

Preface

The EU Interreg IIIB project HYDROPTIMET

The goal of the HYDROPTIMET project, built in the framework of the EU Interreg IIIB program (MEDOCC area), was the improvement of the knowledge of severe events phenomena, the optimisation of the meteorological and hydrological aspects for the prevention of natural hazards, the experimentation of new tools (such as numerical models) to be used operationally for the quantitative precipitation forecast (QPF) and the improvement of the collaboration between the partners (exchange of data, methodologies, information).

The overall regional character of the meteorological events and the vulnerability of the territory common to all the Western Mediterranean regions, made the cooperation between the interested countries more and more important. The territory affected by the activities of the project is well distributed and includes the following regions: the Italian side of the western part of the Alps, subject to severe events and to strong vulnerability due to the complex orography; the regions along the Apennines and some region of South Italy, where the interaction with the sea is more pronounced; the northeast part of Spain, where severe events are less frequent, but produce intense damages due to the vicinity of the sea with the mountains; the south-eastern France is also prone to heavy precipitating events, specially during fall. At this period of the year, the first cold upper-level troughs begin to affect the area while the Mediterranean sea is still warm, providing convective conditional instability in the area. The vicinity of the mountains helps to trigger the convection over the Massif Central and/or inside low-level convergence areas produced by deflection of flow by the Pyrenees or the Alps.

The participants in the project, coming from four different countries, are here listed:

1. Arpa Piemonte (leader) – Italy
2. Arpa-Sim Emilia Romagna – Italy
3. CIMA – Italy
4. Regione Toscana – Italy
5. Regione Calabria – Italy
6. Consorzio SAR – Italy
7. Regione Basilicata – Italy
8. ISAC-CNR – Italy
9. APAT – Italy
10. Universitat de les Illes Balears – Spain
11. Agencia Catalana de l'Aigua – Spain
12. Institut Polytechnique de Grenoble – France
13. Université J. Fourier – Grenoble – France

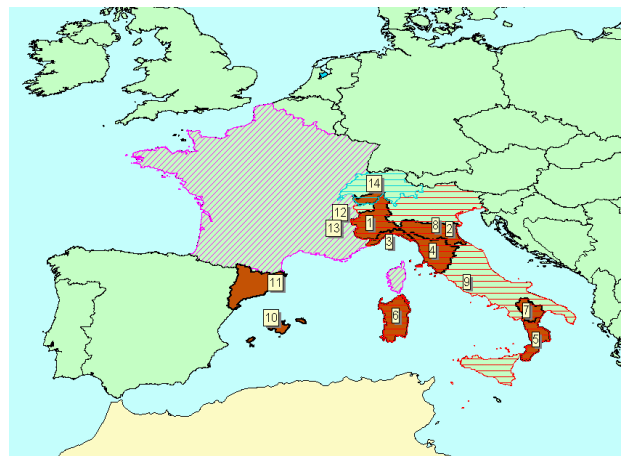


Fig. 1. Domain of the Western Mediterranean area with the participating institutions numbered and the respective countries highlighted in red.

There are national and local meteorological institutes as well as universities, linked together by the need of improving the knowledge and forecasting of events like the previously described. The location of the various centres is shown in Fig. 1.

It is the will of the editors to gather and to emphasize, with this special issue of NHESS, the most relevant scientific results which have been obtained during the two years of the project. The contributions are subdivided into four main categories: a general description of the test cases, results of the meteorological applications, meteo-hydrological chain, and connection with the end-users. The wide spread of topics and the large number of works with authors from different centres, denote that the philosophy of the project has been well interpreted: as a result we had a very strong integration among the partners which face common problems in preventing, forecasting and monitoring the natural hazards.

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