



## **Updates from the PALEOLINK working project: The missing link in the Past – Downscaling paleoclimatic Earth System Models**

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Comparing climate model simulations of past climates with proxy-based climate reconstructions allows assessing the validity of climate models under the impact of different boundary conditions (particularly when considering glacial climates). However, this comparison is burdened by the fact that most climate reconstructions are based on local or regional data, whereas the Earth System Models' paleoclimate simulations have a rather coarse spatial resolution that leads to large biases over extensive regions and inhibits a realistic representation of the small scale features that affect proxy records.

With aim to contribute overcome this scale gap, the PALEOLINK initiative was created and hosted within the PAGES 2k network. It aims at evaluating and developing new downscaling strategies that allows linking coarse Earth System Model simulations with climate reconstructions. It promotes reviewing, coordinating and stimulating future efforts trying to bridge the scale gap between the coarse resolution of state-of-the-art Earth System Models used in paleoclimate simulations and local and regional climate reconstructions. Both dynamical and statistical approaches to downscaling are considered, as well as novel combinations of both, including the use of forward models driven by downscaled climate model data reproducing the local climate and its variability.

This contribution will review the latests activities carried within this initiative, such as published papers, on-going activities and future plans. Finally, the main outcomes of the workshop that is celebrated in February 2019 in Murcia (Spain) will be outlined.