

Séminaire

Vendredi 12 Décembre 2014, 11h00

Salle 103 , Site Bergès, LEGI,

1209-1211, rue de la Piscine - Domaine universitaire

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Sea surface temperature response to anthropogenic forcing: Method, evaluation and applications

Because sea surface temperatures (SSTs) are a major driver for land climate variability, the land climate simulated by an atmospheric General Circulation Model (GCM) forced with observed SSTs and sea ice concentrations fit the observations better than the land climate simulated by a coupled atmospheric-ocean GCM.

Based on these results, my goal is to derive the anthropogenic component of SSTs from observations, and use this estimate to force an atmospheric GCM in order to attribute past climate and provide insights for decadal prediction.

Using the perfect model framework of large ensembles of initial conditions, I show that about 60% of my estimate of anthropogenic SSTs results from anthropogenic forcing. Using this estimate to force the atmospheric GCM CAM5 over 1980-2040, I am able to attribute regional observed trends in snow cover and precipitation to oceanic internal variability, and provide decadal prediction.