

**Abstract:** An analysis of the air temperature and precipitation for historical and future experiments of regional climate models from Euro-CORDEX activity is presented. A validation of models was performed for the time period 1989 – 2005 using the comparison of model results with E-OBS dataset which represents real values. For this period results show good agreement for temperature, much worse agreement appears for precipitation where their overestimation is more typical. The future evaluation based on the scenarios of greenhouse gases RCP4.5 and RCP8.5 was investigated for periods 2021 – 2050 and 2071 – 2100 in comparison with the period 1971 – 2000 as reference. For the simulations of the future climate we can notice an approximately linear increase of temperatures which is most significant in the northeast Europe. For precipitation models predict their increase in the north Europe and decrease in the south Europe.