



**University of Natural Resources
and Life Sciences, Vienna**
Department of Water, Atmosphere
and Environment

The Model Selection Tool



WITH FUNDING FROM

**AUSTRIAN
DEVELOPMENT
COOPERATION**



National Workshops

June 2019

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List of Models

EUROCORDEX MODELS

CNRM-CERFACS-CNRM-CM5_rcp26_r1i1p1_CNRM-ALADIN53_v1
 CNRM-CERFACS-CNRM-CM5_rcp45_r1i1p1_CNRM-ALADIN53_v1
 CNRM-CERFACS-CNRM-CM5_rcp85_r1i1p1_CNRM-ALADIN53_v1
 CNRM-CERFACS-CNRM-CM5_rcp45_r1i1p1_CLMcom-CCLM4-8-17_v1
 CNRM-CERFACS-CNRM-CM5_rcp85_r1i1p1_CLMcom-CCLM4-8-17_v1
 CNRM-CERFACS-CNRM-CM5_rcp45_r1i1p1_SMHI-RCA4_v1
 CNRM-CERFACS-CNRM-CM5_rcp85_r1i1p1_SMHI-RCA4_v1
 ICHEC-EC-EARTH_rcp26_r12i1p1_CLMcom-CCLM4-8-17_v1
 ICHEC-EC-EARTH_rcp45_r12i1p1_CLMcom-CCLM4-8-17_v1
 ICHEC-EC-EARTH_rcp85_r12i1p1_CLMcom-CCLM4-8-17_v1
 ICHEC-EC-EARTH_rcp26_r12i1p1_KNMI-RACMO22E_v1
 ICHEC-EC-EARTH_rcp45_r12i1p1_KNMI-RACMO22E_v1
 ICHEC-EC-EARTH_rcp85_r12i1p1_KNMI-RACMO22E_v1
 ICHEC-EC-EARTH_rcp45_r1i1p1_KNMI-RACMO22E_v1
 ICHEC-EC-EARTH_rcp85_r1i1p1_KNMI-RACMO22E_v1
 ICHEC-EC-EARTH_rcp26_r3i1p1_DMI-HIRHAM5_v1
 ICHEC-EC-EARTH_rcp45_r3i1p1_DMI-HIRHAM5_v1
 ICHEC-EC-EARTH_rcp85_r3i1p1_DMI-HIRHAM5_v1
 IPSL-IPSL-CM5A-MR_rcp45_r1i1p1_IPSL-INERIS-WRF331F_v1
 IPSL-IPSL-CM5A-MR_rcp85_r1i1p1_IPSL-INERIS-WRF331F_v1
 IPSL-IPSL-CM5A-MR_rcp45_r1i1p1_SMHI-RCA4_v1
 IPSL-IPSL-CM5A-MR_rcp85_r1i1p1_SMHI-RCA4_v1
 MOHC-HadGEM2-ES_rcp26_r1i1p1_SMHI-RCA4_v1
 MOHC-HadGEM2-ES_rcp45_r1i1p1_SMHI-RCA4_v1
 MOHC-HadGEM2-ES_rcp85_r1i1p1_SMHI-RCA4_v1
 MOHC-HadGEM2-ES_rcp45_r1i1p1_CLMcom-CCLM4-8-17_v1
 MOHC-HadGEM2-ES_rcp85_r1i1p1_CLMcom-CCLM4-8-17_v1
 MOHC-HadGEM2-ES_rcp45_r1i1p1_KNMI-RACMO22E_v2
 MOHC-HadGEM2-ES_rcp85_r1i1p1_KNMI-RACMO22E_v2

MPI-M-MPI-ESM-LR_rcp45_r1i1p1_CLMcom-CCLM4-8-17_v1
 MPI-M-MPI-ESM-LR_rcp85_r1i1p1_CLMcom-CCLM4-8-17_v1
 MPI-M-MPI-ESM-LR_rcp45_r1i1p1_MPI-CSC-REMO2009_v1
 MPI-M-MPI-ESM-LR_rcp85_r1i1p1_MPI-CSC-REMO2009_v1
 MPI-M-MPI-ESM-LR_rcp45_r2i1p1_MPI-CSC-REMO2009_v1
 MPI-M-MPI-ESM-LR_rcp85_r2i1p1_MPI-CSC-REMO2009_v1
 MPI-M-MPI-ESM-LR_rcp26_r1i1p1_SMHI-RCA4_v1a
 MPI-M-MPI-ESM-LR_rcp45_r1i1p1_SMHI-RCA4_v1a
 MPI-M-MPI-ESM-LR_rcp85_r1i1p1_SMHI-RCA4_v1a
 NCC-NorESM1-M_rcp45_r1i1p1_DMI-HIRHAM5_v2
 NCC-NorESM1-M_rcp85_r1i1p1_DMI-HIRHAM5_v2

MEDCORDEX MODELS

CNRM-CM5_rcp45_r8i1p1_CNRM-ALADIN52_v1
 CNRM-CM5_rcp85_r8i1p1_CNRM-ALADIN52_v1
 ICTP-RegCM4_rcp85_r1i1p1 ICTP-RegCM4-3_v1
 MPI-ESM-LR_rcp85_r1i1p1_UNIBELGRADE-EBUPOM2c_v1



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The Model Selection Tool

- Assists with the selection of a specific climate change scenario
- Compares and visualizes climate change signals of available models

Climate Change signal of parameter x (relative to historical period 1981-2010 x_{hist}):

$$\Delta x_{abs} = x_{future} - x_{hist}$$

$$\Delta x_{rel} = (x_{future} - x_{hist}) / x_{hist}$$

- Absolute ccs for temperature (max, min)
- Relative ccs for precipitation and radiation

The Model Selection Tool

Find an appropriate model for your needs by specifying the...

... region of interest

- country
- custom (lat/lon)

... season of interest

- annual
- summer
- winter

... emission scenario

- RCP 2.6
- RCP 4.5
- RCP 8.5

... time frame of interest

- Near future (2021-2050)
- Mid century (2036-2065)
- End of century (2070-2099)

... variable of interest

- temperature (min/max)
- precipitation
- radiation

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The Model Selection Tool

CLIMAPROOF MODEL SELECTION TOOL

The Model Selection Tool compares climate change signals of different EURO-CORDEX Models used in the ClimaProof project. The climate change signals are calculated with reference to the period 1981-2010.

Interact with the widgets on top to create the visualization. Hover over the circles to see more information about the specific model.

Download the data via data.ccca.ac.at

Latitude (Format: [MIN, MAX])

[39.583, 42.659]

Longitude (Format: [MIN, MAX])

[19, 21.05]

Country

Albania

Seasonal/Annual Mean:

annual

Experiment:

rcp85

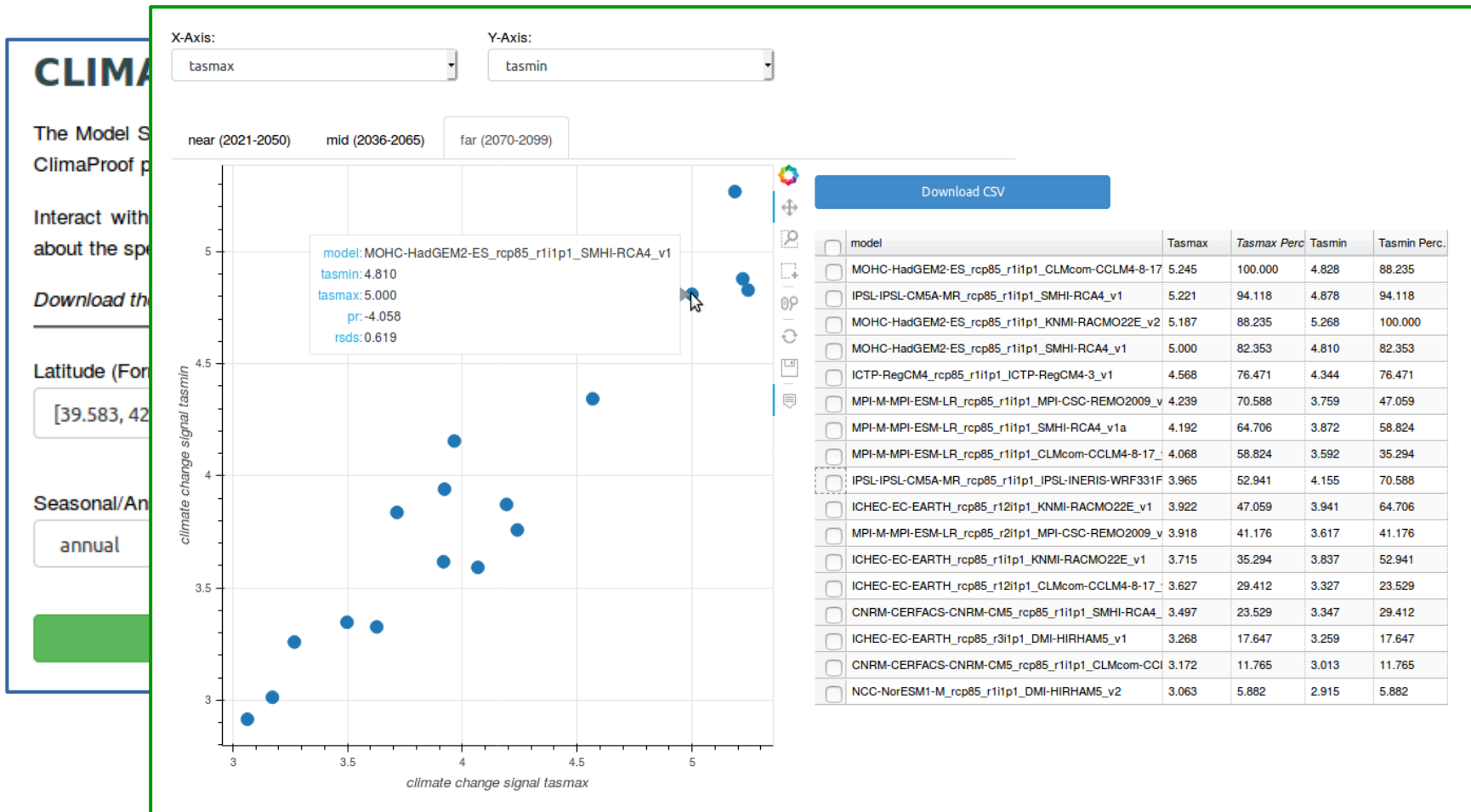
Update

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Python Installation I

Download Miniconda (Python 3) for your operating system from:

<https://conda.io/en/latest/miniconda.html>

Linux

Open a terminal window, navigate to the directory with the installation file and run:

```
bash Miniconda3-latest-Linux-x86_64.sh
```

Windows

Run the .exe file and follow the instructions of the installer

Python Installation II

- Open a new terminal/cmd window
- Test the installation by typing:
`conda list`
→ if your installation was successful, a list of installed packages appears
- Update conda:
`conda update conda`

Installation of the MST

- Download the ClimaProof Toolbox from:

<https://github.com/boku-met/climaproof-tools>

- Follow the installation instructions in the User Guide
- After the successful installation start the ClimaProof Model Selection Tool with:

```
bokeh serve --show mst
```

The Model Selection Tool

Have fun exploring the tool!

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