

Climatic distances between origin and labor locations for migrants in a changing climate in Siberia by the end of the 21st century

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The goals of our work were to evaluate climatic distances between climates from which potential migrants originate and climates of various regions over Siberia for which they migrate; and evaluate Siberian regions from view points of comfort-discomfort for migrants in current and future climates by the end of the century. We have completed this research from the example of the Krasnoyarsk Territory that is located in the center of Siberia and stretches from the south to north at a distance 2,000 km. Statistics on migrations show that migrants arrive to the Krasnoyarsk Territory from the European Russia and far abroad: Northern Korea, China, Vietnam. We studied four large industrial regions of the Territory for labor migrations. We used two climate variables that reflect winter and summer conditions: mean January and July temperatures. In total, 30 cities were ordinated in the axes of the differences in these temperatures between migrants' origins and migration locations. To characterize the future climates by the end of the century we used January and July temperature departure means from the ensemble of twenty general circulation models from the CMIP5. Two scenarios were used to characterize the range of climate change: a mild RCP 2.6 and a sharp RCP 8.5 climate scenarios. In total, 12 portraits of potential labor migrations were outlined in current and future climates. The "null" point in each portrait showed conditions for the natives of a particular region and the distance from the null to a country of origin showed physiological and psychological discrepancy that migrants should overcome to live in new climate.

Keywords: migration, climate change, transfer function, Siberia, January and July temperatures

