INSPECT: MesoVICT experience in COSMO consortium

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The INSPECT project ran in parallel to MesoVICT to summarize the experience of applying spatial verification methods to COSMO forecast systems of very-high-resolution (1-3 km) compared to high-resolution models, providing criteria for deciding which methods are best suited to particular applications.

The main outcomes of the project were: a. model reruns for MesoVict cases, scripts with examples for running neighbourhood, CRA, and SAL methods using SpatialVx package as well as examples of scripts to adapt radar and satellite data, b. testing of neighbourhood (filtering) and SAL (object-based) methods by means of comparison of results from two independent software packages; c. Intensity Scale (IS) method (scale separation) was also tested in addition to SpatialVx, d. several ways of compact visualization of neighbourhood, CRA and SAL methods were proposed, e. SAL method was found easier to implement than MODE and CRA methods due to the elimination of the pair-wise matching of observed and forecast objects but recommendations were given in the proper application of each method, f. especially for CRA method, choice of criteria for matching objects was provided, g. applications of DIST, SAL and CRA methods to ensembles were made and new approaches on summarizing performance over various members and time accumulations were proposed, h. first results of experiments on introducing observation uncertainty into the spatial methods were produced.