

CrITERIA



Cr(VI) Impacted water bodies in the Mediterranean: Transposing management options for Efficient water Resources use through an Interdisciplinary Approach



Ευρωπαϊκή Ένωση
Ευρωπαϊκό Ταμείο
Περιφερειακής Ανάπτυξης



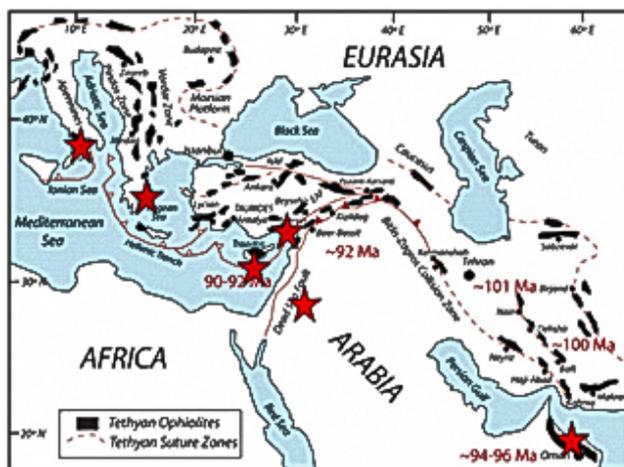
ΕΡΑΝΕΚ 2014-2020
ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΑΝΤΑΓΩΝΙΣΤΙΚΟΤΗΤΑ
ΕΠΙΧΕΙΡΗΜΑΤΙΚΟΤΗΤΑ
ΚΑΙΝΟΤΟΜΙΑ



ΕΣΠΑ
2014-2020
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Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης

The ERANETMED- CrITERIA project aims to assist water resource management organizations and water users on decision making when coping with water scarcity, climate change and polluted water. Pollution by Cr(VI) is used as an example of additional water pressure problem that has to be tackled through integrated water resource management.



CrITERIA study areas in red stars on map showing Tethyan ophiolites.

Most of the Cr(VI) in the environment arises from human activities. Until recently, this was considered the only Cr(VI) source in groundwater, although latest research has shown that relatively high levels of Cr(VI) can also be attributed to natural processes. These are related to the weathering of minerals of specific rock types found in ophiolite sequences, i.e. remnants of ancient oceanic crust.

The methodological approach of the project is based on comparative, collaborative research using real situation data from case study areas in each of the participating countries. Such areas had already been identified in Greece and Italy where measurement data on Cr(VI) in water ex-

ist. These are further monitored, evaluated and compared to potentially affected water bodies in Cyprus, Turkey, Jordan and Oman, suspect for Cr(VI) contamination due to either natural or industrial sources within the same time frame.

CrITERIA addresses capacity building and mobility, through training of water users to enable participation in the water monitoring process and scholarships for young researchers. We aspire to develop a user friendly process providing access to a set of problem-response options that will support stakeholders on management decisions, in line with their priorities of water use (civil, industrial, agricultural) taking into account the EU water framework directive and the prescribed water quality regulations on Cr(VI). The project has a specific focus on water quantities,

direct costs for water treatment and indirect costs accounting for impact of Cr(VI) contamination. Different scenarios are explored in relevance to climate change considering ground truth data from the extremely arid environment of Oman, where similar geologic conditions prevail, as a future analogue of Mediterranean water basins. For each case study, the tool will provide high-spatial resolution information on vulnerability and impact indicators related to water budget and extreme events for the present and the projected future climate.

CRITERIA brings together specialists from different disciplines including geochemistry, hydrogeology, civil and chemical engineering, plant physiology, climate modeling and environmental technology. It is anticipated that this interdisciplinary approach will aid the development of the water management process at all stages of the project, i.e. from the characterisation and conceptualisation of the studied water bodies to the analysis of water uses and demands, the estimates and costing of contamination impact for various water uses and the identification of cost effective potential measures.

Project participants:



National Technical
University of
Athens GREECE



Agricultural
Research
Institute
CYPRUS



INTERGEO



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www.criteria.gr

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