

Development of a visualization and download system for dataset of ocean state estimation

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In order to promote the use of a dataset of ocean state estimation useful for climate research, a data visualization and download system called "Estimated State of Global Ocean for Climate Research (ESTOC) ^[1]" has been developed. The dataset contains 3- or 2-dimensional grid data of eight physical parameters such as potential temperature and salinity, and five geochemical parameters such as nitrate and phytoplankton. It covers the 53-year period from 1957 to 2009, and consists of 6996 NetCDF files of 55 gigabytes. We have considered the functions required for the system based on the assumption that the main users of the dataset are researchers not only in climatology but also in ocean ecosystem science and fisheries science.

Quick look of the data can be carried out under the conditions specified by users in the visualization page. Contour lines or vector arrows are drawn on a base map. Users can zoom in an area of the map that they are interested in, and change display color with color tables. Animations of the estimated ocean state can also be played easily. The data at users' specified location on the map can be displayed as a graph of time series, vertical profile, latitude-depth or longitude-depth sections. Furthermore, the displayed map and graph can be downloaded as png or jpeg image files.

Logged-in users are able to download a data file of the map being displayed in the visualization page, and also able to download multiple files in the download page. The following two download methods are available. One is the normal download via web browser. The other is the sending an e-mail describing a download URL to user's registered e-mail address to use the wget command. The download state of data files is recorded in the log files for the system administrator. It will be used for improvement of data dissemination service in this system in the future.

URL

[1] <http://www.godac.jamstec.go.jp/estoc/e/>