Your best fit Web-GIS based Information System for your application ..

You are clicks away from your monitoring and decision support activities .....

Data display + Thematic + Analysis = Decision

In-situ observation network

Earth Observation remote sensing

Numerical Models outputs

GIS Database for thematic information

*** Web-GIS based ***
Information System

... monitoring,

analysis, warning ...

Decision Support System

About WebGIS

Info-Electronics Systems Inc. (IES) developed the WebGIS package to be a generic viewer and handler of geographical information-based data for Environmental applications.

The package supports multiple data sources and is customizable to a variety of customer applications by integrating a wide range of functionalities for data handling, processing, rendering and display.

The WebGIS package has the capabilities to be set up as a Decision Support System for applications such as hydro-met events monitoring, disaster management, weather aviation assistance, etc.

Domains of Application

The WebGIS software has a variety of applications in the area of hydrology, meteorology and environment, where users need to display data from different sources and formats for weather conditions and events assessment, analysis, monitoring and tracking. The software package is also beneficial for other industries that require usage of environmental conditions such as road, rail, marine and air transportation, disaster management, energy production and provision, crop management, pollution monitoring and many more applications.

The WebGIS software supports the visualization of the observed or forecasted information in its geographical context. It also allows the user to introduce ancillary layers of information from the available GIS database for further thematic assessment and more specialized analysis.

Generic Functionalities

In general, the software supports the following main functions:

Data Ingest and Processing:

Allows the automatic fetch from the appropriate source at the appropriate frequency and the preprocessing of the data into uniformed types, such as points, polylines or images. This operation prepares the basic information layers that will be queried, rendered, displayed and distributed.
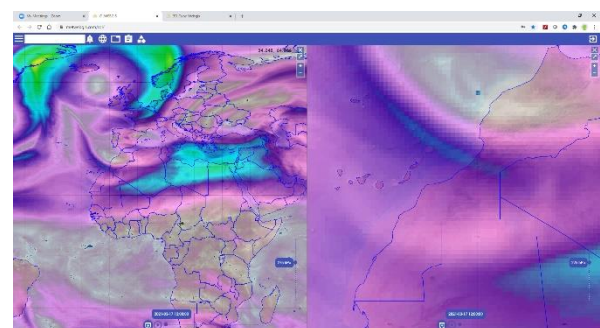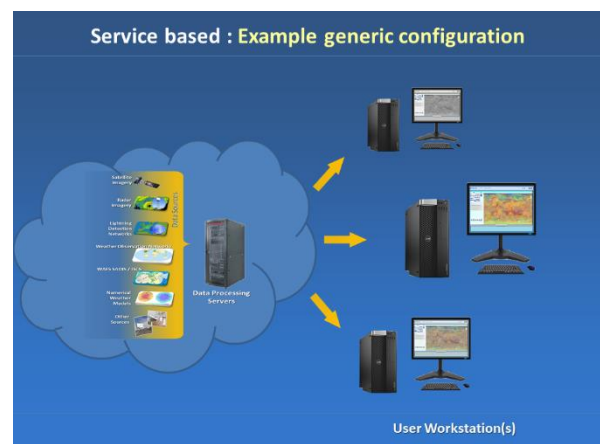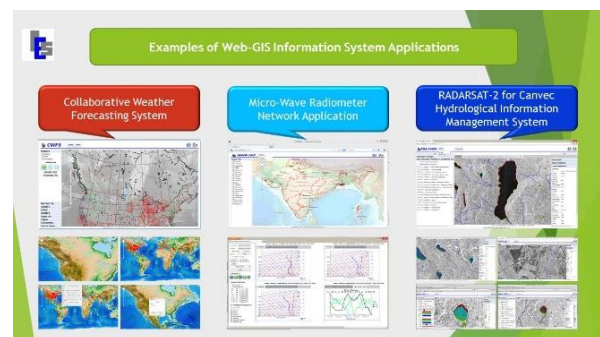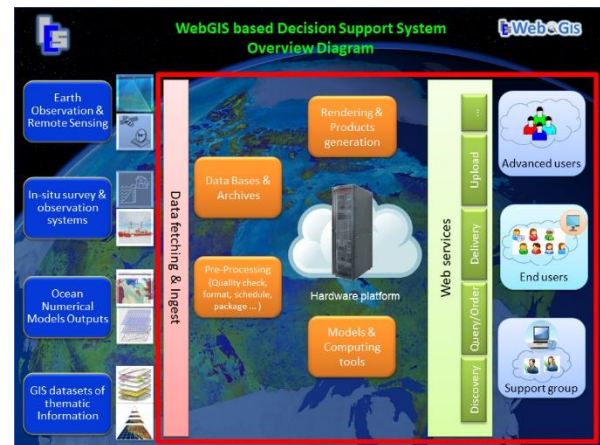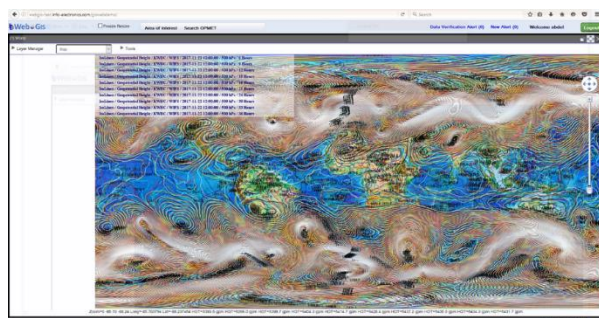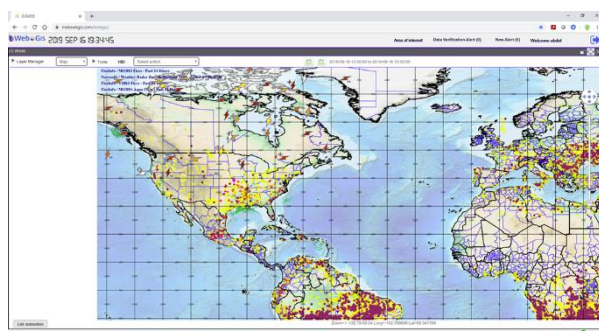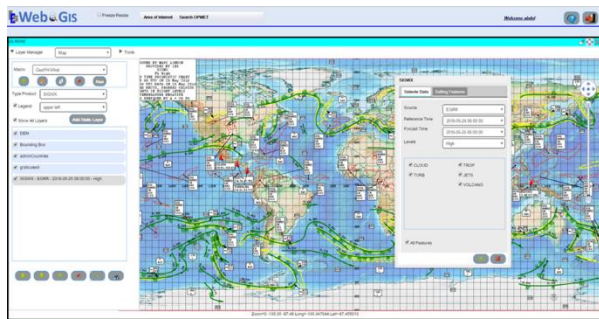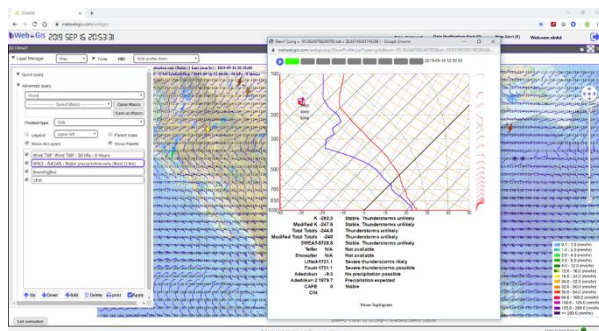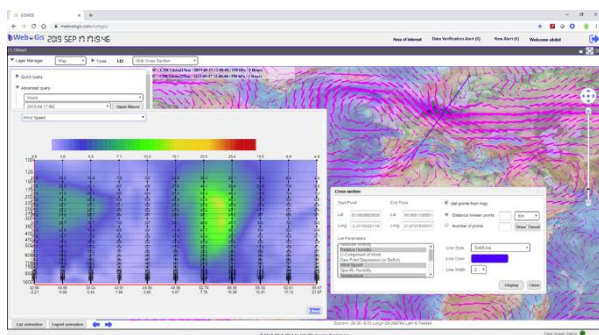
Databasing and Querying:

Based on our long experience with geospatial and weather information databases, we designed a database structure that will accommodate all information, both dynamic, in relation to the application type, as well as static GIS data that could be used as ancillary information for product generation and analysis. The Graphical User Interface for queries interacts perfectly with the database and optimizes user selections and requests for product generation.

Rendering and Visualization:

The rendering is based on open-source powerful libraries and utilities using a uniformed design to handle files in both vectors and raster format.

Furthermore, the WebGIS package uses the powerful Template and Macros concept to allow the user to save customized products to his preferences and selections and load them whenever he wants. The product generation could then be run in a reduced number of clicks or be scheduled in an automatic process.

Analysis Tools:

WebGIS has a set of tools permitting the contextual analysis of the information. These tools allow the compilation of relevant layers of the information into derived products, which generate a second level of information required for advanced assessment, analysis, monitoring and decision-making.

Web Publishing and Distribution:

The WebGIS software is a Web-based application and all generated products are Web enabled. The Graphical User Interface runs from an ordinary browser and the access to all products is through a Web browser and an Internet connection.
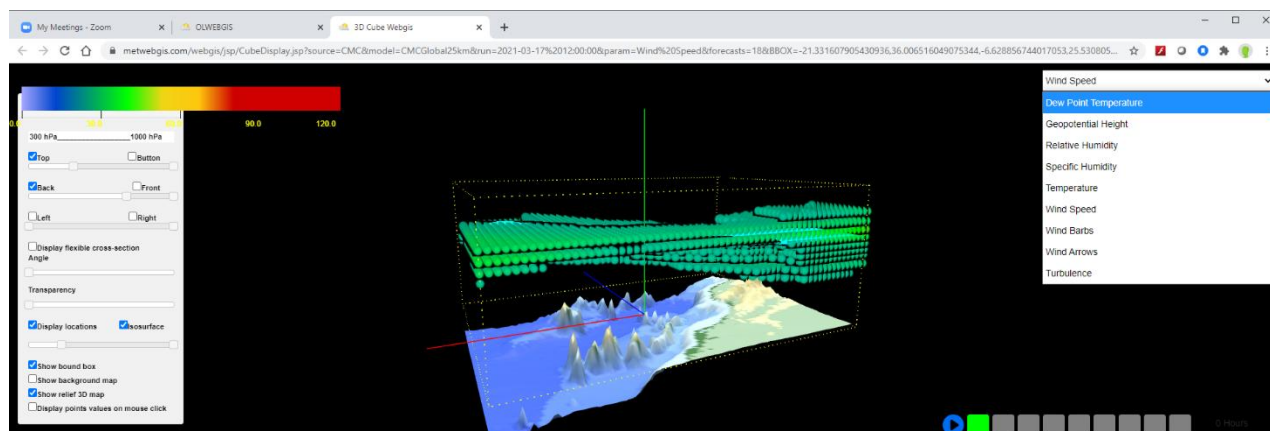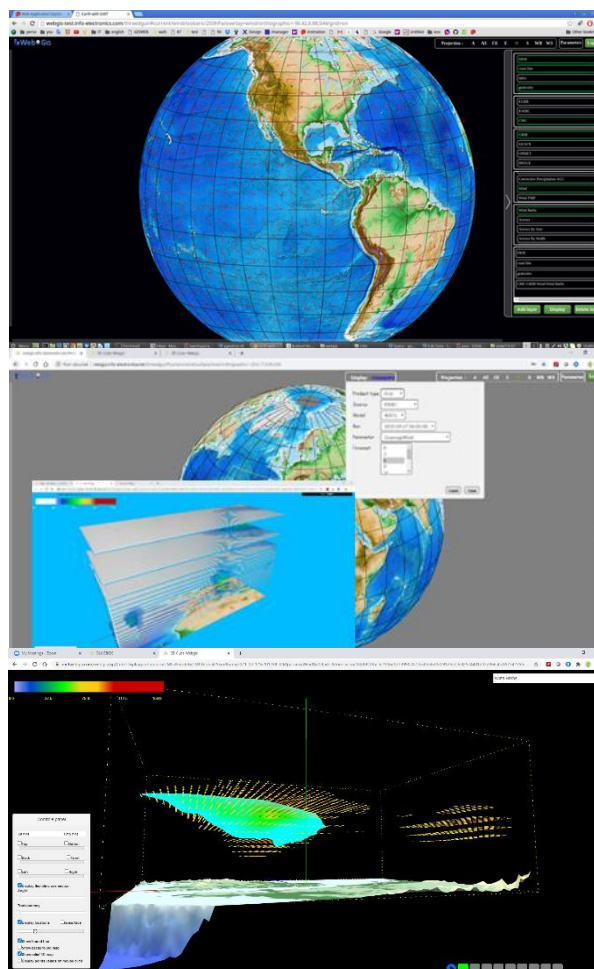
The package also offers the appropriate product rendering for publishing and distributing images, .pdf reports and other possible formats, such as shape files and GML, depending on the products. The published product layout has all the relevant information for product identification and explanation, such as the data identification as well as the required legends and indexes.

3D Module:

The 3D-Globe module is more suitable for assessing broad and global weather situations. This module allows to represent multi-source weather information as well as GIS thematic information on a Globe with interactive panning and zooming on any location of the world with smart Level-of-Detail's feature.

- Easy-to-use 3D navigation and manipulation over the globe.
- Details on demand, to eliminate cluttering presenting the important details initially.
- Integration of relevant data in a combined display (e.g., weather and terrain).
- Supporting animation of rendered products showing changing weather information in time.
- Rendering of Numerical Forecasting Model outputs in gridded point value or symbol, isolines and isosurfaces.
- Easy-to-use quantitative and information-retrieval tools to enhance the qualitative visualizations.

A 3D-Volumetric module to render and interactively display, pan, zoom, rotate and pivot a selected column of 3D atmospheric information, performing surface cross-sections and animations in time to appreciate local and varying weather situations.