

## Resistivity survey on the tidal zone

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Yatsushiro Sea is one of the high tidal fluctuation areas in Japan, and the water's edge retreats about 200 meters at the low tide. Also there are some submarine fresh groundwater discharge points on the tidal flat of Yatsushiro Sea. VLF-MT survey was carried out to detect some freshwater seepage point on the shore side and the tidal flat of Yatsushiro Sea. In the tidal flat, a lot of observed apparent resistivity and phase values are very low except in the western side. This feature suggests that the deeper part has higher resistivity. The low phase may be caused by fresh water zone. In the western area, observed data show high resistivity, and high phase of more than 35 degrees. Because the basement (tuff breccia) crops out, this characteristic may be caused by this basement. The observed time changes are smaller than detected spatial variation. In addition, two anomalous areas showing high resistivity and low phase are detected in the tidal flat. An anomalous area near the shore side exists on the east side of a well with visible freshwater discharge. Around another 100m offshore anomalous area, a fresh water discharge was observed by the seepage meter. Therefore, these anomalies are considered to relate to the local fresh water discharges. We also carried out DC resistivity survey, and will report this result in this presentation.