Open Access

3FEVDJOH6ODFSUBJOUZPO(MPCBM1SFDJQUBUJPO1SPKFDUJPOT

In order to study the future of freshwater availability, reliable precipitation projections are required. Potential future changes in global precipitation are investigated by analyzing the Global Climate Models' projections. However, these projections cannot be used in their native form on climate change impact studies, due to the high systematic errors and biases that they feature, limiting the applicability of these projections. Various methodologies have been developed to correct the precipitation bias, including dynamical and statistical methods. Here we present a global precipitation ensemble projection for the 21st century. We use a multi-segment statistical bias correction method that radically reduces the correction-induced uncertainty to the precipitation. The ensemble consist of results from three different global climate models for A2 and B1 emission scenarios, in order to reduce the uncertainty related to the model selection. The results show signiýcant changes in areal mean and extreme precipitation during the 21st century for the A2 and B1 emission scenarios. For all simulations, the results show that the global mean and extreme precipitation will increase under both scenarios, indicating a more intense forthcoming global water cycle.

Tsanis IK, Department of Environmental Engineering, Technical University of Crete, Chania, Greece, GR73100, Tel: +1-905-5259140-24415; E-mail: tsanis@mcmaster.ca

December 04, 2013; December 20, 2013; December 28, 2013

Tsanis IK, Grillakis MG, Koutroulis AG, Jacob D (2013) Reducing Uncertainty on Global Precipitation Projections. J Earth Sci Clim Change 5: 178. doi:10.4172/2157-7617.1000178

© 2013 Tsanis IK, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Results

1 . 1

, (1 0-2000) . , , , .