



ESRI USER CONFERENCE 2008 REPORT

OUR UK EDITOR, MARIA PELLEGRINI,
REPORTS ON “THE BEGINNING OF THE
GEOSPATIAL ERA” – THE ESRI WAY

More than 14,500 people from 114 countries gathered in San Diego for the 28th annual ESRI International User Conference on 4-8 August 2008, which continues to rank as the largest GIS conference in the world. In true spatial analysis style, a map showing demographic distribution of attendees and related statistics is available [1]. Attendees, from every discipline, came mainly from North America and Europe, but South America, Africa, Australasia and the Middle East were also well represented.

With over 150 technical sessions, several pre-conference seminars, executive leadership seminars, concurrent conferences on Education, the ESRI Surveying and Engineering Summit, the Remote Sensing and GIS Summit, the HAZUS User Group Conference, and the Ecosystem Management Decision Support (EMDS) System Workshop – plus scores of other User Group meetings – the ESRI UC lives up to its reputation as the largest GIS conference in the world.

Opening Day Plenary

The conference started with the stately filling of the massive F and G halls of the Convention Center, located on the harbour in downtown San Diego, where participants were greeted with three giant screens won which danced the word ‘Geography’. The combined halls are so immense that, without the enormous screens, those sitting towards the back would not be able to see the speakers or presentations!

ESRI President, Jack Dangermond, gave the traditional welcome, during which he coined the phrase “beginning of the geospatial era.” He proudly announced that the attendees would again enjoy a collection of hundreds of maps in the Sails Pavilion, filled as the previous



Mohamed Abd Elwahab Hamoud for State of Qatar

do not inherit the earth from our parents; we borrow it from our children.”

The Enterprise Application Award went to the State of Qatar, Centre for GIS, for its holistic integration of GIS across the country (accepted by Mohamed Abd Elwahab Hamoud).

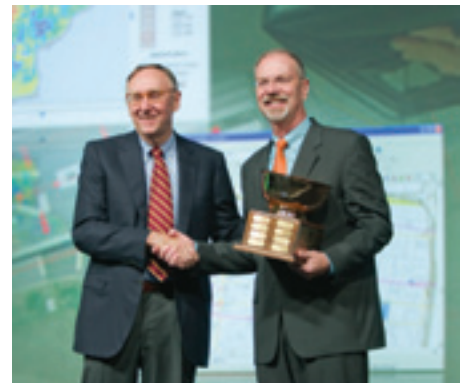
The City of Philadelphia received the **President's Award** for multiple uses of resources and data, which was accepted by Jim Query, director of enterprise GIS. The city received the honour for its leadership and innovation in developing enterprise geographic information system (GIS) deployments that improve numerous government functions and city services.



Jack Dangermond looking into the future



Receiving the Making a Difference Award



City of Philadelphia's Jim Query

year to full capacity. The work of everybody, Jack said, represents the real 'GIS in Action' that is the theme of the conference, based on the concept that the world is changing rapidly and, like any abrupt change, it creates problems. Think about the demographic increment and shrinking of the world's resources to support the growing population, or security and climatic change. Fortunately, geo-technology is changing rapidly, too. We are approaching the era of 'spatially integrated thinking' and in this sense GIS changes the way we work. The road map of the future is drafted by the new emerging pattern of Web GIS. He then went on to present a comprehensive review of the use of GIS within different industries. Over the next couple of days we saw dramatic improvements in the way we are now managing the present and planning for the future, using geospatial data.

Plenary Awards Ceremony

The **Making a Difference Award** went to Rosario Giusti de Pérez and Ramón A. Pérez, who have dedicated their careers to use GIS to analyse urban poverty with the goal of improving the lives of the poor in Venezuela.

Dirk Kempthorne, the U.S. Secretary of the Interior received an award for his commitment to 'encouraging data sharing throughout the federal government and for using



Dirk Kempthorne, US Secretary of the Interior

geospatial technology to make decisions'. Kempthorne has directed one of his agencies, the U.S. Geological Survey, to release its 35-year archive of LANDSAT images over the Internet at no cost to the public by the end of the year, he said. It will help people better understand what is driving changes to our land, air, and water resources. "With the click of a mouse, scientists, government officials, and land managers will be able to see changes in the Earth's landscape over the last three decades," he said. The LANDSAT archive will be available through the U.S. Geological Survey's Earth Resources Observation and Science (EROS) Data Center Web site [2]. Kempthorne closed with the observation: "We

Plenary Presentations

During the plenary, **Michael Parkin** of MIT and **Lauren Rosenshein** of ESRI talked about 3D visualization and analysis. ArgGIS 9.3 has introduced improvements in visualization



MIT's Michael Parkin

which are claimed to be faster, smoother and more accurate. It also incorporates many 3D analytical tools, the counterpart to familiar 2D ones, and others such as one named "gaussian geospatial simulation". These are currently only available to developers (via an API) and users will need to wait for ArcGIS 9.4 to have access.



Dr. Peter Raven

Dr Peter Raven, renowned botanist and environmentalist and president of the Missouri Botanical Garden, concluded the plenary morning with a moving speech. Discussing the importance of biodiversity in sustaining the earth, he also illustrated the problems we confront with growing populations, altered landscapes, overconsumption, and climate change. The way that we use technology often has a negative impact on the world; but, on the other hand, technology helps, he said, to preserve the world, and we need to use every tool in our power. GIS technology is certainly a vital key to assess risks, predict impacts, model and plan for the future.

GIS in Action – the future is now

Over the five days of the conference, a wide variety of sessions and activities were available to satisfy the needs – and curiosity – for all members of the geospatial community. Technical keynotes from ESRI directors gave users insight into implementing GIS on the Web, the scientific context for GIS analysis and modelling, and meeting customer needs. Users could attend numerous technical workshops to learn about the technology – and tips – for topics ranging from ModelBuilder to mobile GIS. This year, ESRI UC included a new track on managing climate change impact using GIS.

During the conference, ESRI technical staff offered a large selection of presentations and technical workshops including much about the ArcGIS 9.3 application suite and what is new regarding well-known applications and extensions.

*Of particular interest and certainly permeating the event's papers, demos, workshops and the numerous stands of the large exhibition floor were **3D, animation, simulation and spatial analysis.***

Certainly we are moving from 2D to 3D! Susan Bergeron, West Virginia University, demonstrated the feasibility of generating and exploring virtual reconstructions of past landscapes in 3D. Value added information in these virtual worlds was achieved using 3D spatial queries such as buffer and intersection. However, we are still at the beginning ... and two conflicting issues must be resolved:

"To capture building details we need a good design package," says Susan. What about integration with CAD, e.g. Autodesk – GeoConnexion asked. "Clearly packages such as Autodesk could be ideal to capture a high level of detail ... the more details we have the better it is. However, the downside is that the resulting models are very big, so we will have big performance issues." Susan concluded that technology is moving fast and the next phase of the project has already started.

Steve Kopp, ESRI Program Manager, enthusiastically explained that 'visualization' of 3D environments over time is possible and becoming easier, where spatial analysis over time is still evolving. However, the latter "is proof of technology where ESRI staff teach by example." In a stunning workshop presentation, Steve demonstrated the new features in a series of impressive animations including one final 3D animation of wind flows through the atmosphere.

"Science is driven by technology," said David Maguire in his presentation on 'The science behind the systems' and asserted that key software trends culminate today with analysis and modelling.

Paul Cote, Harvard University GSD, presented a paper on an ArcGIS Geodatabase modeling to visualize 3D cities through time. Problems and risks – and the value of standards (BIM and CityGML) – were highlighted in this pioneering simulation.

Quotes and News in Brief

"ESRI evolves its products and services in response to what users tell us they need and want" was stated in the Q&A document circulated two weeks before the conference.

John Calkins presented his popular Top Ten user requested improvements. "Top of the Pops" for improvements in ArcGIS 9.3 is: 'Send Crash Report' – and the news was again welcomed with a burst of applause from the audience. The feature sends bug reports direct to ESRI and was obviously greatly appreciated by the analyst sitting next to me!

The best way to share data over the web," said **Damian Spangrud**, ESRI senior Product Manager, "is with the PDF format." Support for Adobe Acrobat 9 software and new geospatial capabilities available in PDF with the release of ArcGIS 9.3 was announced early in June.

As we move into the new geospatial era, advancements in the ArcGIS server, such as quality, performance and scalability, are imperative. As well as mashups and integration of imagery, ITT Visual Information solutions announced the newest release of its geospatial image processing and analysis software, ENVI.

ITT President & CEO **Richard Cooke** explained how, as a result of talking to customers, they have moved from being "completely focused on the pixel" to being "focused on a workflow which extracts the information product out of the pixel and delivers it to your GIS platform." This has resulted in greatly increased use of imagery in many sectors by being able to extract the information (thus 'vectorising raster images!'). A very practical example was given when Cooke described how the technology was demonstrated to firefighters who could see how analysis of maps plus the imagery could be of vital help in combating the California's annual wildfires.

The Special Displays and Map Gallery exhibited the accomplishments for putting GIS to use from organizations from around the globe. Among the many visually stimulating exhibits was that of The Nature Conservancy, revealing how information and experience can be integrated with GIS to advance conservation efforts. The U.S. Department of Homeland Security mixed-media representation of its geospatial-intelligence analytic tool used to prevent, respond, and recover from natural and man-made disasters also drew much attention.

The sheer size of the ESRI User Conference can be overwhelming to the uninitiated – there is so much to see and do – so many people to meet and network with – so much new geospatial technology on display and exciting new applications – we can't wait until our next visit, when the 2009 ESRI UC will be held 13-17 July 2009 again at the San Diego Convention Center.

URLs

- [1] <http://www.esri.com/events/uc/welcome/attendeemap.html>
- [2] <http://edc.usgs.gov>

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