

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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AHW024-12

Room:102

Time:May 27 17:45-18:00

## Subsurface warming observed in a long-term temperature monitoring beneath the reclaimed land in the Tokyo Bay area

Akinobu Miyakoshi<sup>1\*</sup>, Takeshi Hayashi<sup>2</sup>

<sup>1</sup>Geological Survey of Japan, AIST, <sup>2</sup>Akita University

A long-term monitoring of subsurface temperature and multiple measurements of a temperature-depth profile have been conducted at the observation well in the reclaimed land along Tokyo Bay, to make clear subsurface temperature and groundwater environment changes. Temperature changes were found in the comparison of the temperature-depth profiles, and their changes showed different tendency by depths. The changes was large at the part shallower than the depth of 20m (upper part of the Yurakucho bed). Groundwater has been pumped up due to construction works around the observation well. It was considered that the subsurface temperature changes was caused by effects of local human activity. Moreover, continuous subsurface temperature increase was found at the depth of 30m (lower part of the Yurakucho bed) and 40m (the Tokyo bed). Tendency of the temperature increase was larger at the shallow depth. This suggests that human activity have affected subsurface thermal environment and groundwater environment beneath the reclaimed land along Tokyo Bay.

Keywords: subsurface temperature, groudwater flow, Tokyo Bay, reclaimed land, subsurface warming