

## **SEMINAIRE CNRM / GAME**

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### **THE IMPACT OF CLIMATE CHANGE ON WATER RESOURCES**

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**en salle Joël Noilhan**

#### Résumé :

Climate change is expected to have a significant impact on the hydrologic cycle, resulting in changes on freshwater resources. The Intergovernmental Panel on Climate Change (IPCC) predicts that as a result, floods and prolonged droughts will take place at increasingly frequent periods. Data from the Regional Climate Models domains, ENSEMBLES in Europe and NARCCAP in North America, are used to study future trends and seasonality changes in precipitation and temperature and as input to hydrological models to study future trends in water resources.

In two case studies: (a) Spencer Creek in Ontario Canada all future simulations show an increase in the average river discharge with seasonality shifts and changes in the return period of the extreme precipitation and runoff and (b) the island of Crete in Eastern Mediterranean, where future trends show a substantial reduction of water availability and changes in seasonality and extremes. Quantitative results of hydrological changes provide the data required to improve the existing policies on how to adapt to climate extremes and water shortages.