PARAMOUR: Decadal Predictability and vAriability of polar climate: the Role of AtMosphere- Ocean-cryosphere mUltiscale inteRactions

Description

Our first objective is to improve the understanding of key processes that control the variability of the ice-ocean- atmosphere system at decadal time scale. The focus will be on the interactions between the components at regional scale and on the links with larger spatial scales. A specific attention will be paid to the surface mass balance of ice sheets and ice shelves, as well as to the balance at the basis of ice shelves, and their influence on both the ice sheet dynamics and the changes in the ocean and atmosphere. The conditions potentially leading to instabilities such as MICI and MISI will also be explicitly addressed.A second objective is to determine how those interactions will lead to some predictability. The contribution of those interactions in the predictability of the whole system will be compared to the one of processes implying only one specific component, such as the slow ice sheet dynamics that may provide a memory over centuries to millennia, the role of oceanic heat transport and the impact of atmospheric variability, for instance associated to warm air intrusions and teleconnections with lower latitudes.

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