Special section on the Cooperative Monitoring Program of Ariake Sea (COMPAS)

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The Cooperative Monitoring Program of Ariake Sea (COMPAS) is a research project of the Ariake Sea started in 2013. It is a 9-year project organized by Saga University consisting of researchers from four prefectures surrounding the Ariake Sea; Saga University, Kyushu University, Nagasaki University and the Prefectural University of Kumamoto. There are many environmental and fisheries problems occurring in the Ariake Sea now; e.g., decrease of bivalve catch, decrease of demersal fish catch, occurrence of hypoxic water mass and increase of red tide occurrence. Many fishermen insist that one of the reasons for the problems must be the construction of the Isahaya Sea dike, and have filed lawsuits in response. A final judgement ordered the Japanese government to open the gates of the dike for 5 years to clarify the environmental influence of the dike construction. In these situations, COMPAS has two aims: One is to assess the environmental influence of the Isahaya gate opening as a third party. The other is to investigate the mechanisms of the long-term environmental change in the Ariake Sea. Despite the final judgement of the court, the Isahaya gate opening has not started since there are protests against the gate opening by the farmers in Isahaya reclamation land. Therefore, COMPAS focuses

on investigating the mechanisms of the long-term environmental change in the Ariake Sea. The causes for the long-term change include not only anthropogenic impacts but also natural phenomena.

This special section of the *Journal of Oceanography* consists of the papers that show the major results of the early half of COMPAS. The topics of the papers in this section include the evaluation of the influences of the Isahaya reclamation land on the formation of hypoxic water mass, dynamics of the hypoxic water mass at the mouth of Isahaya Bay, particulate organic matter transport from Isahaya Bay, long-term change in the material budget, influence of hypoxic water mass on benthic communities and the dynamics of dissolved organic carbon produced by red tide.

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