



Designing mitigation strategies for Belgian cities in the near future under climate change and land use change

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The country of Belgium is characterised by large urban sprawl. The northern side of Belgium, the Flanders region, belongs to one of the most densely concentrated areas of urban development of Europe. Furthermore, this urban population still increases. Cities are highly vulnerable to extreme events such as heat waves due to their dense population and large infrastructure. Especially for the next few decades, these extremes are likely to become more intense than the changes in the mean temperature. Policy makers can help in designing adaptation strategies in function of these extreme events. Within the framework of a Belgian project we will give recommendations for the design of adaptation and mitigation strategies. This 4-year project “Modelling and Assessing Surface Change impacts on the Belgian and Western European climate” (MASC) is funded by the Federal government and will end in June 2018. The results for Western Europe indicate an increase in the mean temperature of 0.3 °C - 0.6 °C for the next few decades. This is mainly controlled by the minimum temperature that will increase at a faster rate than the maximum temperature. The results reveal an urban-rural contrast with largest increases in extreme temperature of 1.2 °C for the urban regions in contrast to only 0.6 °C for the rural regions. The urbanisation in the near future will likely enhance the minimum temperature increase with 0.5 °C. These findings emphasise the importance of mitigation strategies in and around the cities e.g. afforestation around the cities.