

## APPLICATION OF EMEP UNIFIED MODEL ON REGIONAL SCALE – EMEP4HR

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**Abstract:** Achievements of regional application of the Unified EMEP model for Croatia – EMEP4HR is presented. A model suite for the purpose of regional air quality assessment in Croatia is created together with Croatian emission inventories at 10km resolution. This suite is to become operational model suite for the air quality purposes in Croatia. Results of methodology development for allocation of emissions in fine scale, complemented with the compilation of activity data and emission data from local and national authorities are presented. Input data sources and data preparation procedures are presented and discussed. A Meteorological pre-processor has been developed in order to use ALADIN Numerical Weather Prediction (NWP) model, as a meteorological driver at 10 km resolution. Development of the physical and dynamical schemes of the Unified EMEP model, made in the framework of EMEP4HR, as well as smaller scale applications, are mentioned. Model results are shown and basic verification on measured data is performed. Special focus is put on the differences in the model performance due to ALADIN and HIRLAM meteorological drivers on 10 km resolution.