

# TIME TO ADAPT – CLIMATE CHANGE AND THE EUROPEAN WATER DIMENSION

## Working Session A: Water Management

### The Spanish Adaptation Plan to Climate Change and the Water Resources Sector

*Berlin, 13 February 2007*



MINISTERIO  
DE MEDIO AMBIENTE

SECRETARÍA GENERAL PARA  
LA PREVENCIÓN DE LA  
CONTAMINACIÓN Y DEL  
CAMBIO CLIMÁTICO



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# SPANISH CLIMATE CHANGE ADAPTATION PLAN

## GENERAL FRAMEWORK FOR ALL ACTIVITIES RELATED TO THE ASSESSMENT OF I+V&A TO CLIMATE CHANGE

→ **Aim: Integration of adaptation to climate change into the planning strategy of the different socio-economic sectors and ecological systems in Spain (mainstreaming)**

➤ **February 2006, presentation at:**

→ **CNC** (National Climate Council )

→ **CCPCC** (Coordination Commission for Policies on Climate Change)

→ **CS** (Sectoral Conference of Environment)

➤ **March 2006:**

→ **Public consultation (doc. upload at MMA website)**

➤ **July 2006:**

→ **Formal approval at CCPCC**

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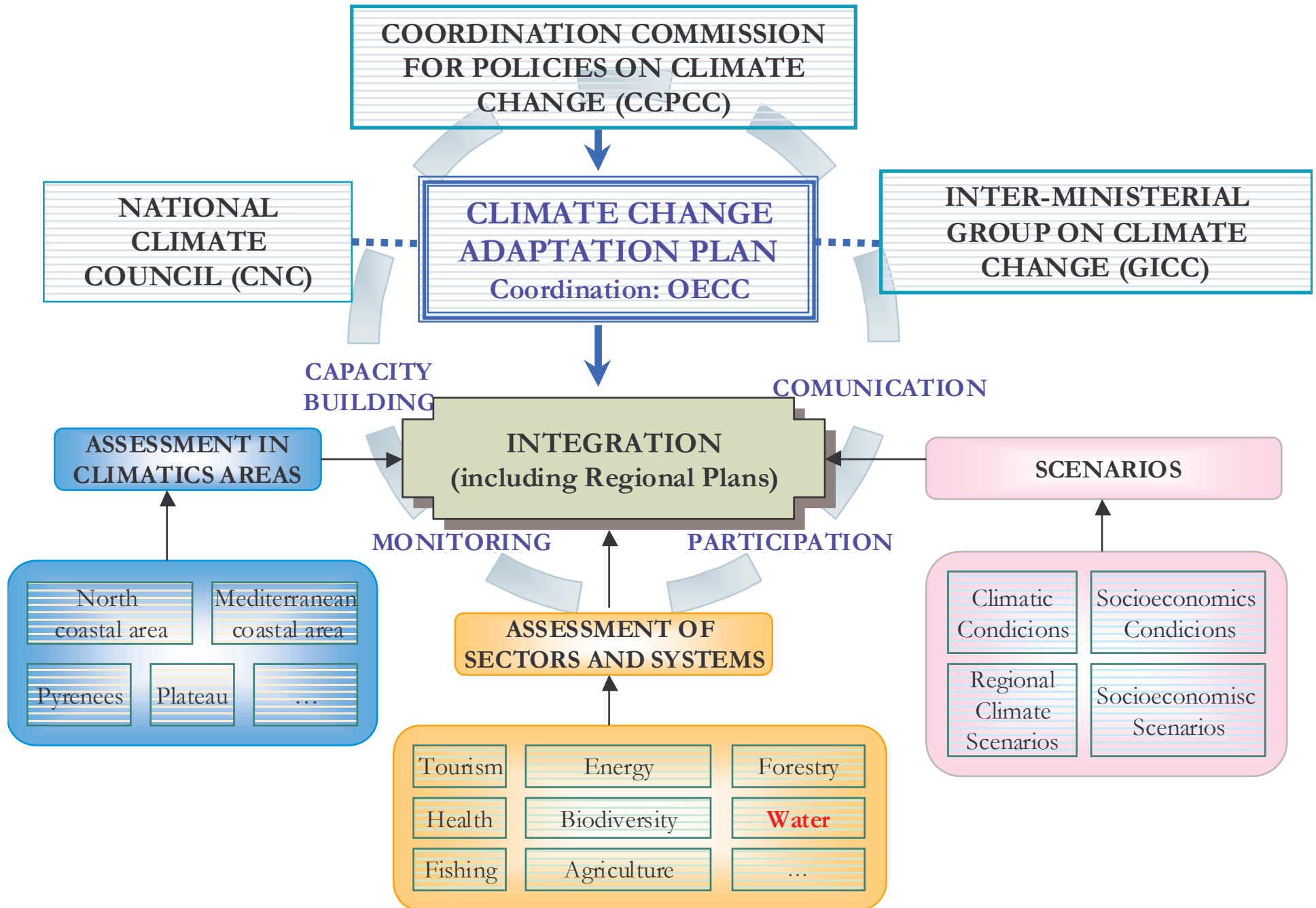
**Previous step, ECCE project: Assessment Report of the Preliminary Impacts in Spain due to Climate Change**



## **Some findings from the ECCE project in water resources:**

- In Spain, climate change will cause decreases in water resources
- 2030 horizon, we can expect average decreases in hydric resources in natural regime of between 5 and 14%
- 2060 horizon an average global reduction of hydric resources is expected of 17% on the Peninsula
- These figures could exceed between 20 and 22% for the scenarios predicted for the end of the century
- An increase in the interannual variability is expected
- The impact will be noted more severely in the Guadiana, Canarias, Segura, Júcar, Guadalquivir, Sur and Balearic Isles river basins
- The most critical Spanish areas are arid and semiarid ones (aprox 30% of the national surface)

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## FIRST PROGRAMME OF WORK

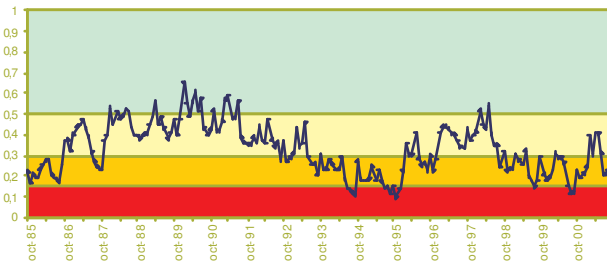
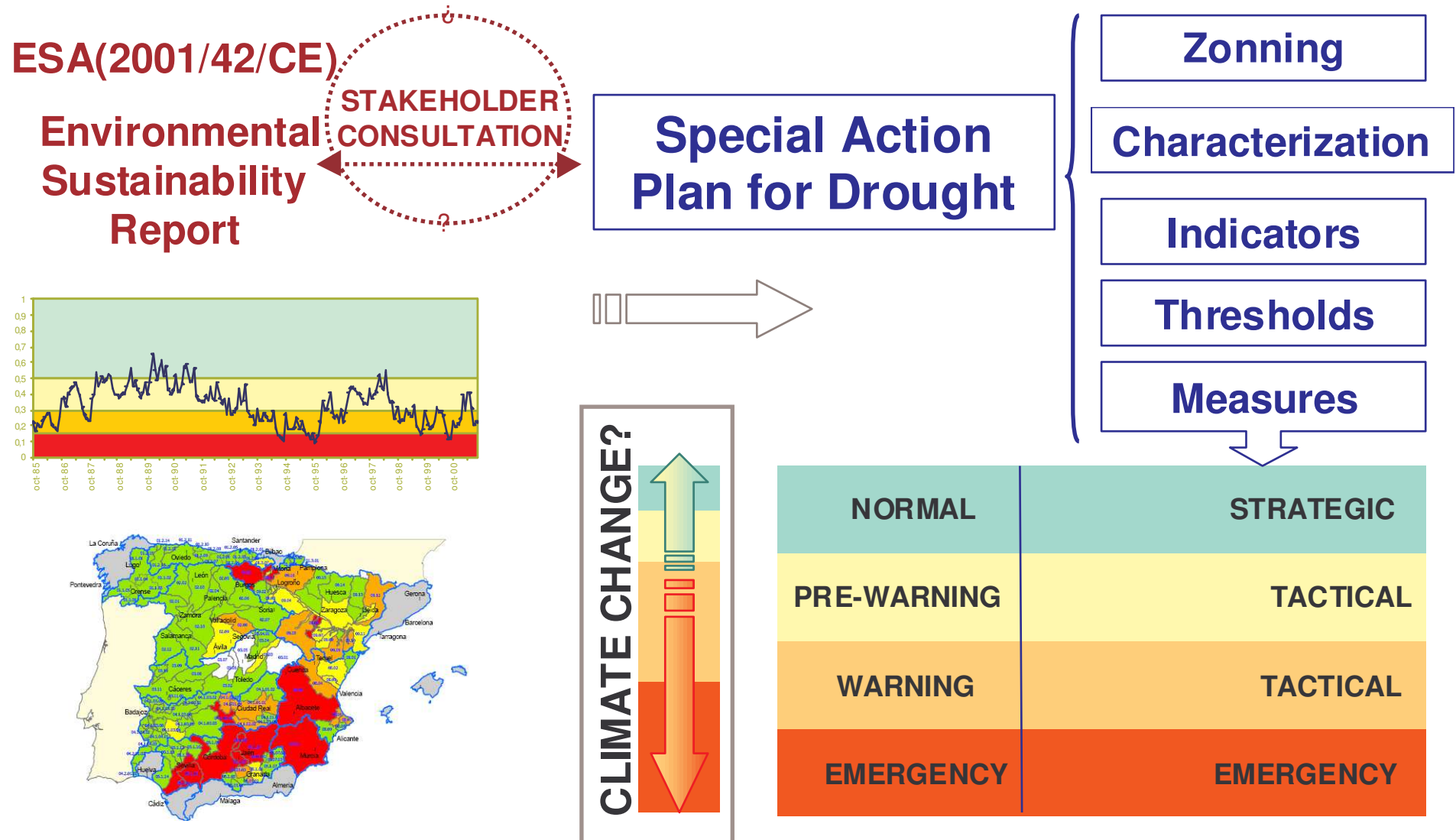
- ▶ Generation of regional climate scenarios
- ▶ Assessment of the impact of climate change on biodiversity
- ▶ Assessment of the impact of climate change on coastal areas
- ▶ Assessment of the impact of climate change on water resources



- ◎ Development of quantitative scenarios of water resources in Spain basins for the 21st century
- ◎ Assessment of the management and capacity of the Spanish hydrological system (as it is now) under the water resources scenarios
- ◎ Assessment of potential climate change effects on irrigation
- ◎ Assessment of climate change impacts in the water ecological status

# Drought Management in Spain: Special Action Plans for Drought and its ESA

**Aim:** to limit the environmental, economy and social impacts in droughts



NORMAL	STRATEGIC
PRE-WARNING	TACTICAL
WARNING	TACTICAL
EMERGENCY	EMERGENCY

# SPANISH CLIMATE CHANGE ADAPTATION PLAN

## Final considerations

- **Climate change along the 21st c. with temperature increases and, in Spain, with reduced precipitation, will essentially cause a decrease in water yields**
- **With relation to climate change, the water system has a high degree of uncertainty**
- **The potential impact will depend on the available water resources, the water system, the way it is managed and the demands**
- **Adaptation to climate change should consider the full range of options available**