

Factors of beach change on the Ose coast in Ibaraki prefecture

*Kaito Kotsuti¹, *Kosuke Shimano¹, *Haruto Sakachi¹, *Fuyu Tokuda¹, *Syunsuke Nagayama¹,
*Hiroki Nemoto¹, *Towa Murakami¹, *Yuki Mimori¹, *Yasushi Wada¹, Takemi Ogawa¹, Eri Yoshida¹

1. Ibaraki Prefectural Hitachi First Senior High School

[Introduction]

In recent years, the impact of coastal erosion has been reported in the north of the coast of Ibaraki Prefecture (Uda et al, 2008). We examined by using aerial photographs the situation of shoreline of Ose coast in Hitachi City. As a result, it seemed that coastal erosion occurred on the Ose coast. So, we started this study.

[Purpose]

The purpose of this study is to examine the situation of the beach change on the Ose Coast and to examine the beach change factor.

[Overview of the Ose coast]

Ose coast is located about 1km away south from Hitachi Station. Ose coast lies between Ose fishing port and abrasion platform. Sea cliffs are located behind the coast. The length of the coast is about 100m of sandy beach. The sediments on the Ose coast were mainly medium sand and coarse sand.

[Experiments and results]

During the three year study period, the average elevation value fluctuated between 239.3 and 156.3 cm. And the foreshore part was the most fluctuating than the backshore .

[Consideration]

From the result of concentration of the fluctuating field in the coastal area, we consider points of "coastal flow".

coastal flow

We used ocean buoys located about 5 km off the Ose coast to examine the coastal flow over the past four years. As a result, three of the southeast (10%), the south (16%), the southwest (21%) are predominant, and we named them "south-facing coastal flow". The proportion of this "south-facing coastal flow" was inversely proportional to the increase and decrease of the average altitude. There was a slight negative correlation between coastal flow and average altitude.

El nino

The fluctuation of the coastal flow is not a seasonal. So we examined the relationship with the El Nino. As a result, correlation was seen that between the ratio of south-facing coastal currents and the El Nino

monitored area. Therefore, the topography change of the Ose coast may have something to do with the occurrence of the El Nino.

[References]

Takaaki UDA, Toshiro SAN-NAMI, Hideki NAGAYAMA, Michio SUMIYA and Takayuki KUMADA,(2008) : BEACH EROSION ON NARUSAWA, TAGA AND KAWARAGO COASTS IN IBARAKI PREFECTURE, Annual journal of civil engineering in the ocean, 24,pp1327-1332

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