

**Oral.2: 12:00-12:15. Impact of using precipitation from convection permitting models on the simulated Uruguay River streamflow**

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**Abstract**

Precipitation is a key input to hydrological models used to simulate streamflow conditions. However it is also an important source of uncertainty, particularly when numerical climate model outputs are used. Global Climate Models have shown difficulties in representing the correct combination of frequency and intensity of precipitation, particularly for extreme events. Increasing resolution in atmospheric models highly improves the representation of processes leading to precipitation events, hence directly impacting on simulated streamflow. Regional Climate Model (RCM) simulations using convection-permitting resolution (below ~4 km grid spacing) have shown to better capture precipitation extremes in other parts of the world. At present several projects are currently running convection permitting RCMs over South America. The available RCM outputs at standard and convection permitting resolutions from the CORDEX Flagship Pilot Study in South America and the NCAR SAAG high resolution simulations over South America are used to force the macroscale hydrological Variable Infiltration Capacity (VIC) model and simulate streamflow at 7 closing points of the Uruguay River. Streamflow outputs at 7 gauge stations over the basin are analyzed with special focus on the impact of precipitation amount and occurrence. The sensitivity of streamflow to precipitation uncertainty and to the use of convective permitting simulations when compared with lower resolution simulations is also evaluated.