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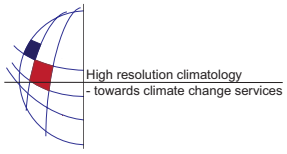

A prototype data pool for boundary-layer process validation of NWP and climate models

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Atmospheric boundary-layer (ABL) parameters are essential output variables of any numerical weather prediction and climate model, since most of the commercial and societal activities of mankind are concentrated within the ABL. Validation and verification of model output results against measurements are important steps to increase confidence into model performance. In order to allow for a detailed assessment of models capabilities to realistically simulate weather and climate in a physically consistent way, validation activities shall comprise not just standard meteorological variables (temperature, humidity, wind, cloudiness) but also soil and atmospheric process parameters (e.g., soil moisture, soil heat flux, radiation and turbulent energy fluxes). While the former are broadly available from standard synoptic weather stations, the latter type of measurements are usually performed at well-equipped observatory sites or within the frame of specialised experimental or monitoring programs. Data from these sources are neither available via a common interface nor in a harmonized data (set) format. These deficiencies so far prevent their broad use in detailed NWP and climate model parameterization validation studies. In order to overcome this situation, the Consortium for Small-Scale Modelling (COSMO) (in co-operation with the EUMETNET SRNWP programme) has suggested to create a prototype of a common harmonized data pool of micrometeorological and ABL data from a number of selected European observatory sites. So far, six sites have agreed to contribute to this data pool, but the initiative is open for any other site interested to contribute. The poster will give an overview on the status of this data pool. It will also address some fields of problems associated with such an initiative. Finally a few examples will be given demonstrating the benefit that can be gained from such a data pool.