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Contact:
Sandra Matthäi, Technical University of Berlin
Email: sandra.matthaei@campu.tu-berlin.de

Data & Purpose

- Simulations performed with the COSMO-CLM (climate model) over the CORDEX-MENA domain (Figure 1) by CMCC (RCP4.5)
- Parameters of interest: mean-, min.- and max. temperature of surface air (2m) and total precipitation
- Calculation of seasonal change and extreme indicators, as defined by the Expert Team on Climate Change Detection and Indices (ETCCDI)

Resolution & Period

- Spatially: 3km
- Temporally: daily
- Climate data available from 1981 - 2070
- Projected change as the difference between 2041-2070 minus 1981 - 2010

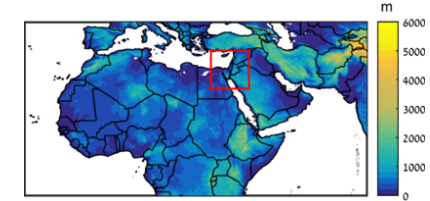
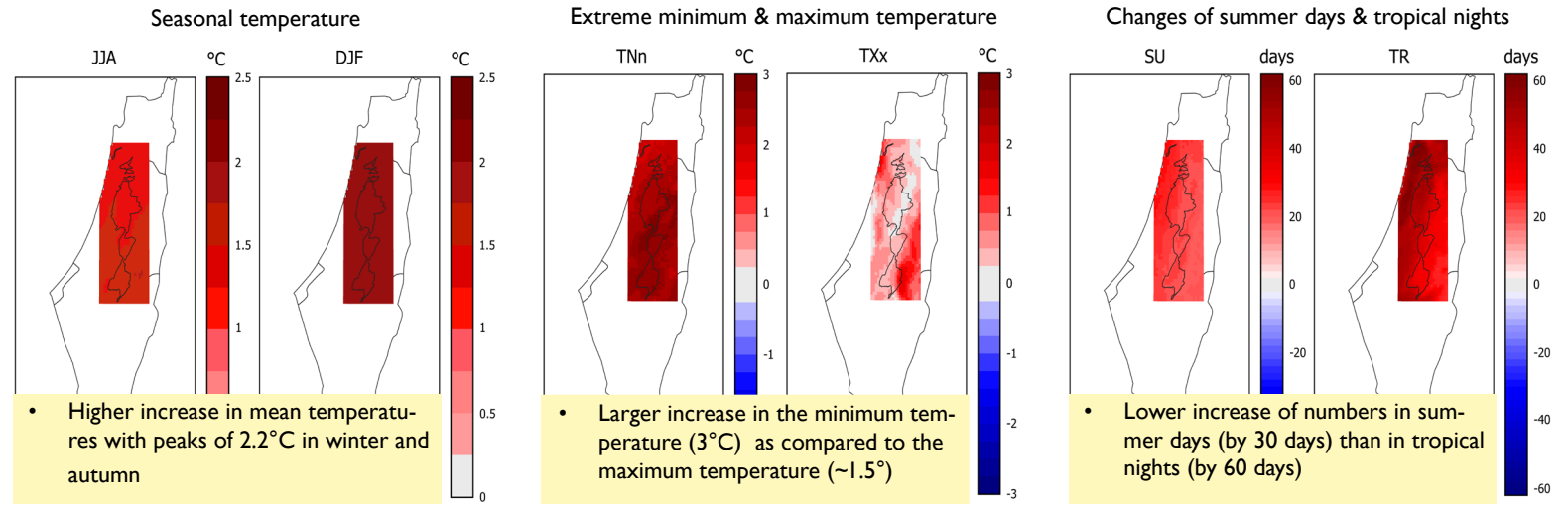


Figure 1: CORDEX-MENA domain

Selected results for projected seasonal temperature & precipitation and extreme indicators

Key Results

- Winter and autumn will be up to 2.2°C warmer
- Minimum temperature increases more than maximum temperature; this trend is shown for the tropical nights, which increase by twice the number of summer days
- Shorter rainy periods and longer dry periods are predicted for the winter
- Increase in daily rain intensity in contrast to a significant decrease in total seasonal precipitation, especially in autumn with an average reduction of 59%
- Long-term impact: changes in monthly rain patterns and temperature



Legend

Seasons

DJF	December - January - Februar (winter)
JJA	June - July - August
SON	September - October - November (autumn)

Extreme indicators

TNn	Annual minimum value of daily min. temperature (Tmin)
TXx	Annual maximum value of daily max. temperature (Tmax)
CDD	Maximum number of consecutive dry days (<1mm)
CWD	Maximum number of consecutive wet days (>1mm)
R10	Number of days with prec >=10mm/day
R20	Number of days with prec >=20mm/day
Rx1Day	Maximum of daily precipitation
SU	Annual count of days when daily Tmax is above 25°C
TR	Annual count of days when daily Tmin is above 20°C

