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Global Change Data Encyclopedia

Kotelny Island

Ni, Y. N.[1] Jing, H. Y.[1] Zhang, F.[1] Liu, C.[2*] Shi, R. X.[2]

1. School of Earth Sciences, Zhejiang University, Hangzhou 310027, China;
2. Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing 100101, China

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Dataset Availability Statement:
The dataset supporting this paper was published and is accessible through the *Digital Journal of Global Change Data Repository* at: https://doi.org/10.3974/geodb.2020.03.04.V1.

Kotelny, Faddeyevsky and Bunge Land are usually named as separate islands on most 20th century maps, the Kotelny Island dataset here is identified as the gathering island covering Kotelny, Faddeyevsky and Bunge Land. The Kotelny Island is located in very north of Asia, near the Arctic Ocean. It is the largest island in the Anjou (Anzhu) Islands subgroup, which is in the New Siberian Islands of Russian Federation. The Kotelny Island is separated from New Siberia Island by Blagovishensky channel in its east, separated from Lyakhovsky Islands by Sannikov Strait in its south, and from the Belkovsky Island in its west. The geo-location of the Kotelny Island is between 74°38′1″N and 76°12′15″N, 136°55′48″E and 145°23′46″E. The Kotelny Island belongs to Sakha (Yakutiya) of Russian Federation. The area of the Kotelny Island is 23,741.32 km^2 and the coastline is 1,752.26 km long[1]. It has a harsh arctic climate, is hilly in the western, and flat in the middle and eastern.

Kojelinee island is in the polar climate zone, with an annual average temperature of –14.3 °C, in July, 2.5 °C, and in February, –29.8 °C. The annual rainfall is about 130 mm. The ecological environment is in the Arctic Antarctic mosses and lichens. In 1933, during the first International Polar Year (IPY) (1932–1933), scientists established the Arctic observatory Station at the Island (1933). Over the past decades, scientists have carried out a series of research products on the island, including geology, geography, ocean, ecology, environment and climate change, etc.

Makeyev, *et al*. indicated that the Kotelny Island consists of sedimentary rocks and sediments ranging in age from Early Paleozoic to Late Cenozoic. The oldest rocks are fossiliferous in shallow- to deep-water marine, and Ordovician to Early Devonian limestones and do-

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***Corresponding Author:** Liu, C. L-3684-2016, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, lchuang@igsnrr.ac.cn
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dolomites. Middle Devonian to Carboniferous interbedded limestones, dolomites, sandstones, and conglomerates overlie these sedimentary strata. The Permian to Jurassic strata exposed within Kotelny Island consist of interbedded, fossiliferous mudstones, siltstones, and sandstones. All of these sedimentary rocks are faulted, folded into complex anticlines and synclines, and intruded by thin diabase dikes. Pleistocene to Holocene fluvial sediments, which range in age from 1,500 to greater than 55,000 radiocarbon years BP, underlie stream terraces that lie within the Balyktakh and Dragotsennaya River valleys. Thick permafrost has developed in these sediments[2].

Kos'ko and Trufanov demonstrated that within Bunge Land and the southwest corner of Kotelny Island, relatively unconsolidated sediments ranging in age from Early Cretaceous to Holocene overlie the above folded and faulted sedimentary rocks. The oldest of these sediments are Early Cretaceous alluvial clays, silts, and sands that contain layers of conglomerate, tuff, tuffaceous sandstone, coal, and, at top, rhyolite. The Late Cretaceous sediments are overlain by Late Eocene to Pliocene alluvial sands that contain layers of clay, silt, gravel, brown coal, and lignitized wood[3]. The vast majority of Bunge Land is blanketed by Early Holocene marine sediments. Only in the central and southern parts of Bunge Land do either Late to Early Pleistocene marine sediments or very small patches of highly weathered Pre-quaternary deposits and bedrock underlie the surface[4]. A military airport located on Kotelny Island can take off and land large military transport aircraft such as Mi-26.

The dataset was developed based on the "Global multiple scale shorelines dataset based on Google Earth images (2015)"[5], and the maps and references of Russia Federation. The dataset is consisted of 15 data files and archived in the .kmz and .shp data formats with data size of 2.51 MB (compressed to 1.75 MB in two data files).

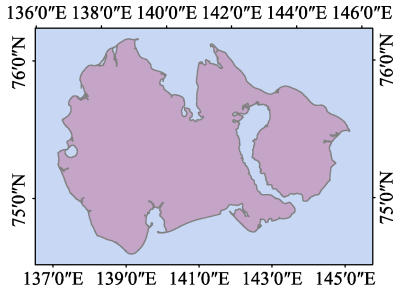

Figure 1 Map of Kotelny Island (.shp format)

Figure 2 Map of Kotelny Island (.kmz format)

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