EUROPEAN COMMISSION
RESEARCH DIRECTORATES GENERAL
SHARED COST RTD PROPOSAL FORMS

EN C 2 FP5RTD

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Proposal Acronym [5]		Proposal No [6]	

A2. Proposal Summary [22]

Objectives (maximum 1000 characters)

The aim of the project is to provide tools for an efficient integrated water management in Southern Europe and other semi-arid regions. To meet this aim, the particular dynamics of temporary waters will be incorporated into existing catchment and in-stream water quality models. Practical aim of the project: To provide innovative and operable water management strategies for semiarid regions, obtained from experience of testing the models at selected case study sites. Specific objectives: 1)To define the requirements to be met by water quality models for application to catchments with temporary waters; 2)To develop and test hydrological modules which account for the different runoff generation mechanisms as well as surface/ground water exchanges; 3) To develop sediment modules to account for accumulation, resuspension and transformation processes of organic matter and nutrients during dry and wet periods; 4) To improve water quality models by integrating the sediment and hydrological modules

Description of the work (maximum 2000 characters)

WP01: Creation of a central project database and communication tools.

WP02: Documentation of interactions with socio-economic conditions (Water use, exploitation, present pollution and related end-user requirements. Collection of existing data, and testing the models.

WP03: For the fluid phase: quantification of water quantity and quality dynamics in temporary waters. Provision of an adequate network of field equipment for measuring hydrological data, including groundwater, and frequent or continuous measurement of water quality parameters, including a detailed study of first flush events.

WP04: On the channel bed: detailed quantification of the transformation/accumulation processes in drying river beds. Investigation of microbiological transformations and the formation and decomposition of organic sediments. Derivation calibration data microbiological process rates and potential input data for first flush models.

WP05 programming of submodules: Synthesis of channel bed processes and fluid processes by evaluation of detailed results. Sensitivity analyses. Establish a conceptual model for potential submodules including: intermittent drying and flooding, evaporation and mass accumulation, microbial transformation and decomposition, resuspension and first flush effects. Combining the submodules into a comprehensive tempQsim module and implementation in existing models.

Testing the improved models again in close collaboration with the end-users. Investigation of innovative water management. The experiences and management options will be summarized in a guideline for the end users.

Milestones and expected results (maximum 500 characters)

1)Review of existing water quality models and detailed documentation of their limitations for temporary waters.
2)Equipped catchment sites to obtain calibration and validation data, providing structured, archived data sets and protocols.
3)Comprehensive understanding of channel bed processes, water quality dynamics including flush effects.
4)Better understanding of socio-economic conditions, their impact on water resources and management strategies adopted.