



A new post-processing system (“ecPoint”) for conditional verification and improved probabilistic forecasts of point values

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At ECMWF, a new software called ecPoint-Rainfall has been developed to post-process the output of the ECMWF global ENSEMBLE system (ENS) and produce more reliable and skilful probabilistic rainfall forecasts for points. ecPoint-Rainfall is part of a family, called ecPoint, which consists of a package that contains the following software,

1. ecPoint-Cal: performs a physical-statistical analysis of meteorological data (model and observations) that provides users with a tree-like graphical support tool to investigate biases and errors in the ENS (i.e. conditional verification) and/or post-process the ENS to produce probabilistic forecasts for points.
2. ecPoint-Rainfall: the operational system delivering probabilistic forecast products for point-rainfall

The principles and methodologies adopted to develop ecPoint will be shown.

A particular regard will be given to the human component of the calibration system. The system has automated features but requires a continuous interaction with the analyst, who ideally is a forecaster or a researcher with experience of model behaviour in different meteorological settings (e.g. for orographic rainfall, deep convection, localized extreme rainfall in urban areas, etc.) to shape the analysis and give the results a strong physical and statistical relevance.

Furthermore, some space will be dedicated to the flexibility of the calibration and operational system to show how users can quickly and easily switch the analysis and the post-processing between different models and model parameters (e.g. at ECMWF we plan to post-process temperature and wind as well, to add ecPoint-Temperature and ecPoint-Wind to the ecPoint family).