3D VISUALIZATION

Presented by Stuart Martin

Techniques and technology used to optimize and enhance GIS data in a 3D environment.

Convenor: Lauren Sweidan

E-mail: lsweidan@gims.com

THE EVALUATION OF THE DISTRIBUTION AND USE OF LANDSAT DATA IN AFRICA

In 2001 the US Government, through NASA and USGS, announced it would provide the circa 1975, 1990 and 2000 global Landsat data sets to the United Nations for further distribution and use by the international community. These geo-registered data sets of more than 23,000 images, with wall-to-wall coverage of the earth's entire land surface, constitute an important and valuable source of baseline information to document and quantify the present state-of-the-earth and changes to the environment since the early 1970s. These data represent critical baseline information and knowledge about the Earth's environment, and can directly support national activities in the areas of natural resources management, environmental monitoring, environmental security, disaster management and sustainable development.

The dissemination of these data sets in Africa is being carried out by leading regional centers (RCMRD, AGRHYMET, CRASTE-LF and SADC/RRSU) and also by UNEP, FAO, the United Nations Cartographic Section, and also by the United Nations Office for Outer Space Affairs (UN-OOSA). In addition to these efforts, University of Maryland's Global Land Cover Facility – GLCF and Michigan State University's Tropical Rain Forest Information Center have been successfully disseminating the Global Landsat donation to the international community through the Internet.

This Special Session will review the progress made by the above institutions in the distribution of imagery and evaluate the impact made with the availability of the Landsat data sets. Panellists and participants will identify existing obstacles to the distribution of the data sets and how such barriers can be addressed together in a satisfactory manner. All AfricaGIS 2005 Conference participants are invited to join this special session to contribute to the discussions and also to learn how to receive freely available Landsat images.

INVITED PANELLISTS

Fernando Echavarria - USDS

R.J. Thomson – USGS

Erik Khamala – RCMRD

Blessing Siwella – SADC-RRSU

Johannes Akiyumi - UNEP

David Stevens – UN-OOSA

Convenor: David Stevens

E-mail: David.Stevens@unvienna.org

THE GEOSPATIAL MANAGED ENVIRONMENT

Often, the Geospatial (previously: GIS) world is treated as one homogenous entity. In reality, it is more like a diverse collection of different activities in a wide range of markets with only one element in common: dependency on geospatial data. Nowadays, the traditionally non-Geospatial world is quickly adapting to the use of map and map data. To quench the thirst for map data, the geospatial world faces on of its biggest challenges yet: to overcome it's proprietary, workstation-centric approach and start dealing with Geospatial on an enterprise, interoperable level.

Bentley has been involved in the geospatial world since the early days. Especially in the data creation stage MicroStation as graphical platform has always played – indeed: is still playing -- an important role. Thousands of organizations across the globe use Bentley products to create, manage and publish CAD en GIS data.

For the last couple of years, Bentley Geospatial has been working on evolving its products and solution portfolio from workstation oriented products to an enterprise-wide architecture called the Geospatial Managed Environment. The Geospatial Managed Environment is Bentley's response to an ever growing demand for data accuracy and quality. It is a multi-tier architecture combining flexibility on the Desktop – using XML Feature Modeling– with a server-driven controlled environment – ProjectWise – connected to enterprise data stores like Oracle Spatial databases.

The workshop gives an in-depth overview of Bentley's Geospatial Managed Environment. It discusses its client, server and data store components, showing how the interaction between the different components allows for the creation of a productive and controlled environment for the maintenance of geospatial data. A business case is used in which multiple users with different roles play their part in changing large enterprise data stores containing geospatial data. Key aspects of the process will be illustrated using Bentley's extended geospatial software portfolio, including ProjectWise, the ProjectWise Connector for Oracle and Geo Web Publisher.

Convenor: Anina van der Westhuizen

E-mail: anina.vanderwesthuizen@bentley.com

THE ROLE OF SPATIAL INFORMATION IN EFFECTIVE DEVELOPMENT PLANNING

Presented by Mr Kaba Kabagambe

Objective: To illustrate the significance of spatial information in the development process

Focus areas:

- *Extent to which spatial information is utilized in development planning*
- *The gaps within the system*
- *Possible solutions*

Convenor: Ms Abigail (Khosi) Thabethe

E-mail: AThabethe@CSG.pwv.gov.za

NRCAN/CSA CANADIAN WORKSHOP: HEALTH / WATER

The Canadian involvement in African remote sensing activities goes back to the 1980s. During the mid 1990s, Canadian government agencies sponsored the GLOBESAR programs as one of several preparatory activities in advance of the launch of RADARSAT-1. The Canadian government, through agencies such as Canadian Space agency (CSA), Canada Centre for Remote Sensing (CCRS), International Development Research Centre (IDRC) and Canadian International Development Centre (CIDA), and in cooperation with partners in the industry and academic sector, has initiated several capacity building programs in Africa in support of RADARSAT. In Africa, the Canadian experts dealt and are dealing with water issues, agriculture and food security, and with human and institutional capacity building for space-based information issues. Canada earth observation community has also been recently involved in Mozambique, Tunisia. Nowadays some projects are undergoing in Burkina Faso, Ghana, Morocco, Egypt, Kenya and Mozambique under TIGER initiative. At bilateral level, Natural Resources Canada is establishing National Geomatics Plan in Senegal and Tunisia. Canada is a world leader in earth observation and geomatics. Taking into account its experience and on the basis of the challenges and issues articulated in the context of the World Summit on Sustainable Development, held in Johannesburg 2002, the Canadian earth observation community is committed to support African development efforts with pertinent space-based information. In attending the AfricaGIS 2005 event, the Canadian Space Agency, Natural resources Canada and Canadian companies and stakeholders will present through four workshops their accomplishments and capabilities in respect of African sustainable development issues. The four workshops will highlight the use of earth observation and geomatics sciences and techniques for Natural Resources-Land Management, Health-Water and Environment.

PROGRAMME:

Opening remarks by the Government of Canada

Remote Sensing Applications for Health and Water Management

Mr. John Roos, PCI Geomatics. E-mail: roos@pcigeomatics.com

Decision Support Software for Water Resource Management

Ms. Armineh Garabedian, GlobeVision. E-mail: agarabedian@globvision.com

GIS/Remote Sensing Application in Vulnerability Assessment of River Basin Systems: The Lower Zambezi Basin Case Study

Mr. Eben Chonguica, IUCN. E-mail: ebenc.iucn@tvcabo.co.mz

StereoSat Africa: Using EO Imagery in Stereo to Improve Water Resource Management

Mr. Mathieu Benoit, Viasat Geo-Technologies. E-mail: mbenoit@viasat-geo.com

Geospatial Technologies for Health Applications

Mr. Tom Hirose, Noetix Research. E-mail: tom.hirose@noetix.on.ca

DISTRIBUTED ADDRESS MAINTENANCE

Presenter: Serena Coetzee

OVERVIEW:

- *Why do we need spatial addresses?*
- *Status Quo: Spatial Addresses in South Africa*
- *Challenges of Address Maintenance in South Africa*
- *How distributed systems technology can contribute to the maintenance of addresses.*

In order to put address maintenance in South Africa into context, this workshop will give a brief overview on the importance and application of spatial addresses in South Africa, and outline the status quo of spatial addresses in South Africa.

Currently some legal and policy issues regarding the establishment of a national address register are being addressed. However, the next challenge will be to maintain a national address register. Some of the challenges are the continuous updates due to new developments, name changes and assigning of addresses to areas that did not have addresses in the past; and another challenge is the distributed nature of address databases in South Africa, i.e. each local authority maintains its own.

This workshop will investigate how distributed systems (as opposed to a centralized data storage) can be applied to solve the problem of maintaining addresses in distributed locations.

BIOGRAPHY:

Serena is responsible for the AfriGIS spatial and deeds datasets, overseeing the monthly and quarterly releases of these datasets. Apart from current projects, other initiatives include

PropertySPI (in partnership with Property24), a report available to the public showing sold price indexes for suburbs, streets and sectional schemes. The reports are available on www.property24.com;

Intiendo Toolset. Intiendo is a address matching, geocoding and address capturing solution developed by AfriGIS;

datasets based on the AfriGIS Suburbs listing variables such as average property prices, average property price increase, % bonded properties, credit score, LSM distribution, AMPs variables, etc. for each suburb.

Serena represents AfriGIS at the SABS technical committee for South African GIS Standards.

Serena is the AfriGIS PAMSS (Postal Address Management and Service Supplier) representative at the South African Post Office.

Convenor: Marna Roos

E-mail: marna@afrigis.co.za

ENTERPRISE GIS

Presented by David Maguire

High level overview of what Enterprise is – the components and infrastructure required to implement a successful GIS.

Convenor: Lauren Sweidan

E-mail: lsweidan@gims.com

LAND COVER CLASSIFICATION SYSTEM (LCCS)

GLCN and Africover are based upon the FAO/UNEP Land Cover Classification System (LCCS). LCCS is the only universally applicable classification system in operational use at present. It enables a comparison of land cover classes regardless of data source, economic sector or country. Most other land cover classification systems are single-purpose systems, tailored to requirements of a specific project or based on a sectorial approach. The LCCS method enhances the standardization process and minimizes the problem of dealing with a very large amount of pre-defined classes.

LCCS is based on independent and universally valid land cover diagnostic criteria rather than on a pre-defined set of land classes. Its output is a comprehensive land cover characterization, regardless of mapping scale, land cover type, data collection method or geographic location. LCCS has the best potential to become accepted as the international land cover classification standard because of its inherent flexibility, applicability in all climatic zones and environmental conditions, and compatibility with existing classification systems.

Arabic and Spanish versions of the software and manuals are being completed, while French, Chinese and Russian versions of LCCS are foreseen.

The increasing interest of many countries and institutions worldwide in LCCS has invoked more assistance within their respective initiatives and programmes. To help meet these needs a number of multi language (including Arabic, English, French and Spanish) self-tuition tools are being developed. In addition, users will be supported by web applications and by GLCN staff located in the Topic Centres. For more information, please log on to the www.glcn-lccs.org Web site.

Convenor: Craig von Hagen

E-mail: craigvonhagen@yahoo.co.uk

OPEN SOURCE GIS: A PRACTICAL REALITY IN 2005

INTRODUCTION:

Open Source GIS has come a long way and many projects exist that make open source a real possibility in terms of GISc solutions. However, the market is for the most part, entirely unaware of these possibilities. This workshop therefore aims at rectifying this situation by offering a few case studies as well as a general introduction to what's available.

FORMAT:

The workshop will take the format of a number of personal accounts from individuals who have successfully implemented Open Source GIS. The discussions will be lead by Laurie Barwell who will highlight key learning points throughout the discussion. After this a general discussion will be lead by Laurie who will be assisted by a panel of experts.

PROGRAMME:

- *Welcome and Introduction*
- *Overview of the Open Source Landscape*
- *Case studies*
- *Discussion (Facilitator: Laurie Barwell Panel: Chris Holmes, Graeme McFerren, Kim Tucker, Gaby van Wyk)*
- *Draught Strategy Development*

REQUIRED OUTPUT:

- *We hope that we will reach the following outputs from this discussion:*
- *Identify a number of Portfolio projects*
- *Identify relevant Issues that may need to be followed up*
- *Highlight the challenges*
- *(Draught strategy document for making open source the preferred GIS for Africa)*

Convenor: Gaby van Wyk

E-mail: gaby@i2u.co.za

GEOGRAPHY, STATISTICALLY SPEAKING

Hosted by: Statistics South Africa

Collection Geography versus Dissemination Geography *(by Helene Verhoef)*

An attempt to explain why there is a need and a purpose for both geographies within a statistical organisation: Using enumeration areas as data collection units and small areas or place name areas as dissemination areas.

Addressing the Nation…

Urban Context *(by Andre Erasmus)*

Providing information on what a National Address Register is and why it is necessary in terms of Statistics South Africa's needs. Furthermore, the conceptual model of the National Address Register will be explained.

Traditional Context *(by H.D. Moletsane)*

The majority of the traditional tribal villages do not have an official numerical address system. Where there is a semblance of such it is assigned by service providers like ESKOM, TELKOM, and in many cases the numbers assigned for Census 1996. Initiatives on standardization will be explained

Spatial link of Administrative Data and its Challenges *(by Ilse Brits)*

The use of administrative data proving to be a valuable source of information but it is not necessarily ideal for use in a GIS. The standardization of certain administrative data entries in government and organization should be addressed

Convenor: Ms Sharthi Laldaparsad

E-mail: SharthiL@statssa.gov.za

GLOBAL LAND COVER NETWORK (GLCN)

WHY GLCN?

Land cover information is an essential requirement for the sustainable management of natural resources and for environmental protection. It provides the foundation for environmental, food security and humanitarian programmes of many UN, international and national institutions. Current monitoring programmes, however, have no access to reliable or comparable baseline land cover data.

WHAT IS GLCN?

The Global Land Cover Network (GLCN) was initiated in 2004 by the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP), with the financial support of the Government of Italy and the technical collaboration of the Istituto Agronomico per l'Oltrem are (IAO, Italy). GLCN was developed to answer the needs of both national and international communities for standardized land cover data. GLCN is based on the recommendations of the Agenda 21 for coordinated, systematic and harmonized collection and assessment of data on land cover and environmental conditions, especially for monitoring of the environment. It answers the specific declaration and request by the participants of the conference on "Strategies for Global Land Cover Mapping and Monitoring", held in Artiminio, Italy, 6-8 May 2002, for the development of an international harmonized land cover mapping effort.

OBJECTIVES

The objectives of the project are to improve the availability of reliable and standardized information on land cover and land cover change at the national, regional, and global level, especially for the user community in developing countries which have difficulty to access reliable, consistent and updated information. GLCN also undertakes national capacity building in land cover data production and management, and develops effective communication links among relevant organizations through regional networks.

In order to fulfil the above objectives, GLCN is:

- *harmonizing land cover definitions and classification systems;*
- *standardizing global land cover baseline datasets;*
- *providing database structure and maintenance guidelines;*
- *supplying access to methodology and software;*
- *creating awareness, provide training and capacity building;*
- *creating a global land cover meta-database;*
- *providing advisory services on land cover classification, mapping and monitoring;*
- *functioning as an international, politically neutral and not-for-profit clearinghouse for land cover information at global at global and regional levels;*
- *acting as an international portal for information and products and services dissemination;*
- *developing regional institutional networks and promoting national and regional collaboration.*

Convenor: Craig von Hagen

E-mail: craigvonhagen@yahoo.co.uk

GIS AT THE HEART OF ELECTIONS

Presenter: Charl Fouche

The past ten years have been historically memorable for South Africa, especially for those at the front lines of electoral processes.

During the course of this workshop the attendees will be guided through the growth of GIS at the IEC since the establishment of the department ten years ago.

The core focus of the workshop will be the following two topics:

- *Streamlining GIS for Elections.*
- *Practical Delimitation Examples.*

The principles developed and used by the IEC over the past decade can be of assistance to not only electoral commissions but every government and commercial company that aims to provide a value added service to its clients and tax payers.

BIOGRAPHY:

Charl Fouché has a full understanding of data related issues such as version control, quality assurance, data capturing, attribute data and metadata methodologies. He has a wide knowledge of various GIS software products and database technologies. For the past seven years he has been involved at the Independent Electoral Commission (IEC), managing a team responsible for the quality assurance of geographical and alphanumeric data and the development of software solutions and delimitation of voting district boundaries. He is currently appointed as senior GIS advisor to the IEC.

Convenor: Marna Roos

E-mail: marna@afrigis.co.za

GEOSPATIAL IMAGE ACCESS

The volumes of geospatial imagery are increasing substantially. They are becoming increasingly inexpensive and are often free. Accessibility of imagery has now become the major factor that determines their efficient use. The conventional solutions for how to manage, process and distribute geospatial imagery have broken down and have left much valuable image data under utilized and often the facilities of new imagery not being exploited. The unique aspects of geospatial imagery will be discussed and aspects of the conventional geospatial process flow investigated to highlight the traditional bottlenecks. These have been overcome using the PromptServer technology which has been acquired by ESRI. Some of the highlights of the ESRI Image Server and different types of image data available in Africa will be shown to demonstrate the possibilities that are now being opened up by the use of the different imagery in an Image Processing Server.

Convenor: Rolf Becker, MAPS Geosystems

E-mail: rolf.becker@mapsuae.com

NRCAN/CSA CANADIAN WORKSHOP: NATURAL RESOURCES AND LAND MANAGEMENT (PART 1)

The Canadian involvement in African remote sensing activities goes back to the 1980s. During the mid 1990s, Canadian government agencies sponsored the GLOBESAR programs as one of several preparatory activities in advance of the launch of RADARSAT-1. The Canadian government, through agencies such as Canadian Space agency (CSA), Canada Centre for Remote Sensing (CCRS), International Development Research Centre (IDRC) and Canadian International Development Centre (CIDA), and in cooperation with partners in the industry and academic sector, has initiated several capacity building programs in Africa in support of RADARSAT. In Africa, the Canadian experts dealt and are dealing with water issues, agriculture and food security, and with human and institutional capacity building for space-based information issues. Canada earth observation community has also been recently involved in Mozambique, Tunisia. Nowadays some projects are undergoing in Burkina Faso, Ghana, Morocco, Egypt, Kenya and Mozambique under TIGER initiative. At bilateral level, Natural Resources Canada is establishing National Geomatics Plan in Senegal and Tunisia. Canada is a world leader in earth observation and geomatics. Taking into account its experience and on the basis of the challenges and issues articulated in the context of the World Summit on Sustainable Development, held in Johannesburg 2002, the Canadian earth observation community is committed to support African development efforts with pertinent space-based information. In attending the AfricaGIS 2005 event, the Canadian Space Agency, Natural resources Canada and Canadian companies and stakeholders will present through four workshops their accomplishments and capabilities in respect of African sustainable development issues. The four workshops will highlight the use of earth observation and geomatics sciences and techniques for Natural Resources-Land Management, Health-Water and Environment.

PROGRAMME:

Opening remarks by the Government of Canada

Applications for Natural Resource / Land Management using High Resolution Data

Mr. John Roos, PCI Geomatics. E-mail: roos@pcigeomatics.com

Partnerships in Land Reform: The Case of Post-Settlement Support in South Africa

Mr. Ian R. Methven, Terradigm. E-mail: methven@unb.ca

Web based GIS Editing for Municipal, Land and Disaster Management Applications

Mr. Mark Kachmar, MRF Geosystems. E-mail: mkachmar@mrf.com

Title to be confirmed

Ms. Armineh Garabedian, GlobeVision. E-mail: agarabedian@globvision.com

GIS AND TRANSPORT

Presenter: Lizelle Botha - AfriGIS

AfriGIS have had the privilege of being involved in numerous provincial projects aimed at transportation management through GIS implementation over the past eight years.

The workshop lead by Lizelle Botha will take attendees through various case studies from projects done for:

- *Gauteng Department of Transportation and Road Works and*
- *Free State Department of Public works, roads & transport*
- *JRA – Johannesburg Roads Agency*

Past projects that will form part of the workshop discussion will be:

- *Gautrain website for the Public*
- *Public Transport Information System*
- *Free State Provincial CPTR and Motheo District Municipality CPTR.*
- *Advert Management System & Web-based Transport GIS*
- *Integrated Land Use and Transport Planning*

The attendees will be given a unique glance into the challenges and planning involved in the various aspects of implementation of a GIS system with the ability to identify, plan and maintain in order to provide a workable solution to all the role players of Transportation.

This workshop can be highly recommended for all delegates interested in future GIS implementation in the Transportation arena and to meet with veterans who have made the field their passion.

BIOGRAPHY:

Lizelle Botha is a Project Manager in the Solutions Unit of AfriGIS. She is currently busy with a Masters degree in Civil Engineering at the University of Cape Town.

Convenor: Marna Roos

E-mail: marna@afrigis.co.za

GIS IN EDUCATION

Using GIS as a tool to enhance and accelerate the learning of Geography.

Presented by Lizette Rust

Convenor: Lauren Sweidan

E-mail: lsweidan@gims.com

NRCAN/CSA CANADIAN WORKSHOP: NATURAL RESOURCES AND LAND MANAGEMENT (PART 2)

The Canadian involvement in African remote sensing activities goes back to the 1980s. During the mid 1990s, Canadian government agencies sponsored the GLOBESAR programs as one of several preparatory activities in advance of the launch of RADARSAT-1. The Canadian government, through agencies such as Canadian Space agency (CSA), Canada Centre for Remote Sensing (CCRS), International Development Research Centre (IDRC) and Canadian International Development Centre (CIDA), and in cooperation with partners in the industry and academic sector, has initiated several capacity building programs in Africa in support of RADARSAT. In Africa, the Canadian experts dealt and are dealing with water issues, agriculture and food security, and with human and institutional capacity building for space-based information issues. Canada earth observation community has also been recently involved in Mozambique, Tunisia. Nowadays some projects are undergoing in Burkina Faso, Ghana, Morocco, Egypt, Kenya and Mozambique under TIGER initiative. At bilateral level, Natural Resources Canada is establishing National Geomatics Plan in Senegal and Tunisia. Canada is a world leader in earth observation and geomatics. Taking into account its experience and on the basis of the challenges and issues articulated in the context of the World Summit on Sustainable Development, held in Johannesburg 2002, the Canadian earth observation community is committed to support African development efforts with pertinent space-based information. In attending the AfricaGIS 2005 event, the Canadian Space Agency, Natural resources Canada and Canadian companies and stakeholders will present through four workshops their accomplishments and capabilities in respect of African sustainable development issues. The four workshops will highlight the use of earth observation and geomatics sciences and techniques for Natural Resources-Land Management, Health-Water and Environment.

PROGRAMME:

Opening remarks by the Government of Canada

Land Information System Modernization - The Way Forward

Mr. John P. Duff, Eastcan. E-mail: johnd@eastcan.ca

Visual Simulation: An Effective Communication and Design Tool

Mr. Denis Baron, Tecsult. E-mail: denis.baron@tecsult.com

StereoSat North: Use of Satellite Stereoscopy to Develop a New Approach to Ecoforestry Mapping

Mr. Mathieu Benoit, Viasat Geo-Technologies. E-mail: mbenoit@viasat-geo.com

Integrated Coastal Zone Management and the Maritime Boundary: A Canadian Approach Towards Measuring, Delineating and Stewarding the Sead

Mr. Denis Desrosiers, CIPA. E-mail: denis.desrosiers@cipanb.ca

THE SENSOR WEB: AN EMERGING TECHNOLOGY FOR SOUTH AFRICAN EARTH OBSERVATION

The Sensor Web is an emerging technology trend that promises to revolutionise Earth Observation. What the Sensor Web does is add a sensory dimension to the internet i.e. a layer of artificial intelligence that allows users to glean meaningful information about the state of environment via a web browser.

The ICT for Earth Observation Research Group (ICT4EO) is investing heavily in Sensor Web research and development. It has been receiving, archiving and distribution satellite imagery for more than 20 years, and the reception footprint of the Centre covers most of the SADC region. The objective of the research is to develop an open architecture based on emerging Open Geospatial Consortium (OGC) standards for Sensor Web Enablement. This open architecture should ultimately underpin the National Spatial Data Infrastructure (NSDI). The purpose of the NSDI is to promote data sharing and avoid duplication of data and resources.

The Satellite Application Centre is in the process of setting up a Cooperative Research Centre for Sensor Web Enablement (CRC-SWE). The CRC concept is borrowed from Australia, and is proving to be highly effective vehicle for collaborative research.

Convenor: Andrew Terhorst, Maraka Institute, CSIR, South Africa

E-mail: aterhorst@csir.co.za

SKILLS AND CAPACITY NEEDS WITHIN THE GIS SECTOR IN SOUTH AFRICA

Presented by Ms Abigail (Khosi) Thabethe

Objective: To address the fact that spatially-related skills shortage within Municipalities affect timely and quality service delivery to communities

Focus areas:

- *Listing of spacially-related scarce skills*
- *Identifying skills development initiatives in the country*
- *Problems and constraints in building capacity*
- *Possible solutions*

Convenor: Ms Abigail (Khosi) Thabethe

E-mail: AThabethe@CSG.pwv.gov.za

AN INTEGRATED APPROACH FOR GEODEMOGRAPHIC DATA COLLECTION AND ANALYSIS

Presenter: Mark Kindler, Spatial Technologies

The utilisation of geodemographics for enhanced decision-making has emerged as one of the fastest growing sectors in the GIS industry. Some have even quoted this field as being "a new thrust to the growth of GIS in the corporate environment" due to leading edge technology, compounded with data rich analytical tools and techniques.

GIS offers a platform for implementing more cost-effective systems across the enterprise, and this workshop will demonstrate a natural technological progression by examining the capture of geodemographic data from a mobile device, which is then relayed back to a central database after which numerous demographic analyses can occur on the desktop or on the web.

The nature of these analyses assists decision-makers by not only aggregating the primary research data, but by integrating it with existing demographic datasets yielding unsurpassed, fascinating results. Moreover, intriguing statistical techniques may be applied to the data facilitating an even deeper look into the habitual and lifestyle characteristics of individuals.

The results achieved by 3-D modelling, thematic map creation, raster grid conversion and other exhilarating data interpolation (such as utilising the Huff model - used for retail site location) could be utilised for purposes of target marketing and niche identification, telco tower planning (i.e. "line of site"), resource allocation by government and much more!

Convenor: Mark Kindler

E-mail: markk@spatial.co.za

THE ISO 19100 FAMILY OF STANDARDS FOR GEOGRAPHICAL INFORMATION

This workshop will provide an introduction to the ISO 19100 family of international standards for geographical information, which have been developed by the International Organization for Standardization's Technical Committee developing standards for geographical information and geomatics, ISO/TC 211. These standards address different aspects of geographical information and geomatics, from data models and schemas, through reference models, metadata and quality, to Web mapping and application areas such as location based services.

Ultimately, the purpose of these standards is to promote interoperability between geographical information systems (GIS), as well as with other systems using geographical information. The ISO 19100 standards cater for both vector and raster data. ISO/TC 211 has already published 19 International Standards, two Technical Specifications and three Technical Reports.

This workshop will also discuss the work being done on standards for geographical information for the Southern African Development Community

(SADC) and within South Africa, through Standards South Africa's Sub-Committee SC 71E. This workshop should be of interest to academics, GIS experts and managers in both industry and government agencies.

PRESENTATIONS:

- *"An overview of the ISO 19100 family of standards for geographical information", presented by Antony Cooper, CSIR.*
- *"The ISO TC 211 Business Plan", presented by Wilson Honu, Propnet.*
- *"Some interesting ISO 19100 standards", presented by Paul Strydom, Department of Land Affairs.**
- *"SANS/SC 71E and its outreach plans", presented by Suraiya Adam, Standards South Africa.*

Convenor: Antony Cooper

E-mail: ACooper@csir.co.za

MOBILE GIS

Presented by Derck Vonck

Creating and maintaining distributed spatial databases. These could either be connected via a network or disconnected for in-field use.

Convenor: Lauren Sweidan

E-mail: lsweidan@gims.com

NRCAN/CSA CANADIAN WORKSHOP: ENVIRONMENT

The Canadian involvement in African remote sensing activities goes back to the 1980s. During the mid 1990s, Canadian government agencies sponsored the GLOBESAR programs as one of several preparatory activities in advance of the launch of RADARSAT-1. The Canadian government, through agencies such as Canadian Space agency (CSA), Canada Centre for Remote Sensing (CCRS), International Development Research Centre (IDRC) and Canadian International Development Centre (CIDA), and in cooperation with partners in the industry and academic sector, has initiated several capacity building programs in Africa in support of RADARSAT. In Africa, the Canadian experts dealt and are dealing with water issues, agriculture and food security, and with human and institutional capacity building for space-based information issues. Canada earth observation community has also been recently involved in Mozambique, Tunisia. Nowadays some projects are undergoing in Burkina Faso, Ghana, Morocco, Egypt, Kenya and Mozambique under TIGER initiative. At bilateral level, Natural Resources Canada is establishing National Geomatics Plan in Senegal and Tunisia. Canada is a world leader in earth observation and geomatics. Taking into account its experience and on the basis of the challenges and issues articulated in the context of the World Summit on Sustainable Development, held in Johannesburg 2002, the Canadian earth observation community is committed to support African development efforts with pertinent space-based information. In attending the AfricaGIS 2005 event, the Canadian Space Agency, Natural resources Canada and Canadian companies and stakeholders will present through four workshops their accomplishments and capabilities in respect of African sustainable development issues. The four workshops will highlight the use of earth observation and geomatics sciences and techniques for Natural Resources-Land Management, Health-Water and Environment.

PROGRAMME:

Opening remarks by the Government of Canada

Applications for Environmental Monitoring using Segmentation based Software

Mr. John Roos, PCI Geomatics. E-mail: roos@pcigeomatics.com

Estimation of Soil Moisture and Soil Roughness using Remote Sensing and In-situ Measurements

Ms. Armineh Garabedian, GlobeVision. E-mail: agarabedian@globvision.com

Practical Applications of Remote Sensing for Resource Management in Africa

Mr. Tom Boivin, Hatfield. E-mail: tboivin@hatfieldgroup.com

Use of Earth Observation Data in Environmental Studies

Mr. Denis Baron, Tecsult. E-mail: denis.baron@tecsult.com

Use of RADARSAT-1 Stereo Images to Improve the Mapping of World Heritage Conservation Sites in Central Africa

Mr. Mathieu Benoit, Viasat Geo-Technologies. E-mail: mbenoit@viasat-geo.com

OPEN GIS TO EMPOWER YOUR ORGANISATION

Do you have different spatial datasets in different formats in your organization? Are you struggling to integrate these datasets?

By focusing on Open GIS all the different datasets are integrated to produce a single point of access to all relevant data. Users are able to access different levels of data from different datasets through one interface, pulling all data into one powerful management information system.

Data, currently stored in proprietary format, is converted to OGIS format, meaning that users now have the ability to view data from different systems, independent of the platform or proprietary format of the data, while data capturers can use any desktop software, relevant to their specific field of expertise, to capture data into the system.

A practical example: You have different ESRI shapefiles in different datums and projections as part of the GIS system. The engineering department sends you drawings in Autocad format. How do you combine these different data formats in one single system?

Shapefiles and Autocad files are converted into one single OpenGIS database. During conversion the data is cleaned and integrity testing is done to ensure highest levels of data integrity and quality. The data is also converted to one datum and projection. All attribute data is linked to the spatial data in such a manner that any changes to the data are dynamically pulled through the moment any changes are affected.

Why OGIS? By implementing an OGIS compliant system in your organization you will maximize productivity and return on your investment. You will be able to utilize all existing software optimally as well as allow access to all relevant data right through the organization. Access to data and functionality will be quicker and more effective, resulting in higher turnaround time and ultimately higher return on your investment.

Convenor: Anelda De Bruin

E-mail: aneldadb@openspatial.co.za

GEOPROCESSING IN GIS

Presented by Stuart Martin

The ability to leverage and integrate diverse spatial data sources, to facilitate decision making, is crucial to the success of a GIS implementation. Utilizing the Geoprocessing environment within ArcGIS, offers powerful analytical capabilities in an easy to use environment.

Convenor: Lauren Sweidan

E-mail: lsweidan@gims.com

ENABLING EMBEDDED GEOSPATIAL APPLICATIONS IN STANDARD ENTERPRISE IT ENVIRONMENTS

Presneter: Philip Doherty, eSpatial (Ireland)

iSMART 5 ® is a suite of Enterprise GeoSpatial (GIS) software products and solutions from eSpatial.

iSMART 5 offers a significant new approach to developing and deploying spatial applications. Rather than merely providing GIS capability within another proprietary environment, iSMART 5 implements all spatial functionality in a standard enterprise IT environment with all geospatial data being held in an Oracle Spatial 10g database. This data is then served-up using standard Java (J2EE) Application Servers, and is supported by all popular web browsers.

Gone is the need to support several monolithic, proprietary data stores and client-side applications requiring specialised GIS skills. It is the objective of eSpatial's iSMART 5 to allow for powerful spatial functionality to be deployed directly from the server, to any client, through any application, anywhere.

iSMART 5 provides four main components:

- *An Out-of-the-Box GeoPortal for publication of maps on an Intranet or the public Internet within hours*
- *A Web-based Spatial Data Management and Map Configuration Tool giving you control over your spatial data through an easy to manage GUI. It is fully compliant with relevant OGC standards*
- *An Advanced GIS Editor, which can be integrated into web-based applications or used disconnected from a central database*
- *A Development Environment for bespoke applications that need to integrate sophisticated spatial functions and deliver these across the Web*

iSMART 5 is completely open-standards based and OGC compliant. Built on top of the industry standard Oracle 10g platform, iSMART 5 is implemented using standard enterprise technologies. As well as making it easier to integrate spatial intelligence in line-of-business applications, iSMART provides unparalleled enterprise capabilities including security, performance, and scalability.

The iSMART approach allows non-GIS specialists, to build and deploy spatially-enabled internet applications integrated within standard enterprise IT environments at the database, application server & web services tiers. This approach greatly reduces the time-to-market and the dependency on specialist GIS skills. Organisations can significantly enhance the capabilities of any enterprise-wide application by offering added depth of integration, scalability, performance and reliability.

Join us at our workshop to see the power of iSmart.

Convenor: Ms Allie Cleghorn

E-mail: allie@ndt.co.za

LOCATION BASED SERVICES – MAKING GIS A REALITY FOR MILLIONS OF SOUTH AFRICANS ON THEIR MOBILE TELEPHONES

Presenter: Magnus Rademeyer

The introduction of location-based services (LBS) into South Africa has significantly increased the general awareness of the importance of location among millions of South Africans. In a country with less than 4 million Internet users but more than 24 million mobile telephone users, LBS is providing an effective means to make GIS or location awareness a reality to millions of consumers

This workshop will be a continuation of the oral presentation by Magnus Rademeyer. During the workshop the following questions will be discussed:

Location based services:

- *How does it work?*
- *What current applications are running in -RSA,-the world*

How is it changing our world?

The role of content and base datasets.

Future of location based services(assisted GPS)-Vodafone Live, Swarm, Google Earth

Java applications for field data capture. Voice logging. Real time content updates i.e. How will it change our world.

BIOGRAPHY:

Magnus Rademeyer is the Managing Director and founding member of AfriGIS. He obtained a BEng Civil Engineering (Cum Laude) at the University of Pretoria. He has been involved in the conceptualisation, planning, development, implementation and marketing of location-based services (LBS) in South Africa, including Vodacom's Look4it location-based service. His particular fields of interest are: the establishment of a sound strategy surrounding the use and maintenance of spatial information in an organization, the application of GIS technologies to mobile applications and mobile telephony, the use of GIS technology in logistics and transportation planning, the management of geographic data and the provision of a data asset, which would stimulate the growth and planning required in South Africa.

Convenor: Marna Roos

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