CORDEX.be

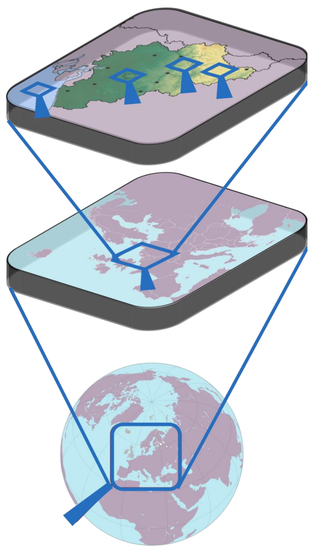
COmbining Regional Downscaling EXpertise in Belgium

A Belgian framework to close the gap between regional climate model information and local impacts for climate services in support of adaptation and mitigation. CORDEX.be II, the sequel project, will kick off in 2023.

Detailed Belgian climate scenarios

In line with the latest IPCC Assessment Reports

Based on state-of-the-art modelling techniques



Limited area model 4 km

Regional climate model 12.5 km

Global climate model 100 km

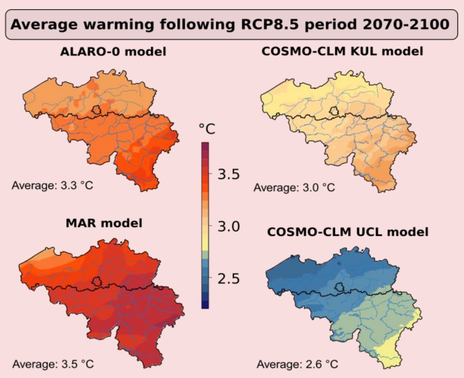
Climate change in Belgium

RCP8.5 – period 2071-2100

Average temperature increase between 2.6 and 3.5 ˚C by 2100.

Increase in number of extreme warm days (daily mean temperature > 25˚C) up to **64 days / year**.

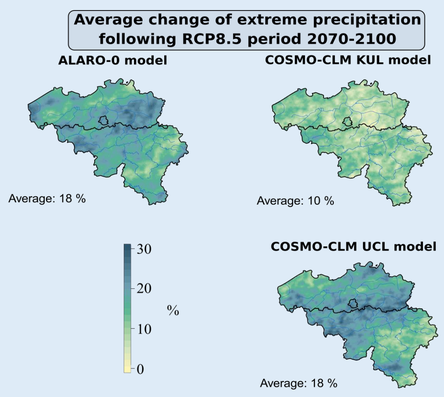
Decrease in number of extreme cold days (daily mean temperature < 0˚C) up to **33 days / year**.



Intensity of showers that occur once every 10 years **can double**.

Increase in winter precipitation of **20% on average**.

The amount of **extreme precipitation** (at least 22 mm of rain per day) **increases by 10%**.



CORDEX.be II within the Climate Centre

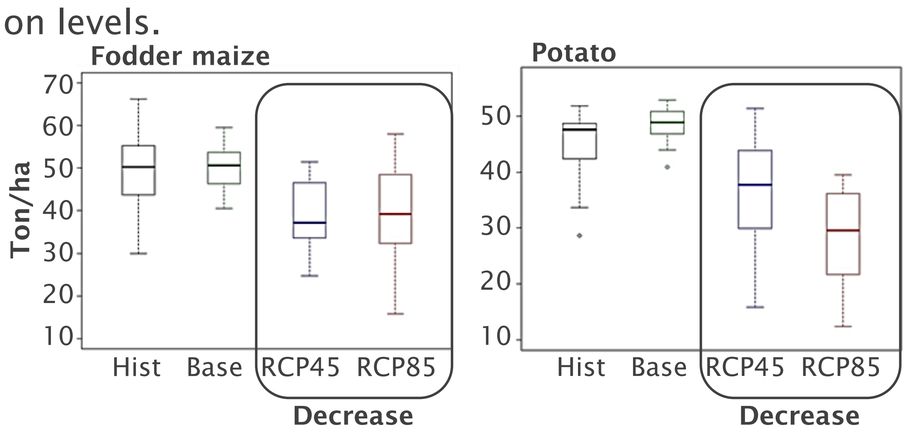
Systematic update of Belgian climate scenarios as one of the key activities of the Climate Centre.

CORDEX.be II as concrete test case to promote the creation of a Belgian climate data hub.

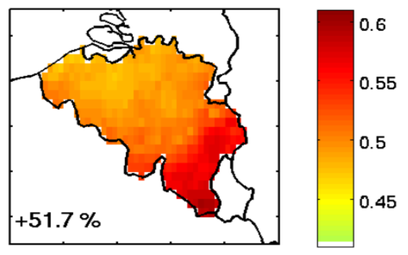
Termonia et al., 2018: The CORDEX.be initiative as a foundation for climate services in Belgium. *Climate Services*, 11, 49-61.

Climate change impacts

Crop production - increase in variability for biomass production and yields under RCP4.5 and RCP8.5 w.r.t. current production levels.

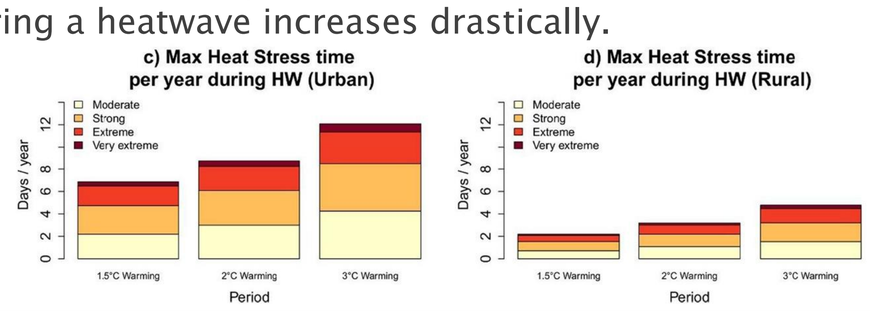


Vegetation emissions - increase of 51% of biogenic emissions from isoprene with the highest emissions in the Ardennes and Campine forests (disregarding the CO_2 inhibition effect).

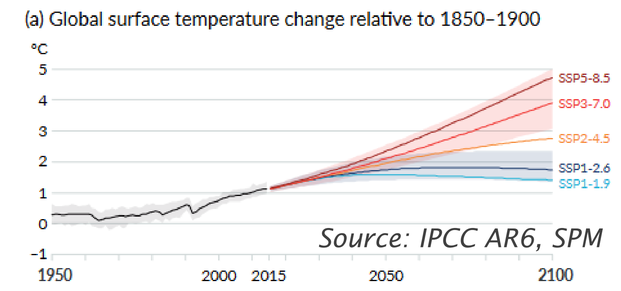


Relative change in isoprene fluxes associated to climate change (RCP8.5)

Urban effects - increasing heat stress over time with higher magnitude inside the city of Brussels. The duration of heat stress during a heatwave increases drastically.

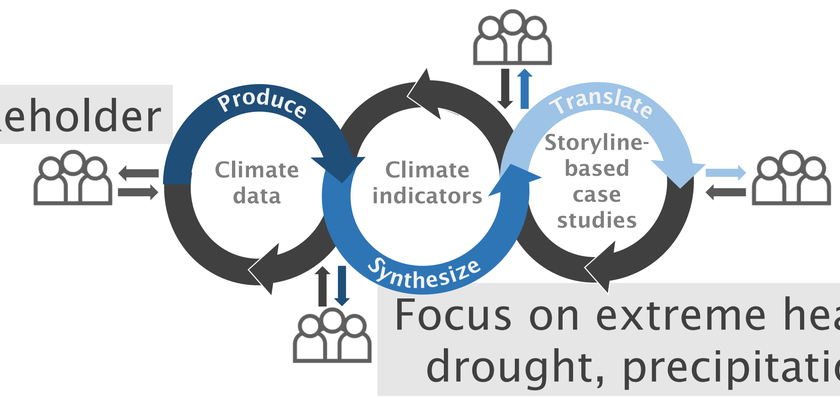


NEW in CORDEX.be II



Shared **S**ocioeconomic **P**athways

Strong stakeholder interaction



Focus on extreme heat, drought, precipitation

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CLIMATE CENTRE