



COAMPS-OS® Dashboard

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Background

Since 2001, the Coupled Ocean/Atmosphere Mesoscale Prediction System (COAMPS®) – On-Demand System (COAMPS-OS®) 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.

Information

The COAMPS-OS Dashboard Viewer is a Geographic Information Systems (GIS) advanced web interface for creating, viewing, and exporting model visualizations, remote sensing, model verification, and other GIS products. The dashboard utilizes several open source tools to provide an accessible, tailored, easy to use interface in a web browser.

With the Dashboard, the user will have the ability to create their own map product layers, integrate meteorological and oceanographic data and add geospatial-intelligence information in one place.

The Dashboard supports all major browsers including: Windows Internet Explorer, Mozilla Firefox, Google Chrome, and Safari.

The Dashboard is currently in its initial phase of development with plans to expand its functionality.

Contact

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Integrate

Multiple Models

- COAMPS
- SWAN (Simulating WAves Nearshore)
- NCOM (Navy Coastal Ocean Model)
- WW3 (WAVE WATCH 3)

Remote Sensing

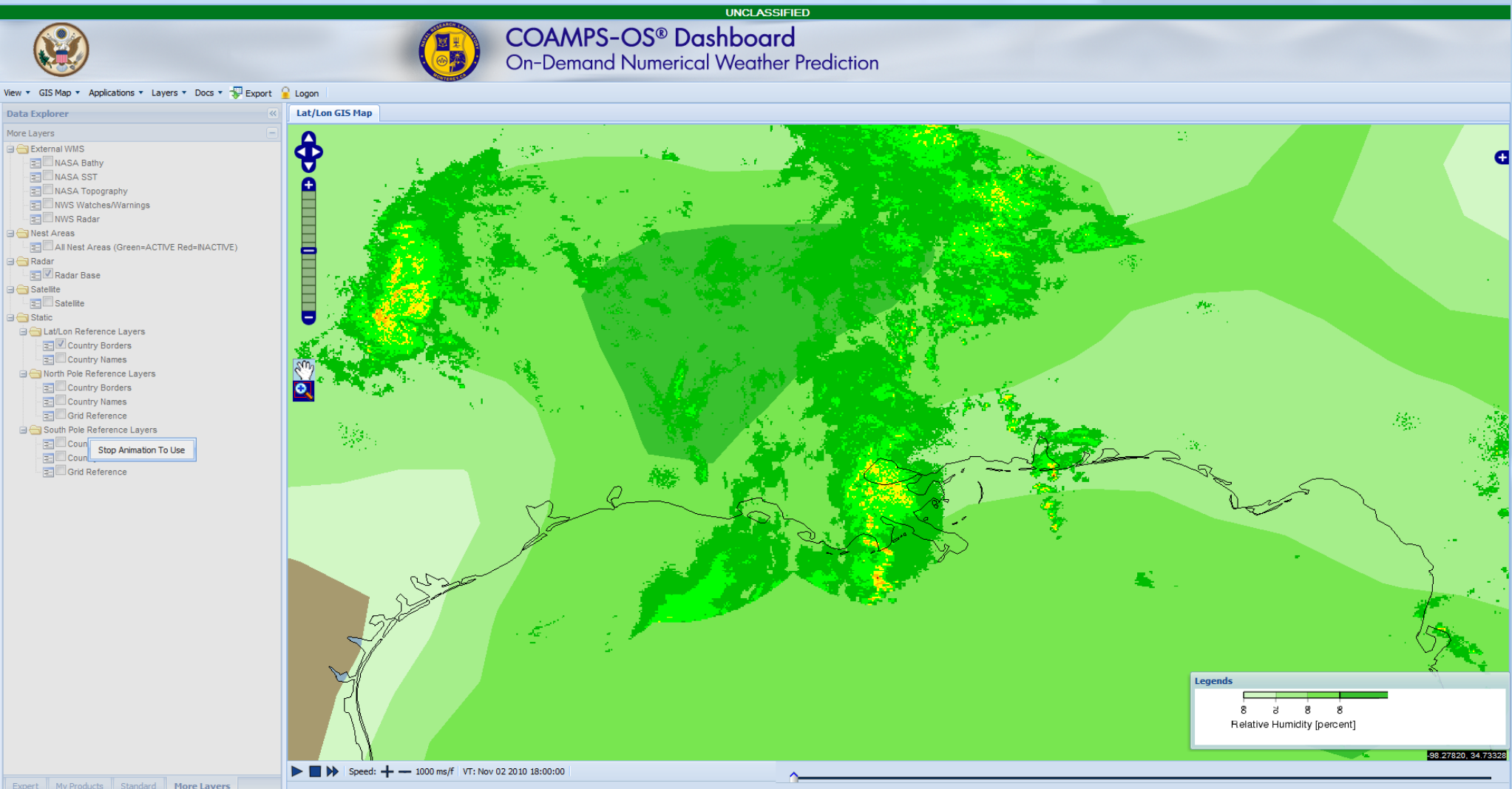
- Satellite
- Radar

Model Metadata Information

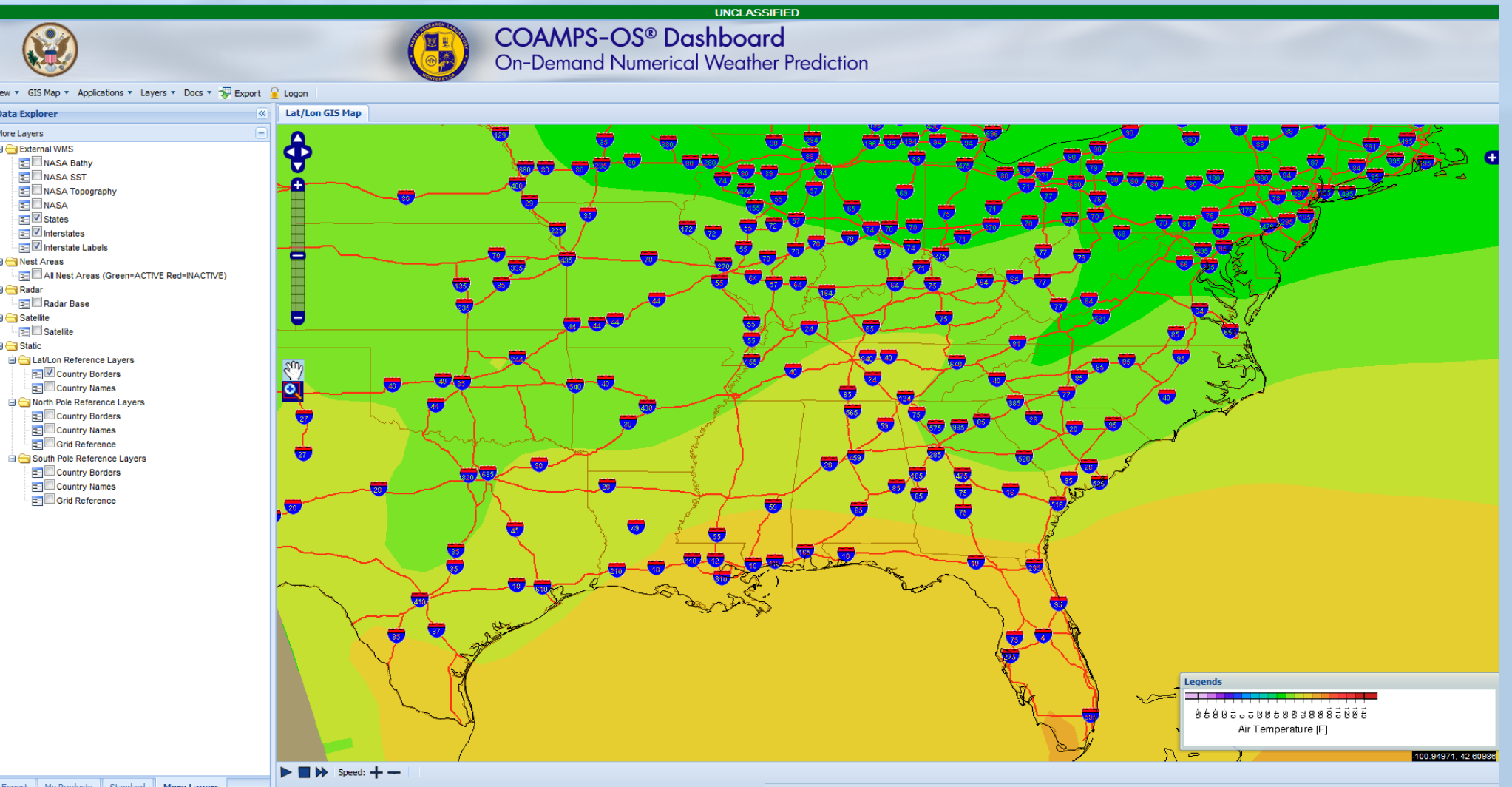
- MetQC
- Data Coverage

GIS Formats and Services

- Shapefile (Server Only)
- Web Mapping Service



COAMPS Forecast 2 Meter Relative Humidity with Current Radar



2m Air Temperature from COAMPS with State Boundaries and Interstates from www.geocommunicator.gov WMS Server

Construct

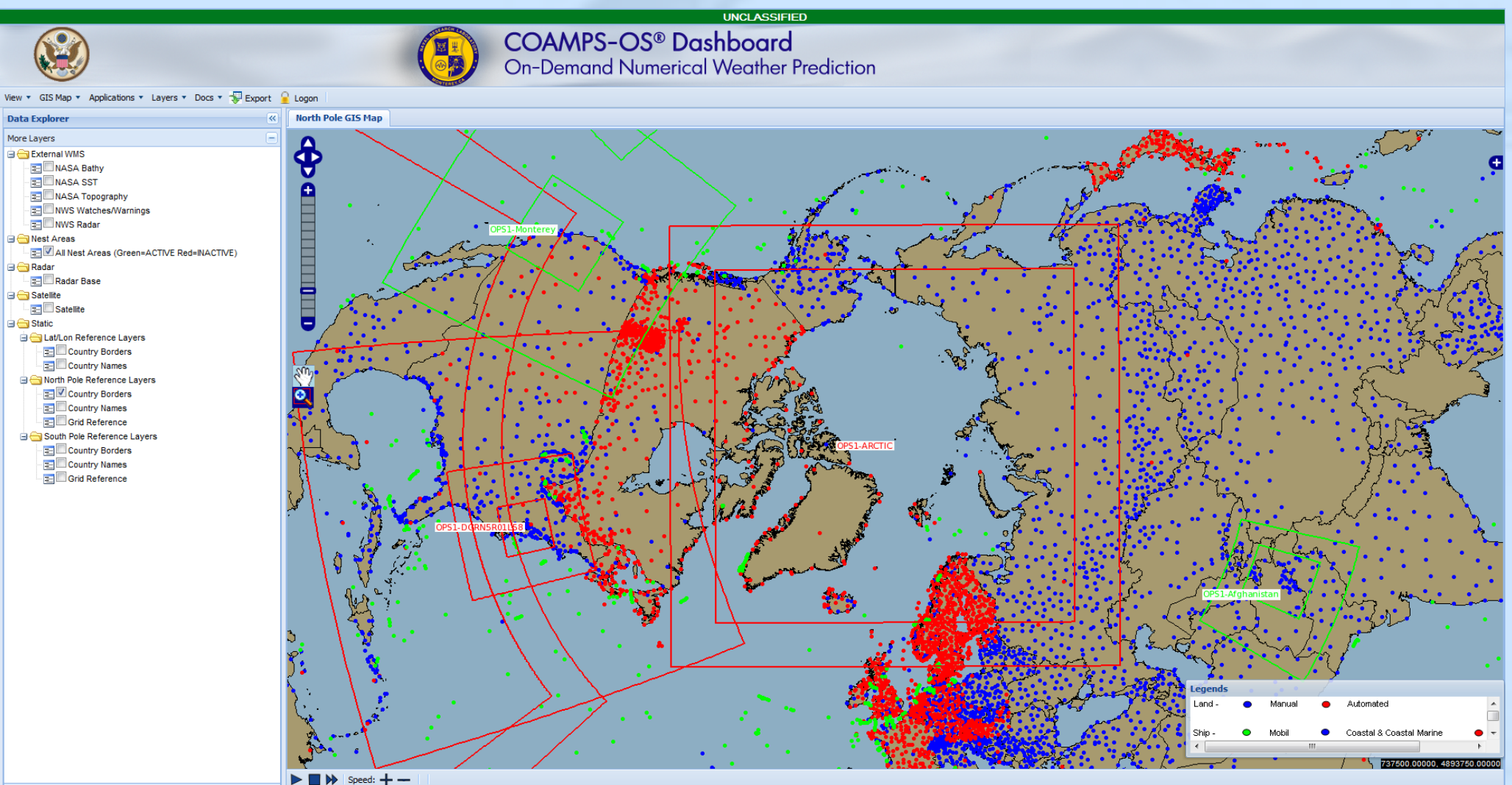
Layers Using 3 Different Projections

- Latitude/Longitude (With/Without International Dateline Support)
- North Polar Stereographic (8 Different Rotations)
- South Polar Stereographic (8 Different Rotations)

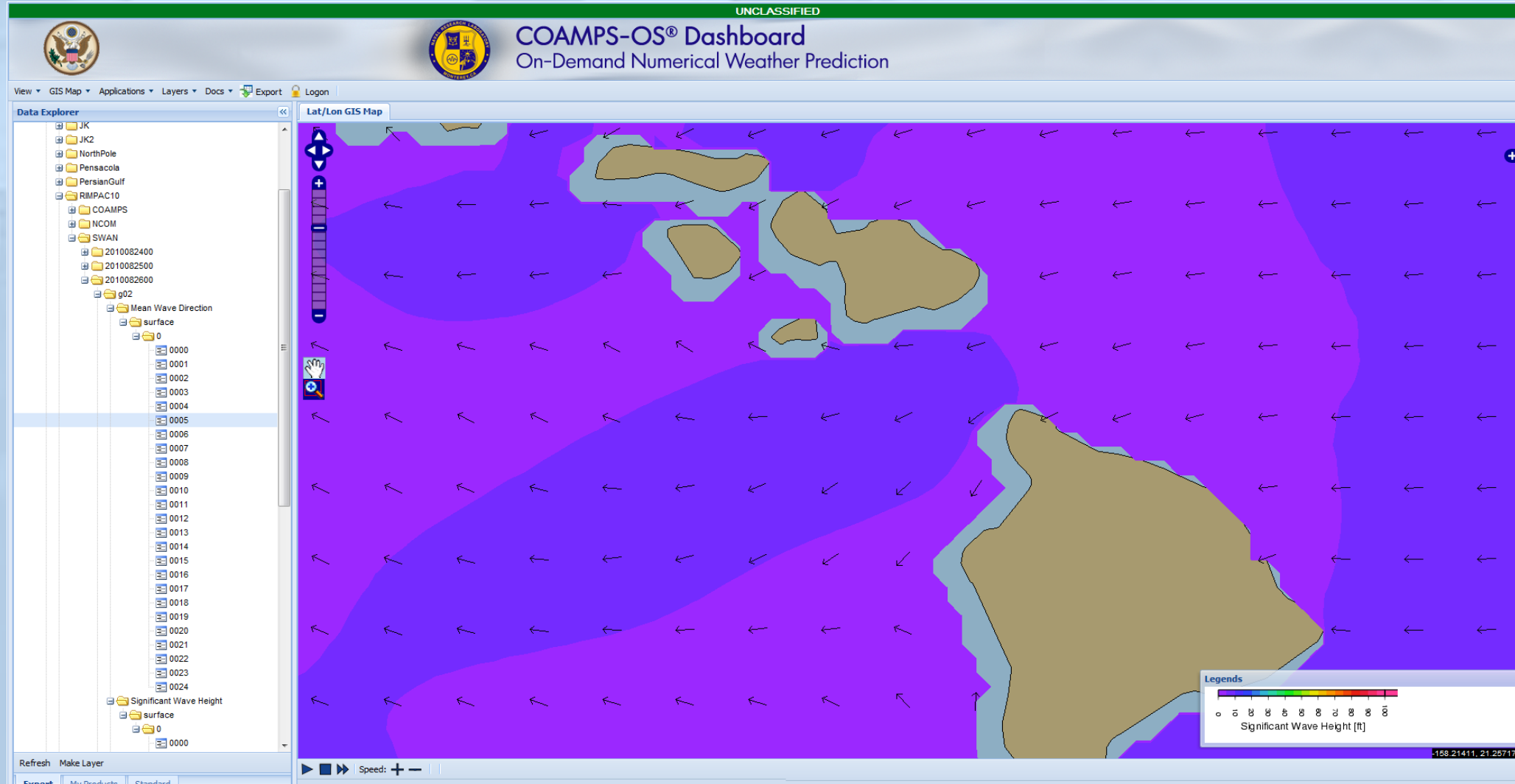
Create 5 Different Types of Model Layers

- Color Filled Contours
- Line Contours
- Arrow Vectors
- Wind Barbs
- Point

Ability to Animate All Time Defined Layers



Land and Ship Observations Used With Project Nest Boundaries Overlaid



SWAN Significant Wave Height with SWAN Mean Wave Direction

Export

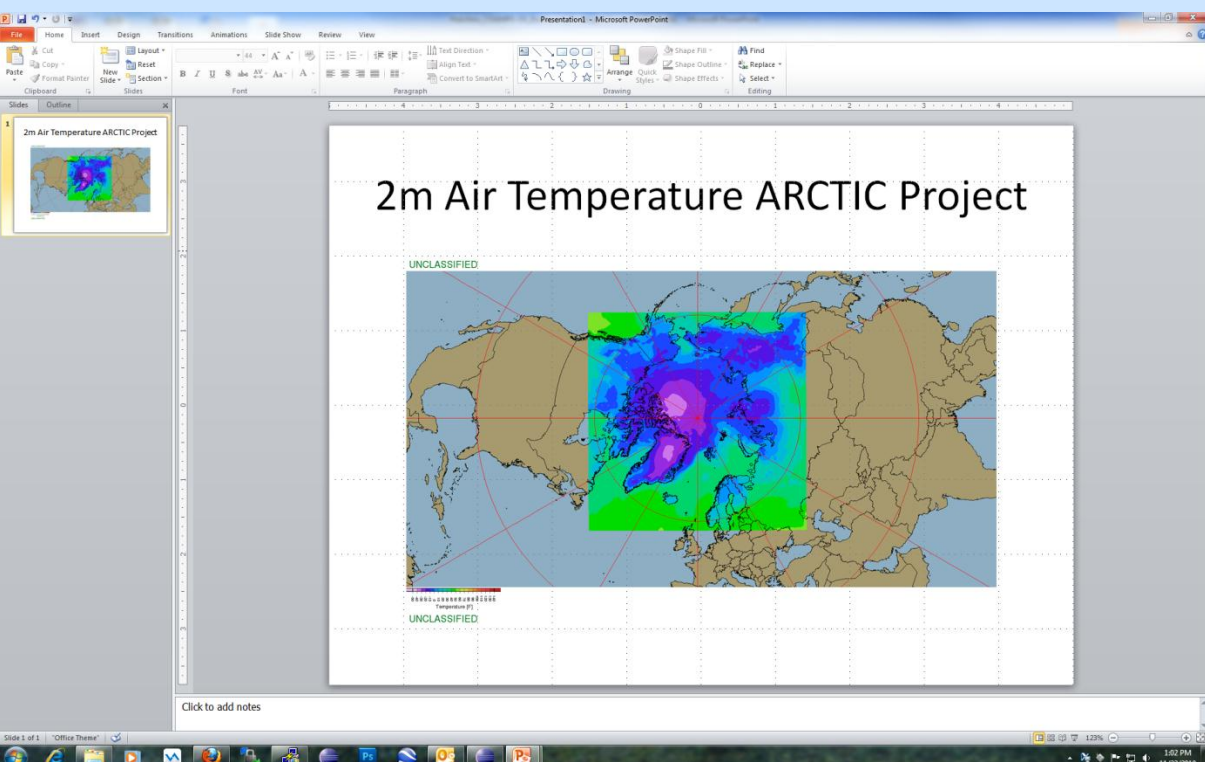
Export model data and some supplemental information in GIS and image formats:

Shapefile

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

Image (PNG)

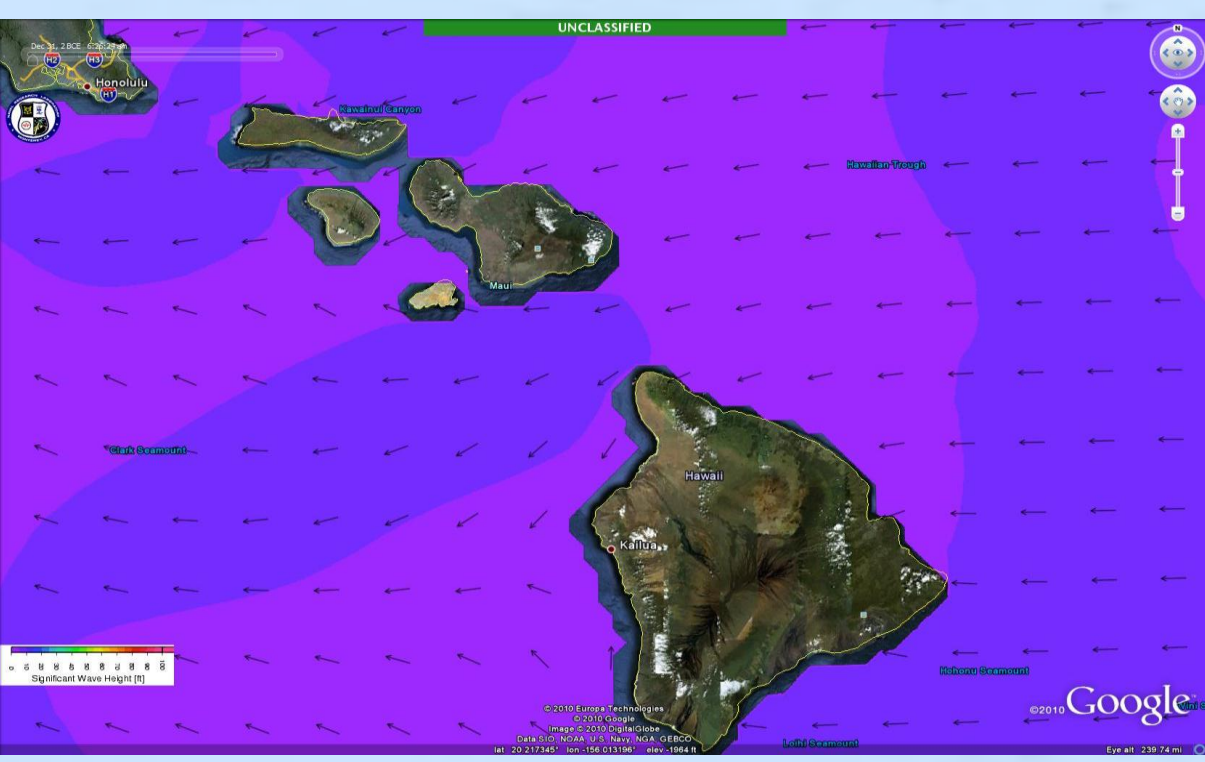
Can be saved and used in applications like Microsoft PowerPoint presentations, posters, Web pages, and reports.



2m Air Temperature from COAMPS Exported to PNG and Placed In Microsoft PowerPoint 2010

Keyhole Markup Language (KML)

Can be saved and used in Google Earth and other applications that read KML 2.2.



The same parameters from left (SWAN) exported into Google Earth

Technologies

Client

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

Server

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