# High resolution operational forecasting with MOLOCH for MAP-DPHASE

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The MAP DPHASE (Mesoscale Alpine Programme, Demonstration of Probabilistic Hydrological and Atmospheric Simulation of flood Events in the Alpine region) is a Forecast Demonstration Project (FDP) of the WWRP (World Weather Research Programme of WMO), aimed at demonstrating the ability of forecasting heavy precipitation and related flooding events over complex terrain, as gained from state-of-the-art atmospheric and hydrological models, new technologies and improved knowledge acquired during the MAP project. High resolution, convection resolving models are a component of the end-to-end forecasting system that will be run operationally for six months, starting from 1st June 2007, over the Alpine region.

At ISAC-CNR, two weather prediction chains for producing real-time, high resolution simulations in the range 0-48 hours have been recently implemented. They will run once a day during the six months period of MAP DPHASE experiment (1st June – 30th November 2007). The chains comprise the hydrostatic model BOLAM, which is driven directly by the global model, and the non-hydrostatic model MOLOCH, which is nested in cascade, using a 1-way nesting procedure. For BOLAM simulations the horizontal resolution is 0.11 degree in rotated coordinate (about 12 km); for MOLOCH is 0.02, corresponding to about 2.2 km. The two forecasting chains employ different initial and boundary conditions: one is based on the 00 UTC, GFS-NCEP global model forecasts at 0.5 degree horizontal resolution, while the second is based on the 18 UTC, ECMWF forecasts at 0.25 degree horizontal resolution. MOLOCH graphical products are collected by the MAP DPHASE Visualization Platform. Output data in grib format, stored in the MAP DPHASE data archive, provide rainfall input for hydrological model forecasts.