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Welcome Alejandro Fernandez !!

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Abstract Submitted Successfully !!!

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Abstract Details

#	Author & Abstracts Details	View	Delete
1	<p>Abstract Title : County-scale Climate Projections over Minnesota for the 21st Century</p> <p>Authors :Stefan Liess1,2, Heidi A. Roop1,2, Tracy E. Twine1,2, Alejandro Fernandez2,3, Dhondup Dolma1,2, Suzanna Clark1,2, Jamie Mosel2, Nathan Meyer2, Amanda Farris1,2, Brenda Hoppe1,2, Peter Neff1,2</p> <p>Abstract Text : Global warming has its largest amplitude in the higher latitude regions of the Northern Hemisphere [1]. This is especially the case during winter months when reduced reflectivity from diminished snow cover leads to higher average temperatures. This process has led to warming at twice the rate as the rest of the planet [2, 3]. In addition to accelerated warming from local snow melt, this Arctic warming is contributing to strong warming over Minnesota, especially during winter, when Minnesota is one of the states that is warming the strongest within the contiguous United States. We have previously emphasized this strong warming in our study on high-resolution climate projections over Minnesota [4], and we are now producing an updated dataset with higher spatial resolution. Here, we use ensemble climate simulations over Minnesota with the Weather Research and Forecasting (WRF) [5] model coupled to input from six CMIP6 global climate models (GCMs). With WRF, we compute downscaled versions of the comprehensive global climate projections for the 20-year periods 2040-2059, 2060-2079, and 2080-2099. We also perform model integrations over the historical period of 1995-2014 in order to assess any systematic model uncertainties. These projections build on our previous results at 10-km resolution, but now we use a higher 4-km horizontal resolution over Minnesota nested in a 20-km grid over the contiguous USA and southern Canada with 38 vertical levels in the atmosphere and a sophisticated representation of the many lakes that exist in Minnesota. Our final results will show a more detailed representation of the ongoing warming for individual counties in Minnesota in all seasons, especially in winter. We expect conditions near the end of the 21st century that are significantly different from current climate. Our results will influence regional decision-making related to agriculture, infrastructure, water resources, and other sectors.</p>	View	Delete

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Coordinated Regional Climate Downscaling Experiment

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