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Classifications of winter Euro-Atlantic circulation patterns in CMIP5 GCM projections

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Several classification methods have so far been utilized to evaluate both historical and future climate atmospheric circulation in climate model outputs. Here, the plan is to use eight methods from the COST733 classification software to analyse projections of the 21st century daily sea level pressure patterns of an ensemble of 25 CMIP5 GCMs under the RCP4.5 and RCP8.5 scenarios. Spatially, the focus is laid on the COST733 Euro-Atlantic domain (D00) and its three subdomains—British Isles (D04), Central Europe (D07), and Eastern Mediterranean (D11)—to assess the possible changes in the frequency and persistence of CTs at both the continental scale and over smaller regions with various climates. The analyses of five atmospheric reanalyses and 32 GCM historical runs, both for winters 1961–2000, which have recently been concluded, will provide a starting point and help assess the reliability of projections of individual GCMs.