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Climate scenarios in China, with improved accuracy

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Climate scenarios in China, with improved accuracy: Comparing CMIP5 scenarios of RCP2.6, RCP4.5 and RCP8.5 during the period 2006-2010 with observations from 735 meteorological stations indicates that mean absolute errors (MAEs) of mean annual temperature were very similar under the three scenarios. All of the MAEs were 2.2°C for the whole of China on average. The actual temperature was underestimated at more than 87% of the meteorological stations. After the downscaling process using a HASM-based method, all of the MAEs for the downscaled mean annual temperature under the three scenarios were reduced to 0.61°C for the whole land mass of China. MAEs of annual mean precipitation under scenarios of RCP2.6, RCP4.5 and RCP8.5 were respectively 345.88, 338.18 and 340.93 mm for the whole land mass of China on average. At about 80% of the meteorological stations, the actual precipitation was overestimated by all the three scenarios. The downscaling process made the MAEs of the three scenarios decreased to about 71mm for the whole of China on average. In terms of the downscaled results, almost all China would become warmer and wetter on average under all the three scenarios over the next 30 years.

Biography

TianXiang Yue has been working as a leading Professor of Institute of Geographical Sciences and Natural Resources Research (IGSNRR) since 2000 and Geoinformatics Chair of University of Chinese Academy of Sciences (UCAS) since 2015. He is Head of Department for Ecological and Environmental Information Sciences of IGSNRR. He has published more than 200 papers in reputed journals.

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