



Parma river basin Water Assessment

Engage end-users

Public end users have been involved during design, planning and management activities, through institutional and public meetings. Private sector, experts and the general public have been involved through web sites news, interviews, publications and workshops. Service suppliers and service providers are all those subjects able to exchange information, tools, expertise and skills within project, planning, management and monitoring activities. The involvement of and the dialogue with end users, service providers and service suppliers allowed to identify their real needs and priorities, in order to implement the most suitable operational tools (data, indicators, models) within PWA Service.

Development

PWA, developed by Arpae is a platform for sharing, through a set of web services, hydro meteorological observations and climate projections combined with hydrological, water balance, water quality, ecological and solid transport models. The Service may support operational decision making useful for public and private stakeholders involved in managing water resources, preventing damages related to water extremes and supporting environmental and spatial planning and management. PWA may use different data: climate and hydrologic historical series; water bodies quality data; information on P/N point and diffuse sources; information on water withdrawals; catchment and river network data; river bed and sediment transport information; Weighted Usable Area - Discharge Curves (WUA-Q). PWA also uses climate projections to 2100 of daily precipitations and temperatures (based on simulations RCP4.5 CMCC-CM+COSMO-CLM + bias correction). PWA includes different models: Topkapi - RIBASIM for water management; RIBASIM - DELWAQ for water quality; WUA - Q for habitat suitability; virtual velocity method and parametric

method for solid transport. Business model consider a shorter supply chain, adopting a freemium revenue model. PWA integrates the efforts and expertise of local stakeholders maximizing the collection of inputs and the quality of outputs.

Value

PWA can manage different data, metadata, forecasts, projections and models and can be implemented in many river basins, considering different physical, environmental and anthropic properties. Deriving the Service from the effort of different professional figures, hydrologists, informatics, water managers, environmental experts, PWA end users can find operational tools, datasets, and modeling results, suitable for inter sectoral and multi objective applications. The value of PWA has been assessed in a case study for the summers 2015-2018, focused on water management; main features, that affect the final value, collect the model outcomes in terms of simulations, predictions and projections of different variables (for example daily river discharge) but also skill of the results and their ability to correctly predict the variables' trends.

Market

Interested users to PWA are mainly organizations in charge of water management, with another market segment in natural and cultural valorization. PWA's financial structure includes public efforts in data collection, modeling, research and IT development; the market strategy is based on the network of Institutions involved, and is implemented through a two-way co-development and through stakeholder feedbacks. Environmental information is an institutional duty for the PWA provider (Arpae), where competitors are other public authorities and it is not possible to sell the outcomes on an actual marketplace. Therefore the Service will be offered through an open source web-based platform, freely accessible by the final users. Only the most advanced results would be on-demand, offering space to private initiatives (consulting, engineering, design). Indirect revenues of PWA are related to natural capital accounting and improvement.

Link

<http://demanio.ddns.net/wp-clara/>

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FIGURE 1

WORKFLOW WITH DETAIL

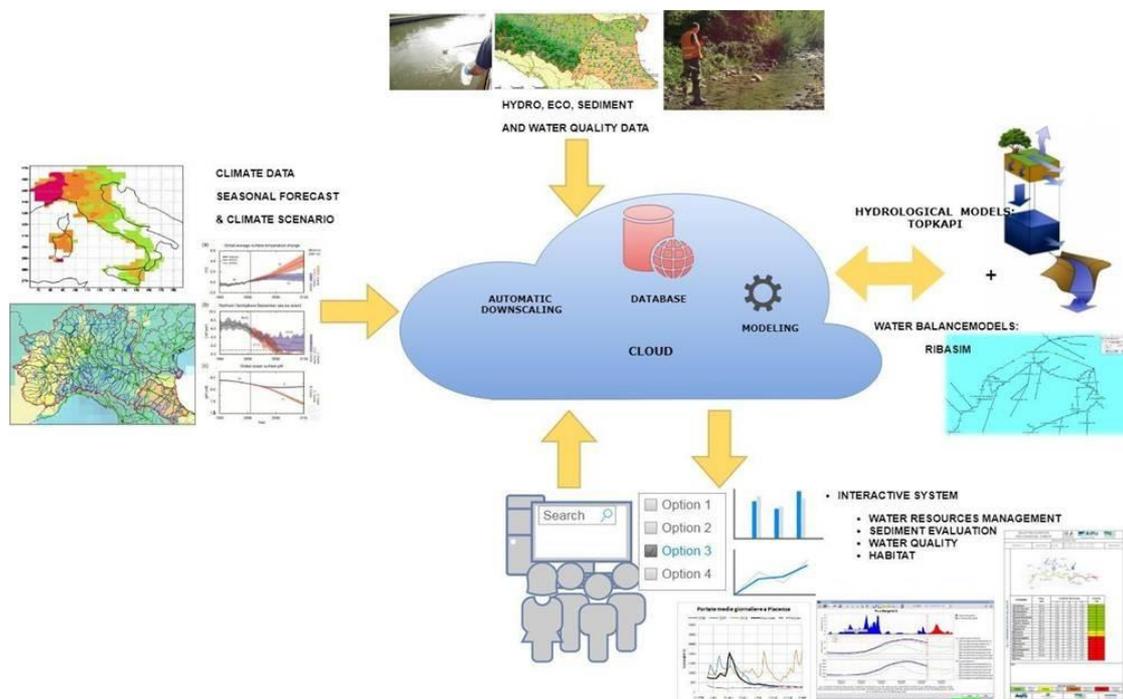


FIGURE 2

CONCEPTUAL SCHEME

