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A PAN-ARCTIC OR POLAR CHALLENGE? INSIGHTS FROM A COMPARATIVE STUDY OF BENTHIC FUNCTIONS ON BOTH POLES

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Understanding the functioning of our ecosystems today will enhance our capacity to predict future developments. For the marine benthic system, results from the Arctic suggest that food supply rather than diversity influences benthic processes, such as remineralisation dynamics (nutrient and oxygen fluxes across the sediment-water interface). In the Southern Ocean, however, recent results indicate that diversity could be more important in shaping the composition of benthic processes.

Here, we present results from an integration of benthic functioning data in both polar regions. Arctic regions as the Beaufort Sea and Southern Ocean regions as the Weddell Sea show high similarity when looking at processes only. Despite the marked difference in environmental conditions at the global scale, finding common as well as distinct patterns in benthic functioning will provide a better estimate, how the benthic ecosystem may react to different changes in simulated ice cover. Further comparative studies on both poles could deliver new insights into the controls of ecological mechanisms beyond regional variability.