

9th Biennial Workshop on Japan-Kamchatka-Alaska Subduction Processes (JKASP 2016)



Understanding active subduction processes in North Pacific arcs



MAY 31 – JUNE 3, 2016

**SCIENTIFIC PROGRAM &
ABSTRACTS**

**GEOPHYSICAL INSTITUTE
UNIVERSITY OF ALASKA FAIRBANKS
FAIRBANKS, ALASKA**

BERING - A NEW INTERNATIONAL MARINE RESEARCH PROJECT TO INVESTIGATE THE MAGMATIC AND TECTONIC EVOLUTION OF THE BERING SEA AND ITS MARGINS

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The BERING project is a new large project lead by the GEOMAR institution in Kiel and focused on marine and on-land investigations in Kamchatka, the Kurile and Aleutian Arcs, the Bering Sea, and the NW-Pacific. BERING is funded by the German Ministry of Education and Research with contributions from Russian and U.S. institutions. The overarching goal of BERING is to elucidate the magmatic and tectonic evolution of the Bering Sea and its margins over the past ≥ 50 m.y. In particular, BERING investigates the physical and chemical conditions that control the development of subduction zones, including subduction initiation, evolution of mature arc systems, and the impact of subduction volcanism on the environment. To achieve this goal BERING will address the following major scientific questions in four major directions of study:

(1) Early (pre-Aleutian) subduction history of the Bering Sea: What is the nature of the Beringian and Chukotka Margins and their junction?

(2) Aleutian arc inception and evolution: What is the age and composition of the oldest rocks in the western Aleutian Arc?

(3) Modern Aleutian arc system: What is the origin and occurrence of recent magmatic activity in the Western Aleutian Arc?

(4) Arc Input: What is the spatial and temporal compositional variability of the subducting Pacific lithosphere offshore the Aleutian Arc and Kamchatka?

A central part of the project is the R/V SONNE expedition SO-249, which will be conducted in June – August 2016 in the framework of the Russian-German Agreement on Marine and Polar Research and in close cooperation with U.S. American colleagues. The two legs of cruise SO-249 aim to map and sample magmatic structures in the Aleutians, the Pacific seafloor subducting beneath the Aleutians and northern Kamchatka, and in the western margin of the Bering Sea (Fig. 1). The on shore work program at GEOMAR and cooperating institutions will include geochronological, petrological and geochemical studies on igneous samples obtained during the cruise. The results of BERING will be integrated with those of previous campaigns (e.g. KOMEX and KALMAR projects), and work carried out within the World Oceans and GeoPRISMS initiatives.

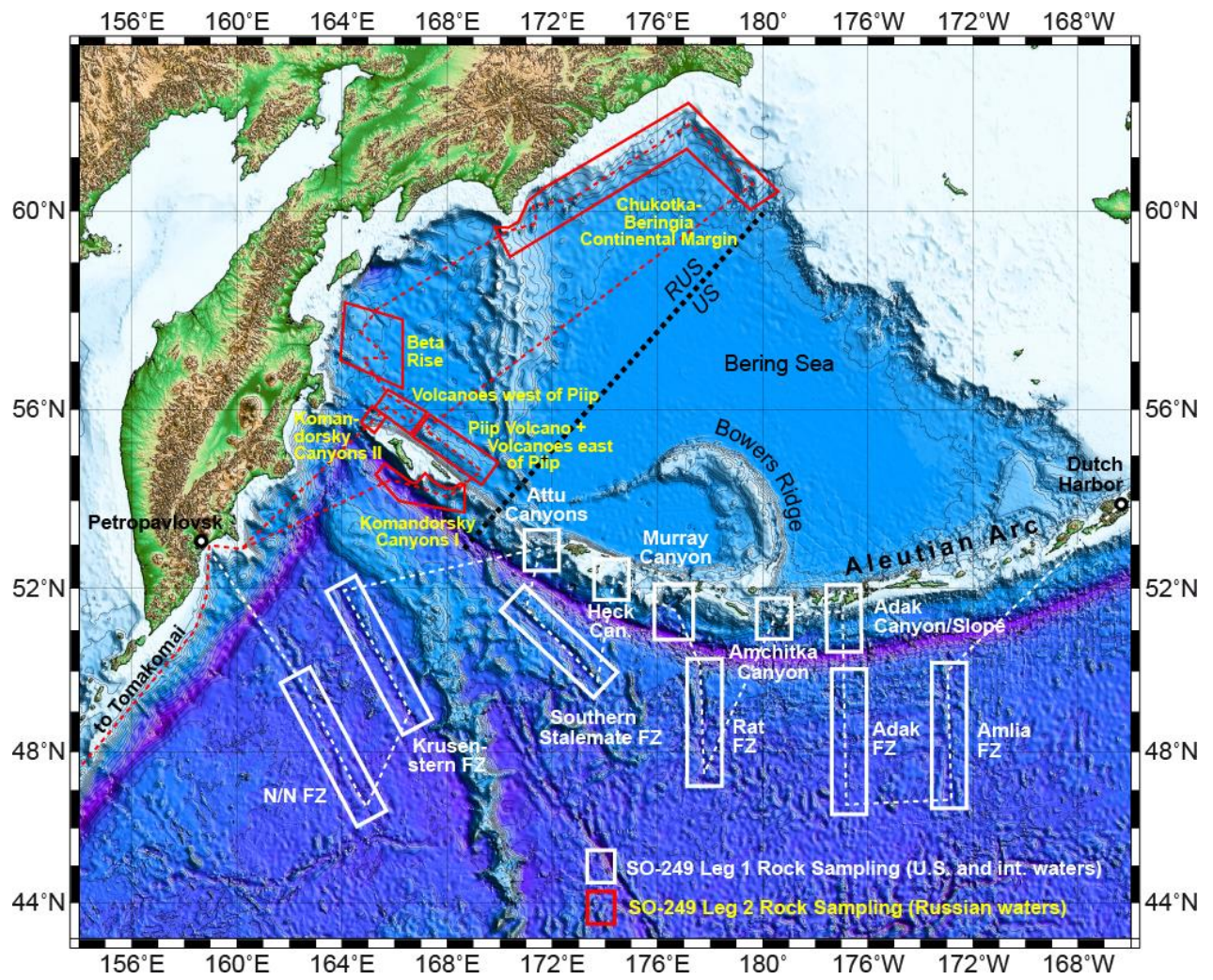


Fig. 1. The working areas of the R/V SONNE SO-249 BERING expedition Legs 1 & 2.