



Proposals of metrics for a more physical evaluation of climate models

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Evaluation of climate models have so far mainly focused on outcome variables (usually temperature and precipitation) disregarding essential aspects as the correctness of the underlying weather simulation. This presentation points to estimate climate models performance over past and present climate periods putting special emphasis on the introduction of more physically based metrics. Some estimation of the correctness of the coupling between subsystems of the climate system, of the proper simulation of weather at synoptic scale and of the correct representation of essential modes of variability should be incorporated to list of quality control criteria to be met by any climate model selected for the Copernicus Climate Service (C3S). As C3S will provide data for a wide variety of sectors –some of them extremely dependent of certain time scales- the correct representation of scales ranging from weather patterns up to the main variability modes affecting Europe climate should be contemplated in the evaluation process of C3S climate models.