

# Aggregated Environmental Data Solution

RPS EDS: Environmental Data Server™ collects a wide variety of oceanographic and meteorological data that is used for marine response and crisis management (oil/chemical spill modeling & response and search & rescue planning) as well as providing superior data sources to environmental modeling applications. EDS provides real-time and historical environmental data management, analysis, visualization and internet-based distribution through Web services. EDS connects NASA, NOAA, NAVY and IOOS regional data to operational users in the U.S. Coast Guard, U.S. Navy, and other users. The system collects scientific data in disparate formats and makes available to operational users via standard web services.

The EDS server configuration is located at RPS headquarters in Rhode Island as well as inside the U.S. Coast Guard Operations System Center (OSC). The EDS serves data in a variety of formats and has an option for OGC services that supports an Environmental Common Operational Picture (ECOP).

## ECOP features include:

- Server side processing
- Uses Open Standards so can be consumed by various clients, web clients, desktop clients, Google Earth, etc.
- Draws directly from the data sources, no data conversion
- Supports a wide variety of existing data sources on EDS and any new ones that may be added
- Supports multi-parameters, U,V, Temperature, Visibility, Sea State, etc.
- Also drifting buoys, vessel tracks (AIS), etc.
- Supports time-based requests

- Thresholding tools and custom rendering
- Configuration management uses relational database
- Caching for improved performance

## Available Data Variables

Two primary parameters provided by the EDS are surface currents and surface winds modeled or observed at 10 m, or normalized to 10m, with additional parameters coming online regularly.

## Additional data include:

- Salinity
- Sea Surface Temperature
- Sea Elevation
- Precipitation

## EDS Highlights

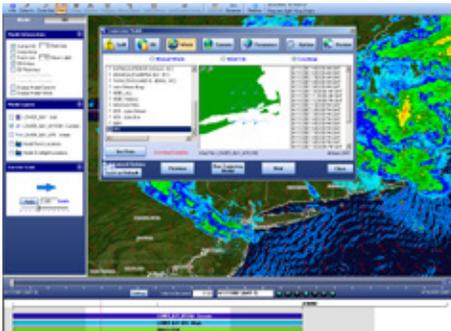
- World-wide data coverage
- Seamlessly Integrates with RPS modeling software



- Supports spatial and temporal data subsetting
- Data product aggregation
- Built on standard data conventions
- Utilizes open standards data delivery protocols
- Integrated OGC Web Mapping Service (WMS)
- Service oriented architecture
- Extensible framework
- Automated processing and data QA/QC
- Forecast and hindcast data archive



Environmental Common Operational Picture (ECOP) with EDS real-time weather data fed into WMS layer



RPS' OILMAP professional thick client oilspill model with integrated EDS showing real-time and forecast weather data.

## EDS Seamlessly Integrates with RPS Model Applications:

**OILMAP™** is world-leading oil spill model and response system that provides rapid predictions of the movement and fate of spilled oil.

**OILMAPLAND™** is a land and surface water spill model system for oil and chemical releases from pipelines.

**OILMAPDEEP™** provides rapid predictions of the movement of spilled oil from sub-sea releases.

**SARMAP™** provides rapid predictions of the movement of drifting objects and missing persons at sea.

**CHEMMAP™** is a chemical discharge model designed to predict the trajectory, fate, impacts and biological effects of a wide variety of chemical substances three-dimensionally.

**AIRMAP™** is an atmospheric dispersion model designed to predict the trajectory and fate of a wide variety of chemical substances and biological agents in the atmosphere.

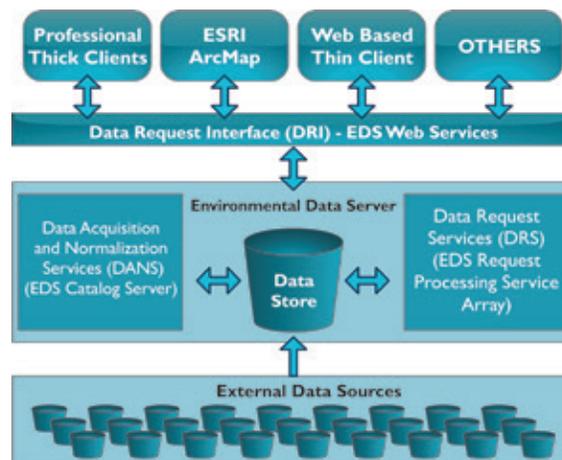
**HYDROMAP™** generates current and water level predictions for any coastal waters around the world.

**MUDMAP™** predicts the transport, dispersion, and seabed deposition of drilling muds and produced water derived from drill cuttings.

**SIMAP™** provides detailed predictions of the three-dimensional trajectory, fate, biological effects, and other impacts of spilled oil and fuels.

**WQMAP™** is an integrated modeling system designed to study surface water quality issues.

EDS and Connected Systems Overview



RPS is a global science and technology solutions company. Through consulting, environmental modeling, and application development, RPS helps a diverse range of clients in government, industry, and academia investigate their issues of concern and obtain functional answers.

RPS's solutions are based on applied science and advanced research. Our services and products, along with our staff's diverse technical backgrounds, are specialized in the analysis of marine, freshwater, air, and land resources; computer modeling of physical, chemical, and biological processes; geographic information systems (GIS); operational research; and data management.

RPS's suite of environmental modeling tools, are available for licensed use and customization and include: OILMAP™, SARMAP™, CHEMMAP™, SIMAP™ and AIRMAP™.