Plinius Conference Abstracts,
Vol. 11, Plinius11-137, 2009
11th Plinius Conference on Mediterranean Storms

Meteorological operational services for civil protection in Veneto region (North-eastern Italy).

A. Barbi, M. Monai, and F. Zardini
ARPAV-Meteorological Centre of Teolo (PD), Italy (abarbi@arpa.veneto.it / +39 0499998136)

The Meteorological Centre of Teolo (CMT), part of the Regional Agency for Environmental Prevention and Protection of the North-eastern Italian region Veneto (ARPAV), is the operational regional meteorological service. Since April 2009 the Centre is linked to and supplies meteorological monitoring and forecasting to the recently constituted Functional Centre of the regional civil protection (CFD Veneto), which operates in the framework of National Civil Protection. The CFD Veneto supplies a multi-disciplinary, technical-scientific support to civil protection activities, to early warnings of natural hazards, in particular related to hydrogeological, hydraulic, and avalanches risks.
The north-eastern part of Italy is known to be one of the rainiest regions in Europe. The region Veneto, due to its topographic configuration which includes Alpine reliefs, plans and a coast exposed to the Adriatic Sea, is conducive to heavy and long-lasting precipitation events. Also, strong thunderstorm activity with high precipitation rates, hail, wind gusts, and even tornadoes are relatively frequent occurrences.
In this contribution two recent examples of different types of extreme events are briefly analysed by means of the ARPAV multi-sensor observing system which includes weather radar and a dense surface network. We show some of the impacts of such weather events on the territory, the services provided by CFD Veneto, in terms of meteorological forecasting and nowcasting products, and hydrogeologic/hydraulic hazard bullettins. The analysis highlights the difficulty of an efficient wheather forecast for civil defence purposes in a complex situation as ours, where many types of different events are possible. Especially cases of rapid convective events with their intense and very localized phenomena are a significant challenge. It is well-known that such events can bring remarkable material damages and serious danger for the people. For this reason an effective warning system which can handle this type of events is needed, and may feature different procedures and warning methods than for long-lasting precipitation events. The latter are generally more predictable by meteorological models, have slow and more continuous time-spatial evolutions with delayed hydrogeologic and hydraulic impacts (landslides, landslips, floods, etc.). This allows anticipated more efficient warnings, also supported, to some extent, by hydrologic modelling.