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## Correlation of a groundwater discharge with a tephra layer in Tottori sand dune

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The Tottori sand dune is located in the Sanin Kaigan national park. In this sand dune, there is a groundwater discharge point called an oasis. The oasis is grows after the rainfall, and an important factor of a natural landscape in the dune. Because the Tottori sand dune is registered in the global geoparks network, it is necessary to clarify the geoscience phenomenon of the dune academically. The sedimentary structure of the dune are researched. However, the generation mechanism of the oasis is not clarified. The purpose of this research is to clarify the generation mechanism of the oasis with the resistivity tomography method.

Non-polarizing Ag-AgCl electrode was used for resistivity tomography. The electrode interval was set to 3m, and the depth was analyzed up to 20m. The water level of the oasis was measured with pressure type level gauge. Precipitation was measured with rain gage.

The water level change of the oasis corresponded to precipitation by the day. The oasis disappeared when the no-precipitation day continued. From the past research result, it is suggested that groundwater that is shallower than 5m forms catchment of the oasis. From the resistivity tomography model, the low resistivity material below 200 ohm deposit horizontally at several meters depth from surface. The detected low resistivity material is thought to be a volcanic ash layer, for example, DKP (Daisen Kurayoshi pumice fall deposit). The old dune deposit under the loam layer.

A clear groundwater table was not detected from this result. This cause is thought not to be able to divide a volcanic ash layer and the upper aquifer. It is suggested that the catchment aquifer to the oasis is very thin and the perched groundwater that is holding on volcanic ash layer.

Keywords: Groundwater discharge, Tephra layer, Tottori sand dune, Resistivity tomography