

PLENARY SESSION 1: CORDEX IN ACTION: ACHIEVEMENTS & LESSONS LEARNED

An Overview of Climate Projections Performed for North America CORDEX

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The North American CORDEX program (NA-CORDEX) has produced a good number of projections of climate according to the first phase of the CORDEX program. These simulations are based on a wide range of regional and global climate models, and some matrices of combinations have resulted. The RCMs involved include: WRF, CanRCM4, CRCM5, RegCM4, RCA4, and HirHam5. Driving GCMs include: EC-EARTH, CanESM2, HadGEM2-ES, GFDL-ESM2M, MPI-ESM-LR. These GCMs nicely span the equilibrium climate sensitivity (ECS) of the GCMs making up the CMIP5 suite of models. Simulations have been performed both at .44 and .22 spatial resolutions and often for both RCP8.5 and 4.5. From these simulations, several matrices result. Both RegCM4 and WRF are driven by HADGEM and MPI for RCP 8.5 at both spatial resolutions, thus forming a 2 x 2 x 2 matrix. Both HirHam5 and RCA4 have been driven by EC-EARTH, for both RCP8.5 and 4.5 at .44 resolution, thus forming a 2 x 2 matrix. Finally, CanRCM4, CRCM5, and RCA4 have been driven by CanESM2 for both RCP 8.5 and 4.5 at .44 spatial resolution, resulting in a 3 X 2 matrix. We will present overview results for the quality of the current climate simulations, contrasts between the relevant GCMs and RCMs regarding climate change in the mid-21st century and late 21st century for both temperature and precipitation. Contrasts in spatial correlations of the changes will also be presented.

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