available** showing impacts of CC
- Forecasts with regard to temperature seem to have less **uncertainties** than those on precipitation, sea level
- **Impacts** on water resources **vary strongly** between regions
- **Clear cut cases** (e.g. S-Europe, N-Europe) **as well as areas of transition** with particular high uncertainties (Ireland)

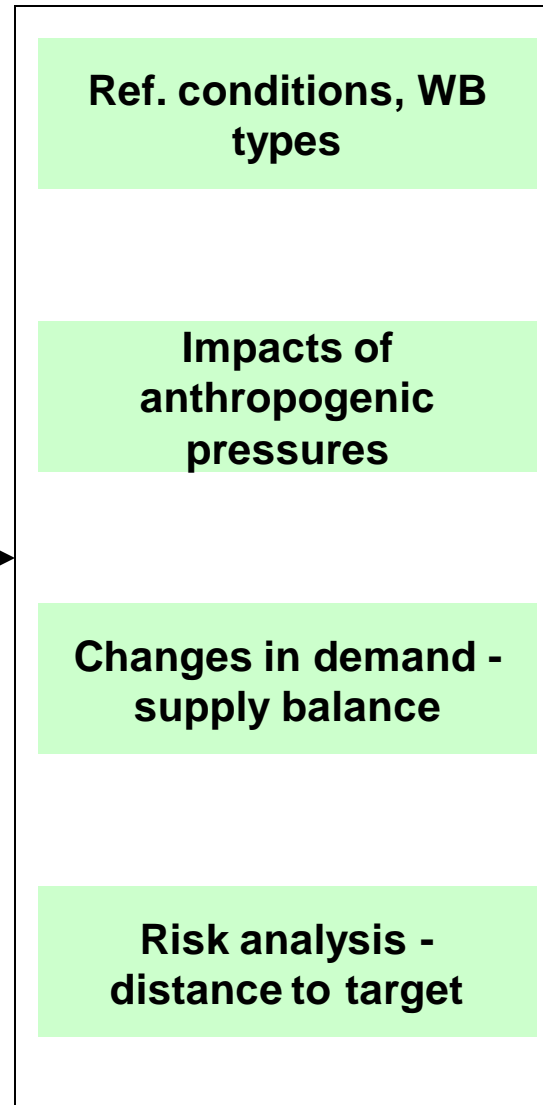
Strong Variation Between Regions



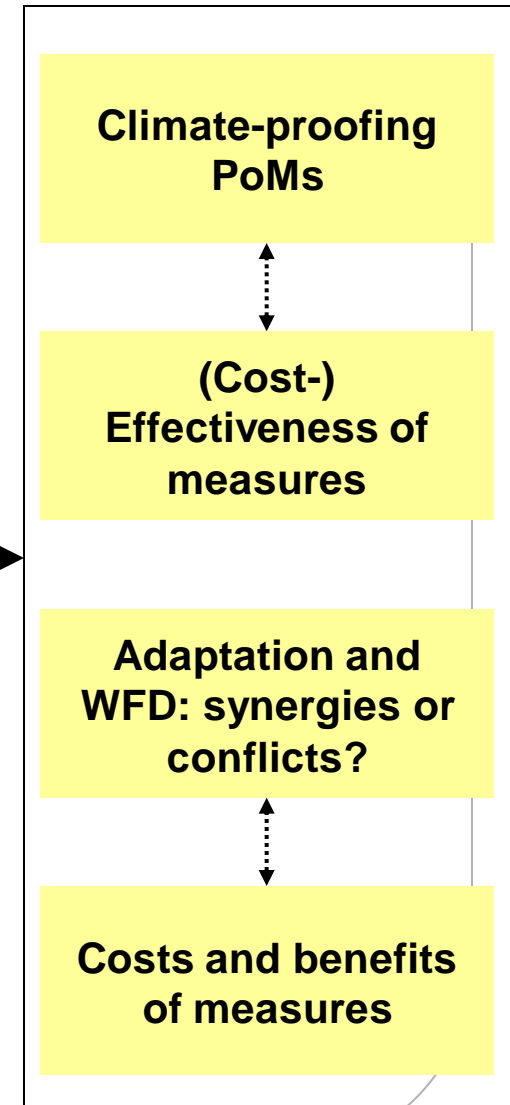
CC impacts on water



... what do they mean for WFD issues?



... and for WFD action?

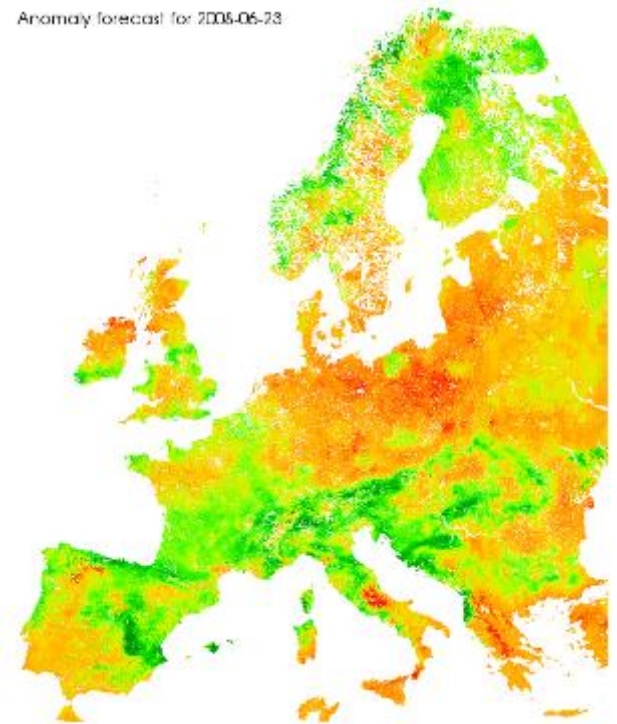


CC and Water Adaptation

- ▶ Water Framework Directive
- ▶ Floods Directive
- ▶ Water Scarcity and Drought ("prolonged droughts" enunciated in article 4.6 of WFD)
- ▶ Marine Strategy Directive

RBMP is over-arching mechanism that links with physical planning

Anomaly forecast for 2006-06-28



Ecosystem and River Actions

- ▶ Integrated biodiversity and cc policies and measures
- ▶ Guidelines to ensure that RBMPs are climate-proofed
- ▶ Climate change in the Floods Directive
- ▶ Further measures to enhance water efficiency
- ▶ Boost ecosystem storage capacity for water
- ▶ Guidelines on dealing with management of Natura 2000 sites

Ecosystem and Marine Actions

- ▶ Adaptation in coastal and marine areas to be taken into account in the Integrated Maritime Policy, in the Marine Strategy Framework Directive and in the Common Fisheries Policy
- ▶ Develop European guidelines on adaptation in coastal and marine areas



1st Cycle RBMPs

Chapter on climate change

- ▶ Inform the public, facilitate public consultation
- ▶ Trends and impacts, and pave the way for further action in later WFD cycles

Contents

- ▶ A summary of cc knowledge and expected impacts in the river basin
- ▶ Options for incorporating climate change impacts into the planning process.
- ▶ A “climate check” was suggested to ensure the adaptiveness of PoMs based on readily available data and common sense

2nd Cycle RBMPs

- ▶ PoMs should be made climate resilient based on existing scientific evidence through iterative climate-checking
- ▶ Adaptation concerns is considered particularly important in the case of measures that involve long-term investments
- ▶ This approach was endorsed by Water Directors in June 2008
- ▶ Guidelines for ensuring climate change resilience of the second and third River Basin Management Plans are being developed for the end of 2009

1st RBMP CC Support Document

Contents

- ▶ Summary

- ▶ INTRODUCTION
- ▶ CLIMATE CHANGE IN IRELAND
- ▶ PRESSURES, MEASURES AND CLIMATE CHANGE
- ▶ ASSESSMENT OF MEASURES
 - ▶▶ Win-Win Measures
 - ▶▶ Regret Measures
 - ▶▶ No-Regret Measures
 - ▶▶ Adaptation Measures
- ▶ INTERACTION OF CLIMATE CHANGE AND MEASURES

Win-Win Measures

Measure

1. Altered abstraction timing
2. Create buffers around water bodies
3. Connection of unsewered wastewater discharges to municipal system
4. Water conservation measures

Contribution to CC

- ▶ Resilience of supply
- ▶ Improved soil and subsoil water retention, reduced flood risk
- ▶ Reduced spatial risk during severe droughts
- ▶ Adaptation to droughts

Regret / No Regret Measures

Regret Measure

1. Abandon existing forest crops in unsuitable areas
2. Siting critical infrastructure in floodplains

No Regret Measure

1. Upgrade wastewater treatment
2. Buffer zones of agricultural land

CC Issue

- ▶ Unmanaged landscape - drainage issues, soil erosion, soil pH, invasive species
- ▶ Continuity of service

CC Benefit

- ▶ Robust
- ▶ Robust

Protected Areas / High Status

Measures

- ▶ All high status water bodies at favourable conservation status under Habitats Directive
- ▶ Point and diffuse discharge emission limits to achieve the environmental objectives

CC Adaptation Issues

- ▶ Habitat fragmentation, floodplains and wetlands
- ▶ Changes to ground and surface water flow regime
- ▶ Changes to erosion and sedimentation pressures
- ▶ Diffuse and point source nutrient loadings

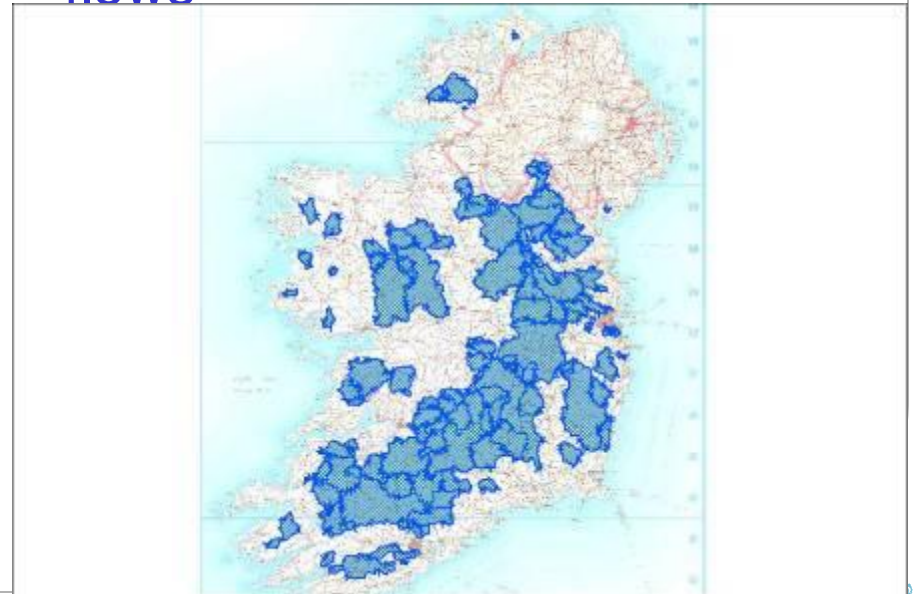
Adaptation Measures

CC Measure

1. Sustainable Urban Drainage Systems
2. Water storage
3. Monitoring

WFD Contribution

- ▶ Integration of flood risk management into River Basin Management Plans
- ▶ Enhance environmental flows



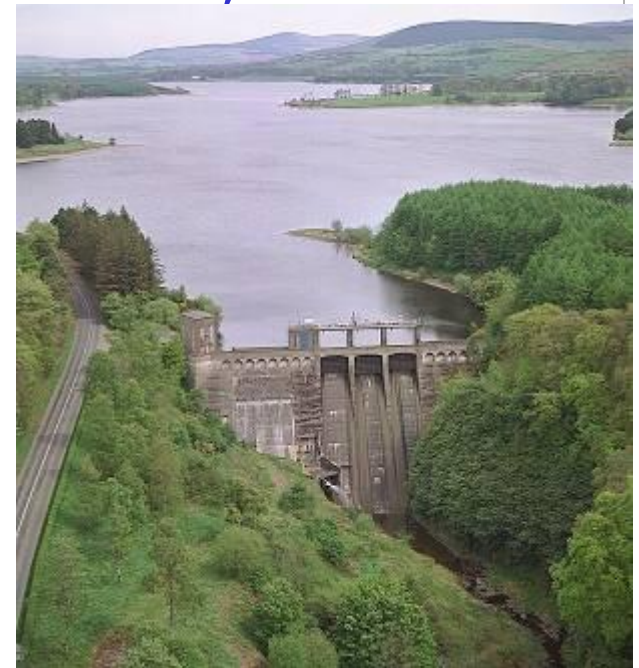
Abstractions

Measures

- ▶ Code of practice for abstraction and water conservation
- ▶ Support for voluntary initiatives such as water conservation and rainwater harvesting schemes
- ▶ Altered abstraction timing, conjunctive use, additional storage or alternative sources.

CC Adaptation Issues

- ▶ Irrigation , increased urbanisation
- ▶ Licensing
- ▶ Increase storage options



River Modifications

Measures

- ▶ Code of practice for physical modifications
- ▶ Allow the system to re-naturalise
- ▶ Targeting channelisation, barrier and over-grazing
- ▶ Support existing voluntary initiatives - wetlands and ICZM

CC Adaptation Issues

- ▶ 'Soft' flood management systems
- ▶ Water capture and off-channel storage
- ▶ Habitat restoration ensures biology is better able to cope and migrate with changing climatic conditions

Questions

- Are the 1st River Basin Management Plans addressing to a sufficient extent strategies which increase the resilience to climate change?
- Is climate change considered in terms of integration of flood risk management measures and measures relating to the marine environment?
- To what extent do the dRBMPs address the issue of water scarcity and droughts in countries where this is an important problem?
- Will the River Basin Management Plans include measures to enhance water efficiency in agriculture, households and buildings?
- Will River Basin Management Plans include policies and measures to boost ecosystem storage capacity for water in Europe?