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Ethiopian long rain season from the global circulation model output data and its outlooks

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The primary reason to study summer monsoon all over Ethiopia was due to the atmospheric circulation displays a spectacular annual cycle of rainfall in which more than 80% of the annual rain comes during the summer season comprised of the months June to September. Any minor change in rainfall intensity from the normal conditions imposes a severe challenge on the rural people since its main livelihood is agriculture which mostly relies on summer monsoon. This research work, entitled Ethiopian summer rainfall from the global circulation model output data and its outlooks has been conducted to fill such knowledge gaps of the target population. The objectives of the research were to examine the global circulation model output data and its outlooks over Ethiopian summer. To attain this specific objective, global circulation model output data were used. These data were analyzed by using Xcon, Matlab and Grid Analysis and Display System computer software programs. The results revealed that Ethiopian summer rainfall has been declined by 70.51 mm in the past four decades (1971 to 2010); while the best performed models having similar trends to the historical observed rainfall data analysis predicted that the future summer mean rainfall amount will decline by about 60.07 mm and 89.45 mm. To conclude, the legislative bodies and development planners should design strategies and plans by taking into account impacts of declining summer rainfall on rural livelihoods.

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