KALMAR – "Kurile-Kamchatka and Aleutean Marginal Sea-Island Arc Systems: Geodynamic and Climate Interaction in Space and Time" – A Russian - German Research Initiative.

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KALMAR is a Russian-German collaborative research project focussing on the large area of the triple junction of the Kurile-Kamchatka and Aleutian Island Arc system. Since 2006 German and Russian scientists work together towards a better understanding of the processes that control the subduction and the geodynamic and climatic development in this complex climate driving region. Research in five closely coupled subprojects involve a wide range of geophysical, tectonic, volcanological and petrological approaches as well as paleo-oceanographic and climate research. The geochemical refinement of the tephrostratigraphic framework of Pleistocene and Holocene tephra in Kamchatka provided independent time markers for an exact correlation of the various climate archives from land and marine sites.

With the participation of scientists, young researchers and students from Russia, Germany and the United States we carried out several land expeditions on Kamchatka since summer 2007 as well as three geomarine cruises in the NW-Pacific and the western Bering Sea with the German research vessel SONNE in 2009. In SO201 Leg 1a (16.05. - 09.06.2009) the research concentrated on the geophysical investigation of the subducting plate, during SO201 Leg 1b (10.06. - 06.07.2009) and SO201 Leg 2 (30.08. - 08.10.2009) the research concentrated on volcanological, petrological, tectonic and paleoceanographic questions. One focus of the cruises was the study on the composition of the mantle and the oceanic crust, the seamounts and their ages. Details of these aspects of the expeditions will be shown by Portnyagin et al. (this meeting). Another focus of the cruise were paleo-oceanographic investigations on the sediments along the eastern continental slope of Kamchatka, in the Komandorsky Basin, and on the Shirshov Ridge to explore paleoclimate archives to get an insight in the subpolar water mass transfer and the oceanographic and climatic development in the subarctic NW-Pacific.

This presentation will give an overview of the work done within KALMAR; specific research focuses are given in several other presentations during this meeting.