

Development of a river-ocean seamless model for simulating river discharges around Kyushu

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Regional-scale torrential rainfalls cause river discharges that are capable of abruptly changing the oceanic condition over a wide area. It is necessary to simultaneously solve multiple rivers for capturing such events that are also often associated with flooding over land. Many coastal areas are also affected by multiple rivers but many of the conventional river-models to simulate the influence of rivers on a regional scale. The object of this research is to develop a river-ocean seamless model for simulating river discharges around Kyushu during and after weather events. By using an Isopycnal-Layered model following Kida and Yamashiki (2015), we developed a model that focuses on the island of Kyushu and the heavy rain event in September 2015. The model reproduces the increase in river flow due to the heavy rain and when compared to observations, we found some rivers to show slow water propagation speed from upstream to downstream, while some rivers reproduce the actual observation well. We plan to conduct a sensitively experiment to verify the cause behind this difference in the reproducibility of the model.