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## Topography and structures of Nagahama bay of Satsuma Iwo-Jima island and Kikai Caldera

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The Kikai Caldera is located 50 km south of the Satsuma peninsula of Kagoshima Prefecture in South Japan. The Kikai Caldera produced Akahoya tephra at 7300 years ago by Caldera forming big eruptions. Along the Kikai Caldera, Satsuma Iwo-Jima and Takeshima were identified as outer rim of caldera crater. In Satsuma Iwo-Jima, volcanic activity still well preserved at the Iwo-Dake volcano.

To understand of modern oceanic caldera structure and sedimentation is important to understand Archean greenstone forming environment. Many Archean greenstone belt was reported to understand by caldera models. Sedimentation of iron material is also very important to understand the iron formation at Archean time (eg. Banded Iron Formation).

Here we will report 1) Seismic exploration in Kikai Caldera by KT 1?18 cruise at 2010 August. 2) Shallow ocean topography to use Dual-Frequency Identification Sonar (DIDSON) and multi-narrow beam (SeaBat) at 2010 September. Windynetwork corporation and Toyo Corporation helped to use these sonars.

In Kikai Caldera, there are well preserved listric normal fault and tilted sedimentary sequences in the outer Caldera margin. There is very small sediments within deepest Caldera valley. Based on the multiple core works, the bottom of valley mostly sand rich sequence. Some portion contains hemi-pelagic greenish gray sediments.

At Nagahama bay, there are many conical iron hydrate rich mound system identified. After 2009 dredging result, these iron rich mounds grow up more than few cm pare years. Top of the shallow portion of the mound is formed flat head because erosion by boat floor during low tide.

Keywords: Satsuma Iwo Jima, Kikai Caldera, iron deposit, listric normal fault, sliding