



Evaluation of circulation type classifications: overview of the COST733 - Working Group 3 activities and results

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The COST action on “Harmonization and applications of weather type classifications for European regions” (COST733) ends its activities after a 5 years period, in 2010. The Working Group 3, responsible for proposing and applying comparison and evaluation techniques on classifications has developed its work in three main blocks: basic, climatological and subjective evaluation.

The aim of basic evaluation WG3 was to perform a quantitative evaluation and subsequent comparison of circulation type classifications (CTCs) by means of the estimation of variability within classes and separability between classes using a set of suitable metrics.

Climatological evaluation is based on analyse the ability of a classification to properly stratify the values of a surface climate variable. Different methodologies were applied, based on the use of the Kolmogorov-Smirnov test, the Spearman’s rank correlation coefficient or the Brier Skill Score.

The main objective of the subjective evaluation was, from the expert knowledge point of view, to detect the good/bad classifications for a certain domain, and their capability to reproduce characteristic patterns of different European regions.

The results do not highlight any “top” classification, and show that factors, identified as “boundary conditions”, such as computing method, domain size, atmospheric variables used, number of types, among others, may change significantly the quality and applicability of classifications. In this presentation, main conclusions of the WG3 are compiled.