

TRANSBOUNDARY WATER RESOURCES & THE HYDROLOGIC PREFECTURES IN GREECE

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EXECUTIVE SUMMARY

Introduction

The quantities of water are not distributed uniformly in space and time. In Greece, there is a high spatial variability of precipitation varying from 1150 mm in the richest in precipitation northwestern part of the country to 350 mm in the eastern part. This is attributed to the Pindos mountain range, which interrupts the prevailing eastern movement of weather systems, thus dividing the country into two major parts; the windward, high precipitation western areas and the leeward, low precipitation eastern areas. The aggregation of the fourteen water districts of Greece into four hydrologic prefectures is suggested in the present study, based on the hydrologic identity of the 14 existing water districts, the important management problems regarding the internal and the transboundary water resources, as well as the existing administrative structure.

Difficulties in the Implementation of the Directive

Greece has a geomorphologic peculiarity, owing to the intense relief and the great extent of coasts and comprises of small basins, each of one demanding a different management plan. The Directive of the European Parliament and of the Council 2000/60 established a new legislation for the sustainable management of water resources on the basis of drainage basin area. The implementation of such policy, especially in Northern Greece, is more difficult due to transboundary water resources. Among others, the most important problems

that could be highlighted relating to the state of water resources are the difficulty and deficiency in the systematic and reliable recording and evaluation of the physical and artificial water systems from a quantitative and qualitative point of view, as well as the deficiency in adequate measurements of hydrologic, meteorological, hydrogeological and qualitative parameters. Additionally, the deficiency in the recording of the existing uses of water and in the measurement of the water quantity that is consumed in each use, the difficulty in the coordination of the authorities at a national and peripheral level, etc.

Determination of the Hydrologic Prefectures for the Needs of the Directive

The criteria that were taken into account for the determination of the hydrologic prefectures are:

- The surplus of water resources in the western regions of the country should be utilized for the fulfillment of the needs in the eastern regions
- The transboundary water resources should be controlled from a single authority
- All islands, which constitute small independent hydrological units, should be managed from a single authority

More specifically, the great water potential in western regions that stays unutilized should be integrated into a common management plan for the rational fulfillment of the needs of the eastern part of the country, where the natural supply does not suffice to cover the growing demand. The transboundary water resources of the country, according to the Directive, require a single and special treatment for the implementation of the most rational management policy, in order that their best utilization inside the national boundaries is achieved, as well as the disruption of the relationships with the neighboring countries is prevented. The collaboration between the involved countries is necessary, the creation of complementary agreements and the renewal of the existing ones according to the

directive. The hydrologic prefectures that resulted taking into account the above criteria are the following four and are shown in Figure 1.

- Hydrologic Prefecture of Macedonia-Thrace
- Hydrologic Prefecture of Sterea-Epirus-Thessaly
- Hydrologic Prefecture of Peloponnesus
- Hydrologic Prefecture of Islands

Conclusions

The above separation constitutes a proposal that is based on scientific data, available today by the use of new technology and mainly geographic information systems, on the infrastructure of the National Data Bank of Hydrological and Meteorological information (NDBHM) (Mimikou, 2000). This proposal constitutes an approach to the complicated issue of the total management of the country's water resources, covering the hydrologic aspect. That management should be planned taking into account a plethora of other parameters, such as the water consumption and the utilization structures of the country's water potential. In each case, the hydrologic data and the conclusions that resulted from the study that was accomplished in the frame of NDBHM, will be the base towards that direction.

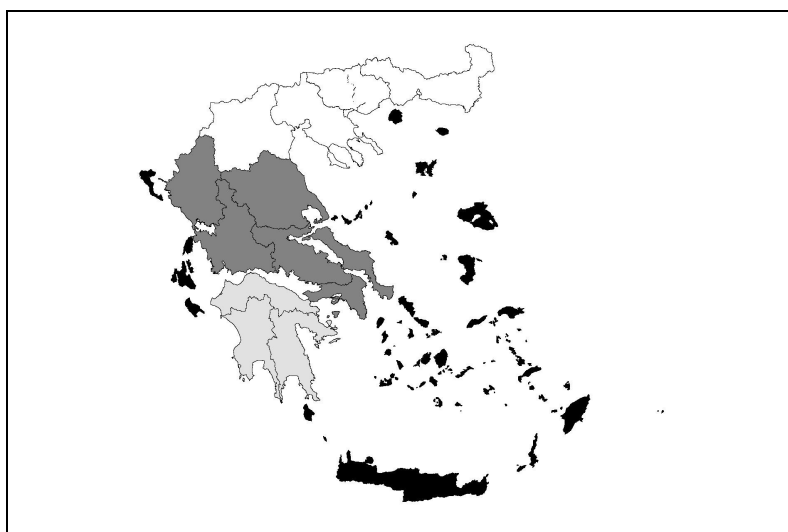


Figure 1. The four hydrologic prefectures