*Forecasting the weather
- ensemble techniques
in probabilistic weather prediction*

IPHEN - a real time network for phenological monitoring and modelling in Italy

L. Mariani (1), R. Alilla (2), G. Cola (1), G. Dal Monte (2), C. Epifani (2), G. Puppi (3), and O. Failla (1)

(1) University of Milan, Milan, Italy (gabriele.cola@unimi.it), (2) CRA (AGRICULTURAL RESEARCH COUNCIL), Research unit for Climatology and Meteorology applied to Agriculture, Rome, Italy (giovanni.dalmonte@entecra.it, +39 06 69531215), (3) University of Bologna, Bologna, Italy

The IPHEN (Italian PHEnological Network) project was launched in 2006 with the aim of producing weekly nationwide maps of analysis of plants phenological stages mainly voted to satisfy agriculture, health and environmental care exigencies. Maps are obtained by means of models based on a Normal Heat Hours (NHH) approach that weighs hourly air temperature effectiveness for plant phenological progression. The NHH approach is applied to national hourly temperature grids derived from operational meteorological networks. A correction scheme based on real time phenological surveys, provided by the phenological network of the project, is applied to first guess maps of analysis produced by IPHEN models to obtain final broadcasted maps.
Forecast phenological maps (prediction of the days of occurrence of relevant phenological stages) are also produced on the base of meteorological forecast models and climatic data.
Freeware IPHEN maps for grapevine, cypress (common and arizonica), black elder, olive and locust tree are weekly broadcasted on the CRA-CMA website (http://www.cra-cma.it/iphen/mappe.asp).

Keywords: phenological maps; phenological analysis and forecast; cypress; olive; grapevine; black elder.