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Towards a better understanding of the LGM climate state and its links with the carbon cycle

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Last glacial maximum climate is more and more documented from the observational data community, with increased data sets of d13C, D14C, SST, primary productivity, pCO_2, d18O...

On one hand, the new data constraints that emerge allow the modelers community to test mechanisms that explain the changes between glacial and interglacial climates. On the other hand, different types of data can disagree in certain areas of Earth, and the Earth System Model can be used to help understand those differences.

We present here two attempts to answer those two problematic. In a first part we will show how D14C, d13C and pCO_2 can help us to design a scenario of ocean changes during the last deglaciation explaining the changes in all the isotopes of carbon. In a second part, we will present a new method to understand the differences in the proxies of SST in the Tropics.

These two attempts help us to increase our knowledge of the LGM climate and its tight links with the carbon cycle.