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Assessment of Climate Suitability for Cherry (*Prunus avium* L.) in Turkey in a Changing Climate

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Cherry (*Prunus avium* L.) is one of the most important export crops in Turkey and Turkey has a globally significant share in cherry production with 26%. Although cherry is mostly a temperate climate fruit, different types can be grown in the regions with climate and vegetation diversities. However, it is possible to talk about irregularities and decreases in yield due to climate variability in those regions. Provinces, which are Turkey's main cherry producers, are affected by average and extreme temperature changes from climate change, and the need for alternative areas for cherry production is gradually increasing. For this reason, it is very important to see whether the cherry with high commercial value will grow in the same regions in the future due to climatic changes or new alternative areas will emerge for this fruit. Therefore, this study aims to observe climate impacts on cherry growing regions in the main producer provinces. Hereunder, in the study, climate data with 10 km resolution was obtained using a regional climate model, i.e., RegCM4.4, under the RCP8.5 pessimistic scenario for the future period of 2021-2050 with respect to the period of 1991-2018 for different phenological periods and the climate suitability index was calculated. Although regional differences are observed in the model result, it indicates that biological development of cherry in Turkey may be affected by the increase in average temperature and extreme temperature changes due to climate change.

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