



Contributions of CORDEX to the need for regional climate information over Africa under 1.5 and 2 degrees of global warming

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The Paris Agreement of COP21 set a goal of holding global average temperature increases to below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C. This is particularly relevant for the African context where temperatures are likely to warm faster than the global average and where the magnitude of change will be regionally heterogeneous. Most studies that provide information over Africa under specific global warming levels have used data from global models, however global models poorly resolve local scale forcing (e.g. topography) nor the internal climate variability of a region. Although downscaling using regional climate models can address these issues, we found only one paper that had used downscaled data for GWL studies over Africa. During 2018 the CORDEX-Africa campaign investigated the impact of 1.5 and 2 degrees of global warming over many regions of sub-Saharan Africa and compiled the results for a special issue of nine papers in ERL. This paper reports on some of the key regional findings of the analysis of 25 CORDEX downscalings, including the impact of the extra 0.5 degrees of warming between 1.5 and 2 degrees on particular extremes and the differences noted between the driving GCMs and downscaled results. We also briefly discuss the impact of the papers in the IPCC SR15 and their contribution to the development of adaptation and mitigation policies.