

Mytilene - Greece, 6 July 2010

MEDIA RELEASE

Subject: Demonstration of the VIRTUAL FIRE application in Lesvos Island, Greece

A public event took place on Tuesday 6 July 2010 at the Coordinating Prefecture Board of Lesvos, Mytilene in Greece and featured the outcomes and pilot demo of the innovative Virtual Fire application, "WEB GEOGRAPHIC INFORMATION SYSTEM (GIS) PLATFORM FOR FOREST FIRE MANAGEMENT", including a round-table debate on technologies enabling civil protection.

Virtual Fire is a Web GIS platform for forest fire management based on Microsoft® Bing Maps™, ESRI ArcGIS and other commercial software. The application has been developed to easily, validly and promptly share information and tools produced by the Geography of Natural Disasters Laboratory/ Department of Geography/ University of the Aegean/ Greece. The project has been funded by Microsoft Research.

The workshop was attended by the Prefect and Counselors of Lesvos Prefecture, Mayors and representatives of the Municipalities of Lesvos Island, heads of Civil Protection, officers and firefighters of the North Aegean and Mytilene Fire Services, staff of Lesvos Forest Service, commanders and officers of military and public service authorities, representatives of social services and firefighting volunteer organizations of Lesvos Island, and the partners of the project from University of the Aegean, University of Athens, Microsoft Research, Microsoft Hellas and Microsoft Innovation Center-Greece.

End-users will have the ability to utilize the capabilities of GIS without the requirement of knowing how to handle commercial and complicated GIS applications; to query on the databases and to immediately receive answers; to locate points of interest in high resolution satellite images; to connect their portable computers or GPS with the platform; and to download information provided by the administrators of the Virtual Fire system.

Remote automatic weather stations and a weather forecasting system based on the SKIRON weather model (Atmospheric Modeling and Weather Forecasting Group/ Department of Physics/ University of Athens/ Greece) provide necessary data for fire prevention and early warning, channeled through the platform to authorized end-users. Geographical representation of the fire risk potential and identification of high-risk areas at different local regions is provided daily, based on a high performance computing (HPC) pilot application running on Microsoft Windows HPC server. The servers where the system is running have been gracefully donated by Hewlett Packard (3 quad-core computing nodes, one head node and two computing nodes). By using the FARSITE and Flammap software, maps are produced (on demand by authorized users) that graphically represent the spread and intensity of a forest fire at different times and places. In addition, end-user feeds and e-mails are key features to maintain a proper intercommunication among the end-users and the administrators of the system for reporting events.

By using these methods and a variety of provided fire management information and tools, the end-users (fire fighting personnel, emergency crews, authorities, etc.) are given the ability to design an operational plan to encompass the forest fire, choosing the best ways to put the fire out within the proper resources and time. The whole system provides the ability to its end-users to locate online and in real-time, vehicles of the Fire Service and other

resources (e.g. a fire patrol aircraft) by using GPS tracking and communications that transmit the coordinates of each item to the system, depicting them on an electronic map. In addition, detection cameras are able to send images of specific high risk areas into the Virtual Fire platform.

“Virtual Fire hosts and visualizes models used for predicting forest fire risks based on meteorological and geographical data, coupled with fire propagation simulation to understand how a fire is likely to spread based on the actual meteorological data, vegetation and landscape morphology. This predictive data, along with a plethora of other information, spanning roads, location of water tanks, the positioning of aircrafts and vehicles, vegetation types and weather data, will be visualized over online maps such as Bing Maps. This will enable fire fighters in control centers, or on site via hand-held devices, to manage forest fires and deal with any other emergencies situations arising more effectively. Virtual Fire, which will be tested during this summer season for the demanding computational and visualization tasks involved in civil protection and emergencies, offers a promising solution for civil protection agencies in Greece and abroad that do not always have the know-how and expertise to operate their own computing and IT systems”, says Geography Professor Kostas Kalabokidis, University of the Aegean and Principal Investigator of the Virtual Fire initiative.

WEB-LINKS: <http://meteo.aegean.gr/mytilene.html> -- <http://catastrophes.geo.aegean.gr/> -- <http://forecast.uoa.gr/> -- <http://www.microsoft.com/hellas/mic/> -- <http://195.251.137.205/virtualfire/>

Short description of the Geography of Natural Disasters Laboratory:

The Geography of Natural Disasters Laboratory is a research unit in the Department of Geography, University of the Aegean, Mytilene, Greece. Its mission is to i) run interdisciplinary research programs on natural disasters and civil protection; ii) provide relative education curricula for undergraduate, graduate and continuing education students; and iii) disseminate information to the profession, the public and the community through service and outreach. A number of research projects has been competitively funded by the European Union and Greece dealing with wildfires, floods and information systems analysis. The Lab performs its academic activities in collaboration with the Geo-Informatics and the Physical Geography Laboratories of the Department of Geography; all labs jointly support research and educational activities in the fields of Geographic Information Systems (GIS), satellite remote sensing and applied geo-informatics on environmental hazards management--including wildland fires. Laboratories are equipped with latest technology hardware and software infrastructure, including specialized apparatus and stations.

Short description of the Atmospheric Modeling and Weather Forecasting Group:

The Atmospheric Modeling and Weather Forecasting Group (AM&WFG) is part of the Department of Physics and the Institute of Accelerating Systems and Applications of the National and Kapodistrian University of Athens, Greece. The AM&WFG is a center of excellence within Greece for atmospheric and sea state analysis and modeling with activities related to special model development and applications running in many countries. The major activity of the AM&WFG is related to atmospheric model development ranging from conventional meteorological models to specific developments with atmospheric and chemical models directly coupled. The SKIRON/Dust is an integrated limited area model that has coupled the dust cycle and its impact on radiation budget. A recent development is the Integrated Community Limited Area Modeling System where the system has some unique capabilities ranging from two-way interactive nesting, explicit cloud microphysical parameterization, dust, sea salt, gas and aqueous phase chemistry, gas2particle conversion, treatment of CCN, GCCN and IN as predictive quantities and aerosol-cloud-radiation interactions and a detailed surface parameterization.

Currently the group has 12 members and is expected to have 20 within the present year mainly Ph.D. students and post-docs. The AM&WFG is principally a dedicated research facility with its own infrastructure and also offers a teaching and education function. It houses several operational atmospheric and sea state activities worldwide. The AM&WFG has participated in several large-scale EU projects either as coordinator or as a partner.

Short description of Microsoft Innovation Center - Greece:

The Microsoft Innovation Center – Greece (MIC-GR) is a non-for profit civil-law company established by Microsoft Hellas and the New Economy Development Fund (TANEO.gr) in 2009. In an effort to help transform Greece into a frontrunner on technological innovation and entrepreneurship, its main mission is *“to lay the foundation that will facilitate and enable the full realization of innovative ideas”*. MIC-GR performs a series of catalytic actions including hosting competitions and workshops triggering and disseminating novel ideas, while leveraging appropriate sources of capital for funding such ideas. MIC-GR promotes research and innovation, as well as supports the development of pioneering e-Government services. This is realized by facilitating the Greek Research and Academic community, the public sector, software companies and Small & Medium Enterprises to test, deploy and integrate the latest technologies and software solutions in their environment and products. MIC-GR is also active in education and training, both in the area of IT programming and technology uptake, as well as in the area of management and business administration.