

Geological and Geomorphological Background for the Fisheries Industry in Tosashimizu Geopark and Its Application to Geotourism

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Tosashimizu Geopark has the theme of “–Living with the Kuroshio– The Story of the Land Where fishermen are born” and represents the natural environment and cultural heritage of a fishing town shaped by interaction between the Kuroshio Current and the land. This geopark is rich in fisheries resources and has fostered fishing industries and related cultural traditions. In this presentation, we review geological and geomorphological background that explains the abundance of fisheries resources. We then introduce “Tosa no Shimizu Saba Tour” , as practical example of geopark gastronomy in Tosashimizu Geopark.

The Tosashimizu Geopark area consists of the land area of Tosashimizu City, Kochi Prefecture, southwest Japan and the sea area within 1 km of the coast of the city. This area includes Cape Ashizuri, the southernmost point of Shikoku island, and is known as one of the first locations where Kuroshio Current encounters the landmass of Japan’ s four main islands (Hokkaido, Honshu, Shikoku, and Kyushu). The region is characterized by two major fishery products. One is *Sodabushi*, a type of dried fish flakes made from bullet mackerel, which has strong taste and flavor that can stand up to dark soy sauce. Tosashimizu City is the leading producer of *Sodabushi* in Japan, accounting for 70% of the national production. Another key product is *Shimizu Saba*, a brand blue mackerel caught traditional bottom setline fishing around Cape Ashizuri larger than 620 g. While mackerel is generally considered unsuitable for raw consumption, *Shimizu Saba* is commonly eaten by raw or lightly seared.

Fisheries resources in Tosashimizu are mainly harvested on the continental shelf, which extends approximately 10 to 20 km offshore from Cape Ashizuri. In this area, nutrients are supplied to the near surface by upwelling currents generated through the interaction between the Kuroshio Current and the continental shelf. Submarine geological structures on continental shelf around Cape Ashizuri reveal the presence of N-S trending anticlines. These anticlines are interpreted as having formed in response to E-W compression of Japanese islands.

Tosashimizu Geo-Association, a geoguide group of Tosashimizu Geopark, conducts a gastronomic geotour called “Tosa no Shimizu Saba Tour” . During the tour, guides explain the relationship between submarine morphology and fisheries resources through visits to a fish market and tanks containing *Shimizu Saba*. The tour group then walks through the city center of Tosashimizu City to learn about the historical development of the fisherman’ s town. After the tour, the participants may optionally enjoy a set lunch of sliced raw fish, such as *Shimizu Saba*. The distinctive feature of this tour is the opportunity for participants to hear directly from fishermen working at the fish market.

The fisheries industry constitutes a core element of the local identity of Tosashimizu City. Tosashimizu Geopark has added a value to local fisheries by interpreting them from geological and geomorphological perspectives. The geopark has also provided visitors with experiential tours that convey fisheries-related culture. These activities contribute to visualizing local cultural identity and enriching visitor experience through gastronomy.

Keywords: Geopark Gastronomy, Fisheries industry, Tosashimizu Geopark, Geotourism, Kuroshio Current