NAVAL OCEANOGRAPHIC OFFICE

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Oceanographic Tools and Data Transfer

Integrated Survey System (ISS) 60

ISS-60 is a distributed network-based software system developed for NAVOCEANO's survey vessels. It integrates several systems that support high-resolution seafloor mapping, physical and chemical oceanography and precision stationkeeping accommodating over-the-side sensor deployments. ISS-60 is flexible and can be configured to meet the Navy's present and future needs. The software combines a sophisticated navigation positioning algorithm and a data acquisition system designed to collect, process and record navigation, multibeam, bathymetric and environmental data.

Joint Operational Data Interface (JODI) and Trusted Gateway System (TGS)

JODI and TGS are both Multilevel Security Systems designed for Secret and Below Interoperability (SABI)-approved devices. These allow a one-way transfer of environmental data from unclassified systems to classified systems. This allows METOC centers to support Fleet customers with limited NIPRNET capabilities and gives them the ability to retrieve real-time environmental products via the SIPRNET. TGS is supportable on a Sun computer system running the Solaris Operating System. TGS also allows environmental products to be scanned for viruses before being transferred to the SIPRNET.

Modular Ocean Data Assimilation System (MODAS)

MODAS has been described as the most tactically useful ocean-modeling product of the U.S. Navy. It is a software tool for mapping disparate and randomly spaced ocean temperature data onto a grid. The real-time products of MODAS describe the 3D ocean thermal and sound speed structures. These descriptions include profiles at specific points, 2D cross sections and 3D grids. The 3D grids are the most requested products and are ingested into Tactical Decision Aids (TDAs). An important aspect of MODAS, its dynamic climatology, was developed from an analysis of historical temperature and salinity observations. Since subsurface temperature data are very sparse, this dynamic climatology enables a user to infer a subsurface temperature profile (i.e., a synthetic observation) at a location using more abundant sea surface temperature data and sea surface height data.

The first implementation of the TDA Global Ocean Data Environmental Support System (GODESS) will make MODAS available to users as a Web service. This implementation is an important step in the integration of oceanographic data and model fields into the Navy's FORCEnet initiative.

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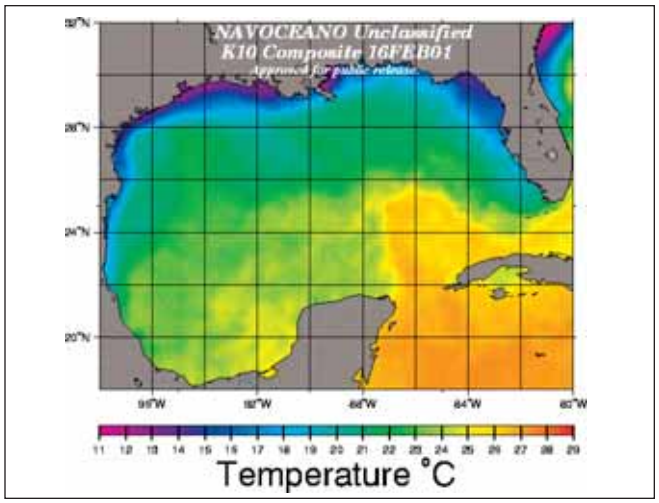

For more information, please contact NAVOCEANO Public Affairs at 228.688.5649 or visit https://www.navo.navy.mil.

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