Development of the North Pacific Ocean Model for Near-Future Projection of Ocean State

Tsuyoshi Wakamatsu[1], *Shiro Nishikawa[1], Hiromichi Igarashi[1], Hiroshi Ishizaki[1], Yoichi Ishikawa[1]

1. Japan Agency for Marine-Earth Science and Technology

Near-future projection of ocean state is one of the key products in the MEXT sponsored project, Social Implementation Program on Climate Change Adaptation Technology (SI-CAT). In this project, we are aiming at producing projected ocean state around Japan coast under near-future climate change using the North Pacific Ocean circulation model. During the first one year of SI-CAT, we have conducted extensive survey with our project partner from local governments, Ibaraki, Tottori and Saga, and other research institutes. Based on the feedback from our partners, we identified key variables to be assessed under near-future condition. The most desired variable is sea level along Japan coast and we have implemented tools to diagnose impact of atmospheric change on coastal sea level change from atmospheric external forcing based on Sverdrup theory. Using the tools we have selected a subset of atmospheric forcing models based on d4PDF and CMIP5 data. In this presentation, we will make a report on preliminary results from our near-future ocean state projection experiments.

Keywords: Near-future ocean prediction, North Pacific ocean model, Sea level, CMIP5

