# Synoptic-climatological applicability of classifications of circulation patterns from the COST733 collection

Radan Huth and Monika Cahynová

Institute of Atmospheric Physics, Dept. of Climatology, Prague 4, Czech Republic (huth@ufa.cas.cz, +420 2 72763745)

The synoptic-climatological applicability of a classification of circulation patterns is defined as its ability to stratify surface climate elements. We analyze a large number of classifications of circulation patterns that have been produced and collected within the COST733 Action "Harmonization and Applications of Weather Types Classifications for European Regions" for 12 European domains as to their ability to stratify temperature and precipitation across Europe. The degree of stratification is quantified by conducting the Kolmogorov-Smirnov test between the distribution conditioned by a particular circulation type and the unconditional distribution. As the climate data, station series from the ECA&D database and gridded dataset produced in the ENSEMBLES project have been used. The results are sensitive to the number of classes (classifications with a lower number of classes tending to yield a better stratification) and depend on season. Although the overall 'best' method (or a group of optimum methods) cannot be identified, methods with generally a better and worse performance can be determined. The participation of the Czech Republic in the COST733 Action is supported by the Ministry of Education, Youth, and Sports of the Czech Republic under contract OC115. Support from the Grant Agency of the Czech Academy of Sciences, project A300420805, is also acknowledged.