COAMPS-OS® Dashboard

Chad Hutchins1, John Cook1, Mike Frost1, Dan Martinez2, Kai Xu2, Daniel Geiszler3, Qingyun Zhao1, Paul Harasti1, John Kent1, Gary Love3

1Naval Research Laboratory 2Computer Sciences Corporation 3Science Applications International Corporation

Background
Since 2001, the Coupled Ocean/Atmosphere Mesoscale Prediction System (COAMPS®) – On Demand System (COAMPS-ODS) has provided United States Naval forces with web based interfaces for setting up and executing COAMPS mesoscale forecasts, and for displaying and disseminating COAMPS model output. While these technologies are very useful, they do not easily allow integration with other meteorological and support information.

As part of a COAMPS-OS enhancement to integrate Geographic Information Systems (GIS) technologies into the system, the software development team has created the COAMPS-OS Dashboard Viewer.

Integrate
Multiple Models
- COAMPS
- SWAN (Simulating Waves Nearshore)
- NCOM (Navy Coastal Ocean Model)
- WW3 (WAVE WATCH 3)
- Remote Sensing
  - Satellite
  - Radar
- Model Metadata Information
  - NetCDF
  - Data Coverage

GIS Formats and Services
- Shapefile (Server Only)
- Web Mapping Service

Construct
Layers Using 3 Different Projections
- Latitude/Longitude (With/Without International Dateline Support)
- North Polar Stereographic (8 Different Rotations)
- South Polar Stereographic (8 Different Rotations)
Create 5 Different Types of Model Layers
- Color Filled Contours
- Line Contours
- Arrow Vectors
- Wind Bars
- Point

Ability to Animate All Time Defined Layers

Export
Export model data and some supplemental information in GIS and image formats.

Shapefile
Can be saved and imported into advanced GIS applications like ArcGIS, ArcGIS Explorer, and uDig.

Image (PNG)
Can be saved and used in applications like Microsoft PowerPoint presentations, posters, Web pages, and reports.

Technologies
Client
- Google Web Toolkit (GWT)
- GWT-Ext
- GWT-OpenLayers

Server
- Java Servlet
- Jersey REST
- MapServer
- GeoTools (With JTS Topology Suite)
- Generic Mapping Tools

Sponsored by the Oceanographer of the Navy (CNO N2/N6F5), with contributions from ONR, NASA, FAA, and NGA