

Visualization of geophysical and geochemical data obtained in research vessel MIRAI

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We have developed a new system to visualize observation data obtained in research vessels, which Japan Agency for Marine-Earth Science and Technology (JAMSTEC) possesses. More than a dozen research cruises are carried out in a year by each research vessel. Various observation instruments are installed into these vessels. Every year, a large amount of geophysical and geochemical observation data are produced in the research cruises and compiled into the database system of JAMSTEC, which is available through the Internet. The research cruise by MIRAI, which is one of the JAMSTEC's research vessels, produces a variety of observation data. So we have developed a quick visualization tool for the MIRAI's data. We choose Google Earth as a data browser. Google Earth supports an XML-based language, called KML (Keyhole Markup Language), to plot data on Google Earth. We have developed a program, called KML generator, to convert the original data to KML. Our KML generator accepts the research data such as navigation data, sea water salinity and temperature data (CTD data), geomagnetic field data, and bathymetry data obtained in MIRAI. The KML generator enables us to visualize those data on Google Earth quickly and to compare them with other data easily. It would become a powerful tool to interpret these research data, which allow us to get insights into the Earth's dynamical processes.

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