

Regional Climate Modeling and HPC

Global Climate Models (GCMs) are a useful tool to project how future climate will change under different emission scenarios. However, these climate models are generally too coarse to provide useful information to decision and policy makers. Therefore more regional information is required. Regional Climate Models are used to downscale information from GCMs, this gives us more detail at a local scale and can allow for a better representation of how climate change may impact things such as extreme weather events, health, water resources etc. However, running these models is computationally expensive and requires extensive storage. The Coordinated Regional Climate Downscaling Experiment (CORDEX) is a global effort from institutes to run these simulations over several different regions and share this data. The International Centre for Theoretical Physics (ICTP), with the collaboration of CINECA, is one of the institutes which is able to produce these simulations and host the data which allows for open access to the data as well as increases the ability for scientists in developing countries with less computational power, storage capabilities or even limited internet to access the data.