Geophysical Research Abstracts
Vol. 21, EGU2019-1844, 2019
EGU General Assembly 2019

Climate change and heavy precipitation events in South-Eastern France

Quentin Fumière, Samuel Somot, Cécile Caillaud, and Antoinette Alias
Météo-France, CNRM, France (quentin.fumiere@meteo.fr)

The Mediterranean region of France are regularly affected by extreme precipitation that often lead to devastating flash-floods, often associated with both human and material damages. The evolution of such events in terms of occurrence and severity with climate change remains an open question.

The purpose of the current study is to characterize the future evolution of these heavy precipitating events in terms of occurrence and intensity. A historical simulation (1976 – 2005) will be compare to a future simulation (2071 – 2100) for the RCP8,5 scenario. The CNRM-CM5 global climate is used as driver model.
The study also compare climate change simulations from a convection parametrized convection model (ALADIN-Climate) and a convection permitting reginal climate model (AROME-Climate). These simulations were carried out on the domain defined by the CORDEX Flagship Pilot Study "Convective phenomena at high resolution over Europe and the Mediterranean". It is centered on the Alps. This domain allows a good representation of the large scale circulation over the Mediterranean sea that causes convective phenomena in the Southeastern France.
The study of changes in spatial distribution and cumulative precipitation will be based on daily and hourly averages and quantiles of precipitation.

I would like to share my knowledge on convection permitting regional climate model with interested people. This workshop would be a great opportunity and I hope, I will have the opportunity to exchange with people from this community.