

DELIVERABLE 1.3

REGIONAL CLIMATE CHANGE PROJECTIONS - SUMMARY

SUMMARY

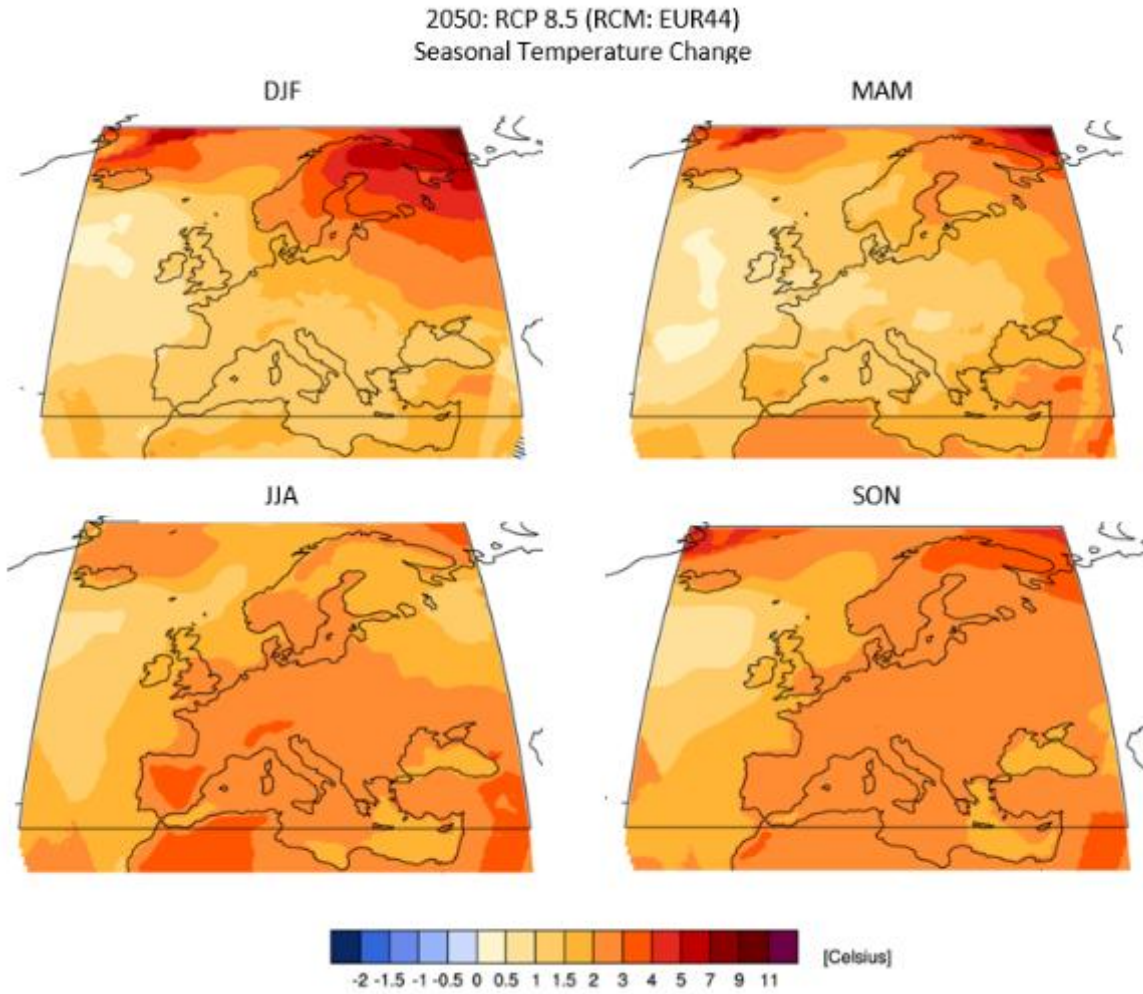
Climate projections were developed for the major European coal mining regions up to the end of the 21st Century. A combination of Global Climate Models (GCMs) and downscaled Regional Climate Models (RCMs) were used by project partners to present this data in the form of maps and time plots. These were analysed for each country to provide specific regional conclusions. These projections are to be used in subsequent work packages to identify the scale of climate related impacts as well as input data for impact modelling. For the impact modelling a particular time of emergence of 2050, was chosen by partners. This is a date at which a climatic change trend emerges from natural climate variability and was chosen as the world climate will have fundamentally changed by 2047 if nothing is done to reduce GHG emissions.

HIGHLIGHTS

Climate projections have shown that:

- The annual average land temperatures over Europe will continue increasing with the largest increases projected over Eastern and Northern Europe in Winter and over Southern Europe in the summer;
- Annual Precipitation is generally projected to increase in Northern Europe and to decrease in southern Europe, thereby enhancing the differences between current wet and dry regions.

GRAPHICAL HIGHLIGHTS

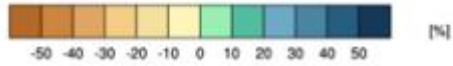
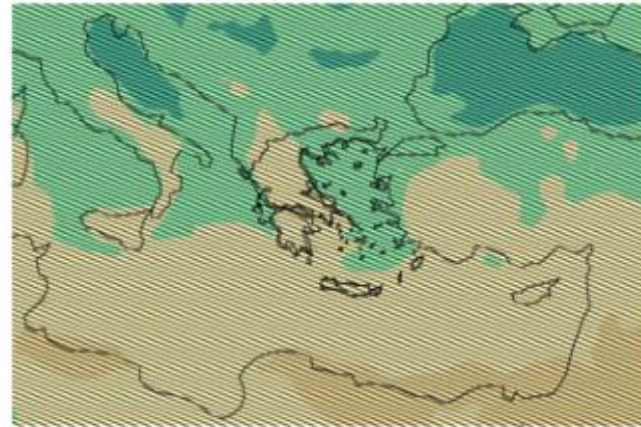


Seasonal Temperature Changes across Europe using RCM EUR44 models, Scenario RCP8.5 and compared to a baseline of 1981-2000.

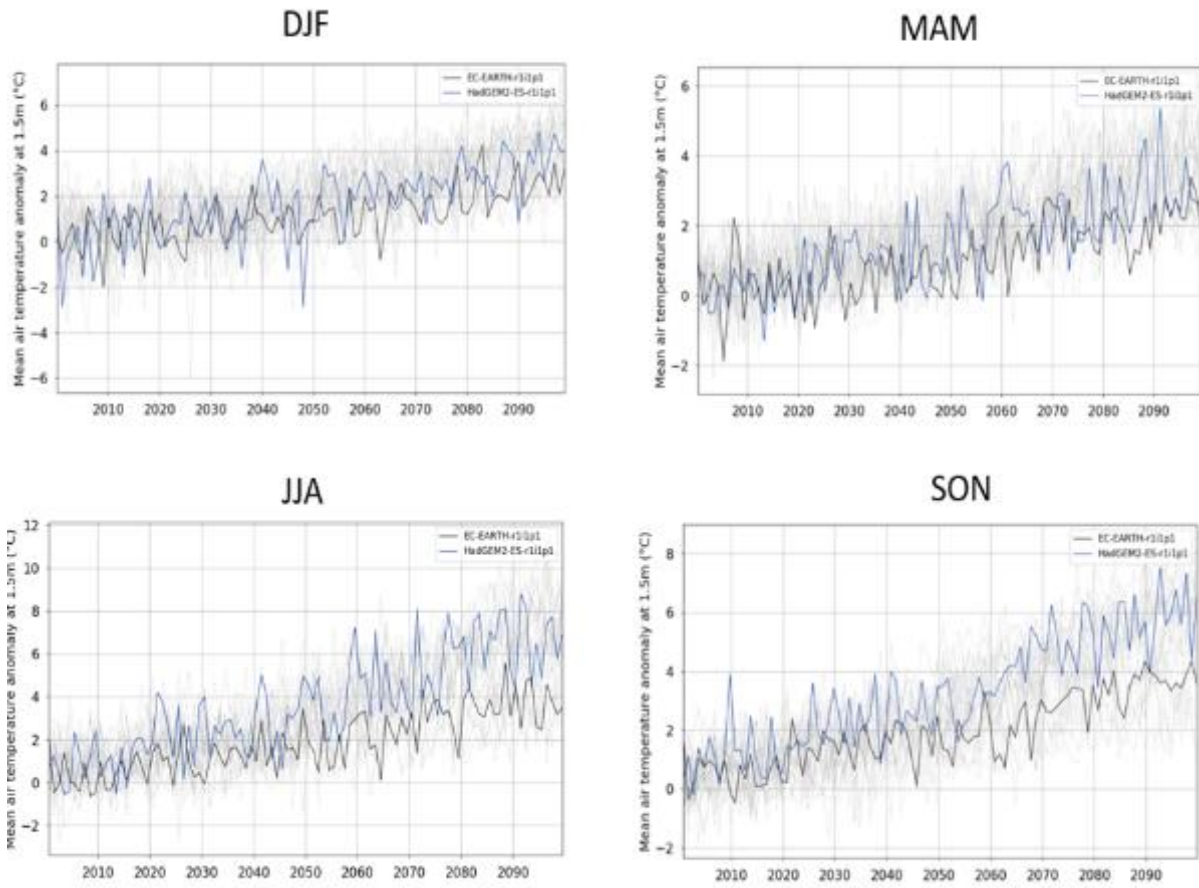
Annual Precipitation Change RCP4.5 2040-50



Annual Precipitation Change RCP8.5 2040-50



Annual Change in Precipitation across Greece 2040-2050 RCP4.5 & RCP8.5 RCM EUR44 BL1981-2000



Seasonal Average Air Temperature Increases between 2000 and 2100 on 60km square grid centered around the South Wales Coalfield. (RCP8.5: BL1981-2000)