



## **Flood forecasting for discharge measure planning and rating curve calibration in Lombardy**

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ARPA Lombardia - U.O. Servizio Idrografico is in charge of river monitoring, discharge measuring, rating curve development and updating. ARPA also cooperates with the Civil Protection Department of Regione Lombardia in flood forecasting and monitoring. The Civil Protection Department developed a semi-distributed model of the Lambro river with flood forecasting purposes. The precipitation fields, produced by four meteorological models (CLEPS, LAMI28, ISACMOL, ARPALMOL) have been used as input of the Lambro model during the MAPDPHASE project. Looking at the ensemble forecast from the CLEPS model, the event of November 23rd 2007 has been forecast four days in advance and allowed ARPA to plan and carry out a discharge measure during the peak at the Milano Via Feltre section.

Measuring discharge during the peak is very important for the calibration and validation of the rating curves. Since ARPA experienced the efficacy of coupling meteorological and hydrological models with an ensemble - multi model approach, the methodology is currently tested as a tool to plan the discharge measures. In particular the forecasts are performed on some mountainous watersheds using simple hydrological lumped models.