

## Sedimentation of large sand dune -Ozu- (off Matsuyama city, Ehime Prefecture)

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Many sand dunes which are formed by sand or gravel are observed at the bottom surface of Seto Inland Sea, Japan. They form near hollows around straits where current velocities begin to decrease from channels.

A large sand dune -Ozu- (about 2km in NS direction and about 2km in SE direction) lies northwest off Matsuyama city, Ehime prefecture. Water depth of Ozu becomes shallower from northwest to southeast and steepens downward at edges of northeast and south. The depth is shallowest both along the northeastern edge and southern edge with the depth about 5 to 6m. Ozu is formed by clastic materials which are supplied from deep hollows in the Tsurushima strait (maximum depth is about 130m) which is located to the west of Ozu and Takahama strait (maximum depth is about 50m) which is located to the southwest. Maximum current velocities at the surface of the sea around Ozu are about 2.7 knot at high tide and 2.4 knot at low tide(1999, the Marine Safety Agency).

We compared bottom topography data obtained in years 2003, 2004 and 2005. As a result, secondary dunes on Ozu show shifting toward northeast at high tide and southwest at low tide. These shifting directions and velocities are not constant at each area and each year. Shifting directions and velocities are controlled by winds as well as tidal currents.

Furthermore, secondary dunes show convergence at area-SE of Ozu. Secondary dunes in the northeast of area SE shift to the northeast at high tide, and the southwest of area SE shift to southwest at low tide. Because the depth of southeastern area is shallower in area-SE, clastic materials in convergence area is supposed to be discharged to the southeast.