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Origin of Amakusa Islands -Amakusa Goshoura Geopark-

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Introduction: Amakusa Islands is an archipelago, situated western Kyushu and that is beautiful landscape keeping the marine environments for nature in all of its wonderful coastal lives. Amakusa Islands also have various geologic resources and stone-masonry cultures. Amakusa Goshoura Geopark shows the geologic history since the Cretaceous in the eastern part of Amakusa Islands.

Chapter 1:The geologic history of Amakusa Islands started at about a hundred million years ago, when some granitic magma intruded into deep underground in the eastern area of Amakusa Islands. Before long, the area uplifted and a land appeared. The ancient Amakusa area located coastal area at a hundred million years ago. The various kinds of ancient lives flourished both on the ground and in the sea. There are many important geologic aspects including valuable fossils of dinosaurs, mollusks and pleciosaur within the Goshoura Group.

The ancient Amakusa area sunk under deep-sea in the Late Cretaceous (85 to 65.5 million years ago). Therefore, the Goshoura Group covered by the Himenoura Group. Deep-sea clay and silt alternation with some thinner sandstone of the Himenoura Group contains abundant remains of ammonite, large marine bivalves, and some scattered fish and echinoderms. The Himenoura Group deposited about 3,600-4,000m in thickness during an interval of 20 million years. Dinosaurs were extinct at the upper part of the Himenoura Group in Amakusa Islands.

Chapter 2 : After the age of the dinosaur extinction, the Amakusa area repeated twice uplift and subsidence such as deep-sea bottom to land surface, under the tropical climate in Eocene (50 to 40 million years ago).

The Akasaki Formation of the Miroku Group formed of terrestrial origin and contained of turtles and large mammals, such as Coryphodontidae and Trogosus, which hold the record for the oldest fossils in Japan.

The Amakusa area subsided under the shallow sea following the terrestrial period. The Shiratake Formation of the Miroku Group is composed of thick sandstone, which is yield marine mollusks, such as Turritella (Gastropoda), and Nummulites (benthic foraminifera), and large mangrove gastropod in tidal flat blackish.

The Kyoragi Formation of the Hondo Group formed mainly clay and silt alternation intercalated some thinner sandstone with Nummulites, which deposited under deep-sea.

Chapter 3 : The magma activity happened from Kyushu to Setouchi coastal area in Neogene. Intrusive rocks originated felsic and intermediate magma intruded into the Paleogene strata of Amakusa Islands during 19 and 14 million years ago. Diabase intruded partly into the Kuratake area of Amakusa-kamisima and Goshoura Islands.

The Japan Sea at the eastern part of Eurasian Continent had open in the early Miocene. At the Amakusa Islands, the formations formed in Cretaceous and Paleogene were deformed by pressure for spreading of the Japan Sea crust. It might be resulted in three synclines and two anticlines of the geologic structure in the Amakusa area.

Chapter 4: In the Last Glacial period (about 20,000 years ago), the human life did hunting of animals including deer and ancient elephant, which flourished on the plain and forests of Ariake and Yatsushiro sea areas where did not been today's sea. The human settled in the coast since about five thousand years ago.

In the end of 16th century, the western culture blossomed in the Amakusa area for the geographical advantage in its facing to the East China Sea. After the Amakusa Rebellion, people found underground resources. People worked in the coal ceramic and stone mines and blossomed the culture of stonemasonry in 20th century.

The Goshoura Geopark, which began in 2009, is the area with special geologic significance. The Amakusa area works on the new regional development promotion by the beginning of the Goshoura Geopark.

Keywords: Amakusa, geopark, Goshoura, fossil