

World Regionalization of Climate Change (1961–2010)

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Existing climate regionalization aims to characterize the regional differences in climate based on years of the mean values of climate indices. However, with the accelerating climate change nowadays, existing climate regionalization cannot represent the regional difference of climate change, nor can it reflect the extreme weather and climate disasters and environmental risks incurred from climate changes. This paper utilizes the tendency value and fluctuation value of temperature and precipitation from 1961 to 2010 to identify the climate change quantitatively, and completes world regionalization of climate change (1961–2010) with administrative subdivisions of countries as the basic unit in combination with world's terrain feature. Level-I regionalization divides world's climate change (1961–2010) into twelve tendency zones based on the tendency of temperature and precipitation; level-II regionalization refers to twenty-eight fluctuation regions based on level-I regionalization according to the fluctuation of temperature and precipitation. Climate change regionalization provides a basis for countries and regions in the world to develop plans for adapting to climate change, especially for managing extreme weather and climate disasters and environmental risks.

Keywords: Climate change, Regionalization, Tendency, Fluctuation, World

