

## **Editorial: The United States Country Studies Program on Water Resources Vulnerability and Adaptation to Climate Change: Scope and Significance**

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### **Scope**

The United States Country Studies Program (USCSP) was initiated in 1992 to support the Framework Convention on Climate Change. Under the USCSP, the US government is providing technical and financial support to 55 developing countries and countries with economies in transition to prepare studies that address climate change. These studies assist countries in developing inventories of their anthropogenic emissions of greenhouse gases, assessing their vulnerabilities to climate change, and evaluating response strategies for mitigating and adapting to climate change. The information from these studies will be used by both analysts and policy makers as they develop their countries' response strategies to climate change and their countries' National Climate Change Action Plans and Communications called for under the Framework Convention on Climate Change.

In assisting countries to assess their vulnerability and ability to adapt to climate change, USCSP established programmes in Vulnerability and Adaptation Assessment on the following topics:

- (1) Agricultural Crops;
- (2) Grassland and Livestock;
- (3) Forestry;
- (4) Water Resources;
- (5) Coastal Zone Management;
- (6) Fisheries;
- (7) Wildlife and Ecotourism;
- (8) Health Effects of Climate Change.

This special issue describes the water resources vulnerability and adaptation programmes and presents results from some of the Round 1 countries.

The articles in this issue are divided into two parts: (1) Methodology and (2) Case Studies. The methodology section begins with an overview of the USCSP recommended procedures for performing a national-level water resources vulnerability and adaptation assessment. The procedures were designed to provide a consistent analytical framework upon which country analyses could

be combined into regional and global analyses. The procedures emphasized techniques that did not require large amounts of data and could be taught in a one-week training workshop. Following the overview are three articles on the specifics of the USCSP water resources methodology: modelling hydrologic impacts, modelling economic impacts and adaptations to climate change.

The articles in the case studies section were chosen from the Round 1 countries that had completed their vulnerability and adaptation analyses by September 1995. The articles present analyses that span the breadth of the USCSP vulnerability and adaptation methodology. The article on the Warta River Basin in Poland presents hydrologic impacts, water resources impacts and a quantitative analysis of basin-wide adaptation to climate change in the rather dry region of Central Europe. The article on hydrologic impacts on the Czech Republic compares the use of a variety of hydrologic models in a more mountainous and wetter region of Central Europe. An analysis of the two arid river basins in Kazakhstan presents the use of basin-specific runoff models and a qualitative analysis of adaptation in Kazakhstan. The paper on water quality impacts in Slovakia illustrates an integrated analysis of hydrologic, ecological and economic impacts and is one of the few analyses to date to address water quality issues analytically. Finally the paper on economic impacts in Egypt applies the principles and complexity of economic impact modelling presented in the methodology section and illustrates that climate change impacts are felt not only on the biophysical sectors but also on the social and economic sectors.

### **Significance**

In Chapter 14, *Water Resources Management of the Second IPCC Scientific Assessment* (Watson *et al.*, 1996) one of the major findings is that there is a shortage of analyses of climate change impacts on the water resources of developing countries. Most generalized assessments of potential global climate change impacts state that developing countries are more vulnerable and less able to adapt to climate change than the industrialized countries. These generalizations are based on the low latitude location of most developing countries and their current economic state and are made by analysts from the industrialized countries. The results of the USCSP analysis of water resources vulnerability and adaptation in over 40 countries is going to provide very valuable information to either corroborate or refute these generalizations. Given the current negotiations of the Conference of Parties, we see these results playing a valuable role in filling some of the climate change impact information gaps and more importantly doing this with information provided by analysts in the countries that are potentially going to be impacted.

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### **Reference**

Watson, R.T., Zinyowera, M.C. & Moss, R.H. (Eds) (1996) *The IPCC Second Assessment Report, Volume 2: Climate Change 1995: Scientific-Technical Analyses of Impacts, Adaptations, and Mitigation of Climate Change* (Cambridge, Cambridge University Press).