

Ocean Science with Local Stakeholders toward Integrated Coastal Management in Sukumo Bay, Japan

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There is a growing demand for ocean science and technology to address marine environmental issues and manage/utilize marine resources at global-local scales. To achieve the UN-driven sustainable development goals in the coastal areas, it is imperative for researchers and local stakeholders to collaborate for acquisition of in-situ data, development of coastal ocean prediction, and effective measures against the predicted oceans. Here we conducted a series of collaborative studies with local stakeholders in Sukumo Bay, Kochi Pref., under the international framework of Sustainable Initiative in the Marginal Seas of South and East Asia (SIMSEA). In these studies, local stakeholders conducted marine health check-up two times to assess past and current marine conditions in Sukumo Bay. On the other hand, researchers developed a coastal ocean prediction system in which ocean temperature and currents are predicted every one hour at 4-days lead time with high resolution of 200 m. The visualization of spatial distribution in Sukumo Bay benefited not only fishery and diving but also investigation of marine polluted areas due to a submerged small-cargo ship. Owing to the establishment of coastal ocean prediction system, local stakeholders have paid more attention to coastal ocean management by providing more in-situ data which can be used for validation and improvement of coastal ocean prediction. These collaborative activities, although a case study, would provide useful insights into how the ocean science can contribute to local society through the integrated coastal management involving stakeholders and hence the UN Decade of Ocean Science for Sustainable Development at local level.

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