



## **Role of volcanic forcing on North Atlantic climate during the last millennium: results from the IPSL coupled model.**

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This work is based on simulations of the last version of the IPSL coupled model (IPSL-CM5). We test the impact of major volcanic eruptions of the last millennium on the North Atlantic climate variability. To this end, we use optical depth reconstructions of tropical eruptions, and their distribution in latitude and time, and evaluate how they affect the lower stratosphere. We determine the tropospheric response through analysis of mean trends, the occurrence of weather regimes, and extreme values of temperature. In a first time a preliminary work is done on the impact of the Mount Pinatubo eruption. This exercise permits to test the capability of the model to reproduce a well documented event. We will therefore perform long term simulations, covering the last millennium. The impact of volcanic forcing will also be compared to solar activity variations.