**Used climate projections**

Used Regional Climate Models, driving Global Climate Models, and developing institutions.

(These are the climate models we have in our simulation for Kostelec of those, we selected the MPI-CCLM for the RESONATE simulation – yellow marked)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Annual mean temperature [°C]** | | **Annual precipitation [mm]** | | **Annual mean vapor pressure deficit [kPa]** | |
| Reference 1961-1990 | 7.9 | | 657 | | 0.33 | |
|  | Expected changes up to 2071-2100 | | | | | |
| [°C] | | [%] | | [%] | |
| Model \ Scenario | RCP4.5 | RCP8.5 | RCP4.5 | RCP8.5 | RCP4.5 | RCP8.5 |
| MPI-CCLM | 2.5 | 4.1 | -4.0% | -1.3% | 26% | 36% |
| NCC-HIRHAM5 | 2.6 | 3.9 | -3.6% | 6.9% | 24% | 38% |
| EC-EARTH-RACMO22E-r1 | 3.1 | 4.6 | -2.7% | 4.1% | 26% | 36% |
| HadGEM2-CCLM | 3.6 | 5.8 | -8.0% | -4.7% | 36% | 63% |
| ***Average*** | ***2.9*** | ***4.6*** | ***-4.6%*** | ***1.3%*** | ***28%*** | ***43%*** |

|  |  |  |  |
| --- | --- | --- | --- |
| **id** | **Abbreviation** | **Global Climate Model (GCM)** | **Regional Climate Model (RCM)** |
| 1 | MPI-CCLM | MPI-M-MPI-ESM-LR | CLMcom-CCLM4-8-17 |
| *Max Planck Institute for Meteorology* | *Climate Limited-area Modelling Community* |
| 2 | NCC-HIRHAM5 | NCC-NorESM1-M | DMI-HIRHAM5 |
| *Norwegian Climate Centre* | *Danish Meteorological Institute, Denmark* |
| 3 | EC-EARTH-RACMO22E-r1 | ICHEC-EC-EARTH | KNMI-RACMO22E |
| *Irish Centre for High-End Computing* | *Royal Netherlands Meteorological Institute, De Bilt, The Netherlands* |
| 4 | HadGEM2-CCLM | MOHC-HadGEM2-ES | CLMcom-CCLM4-8-17 |
| *Met Office Hadley Centre* | *Climate Limited-area Modelling Community* |

A graph of a temperature

Description automatically generated

Temperature-precipitation space with the position of used climate projections. Average mean temperature and annual precipitation for 2071-2100 are shown (orange and red signs). A reference value for 1961-1990 (a black star) is indicated. Dashed crosses represent the multi-model mean of each RCP scenario.