Consultancy Service for the Development of an Inundation, Flooding and Landslide National Risk Profile, Strategic Framework and Action Plans for Disaster Risk Management for the Republic of Mauritius

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Capacity and validation workshop

Swami Vivekananda International Convention Centre, Pailles, Mauritius, August 22-24, 2012

Climate risk analysis

The COSMO-CLM is a non hydrostatic regional climate model atmospheric prediction system, designed for up to centuries long simulations and spatial resolutions down to 1 km.

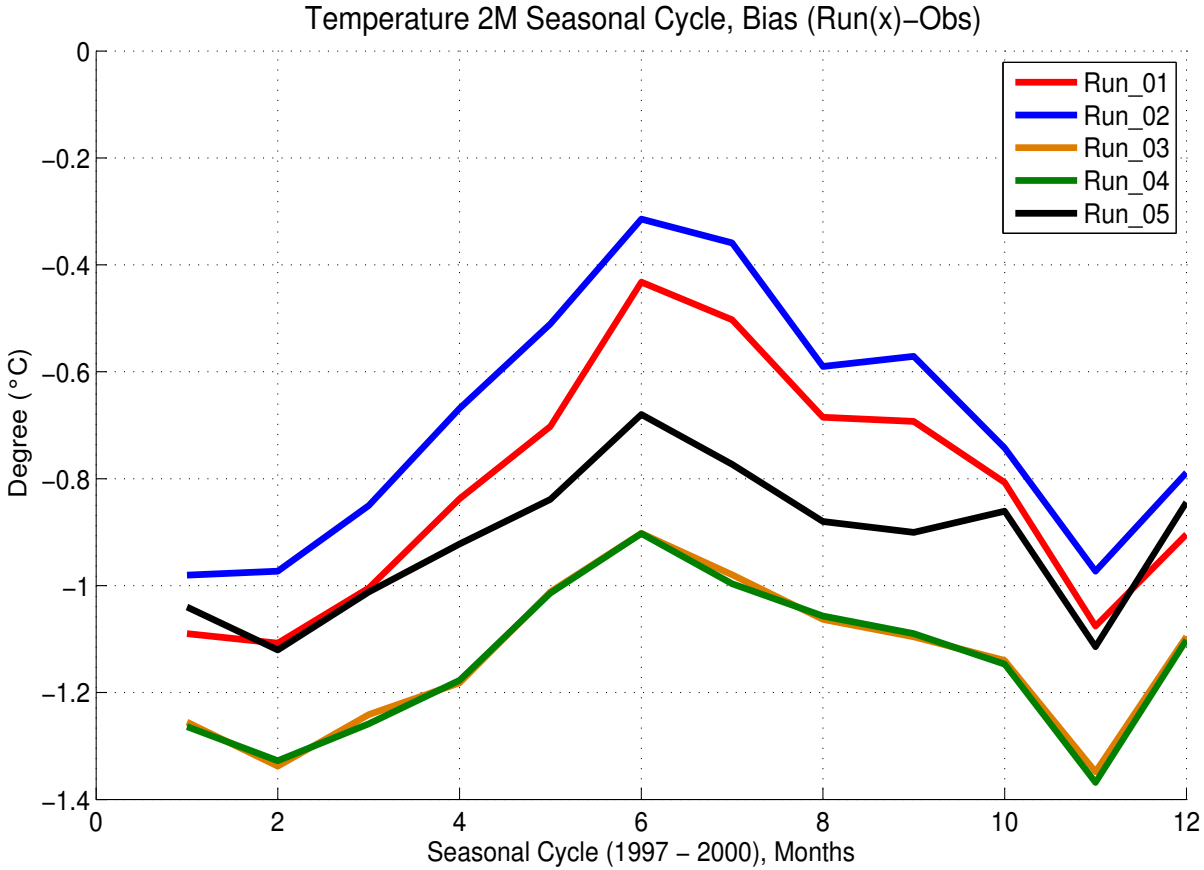
It is the only limited area numerical model system in Europe which has a range of applicability. Applied in more than 300 scientific projects for regional climate modelling.

Computational grid: 160 x 60 nodes; 40 levels, driving data: CMCC-MED (ECHAM5 T159)

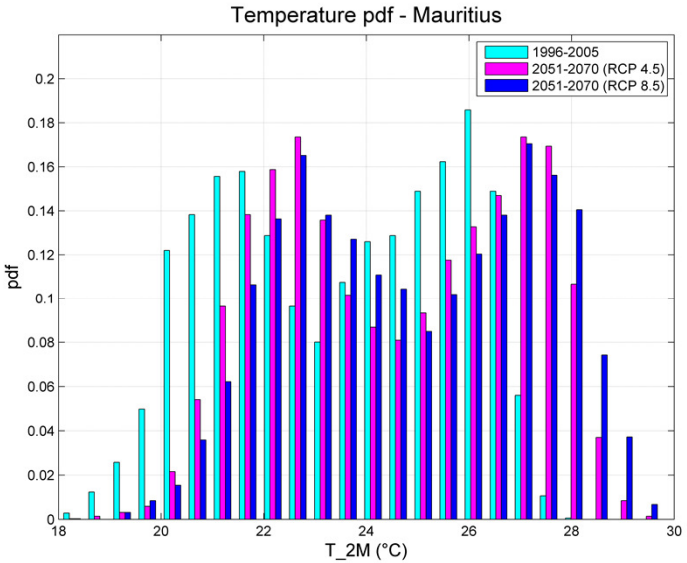
Climate projections have been performed by using the IPCC-RCP4.5 and RCP8.5 scenarios

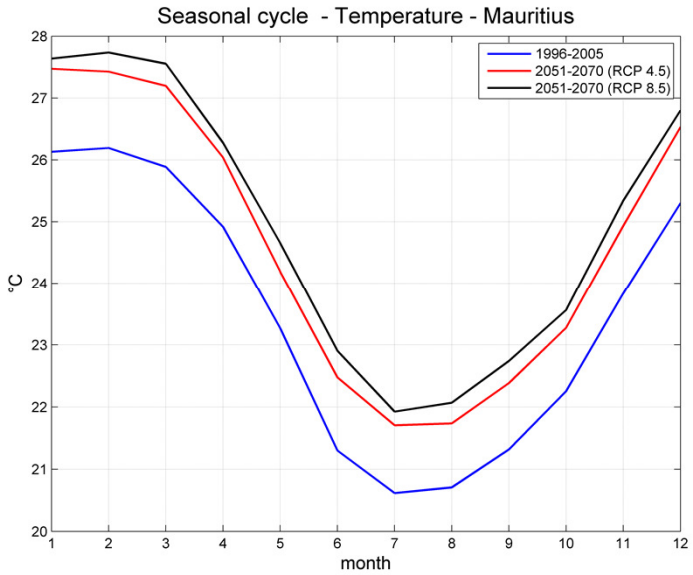
Set up of the model

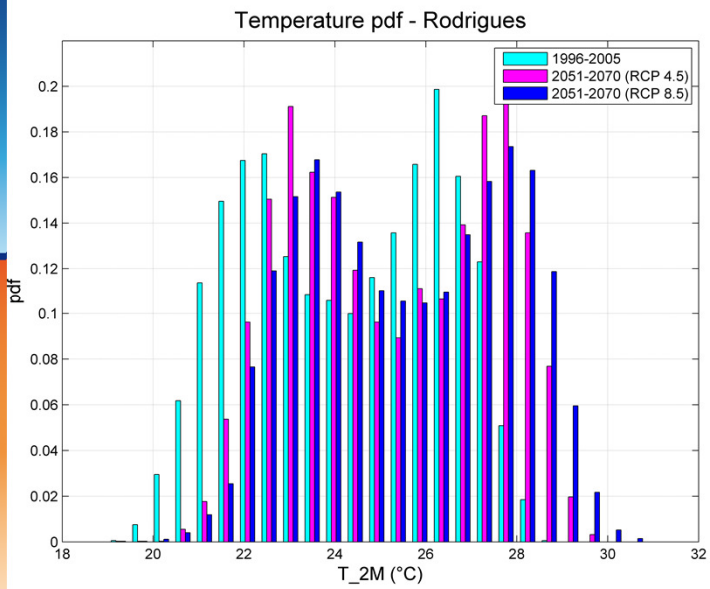
5 Different experiment have been performed to find the optimal configuration

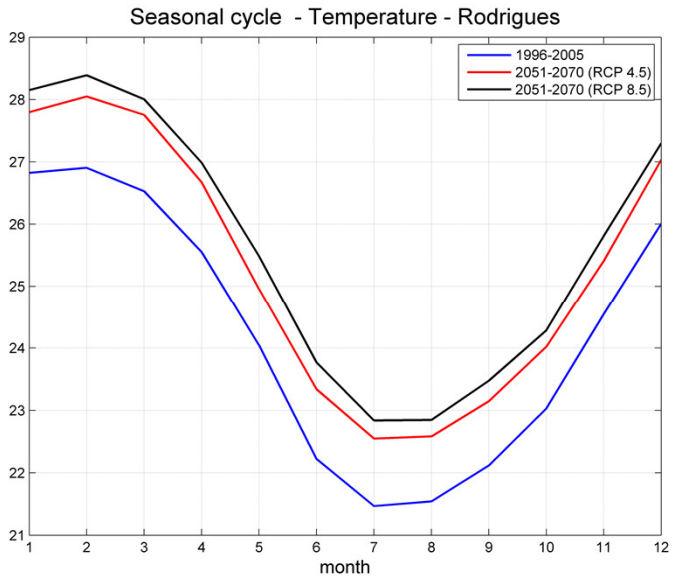


Main results - temperature





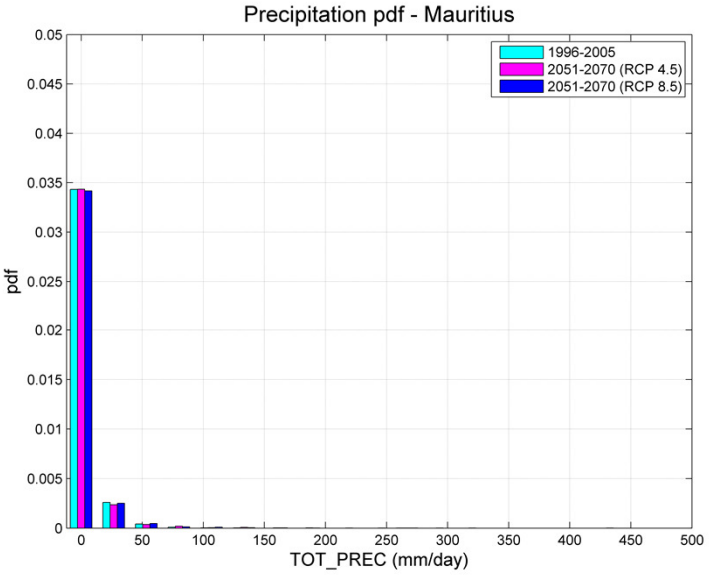


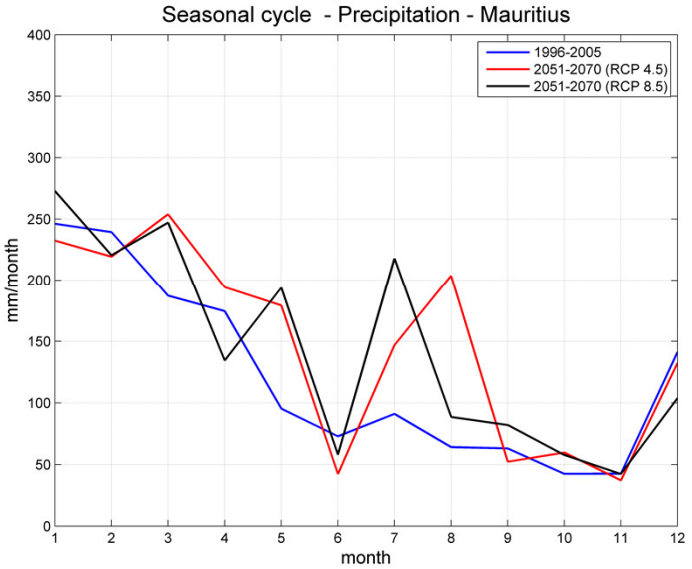


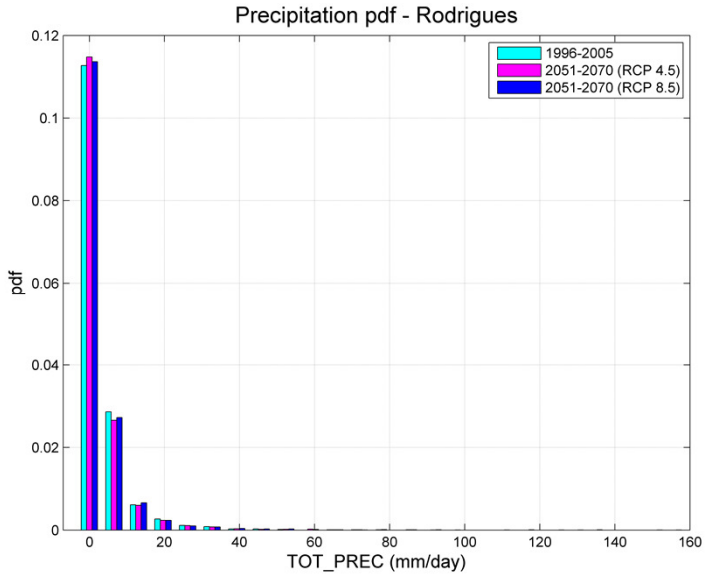
Increase of temperature in 2061-2070, compared to 1996-2005 for two RCP scenarios

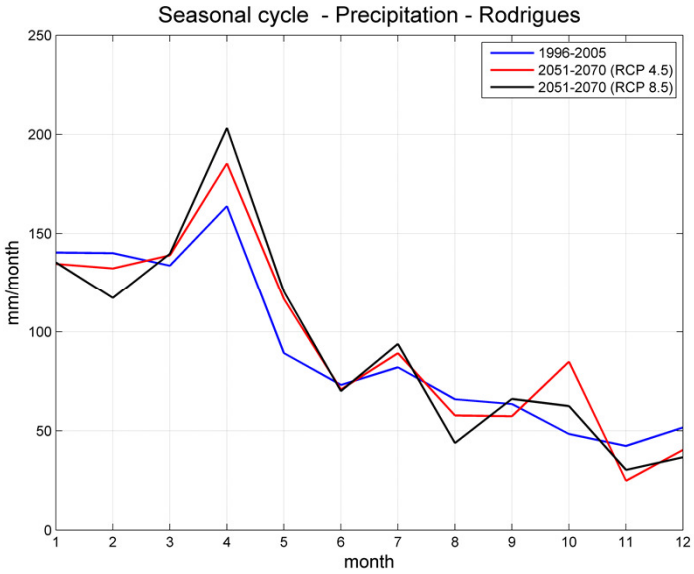
Temperature increase between 1 / 2 degree C every month.

Main results - precipitation



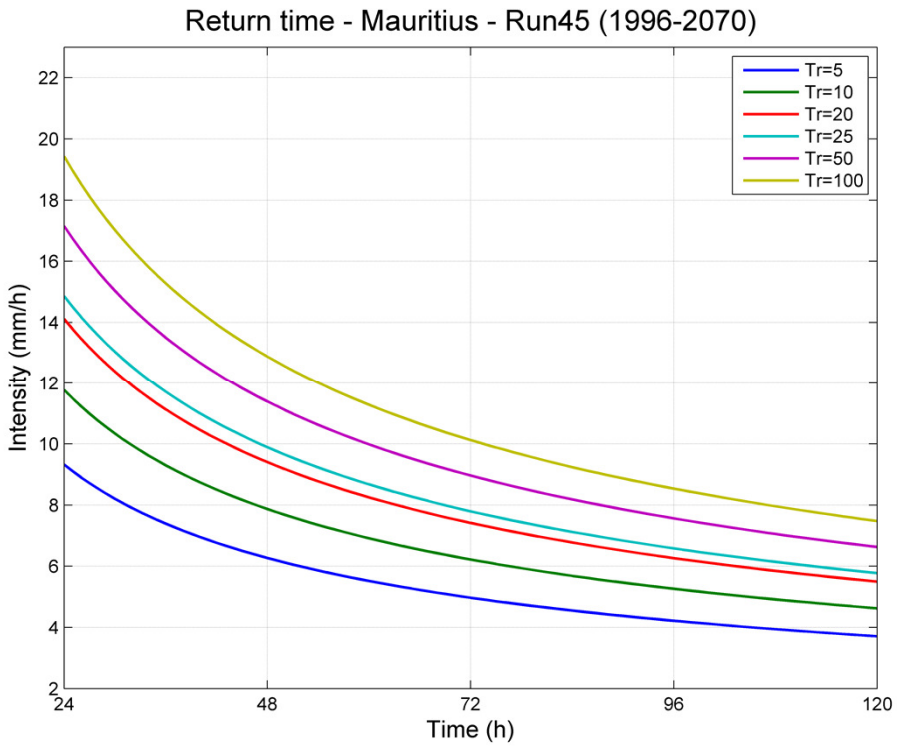


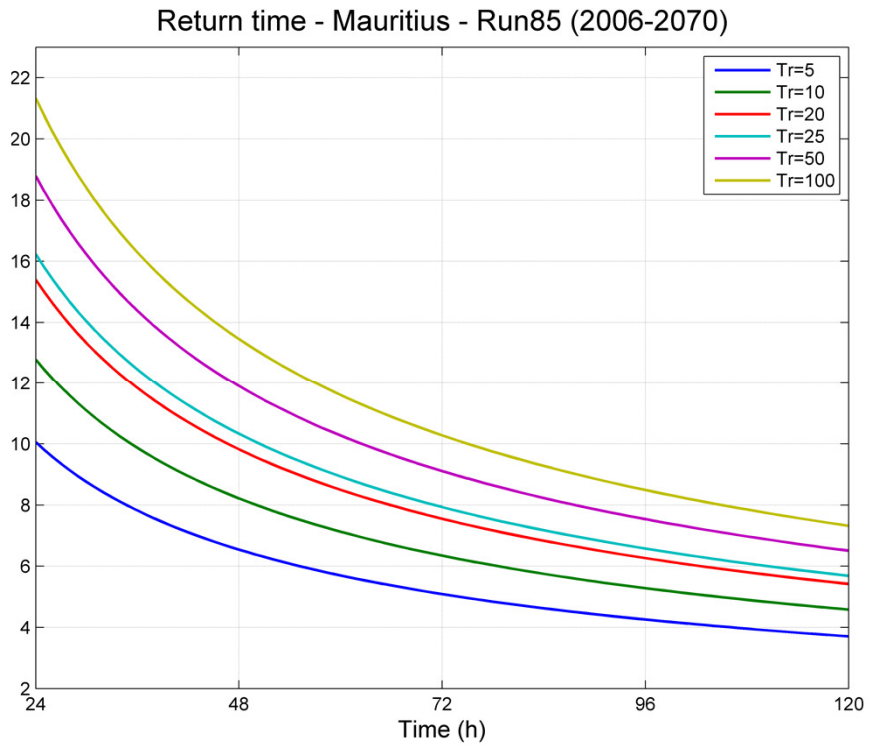




2PDF don't show a significant variation compared to present. The seasonal cycles of the precipitation show a different distribution, especially over Mauritius island and the period from June to October, for the monthly precipitation.

Rainfall Intensity-duration curves





Thank you for your attention