Faunistic deep-sea investigations in the Northwest Pacific have increased faunal knowledge at the edge of the changing Arctic Ocean

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In the past seven years, the biology of the bathyal, abyssal and hadal faunas of meio- macro-, and megabenthos of the northwestern (NW) Pacific have been intensively investigated by Russian and German partners. A total of four joint expeditions with both RV Akademik M.A. Lavrentyev as well as RV Sonne have provided data on the systematic, evolution and biogeography of the deep-sea fauna of the Sea of Japan, Sea of Okhotsk, the Kuril-Kamchatka Trench (KKT) and the NW Pacific open abyssal plain. Goals of these expeditions were to study the biodiversity, biogeography and trophic characteristics of the benthic organisms in different NW Pacific deep-sea environments, to compare more isolated deep-sea basins with more easily accessible ones and to test whether the hadal of the KKT isolates the fauna of the Sea of Okhotsk to the fauna of the open NW Pacific area. An outline of some important results in presented. These data build the basis of the Beneficial (**B**iog**e**ography of the **n**orthwest Pacific fauna. A benchmark study for **e**stimations o**f** alien **i**nvasions into the Ar**c**tic Ocean **i**n times of r**a**pid **cl**imate chance) project which aims to deliver a sound biogeographic baseline study of the NW Pacific area.

These data will serve as a solid basis and benchmark for predicting potential species invasions supported by the retreat of Arctic Ocean sea ice. Thus our data will be beneficial for the assessment of state and quality of the Arctic marine ecosystem in a changing environment.