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A New Tool for Climatic Information on Municipality Scale in Latvia

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Climatic data on municipality level is essential for a range of applications, from agriculture and forestry to urban planning and disaster management. In Latvia, more than 25 LEGMC (Latvian Environment, Geology and Meteorology Centre) observation stations provide climatic data, but these are widely spaced and unevenly distributed. Interpolating climatic data is therefore necessary to provide a more comprehensive understanding of climatic variables on a municipality level, especially when considering applications regarding adaptation to climate change.

This study used the universal kriging method to interpolate climatic data on a municipality level in Latvia, taking into account the influence of continentality and height above sea level. The study focused on climatic observations from 1961 to 2021, analyzing air temperature, precipitation and derived climatic indices such as summer days etc. We also processed previously bias-corrected future climate change scenarios RCP 4.5 and RCP 8.5 until 2100 (Avotniece et al 2017). The interpolated results more accurately represent the spatial distribution of these climatic variables, providing valuable insights into the effects of current and future climate on agriculture, forestry and other sectors.

The data have been published in an interactive online tool available at https://klimats.meteo.lv/pasvaldibu_apskati. This tool allows anyone interested to access the results in an interactive way, providing easy-to-use information for a wide range of applications.

We also intend to continue to improve the online tool, in the future including more climatic parameters such as prevalent wind speed and direction. This will allow for an even more comprehensive understanding of the spatial distribution of climatic variables in Latvia.

Overall, this study provides valuable insights into the distribution of climatic variables in Latvia. The interactive online tool presents accessible information for a range of users, from policymakers to the general public. The future addition of more climatic parameters will provide even more comprehensive information for a wider range of applications.

References:

Avotniece, Z., Aņiskeviča, S., Maļinovskis, E., 2017. Klimata pārmaiņu scenāriji Latvijai. Rīga, LVĢMC.

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