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2009number 1

introduction

What's real? … and what's virtually real? Philosophers would probably have a field day with those questions. Still, there's no doubt that advancing technology is providing us with ways and means of spanning time and space that would have amazed our predecessors. On page 8 you can read all about ITC's experiences with Elluminate, a product that provides a real-time virtual classroom room environment for distance education. And if the article whets your appetite - which it most surely will - you can satisfy your curiosity further by registering for free live online training at the internet address provided.

Unfortunately, the realities of our physical world sometimes lead to tragedies of stark proportions. The horrific tsunami of 2004 is a case in point. But was this a unique event? One PhD student has explored the history and evolution of the coastline in part of the ravaged area and uncovered some remarkable information in this respect (see page 10). These findings may well contribute to the design of appropriate coastal protection in the future. The tsunami is also a focal point of the article on page 2, which examines the use of GIS and remote sensing in auditing disaster-related aid - more specifically in auditing houses and other buildings constructed for the victims of this giant tidal wave. One challenging task within the context of remote sensing is the selection of sound data. Never one to back away from a challenge, ITC has developed a database to provide rapid access to timely information about earth observation satellites and sensors. Sounds interesting? Check out page 12 for more details.

Pages 15 and 16 plot the path of the joint research strategy that has led to an important framework agreement with the Universidad Nacional Autonoma de México. In the last five years, ITC has concluded no less than 18 joint research framework agreements, a fact that serves to underline the significant scientific contribution of the ITC graduate student community.

So plenty to get your teeth into in the latest edition of *ITC News*. It comes in colourful hard copy and handy digital form, but whether you're thumbing or clicking your way through its pages, I trust you'll find much to claim your attention - naturally, in between polishing up those well-known ITC skills at the dartboard, snooker table and suchlike (page 22-23).

Virtually yours,   *Janneke Kalf*   *Jorien Terlouw*
                     Managing Editor   *Editor*

colofon

GIS and Remote Sensing for Audit of Disaster-Related Aid

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The project Use of Geographical Information System for Audit of Disaster-Related Aid - part of the programme Strengthening Accountability for and Audit of Disaster-Related Aid - resulted from the vision of the International Organization of Supreme Audit Institutions (INTOSAI).

The project was initiated by Egbert Jongsma, project manager of the INTOSAI Tsunami Task Force of the Netherlands Court of Audit, and B. Dwita Pradana, acting head of Public Relations and Foreign Affairs of Badan Pemeriksa Keuangan RI (BPK), the Indonesian Supreme Audit Institute. The World Bank funded the project.

In its effort to minimise waste, competition, fraud and corruption within the aid fund, the INTOSAI task force suggested an audit using geographical information. With remote sensing and GIS, those areas where the risk of the misuse of funds is highest can be identified, thus focusing the audit effort and saving the time and money of the Supreme Audit Institution in charge. Indonesia (and in particular Aceh after the 2004 tsunami disaster) was selected as a pilot area for the use of GIS for audit purposes. The project had three main components: method development, feasibility and training.

Method and Training

The method focuses on auditing houses and other buildings that have been constructed for the victims of the 2004 tsunami. Once a method has been developed for houses, it should be relatively easy to include infrastructure and agriculture as well. The basic idea behind the method is to use two maps of the objects of interest - one of the original situation and one of the new - and detect the changes by applying overlay techniques and rules for change detection in order to obtain only the changes of interest.

The resulting changes are combined with a map of administrative units. Resulting maps and/or tables are compared with the information supplied by the institution being audited, and this procedure is followed by (field) sampling. The map would usually be derived from satellite images or aerial photographs. This could be the generic approach for all spatial objects under audit, such as forests, houses, agriculture and environmental impact.

It is useful to analyse satellite images and existing data before the field survey, because GIS can help in the planning of sample sites and routing. Knowing the area of a housing project and its history and having the available data to hand in the field make it easier for the field team to focus on the missing data and select the sites for checking.

Suitable remote sensing methods were developed to detect houses on the KOMPSAT-2 (Korean Multipurpose Satellite) imagery supplied pro bono for this project by the Korean Aerospace Research Institute (KARI). The project delineations of the field teams were digitised and combined with the map of new houses. In this way, thematic (audit) data of the housing projects could be related to the new houses mapped from the imagery.

During analysis, displaying all field data on a map and combining these data with the geo-database can make it easier and faster than when using a table with numbers to ascertain exactly where, for example, the

Over a period of 10 days, training was given to 10 people from several units of BPK Jakarta and from the BPK Aceh Representation Office

houses are unfinished. From these data, we can also analyse the sites and area where the contractor works and compare them with the administrative boundary (village), revealing overlaps in working area. Reports are easier to understand if we can include a good map of the spatial distribution of the characteristics of interest.

For BPK, the fundamental question was not simply whether houses had been built as planned but also whether these houses were indeed occupied by their new owners. On the KOMPSAT-2 images, it is impossible to see whether a house is occupied. We explored the possibility of a combination with address databases of services such as water and electricity, but without success because of a lack of reliable and complete data.

Over a period of 10 days, training was given to 10 people from several units of BPK Jakarta and from the BPK Aceh Representation Office. The objective was to familiarise BPK staff with the method of GIS-based housing audit as developed in the project. The training was held in Banda Aceh

so a field visit could be part of the training. Participants came from different professional backgrounds, mostly related to accounting or economics. Several participants had already followed a basic GIS training course.

Following requests from BPK to acquaint staff from other branches of the organisation with the use of GIS and remote sensing, we presented an executive seminar in the BPK office in Jakarta.

Feasibility and Conclusions
Based on our experience, we can now say that GIS is a useful and cost-effective technology for preparing and planning an audit survey, for visualising where risk of fraud is highest, and for limiting the amount of data that has to be collected in the field. Remote sensing can be used to acquire spatial data that are not yet available as maps, and also allows independent verification of certain objects and processes.

Furthermore, having the data to hand in a mobile GIS in the field and storing the data immediately in digital form speeds up the

survey and reduces the risk of error, and possibly the number of samples needed too. When it comes to presenting the results of the audit, maps are very effective for summarising information and showing spatial relations.

Training BPK field staff in two to three weeks to use the technology for basic applications is feasible. However, further support should be organised, for example, via a central unit with GIS/remote sensing professionals that could assist local units and develop or adapt methods where needed.
Data accuracy and methods to assess the accuracy of spatial data still deserve more attention. As with all data used by an audit institute, the reliability of the data used in the audit is important to ensure the credibility of the audit and the confidence of the general public.

Results from the project have been incorporated in Chapter 5 of *GIS and Auditing Disaster-Related Aid*, the report of the INTO-SAI Tsunami Task Force on the lessons learnt (see http://eca.europa.eu/portal/page/ portal/ intosai-aada/productdetails?p_item_id= 1182128 under "GIS and audit"). BPK is currently using GIS and remote sensing in its audit of forestry management in Kalimantan,

while the Netherlands Court of Audit is using geo-information in an increasing number of their projects.

We thank Karola Rentenaar, audit manager Foreign Affairs and Defense Audit Division of the Netherlands Court of Audit, BPK's Aceh Representative Office, Yakob Ishadamy and Richard Kidd from BRR–SIM-C (Spatial Information and Mapping Centre of the Centre for Rehabilitation and Reconstruction of Aceh and Nias), BAKOSURTANAL Geospatial Unit and KARI for their contributions to the project.

The method focuses on auditing houses and other buildings that have been constructed for the victims of the 2004 tsunami

The basic idea behind the method is to use two maps of the objects of interest - one of the original situation and one of the new - and detect the changes by applying overlay techniques and rules for change detection in order to obtain only the changes of interest

CSI/AGCommons Africa Geospatial Week

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Under the administrative supervision of the Consultative Group on International Agricultural Research (CGIAR), the large American engineering firm CH2M HILL is partnering with the ITC departments Geo-information Processing and Natural Resources to deliver the geospatial technology programme Agricultural Geospatial Commons (AGCommons).

The programme aims to support the development of sub-Saharan agriculture through making location-specific information available to farmers, farmer communities and organisations, and other planners and decision makers in the agro-product value chain. Initial funding for the programme is being provided by the Bill and Melinda Gates Foundation.

Outreach in West Africa

Our small outreach team visited Mali, Burkina Faso and Ghana in the last two weeks of March for an intensive series of visits to farming stakeholders, ranging from local farmers to regionally operating research institutes. Through ITC's alumni network, we identified a local contact in each country for logistical support, as well as contacts in the visited organisations. Our team for West Africa was in the capable hands of Louise van Leeuwen. In Burkina Faso, she received on-the-ground support from alumnus Jean Semporé; in Mali from Sibiry Traoré (ICRISAT); and in Ghana from Djate Andrews (CERSGIS). Jennifer Barnes and Todd Slind on behalf of CH2M HILL completed the AGCommons team, with expert help received from Kai Sonder (CIAT) and Dr Jide Kufoniye, well-known in the ITC community. The purpose of the effort was to elicit information needs, assess opportunities for geospatial enablement, and make a start on building a user community for AGCommons. The scene of action then shifted to Nairobi.

CSI Annual Event

The annual meeting of the CGIAR Consortium for Spatial Information (CSI), which this year also served as a consultation regarding the AGCommons programme, was held from 31 March to 4 April. It opened on Tuesday with the CSI business meeting, during which the group set out the strategy and actions for the coming year. The group was addressed by Dr John McDermott, who encouraged the CSI to continue as a model of collaboration for the CGIAR as it undergoes structural changes. Dr Bashir Jama provided an overview of AGRA's programmes and challenged the CSI to think strategically about the contributions spatial technologies can make towards development in the next five to 10 years. The CSI and AGCommons were further challenged to work closely with Africa-led development efforts and to strengthen capacities of national institutions with respect to geospatial technology and its applications.

Much of the day's work was carried out through a World Café discussion of issues and opportunities. This resulted, among other things, in a set of proposals that included the establishing of an outreach committee to start a CSI geospatial blog and revitalise CSI's web assets; the creating of a council to assist the global coordinator in achieving the CSI work plan for the coming year; and the setting up of a thematic data

World Café discussions on selection criteria for upcoming projects in the AGCommons programme

task force to investigate efficiencies and identify best practices with respect to climate data management and analysis.

Wednesday brought Spatial Solutions Day and another packed agenda. Each CGIAR CSI representative reported on the current geospatial research activities of their respective centre. In addition, presentations were made by Google on MapMaker, USAID on the SERVIR-Africa initiative, ReSAKSS on its knowledge management and collaboration with CAADP, and on the Great Lakes Cassava Initiative with its field data collection technology evaluation and deployment. Highlights were many and various, and details of each presentation were blogged live by the group via Twitter.

AGCommons Day began with an introduction to the programme by Srikant Vasan, senior programme officer with the Bill and Melinda Gates Foundation, and Enrica Porcari, AGCommons programme coordinator and CIO of the CGIAR. This was followed by a report on the preliminary results of the West Africa outreach efforts mentioned above, a presentation of the five quick win projects currently getting underway, a discussion of some of the potential approaches to an AGCommons technical platform, and a description of what AGCommons seeks in its implementation, technology, business and donor partners. The majority of the afternoon was used to generate ideas concerning critical aspects of the AGCommons programme, again in World Café format.

The AGCommons World Café during CSI week

Discussions were lively and carried the group well past the scheduled close of the day's agenda.

Friday started with a report from the previous afternoon's World Café and a presentation from the Regional Center for Mapping of Resources for Development, a partner in SERVIR-Africa and a provider of data products, geospatial tools, and capacity building services. Friday afternoon began with a livelink presentation from Chris Nicholas on his AssessmentGRID concept. The rest of the day focused on the work resulting from AGCommons Day and on confirming the CSI work plan for the coming year. The group was split into two topic groups to discuss:
• thematic areas in which AGCommons should provide services
• platform requirements to technically support the provision of these services.
These discussions resulted in a matrix of functional service areas that will be targeted at potential customers, and a short list of service opportunity scenarios that will be evaluated for their technical requirements with respect to both existing providers who have the capability to address gaps, and areas where AGCommons needs to act to define and implement a technical solution or capability.

By Friday afternoon, most of the participants were mentally and physically exhausted. Much had been discussed and much had been accomplished over the four days. Furthermore, it was heartening to witness the mounting interest of the Kenyan press over this period.

WhereCampAfrica
The inaugural WhereCampAfrica was a tremendous success on the Saturday, with 100 or so participants discussing many aspects of geospatial technologies as well as cross-fertilising with social media and cultural topics. This stimulating and lively event, which offered opportunities for community building, rounded off a hugely successful African Geospatial Week.

Outreach in East Africa
At the time of writing, we have a farm-fresh outreach team in the field again, this time visiting stakeholders in Kenya, Uganda and

Rwanda over a two-week period. Once again, the ITC alumni network provides us with extremely valuable connections in many cases. The key ITC organiser is Thomas Groen and he is collaborating with Fatuma Yusuf and Jubal Harpster (both CH2M HILL), and An Notenbaert (ILRI). Our on-the-ground officers this time round are David Nkedianye (Kenya), Albert Mugenyi (Uganda) and Adrie Mukashema (Rwanda). By the time this East African team has finished, we expect to have acquired a thorough understanding of the geospatial potential for African agriculture. This will form the basis of phase 2 of the programme, which is expected to start in the second half of 2009.

AGCommons is not only a geospatial technology distribution scheme, it is also a strong attempt to build a community of individuals and organisations with a vested interest in helping to improve sub-Saharan agriculture. Interested readers are advised to visit www.agcommons.org or contact one of the authors from the CH2M HILL/ITC partnership.

The AGCommons West Africa outreach team looking at TIPCEE (Trade and Invest Program for Competitive Export Economy) maps and posters

A Burkinabé farmer telling us about her fields and crops

Jubal Harpster (also known as Mr WhereCamp) explaining the principles of the Camps

Madame Lydia of the Farmers Organisation Network in Ghana (FONG) at the Accra AGCommons mini-workshop

education news

Real-Time Online Learning: An Elluminate Virtual Classroom

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Students from the 2008 distance course Spatial Decision Support Systems have experienced a new of way of distance learning by attending Elluminate classes. They could interact live with one another and with the lecturers in a highly collaborative and engaging way.

Distance courses offered by ITC are a good way for alumni to broaden their capabilities in specific fields. Without travelling to ITC, students can follow a compact course on current topics such as GIS data quality or environmental impact assessment. But offering high-quality distance courses requires particularly appropriate and useful tools for communication and collaboration between students and lecturers.

Recently, Johannes Flacke and Luc Boerboom used Elluminate in their distance course Spatial Decision Support Systems. Elluminate is a real-time virtual classroom that allows live interaction yet requires a relatively low bandwidth - sometimes essential for distance students. Linlin Pei from the E-Learning Support Unit interviewed Johannes regarding their experience with this new way of teaching, and some interesting points are dealt with below.

What are the differences between delivering a distance course with and without Elluminate?
Well, we mainly gave the same distance course we'd given the last two years, but then we added three live sessions using Elluminate. These three sessions were scheduled at crucial points throughout the course: 10 days after the start to resolve any possible problems during the initial phase; at the end of the most important lesson of the course, to make sure that everything had been understood; and just before the final exam, to clarify final questions.

Do students like this way of learning? Any feedback?
The feedback we got right after the sessions was highly positive. The students very much liked the way of communicating with us and with one another directly, and made good use of it. And I can say it also helped me to get a better understanding of some issues that were bothering the students during the course.

What are your thoughts as regards adding Elluminate sessions to distance education? Are you going to use it in the future?
We're still learning how best to incorporate Elluminate into the course, but we will definitely use it again next year. Most important from my point of view is the fact that you can use it strategically throughout the course at crucial points. Then it really adds value. For example, when having a session, it helps to bring the class together again by defining milestones that have to be reached by a certain time. I found out that it even stimulates the students to work harder afterwards, whereas they were not very active before. What's more, you can also record the session, which means it will be available afterwards on the Elluminate server. This is quite helpful. For instance, if someone misses the session or the connection fails, he can look at it at a later date.

How does Elluminate encourage students and instructors to interact?
It's almost as if you were in a normal classroom situation: you can give a lecture using slides, only the students

Teaching at a distance using Elluminate

are not sitting right in front of you, just your computer screen. The students can hear your voice and watch a PowerPoint presentation. You can also show them how to use an application running on your computer, even handing over the desktop control to one of them. When a student has a question or wants to comment on something, he can click on an icon to raise his hand. I can hear this on my headset, so then I hand the microphone over to him and he can put his question to the class.

Is it easy to use?

During the first session, I gave a 15-minute introduction to the basic functionalities of Elluminate. After that, the students were able to use such basic functions as the chat tool, the audio tool, voting, and raising their hands. In the following sessions, it only took five minutes' preparation at the beginning before we could start with the virtual class again. Of course, using advanced functionalities such as application sharing or building subgroups to work on a specific task in so-called break-out rooms would require more training.

To log on to a session is also quite simple. The students get a weblink invitation via e-mail and have to click on it. The Java applet is automatically installed on their computer. I would say it takes five minutes to get into a session, without first being registered or any other preparatory procedures.

What differentiates Elluminate's tools from free chatting and video conferencing tools such as MSN or Skype?

Well, the main difference is that you can combine a variety of tools and multiple ways of communication in one virtual class. You have the whiteboard, where you can upload slides straight from PowerPoint for teaching a topic, or you can write down a question asking the students to react. Next to it, you have the participants' window, which you can use to monitor the class: here you can see if someone is raising a question, you can ask the students for feedback, or you can let them vote. Finally, you can use the chat tool to communicate with an individual student who has forgotten to turn off his microphone. You can also post a private message to students working in break-out rooms.

Where are your students located? Do they have bandwidth issues?

This time we had students from Africa (Egypt and Tanzania), as well as from Latin America and South America (Brazil, Guatemala, Jamaica, Colombia). As far as Latin America was concerned, it worked very well - almost no delay in the voice stream. With the students from Africa, however, we did sometimes have problems in understanding their voice stream - but at least they could all understand us quite well throughout the whole session, and could clearly see the slides shown on the whiteboard.

Of course, the speed of internet access is the critical factor here. We found that dial-up connections with 115 k, for example, didn't work well, but with a standard cable or DSL connection, it was all but perfect. If the connection is too poor, you should probably let the students raise their questions via the chat tool rather than use the voice tool.

Summary

Elluminate provides a real-time virtual classroom that allows live interaction to be added to asynchronous distance courses. It can also be used to get in touch with your MSc or PhD supervisors or to facilitate project meetings without travelling. For those of our readers with a technical bent, some of the key features of Elluminate are:
- application sharing
- interactive whiteboard
- multipoint video
- PowerPoint import
- interactive quiz and survey manager
- indexed recording and playback
- instant messaging.

If you would like to try Elluminate yourself, you can register for free live online training (www.elluminate.com/ support/training/index.jsp) or get yourself a free Elluminate three-person room (www.elluminate.com/ vroom/register.go). At ITC, you can contact the Support Unit E-learning (Linlin Pei, pei@itc.nl).
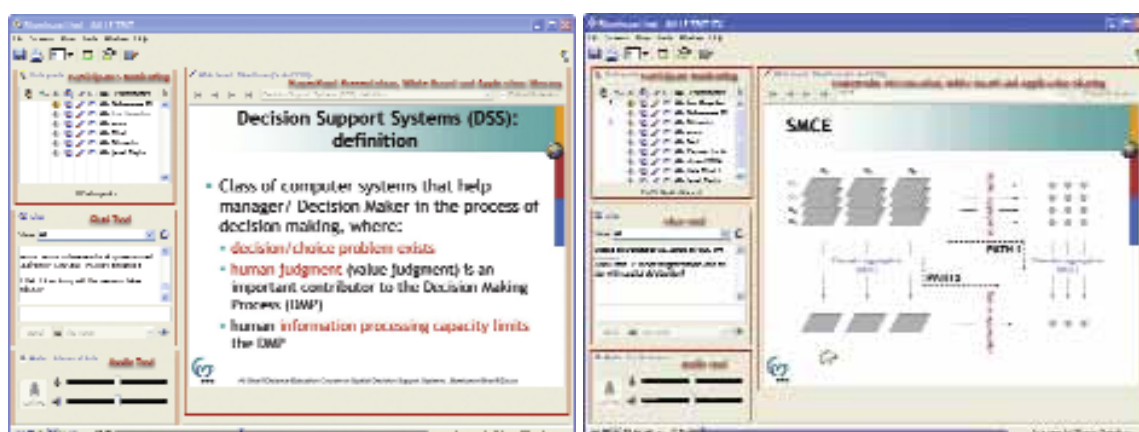
Elluminate main window

It's almost as if you were in a normal classroom situation: you can give a lecture using slides, only the students are not sitting right in front of you, just your computer screen

Refresher Courses 2009

Refresher courses, which are certificate of attendance courses (mostly of two-week duration) organised for alumni in their home countries or regions, are meant to increase the impact and prolong the effect of earlier training.

Refresher courses are funded mainly by the Netherlands Fellowship Programme (NFP). In principle, the target group of these courses consists of alumni who have completed any NFP-funded training or education at least two years before the planned starting date of the relevant refresher course. Colleagues and supervisors of alumni are also allowed to participate in (part of) a refresher course.

In 2009 ITC will co-organise six refresher courses:

- Sustainable Economic Development and Conditions for Land Administration
  Namibia, 8 June 2009

- Impacts of Infrastructure and Transport - Modelling and Mapping for Sustainable Infrastructure Development in an Urbanising Landscape in West Africa
  Ghana, 10 August 2009

- Targeting Urban Poverty Alleviation
  Ethiopia, 14 September 2009

- Use of Low-Cost Earth Observation Data in Environmental and Climate Monitoring Applications: Taking Further the African Union-AMESD Initiative
  Rwanda, 5 October 2009

- Designing and Utilising Geo-information Infrastructures for Effective Electronic Governance in Eastern Africa
  Uganda, 12 October 2009

- Innovative Approaches to Multiscale Landslide Hazard and Risk Assessment
  Sri Lanka, 19 October 2009

For more information and application: www.itc.nl/education/courses.aspx?prog=6

research news

Tsunami: The Tragedy and the Truth
Researcher Uncovers Valuable Information

UT News

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While it was widely believed that the huge tsunami that devastated parts of Asia in 2004 was a unique event, PhD candidate Ella Meilianda has now uncovered information to the contrary. In her determination to understand the evolution of the coastline, she began researching historical records and ancient maps, and found written evidence of a mountain-like wave in the same region about 700 years ago. Meilianda also discovered that smaller tsunamis occur as often as

every 20 to 30 years. Combined with carbon dating of rock samples in Malaysia and other scientific studies, she has created a timeline model of the Banda Aceh coastline in an attempt to predict future changes.

Born in Banda Aceh, the capital of Sumatra, Indonesia, Meilianda won a scholarship from the Indonesian government and came to the Netherlands to pursue her PhD studies. On 26 December 2004, when the tsunami struck, she was working on

her research proposal for the integrated coastal zone management of Banda Aceh for the UT's Water Engineering and Management Group. Unable to contact her family, she returned to the region and was grateful to discover her parents and sister were safe. Two months later, she came back to the Netherlands. Her family home had been destroyed and, tragically, 15 of her relatives had died and childhood friends were missing.

Ella Meilianda says, "No coastal structure could stop such a huge tsunami. Now it will stay in history, and we can learn from its geological imprint."

Academically, the data she had collected on the morphology of the coastal system of Banda Aceh seemed of limited value. Meilianda needed to find a new avenue of research. With the support of her supervisor, Dr Marjolein Dohmen-Janssen, and the guidance of her promoter, Professor Suzanne Hulscher, she decided to research the morphological development of the Banda Aceh coast after the tsunami on 26 December 2004. Soon after she began working on her new proposal, she was diagnosed with post-traumatic stress disorder and encouraged to take on a 50% percent workload. Almost exactly one year after the tsunami, in January 2006, Meilianda defended her proposal.

She says: "I tried to stand firm. Emotionally, yes, it was difficult, but also there were so many uncertainties. I was concerned about the data because the morphology of the coastal system was completely changed. I began with a short time scale, using satellite images to compare the coast before and after the tsunami. I had images from four days after the event, and I kept monitoring the coast until 2007. But I was concerned. Was the tsunami really an unprecedented event? Then I had to know the whole story. So I widened my time scale."

By comparing old historical topographical maps from the Netherlands with local maps, as well as ancient texts and archaeological findings which recorded land subsidence, Meilianda attempted to create a link with the scientific evidence. Using the carbon dating information compiled in Malaysia and the curvature of sea-level fluctuation that had occurred over the last millennium, she created a framework of the evolution of the Banda Aceh coastline. Meilianda then chose a 100-year time scale to plot future scenarios. She says: "I needed to consider the intermittent forcing factors involved in shaping the coastal system of a tectonically unstable area. Combined with a regular wave climate causing temporal erosion of the coast, there was the famous issue of a rising sea level due to global warming. Yet there was also

the threat of tsunami and land subsidence, which often occurs after an earthquake. Both land and sea levels could suddenly change, altering the water depth. This would affect the wave climate and lead to a different rate of sediment transport."

Meilianda's research involved the analysis of surface changes of the coastal plain and sea-bottom topography (bathymetry) using GIS data processing at ITC, where she was supervised by Dr Ben Maathuis. She defends her PhD on 19 June, and says, "What I have accomplished in my thesis is just the beginning. I want to continue my research. It's important information if we want to design the coastal protection of this area. In my mind, it all goes towards the victims."

Banda Aceh, Indonesia, 2004: the 1,000-ton electricity generator ship was swept 2 km inland by the tsunami, ending up less than 500 m from Meilianda's parents' house (photo: Ella Meilianda)

The ship stranded inland (ca. 3 km inland from the port) (photo taken June 2005)

The ruins of the parental home, located less than 500 m from the stranded ship after the tsunami (photo taken January 2005)

Electricity generator ship docked in the port basin at Ulee lheue, Banda Aceh (photo taken in 2003, before tsunami)

ITC's Database of Earth Observation Satellites and Sensors

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ITC's sensor database has been designed and developed to provide rapid access to up-to-date information about earth observation satellites and sensors. It also provides technical information and links to data and information sources on the internet.

Selection of "good" data is a challenging task within the context of remote sensing. Good data are acquired when and where the researcher needs them and they should have the required spatial and spectral characteristics too. Hence, the best way to understand suitable data with respect to the job at hand is to look at the observation dimensions of available data, for example, spatial and temporal resolutions, spectral coverage, etc. If remote sensing researchers have a better understanding of the data acquisition processes and of the technologies involved, they might have a better chance of selecting what they really need. Moreover, basic understanding of the principles and possibilities of data acquisition methods and of instruments, as well as knowledge of where the researcher can go to find the data, would be beneficial since one system or one satellite mission cannot provide all the information appropriate for the user community.

In order to fulfil the above requirements, ITC's database of earth observation satellites and sensors provides a platform for harvesting what the researcher needs through various links to information sources and data archives. This database was developed this decade starting with the data that are mostly used within ITC, and new satellites and sensors are being added continuously. The content of the database is checked by comparing information sources with one another, even including the validity of the URLs to data and information sources.

The information available in the database itself is collected from various sources. Priority has always been given to the official sources since they can be considered more reliable. ITC tries to avoid mistakes in the database as much as possible but you are encouraged to signal any improvements required.

ITC hopes that this initiative will support more and more appropriate use of remotely sensed data for earth observation science.

For more information, visit
www.itc.nl/research/products/sensordb/searchsat.aspx

partnership news

Erasmus Mundus External Cooperation Windows

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The Erasmus Mundus External Cooperation Window (EM ECW) is a co-operation and mobility scheme in the area of higher education cooperation launched by the Europe Aid Cooperation Office. The EM ECW objective is to achieve better understanding and mutual enrichment between the European Union and third countries cooperation in the field of higher education through promoting the exchange of persons, knowledge and skills at higher education level. This is achieved through the promotion of partnerships and institutional cooperation exchanges between European higher education institutions and third country institutions and a mobility scheme addressing student and academic exchanges.

ITC is coordinating the window for Iran, Iraq and Yemen (www.erasmusmundus8.net) and for Africa, the Caribbean and Pacific States (www.erasmusmundus10.net), and is a partner in the window for India and Regional Asia.

Africa, Caribbean and Pacific Window

On 20 and 21 January 2009, a joint programme board meeting took place in Windhoek, Namibia, hosted by the Polytechnic of Namibia, one of the partners in this mobility scheme. EU representatives Renata Russels and Raul Mateus Paul (head of Unit Centralised Operations, EuropeAid, ACP) and UNHCR representative Antonius Kamerika of the Namibia field office participated in the meeting. Under the ACP Window, 148 students from ACP countries have received fellowships to study in Europe.

Regional Asia

The External Cooperation Window for Asia (also called EMMA) has been awarded to a consortium (headed by the University of Nice, France) in which ITC is a partner. The mobility scheme to be implemented under this window will start on 1 September 2009. The EMMA consortium consists of nine universities from Europe and eight universities from the Asian Region. The Asian partner universities are located in Bangladesh, Cambodia, India, Pakistan and the Philippines, and the European partner universities are located in France, Germany, Poland, Romania, Spain, Italy, Turkey and the Netherlands. The first programme board meeting was held from 8 to 12 March in Dhaka, Bangladesh. (When you read this article, the selection of candidates for the available EMMA fellowships will have been concluded and mobilisation will take place in the coming months.)

Lot 15 India

ITC is a consortium member of the Erasmus Mundus External Collaboration Window (Lot 15) for

Meeting in Windhoek, Namibia

Delegates during a game drive close by Windhoek

EU representatives Renata Russels and Raul Mateus Paul (head of Unit Centralised Operations, EuropeAid, ACP) with Dr. Tjivikua (Rector of the Polytechnic of Namibia)

Meeting of the steering committee of Lot 15 India

India. This comprises eight Indian and 12 European universities and is coordinated by the University of Lund, Sweden. A full consortium meeting of all partners took place at the University of Leuven in January, when ITC was appointed member of the steering committee.

A meeting of the steering committee subsequently took place in Pune, India, from 10 to 13 March and focused on the selection of the candidates. A total of 301 mobilities are available from India to Europe and 101 mobilities from Europe to India. The first mobilities are already under-

way and ITC hopes to welcome the first three PhD students on 15 June.

The same consortium is hoping to run a second round of the project in 2010.

GEONETCAST at the RCMRD

Ben Maathuis   maathuis@itc.nl

Sustainable development requires coordinated, comprehensive and sustained Earth observations for early warning, informed policies and effective decision making. In support of this objective the Group on Earth Observation (GEO) is leading a worldwide effort to build a Global Earth Observation System of Systems (GEOSS), providing Earth observations from a multitude of instruments worldwide. It is foreseen that these Earth observation data (in-situ, air and space borne) and derived products are (re) distributed via GEONETCast to a broad range of user communities. Therefore GEONETCast, bringing together the many disparate sources of environmental information, has a significant potential to enhance access to a wide range of information to

users. This low cost, global, environmental information delivery system currently operates the European, African, Asian and American services. The data stream transmitted by these communication satellites can be received using a simple and cheap ground reception infrastructure. GEONETCast distributes images that have been used previously mainly by the Meteorological community but which are becoming an important data source to a wide variety of users that deal with environmental analysis.

With the ongoing development of GEONETCast, broadcasting (globally) a multitude of satellite observations and associated products in conjunction with cheap ground receiving infrastructure, the data is now at the

doorstep of the user community anywhere in the world. Problems related to a limited bandwidth available in many countries are overcome. Efficient processing and analysis routines are required to facilitate incorporation of these environmental data sources and products to improve national and regional policy and (timely) decision making for a better management of the natural resources and face the challenges posed by sustainable development. The low cost ground receiving segment coupled to a freeware toolbox approach is well suited for non-meteorological organisations dealing with environmental related application domains.

From 6-10 April 2009 at the Regional Center for Mapping of Resources for Development in Nairobi, Kenya, a

successful workshop was conducted entitled: *"Installation, Configuration of a GEONETCast Ground Receiving Station"*. During this week an operational local GEONETCast ground receiving station was established and used for the purpose of the workshop. The data and information received will support the regional centre in its future activities in the region.

This one week workshop focused on the following topics:
- Providing an overview of the data and products that are available in GEONETCast;
- Hands-on on setting up and configuring of a low cost C-Band GEONETCast ground receiving station at the RCMRD;
- Maintaining a consistent data archive using the GEONETCast Data Manager;
- Introduction to the GEONETCast toolbox, an ILWIS 3.6 OPEN *Beta* based plug-in capable to handle relevant images and products from GEONETCast for environmental analysis;
- Hands-on exercises to integrate the data into a GIS and demonstrations showing the versatility of GEONETCast and the IWLIS 3.6 Open *Beta* Toolbox.

Software utilities that are used have been provided to the course participants as well as the necessary contacts to acquire a license, documentation needed to configure a ground receiving station and a set of exercises for further analysis of data and products from GEONETCast. The workshop was jointly organized by staff from RCMRD and the Department of Water Resources, ITC, The Netherlands.

Mr. Lawrence Okello from RCMRD is explaining the antenna configuration to the course participants at the RCMRD

Joint Research Strategy Culminates in Framework Agreement with Leading University in Mexico

Martin Hale   hale@itc.nl

Back in 2003, early in my term as head of research, a strategic decision was taken to develop, extend and expand the ITC Research Programme through (alongside other initiatives) joint research with strong research partners. For more than five years, giving substance to this decision was a focus of my attention and, in the course of this period, the ITC Research Programme

has been linked to a worldwide family of research partners through a series of joint research framework agreements.

At the very beginning of this era, Director of External Affairs Sjaak Beerens briefed me on a visit he had made to Mexico City, where the director of science of the Universidad Nacional Autonoma de Mexico

(UNAM) had expressed enthusiasm and tangible support for joint research with ITC. I followed this up when a high-level delegation from UNAM visited ITC in July 2004 and, through a visit to UNAM in April 2005, arranged an exploratory meeting for scientific research staff from both UNAM and ITC. This eventually took the form in March 2006 of a joint research workshop held in

Mexico City, plus visits to field locations, which was attended by nine scientists from ITC and more than a dozen from UNAM.

Meanwhile UNAM and ITC had launched a joint education programme which, on the part of UNAM, involved the sections of its Instituto de Geografía located at Morelia, about 400 km west of Mexico City. MSc students enrolled in this programme began to make a modest start on joint research, undertaking projects on integrated landscape management in the region around Morelia.

Back at ITC, I was developing and concluding joint research agreements with partners as close as Utrecht and as far afield as Yogyakarta and Cochabamba. As joint research under these agreements is commonly realised through jointly supervised and supported sandwich-study-construction graduate (PhD) students, these agreements played a significant role in the strategic expansion of the ITC Graduate Programme in the years 2003 to 2008. During this period the number of graduate students increased more than threefold, with 114 registrants in the ITC Graduate Programme at the end of 2008 (see Figure 1). The size and scientific contribution of the graduate student community of ITC now conform

closely to that of a university faculty, strengthening ITC's position as its incorporation (as a faculty of special status) into the neighbouring University of Twente approaches. But a formal agreement on joint research between UNAM and ITC was proving tortuous to negotiate. Draft agreements were sent back and forth. Sections of the Instituto de Geografía located at Morelia, where there was on-going joint education, were emerging as the focal point for joint research but these sections were reconstituted into the Centro de Investigaciónes en Geografía Ambiental. More draft agreements were sent back and forth, revised and translated into Spanish. UNAM lawyers pondered the fine print. In 2007, Dr Gerardo Bocco, an ITC alumnus and, in 1990, one of the first PhD graduates of the then embryonic ITC Graduate Programme, was appointed director of the Centro de Investigaciones en Geografía Ambiental. With the increased confidence that his determined efforts to conclude the agreement would eventually secure all the required signatures, Gerardo, the rector and I put our signatures to the agreement when Gerardo visited ITC in December 2008.
Just two months later in Mexico City, the Secretario General and the Coordinador de la Investigación Científica of UNAM added their signatures, thereby concluding the agreement and laying the formal foundations for our joint research. UNAM is a university of high academic standing and amongst the largest in the world with 250,000 students. It has an extensive network of Latin American universities and hence joint research with UNAM and its network holds great promise for contributing to ITC's development cooperation mission.

In the last five years, ITC has concluded 18 joint research framework agreements (see Table 1) and is likely entering a phase of consolidating these whilst steering research falling under them to still higher standards of quality, productivity and development relevance. ITC has recently introduced its Graduate Partnership Scheme (www.itc.nl/research/graduate/default.asp), which aims at supporting a limited number of sandwich PhD students selected by the Academic Board of ITC on the basis of the credentials of the applicant, the quality of the proposal and the pledged contribution and commitment of the partner. We eagerly look forward to receiving applications linked to those universities and organisations with which ITC is already affiliated through joint research framework agreements and to welcoming, in particular, the first researchers under the new UNAM-ITC joint research framework agreement.
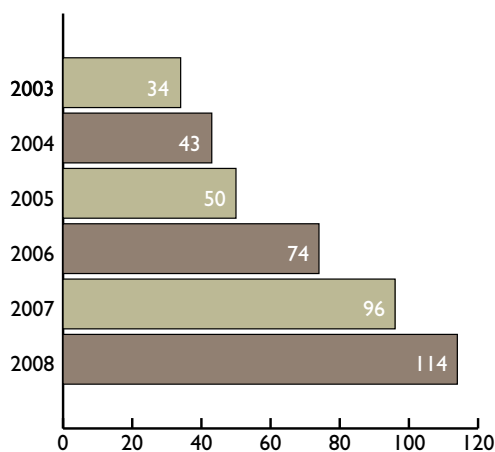

Dr Gerardo Bocco, ITC alumnus and director of the Centro de Investigaciónes en Geografía Ambiental, and the rector of ITC signed the agreement

Year	Registrants
2003	34
2004	43
2005	50
2006	74
2007	96
2008	114

Figure 1 Graduate registrants 2003-2008

Table 1 Joint research framework agreements

University / organisation	City	Country	Agreement date
National Remote Sensing Agency	Hyderabad	India	July 2005
Chinese Academy of Sciences (Bureau of Science and Technology)	Beijing	China	August 2005
Interface Cycling Expertise	Utrecht	Netherlands	June 2007
Wuhan University	Wuhan	China	December 2005
Kwame Nkrumah University of Science and Technology	Kumasi	Ghana	January 2006
Universidad Mayor de San Simon	Cochabamba	Bolivia	April 2006
Regional Centre for Training in Aerospace Survey	Ile-Ife	Nigeria	July 2006
Chinese Academy of Surveying and Mapping	Beijing	China	October 2006
Universitas Gadjah Mada	Yogyakarta	Indonesia	December 2006
Naturalis	Leiden	Netherlands	April 2007
University of Salamaca	Salamanca	Spain	June 2007
University College Dublin Urban Institute	Dublin	Ireland	August 2007
islamic Azad University	Tehran	Iran	October 2007
East China Normal University	Shanghai	China	December 2007
Chengdu University of Technology	Chengdu	China	December 2007
CEPT University	Ahmedabad	India	May 2008
Universidad Nacional Autonoma de Mexico	Mexico City	Mexico	February 2009
K N Toosi University	Tehran	Iran	February 2009

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announcements

Opportunity to Apply for Travel Grant to Attend AfricaGIS 2009

The ISPRS Foundation is seeking applications from individuals wishing to obtain travel assistance from the Trust Fund Amsterdam 2000 (administered by the ISPRS Foundation) to participate in the AfricaGIS International Conference, which will be held in Kampala, Uganda, from 26 to 30 October 2009.

Application Deadline
The application form can be downloaded from the ISPRS website (www.isprs.org/foundation) and, after reading the preamble, applicants should complete and submit the form. The deadline for receipt of applications is 10 July 2009.

Remote Sensing of Soil Salinization: Impact on Land Management

A New Book Published by CRC Press, Taylor & Francis Group

This book delineates how to combine science and geospatial technologies for smart environmental management. The book describes a variety of sensors, ranging from ground-based to airborne and satellite-borne, and their use in a diversity of geographical regions and environmental settings, from coastal to inland saline areas.
It provides guidance on how to identify and choose the right remote sensing tools and datasets required based on the purpose of the study and the environmental setting. The book is organised into three sections:
- *Section I: Soil Salinity and Remote Sensing: The Object and the Tool* focuses on the relationships between the landscape-object salinity and the remote sensing tools.
- *Section II: Trends in Mapping Soil Salinity and Monitoring Salinization Using Remote and Proximal Sensing* provides a variety of case studies dealing with soil salinity mapping and monitoring the process of salinisation.

- *Section III: Diversity of Approaches to Modeling Soil Salinity and Salinization* demonstrates the diversity of approaches used in modelling soil salinity and salinisation in space and time.

The book includes analyses of basic issues of remote detection, such as the spectral behaviour of salt types and vegetation influence, and evaluations of currently available remote sensing platforms, delineating their advantages and disadvantages. The accompanying CD-ROM provides colour images that enhance the material discussed in the text. The mixture of fundamental concepts, latest technological reviews, and practical application examples makes this an ideal resource for environmental assessment and decision making.

The book is edited by Graciela Metternicht and Alfred Zinck (retired ITC Professor). ITC staff (Dr Abbas
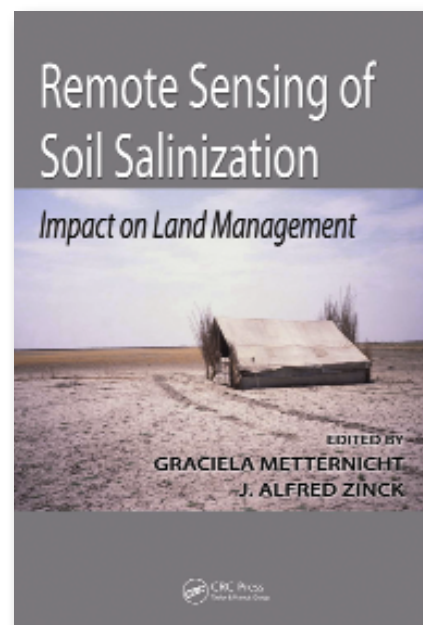
Farshad, Dr Dhruba Pikha Shrestha and Dr Alfred Zinck) and ITC alumni (Dr Graciela Metternicht and Dr Jamshid Farifteh) have contributed to this book by writing some chapters.

To order:
www.taylorandfrancis.com
Search the book using ISBN 9781420065022

events

Land Governance in Support of the Millennium Development Goals

Monica Lengoiboni   lengoiboni@itc.nl

The conference Land Governance in Support of the Millennium Development Goals: Responding to New Challenges took place at the World Bank Headquarters in Washington DC, in March 2009. The conference was organised by the International Federation of Surveyors (FIG) and the World Bank. The general aim was to emphasise the important role of land governance in implementing the Millennium Development Goals (MDGs) and to show how FIG and the World Bank work in parallel in this regard.

In the organising committee, FIG was represented by President Stig Enemark and Professor Paul van der Molen from ITC. Leading from the World Bank was Klaus Deininger, lead economist, World Bank Land Thematic Group. The sponsors of the event were ESRI, Trimble, Dutch Kadaster, GTZ, Leica Geomatics and ITC.

The UNU School of Land Administration at ITC gave presentations at the conference. Chris Paresi talked on ITC's involvement in capacity building in disaster management and land administration. He informed the panel that the aim of the School was to meet the growing need for professional training in land administration. Training courses are conducted at ITC and also abroad. In 2008, for example, short, tailor-made and refresher courses were conducted in China, Ghana, Hungary, Namibia, Senegal and Tanzania. In 2009, these courses are being conducted in Mongolia, Namibia, Nepal, Vietnam and Indonesia. Besides short courses, the School also offers opportunities for Diploma, MSc and PhD degree courses. Research focuses on such fields as innovative land administration systems and governance, Geo-ICT for innovation land administration systems, and drivers for investment in land administration systems. Furthermore, the School is also involved in such activities as providing land administration project services in Guatemala, Rwanda and Uzbekistan;

knowledge exchange through participation in conferences; and networking through the UN-Habitat Global Land Tool Network, through academic partnership, and with ITC alumni. These are among the strategies used at ITC to contribute to land governance, thereby supporting the MDGs. The School is a joint programme in which the ITC Department of Urban and Regional Planning and Geo-information Management collaborates with the Dutch Cadastre, Land Registry and Mapping Agency (Kadaster).

Christiaan Lemmen gave a presentation on the experiences of using high-resolution imagery as a basis for collecting data for incorporation in the Social Tenure Domain Model (STDM), an open-source software package that is currently being developed jointly by ITC, UN-Habitat and FIG. The STDM is a pro-poor land administration tool intended to cover land administration in terms of administrative and spatial components.

The conference Land Governance in Support of the Millennium Development Goals: Responding to New Challenges took place at the World Bank Headquarters in Washington DC, in March 2009

Christiaan Lemmen giving a presentation on the experiences of using high-resolution imagery as a basis for data collection

Whereas conventional land administration systems relate people's names/addresses to land parcels (or spatial units) via formal rights, the STDM has the ability to relate a personal identifier (e.g. fingerprints) to a coordinate point on the land used by that person via a social tenure relation. Depending on the local conditions, a variety of social tenure relationships and basically all types of land rights (e.g. customary, informal, overlapping) can be accommodated. The STDM thus provides an extensible basis for an efficient and effective system of land rights recording. The model will be a useful tool for developing countries, where it can be used to obtain an inventory of all land and rights as they exist. This will enable better decision making in managing land and land use and in planning for development purposes. A post-conference meeting with further reviews was also organised for participants interested in learning more about the STDM. Since the STDM is open-source software, it will allow further development of functionalities on different platforms.

In the closing session of the conference, Professor Stig Enemark concluded that "land governance is a crucial issue in meeting the MDGs and should be high on the global agenda. New challenges, also in relation to climate change, food security, energy scarcity, natural disasters, urban growth, and environmental degradation need to be met. This is only possible in a multidisciplinary approach – which calls for partnership. It can be observed that the technology tools as available today are far ahead compared to legal and institutional tools. This implies that a good partnership is needed for applications of sophisticated technology tools, whereas capacity building and learn-

ing should be most relevant and urgent. In the process of land administration, the continuum of land rights as developed by UN-Habitat provides a good basis since this approach is socially embedded. Finding evidence on the ground remains a key issue; this is where the land professionals become involved. This process is expensive – hence a good monitoring of the money spent is most relevant. Looking at the strong demand from client countries addressing land administration, there are reasons to be optimistic as these countries are responding to challenges of implementing the Millennium Development Goals by means of land governance."

Conference proceedings and reports can be accessed at the FIG website (www.fig.net/pub/fig_wb_2009/) and at the World Bank website (http://econ.worldbank > Data & Research > Research > Programs > Sustainable Rural an... > Events > Proceedings: Land Governance in Support ...).

More information about the UNU-ITC School of Land Administration can be found at www.itc.nl/unu/la.

150 International Urban Students Meet in Rotterdam

Liza Groenendijk
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The Institute of Housing Studies (IHS) in Rotterdam organised the third edition of the International Urban Student Day on 18 March. Two years ago, the Institute of Social Studies (ISS) in The Hague took the initiative to bring together international students in the Netherlands who were following courses related to urban planning and management. In 2008, this initiative was followed up by ITC's Urban Planning and Management department, which organised a full day of presentations, debate and visits to urban neighbourhoods in Enschede.

On this sunny day in March, the IHS (situated on the campus of the Erasmus University) received a total of some 150 students, including 35 from ITC. As on the two previous occasions, urban students from the three international institutes (IHS, ISS and ITC) intermingled, shared experiences, and at the same time discovered aspects of urban development in the Netherlands.

After a welcome from IHS staff, Chris van Langen, head of the Rotterdam Academy of Architecture & Urban Design, gave a presentation on the

urban development of the city of Rotterdam. At the end of the morning, the whole group embarked on a boat trip along the river Maas, during which they could appreciate the recent waterfront and port developments in Rotterdam and enjoy the pleasant spring weather from the top deck.

A special experience was the visit to the Afrikaanderwijk, one of the poorest neighbourhoods in Rotterdam. Architect Dennis Kaspori gave an inspiring talk about the attempts of the Freehouse project to build up entre-

preneurship in a multicultural environment by linking creativity and local initiative and highlighting the positive elements within these neighbourhoods. This example of an integrated approach to local economic development in the Netherlands could be compared with similar experiences and challenges faced by some of the students in their home countries. Naturally the whole group visited the local open market, where students contributed in their own way to the local economic development. The well organised day (thanks to our IHS colleagues Marijk Huysman and Yiping Fang) concluded with an informal gathering over drinks and locally prepared exotic snacks at the neighbourhood centre.

Once again, on this third International Urban Student Day, the combination of interesting impressions of urban development in the Netherlands with social interaction among urban students from the three international institutes proved a great success.

150 urban students meet in Rotterdam

Jan Fransen, deputy director IHS, welcoming the international urban students

Students embarking on the boat trip along the river Maas

staff news

Welcome and leaving

Welcome to ITC	O.O. Alan	Software Developer Department of Urban and Regional Planning and Geo-information Management	1 February 2009
	Ms. J.A.M. Lurvink	Secretary to the Directorate	1 March 2009
Staff leaving	Dipl. Ing. K.A. Grabmaier	Department of Earth Observation Science	1 February 2009
	Dr. J. de Leeuw	Department of Natural Resources	1 March 2009
	Ms. Drs. J.A. Fokkens	Information Technology Department	15 March 2009

International Education Sports Day 2009

Students from eight international institutes within the Netherlands displayed their talents to the full and showed great team spirit in the 31st International Education Sports Day, which took place on Wednesday, 28 March 2009.

The sports day is one of the unique events for international students in the Netherlands and has been conducted each year since 1980. This year's sports day was hosted by the Institute of Social Studies.

Between 600 and 700 international students from the Institute of Social Studies (ISS), The Hague; Radio Nederland Training Centrum, (RNTC), Hilversum; the Institute for Housing and Urban Development Studies (IHS), Rotterdam; Maritime Economics and Logistics (MEL/EUR), Rotterdam; the Institute for Water Education (IHE-UNESCO), Delft; Delft University of Technology (TUD), Delft; SAXION University of Applied Sciences, Enschede; and ITC competed at soccer, volleyball, basketball, table tennis, badminton, chess, darts and in a relay race.

ITC achieved first place in the soccer, volleyball and darts competitions, and third place in table tennis and beach relay. The overall champion was IHE Delft, ITC's chief rival for the overall championship right from the early days. To date ITC has 16 wins to its credit, IHE 12 wins.

Spring Party

Janneke Kalf / Jorien Terlouw   itcnews@itc.nl

To bid farewell to the MSc graduates, a spring party was organised at ITC on Thursday, 5 March 2009. The first part of the evening had a competitive element, with students and staff members vying for honours in darts, snooker and shuffleboard. There was also the opportunity to pose in front of the barrel organ or a panoramic poster of the ITC building.

The organ grinders attracted a good deal of attention as they were wearing traditional Dutch costumes. Many students and staff members posed together with the organ grinders in front of the instrument. Some students were allowed to try their hand at organ grinding and discovered that it was important to turn the wheel at a steady pace to produce melodious music.

Betty Mulianga (GEM MSc graduate) brought the competitive part of the evening to a close with an award ceremony, where the best players in each competition were presented with a prize. The second part of the evening was devoted to music and dancing, with DJ Ronnie doing the honours.

Capacity Building in Disaster Geo-information Management in Developing Countries

23-25 September 2009, ITC, Enschede, the Netherlands

Rationale
The world is confronted with the rapidly growing impact of disasters, especially severe in developing countries, and governments have to incorporate risk reduction strategies in development planning at different levels. Risk assessment can only be carried out effectively when it is based on extensive, multidisciplinary studies on the basis of spatial information and analysis. Including the concepts of disaster geo-information management (DGIM) requires capacity building and training of disaster risk management (DRM) experts and professionals, as stressed in the UN-ISDR's Hyogo Framework of Action 2005-2015.

Many initiatives dealing with earth observation (EO) and geo-information (GI) for DRM are ongoing and focusing on developing countries most requiring knowledgeable resource persons on the ground. To what extent is capacity in economically less developed countries sufficient, and what are effective mechanisms to apply GI data?

The United Nations University–ITC School for Disaster Geo-Information Management (UNU-ITC DGIM) has been active in capacity building of organisations in developing countries and supporting networks of universities and training institutes from developing countries that are involved in training and research in the use of GI science and EO for DRM. On the occasion of the renewal of the agreement with the UNU for the coming years, UNU-ITC DGIM invites partner organisations to discuss the requirements for capacity building in DGIM in the coming years.

Workshop objectives
The seminar has the following main objectives:
- assessment of capacity needs of organisations related to DRM
- defining optimal modes for capacity building: university networks, short courses, distance education, graduate programmes
- improved collaboration of international organisations involved in capacity building for DGIM
- linking research and training in capacity building
- exploring better links to more technically oriented DRM programmes (International Charter, GEOSS).

Outcome
Comprehensive understanding of existing geoinformatics capacity for DRM in international organisations, NGOs and knowledge centers active in less developed countries, current capacity buildings needs, and recommendations to the diverse actors in the DRM field on suitable capacity building means and possibilities, and optimal integration of knowledge networks and research.

Participants
On invitation, about 30-35 participants and speakers from:
- international organisations dealing with the implementation of GI for environmental applications
- international capacity building organisations dealing with DRM
- user organisations and NGOs
- university networks dealing with DRM
- knowledge centers / universities
- Limited number of open applications.

Content of the executive seminar
The seminar will be focus on the following key topics:
- the role of GI for disaster risk assessment in developing countries
- requirements for capacity building in GI for DGIM
- international initiatives for GI and capacity building in DRR
- capacity building: different modes of implementation
- UNU and capacity building for DRR
- capacity building and research in GI for DGIM.
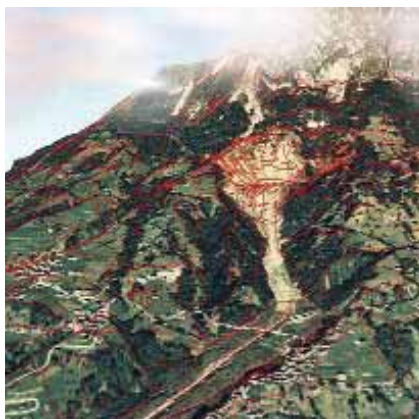
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life after itc

ITC Alumnus Gary Florence Elected ASPRS Vice-President

Tsehaie Woldai

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At the annual conference of the American Association of Photogrammetry and Remote Sensing (ASPRS) held in Baltimore, Maryland, USA, from 9 to 13 March 2009, Gary Florence was elected vice-president.

Gary Florence is known to many in the ITC community and is currently general manager of Photo Science in Florida. His geospatial experience spans both the national and international sectors. He received a BSc degree from the University of Wisconsin, Green Bay, and an MSc degree from ITC, the Netherlands.

Sponsored by the European Development Bank, Florence worked on the Countrywide Animal and Range Assessment Project in Botswana, where he applied various remote sensing techniques and extensive ground truth field verification to conduct a detailed rangeland inventory and carrying capacity assessment of the Kalahari. Later, working as a remote sensing consultant for the Food and Agriculture Organization of the United Nations, Florence again combined various remote sensing techniques and fieldwork to conduct a land cover inventory of Baluchistan, Pakistan. He then worked in the USA, managing a variety of mapping projects for both the public and private sectors. This experience included serving as a coastal zone analyst for Louisiana DNR and later as director of the Resource Data Department for the Southwest Florida Water Management District.

His private sector experience includes serving as project manager on a wide variety of mapping projects for Mid States Engineering, Chicago Aerial Surveys, Geonex, and Greenhorn & O'Mara (G&O). During his tenure with G&O, he served five years as project manager for the National Wetlands Inventory Programme sponsored by the U.S. Fish and Wildlife Service. In 2004, Florence joined

Gary Florence

Photo Science to manage their office in St Petersburg, Florida.

Florence has been an active member of ASPRS since 1982, serving the ASPRS Florida Region as director, secretary/treasurer, vice-president, president and past president. He has also served at national level as director of the Florida Region. He has participated on a variety of committees and served as the chairman of the 2007 annual conference held in Tampa, Florida.

Alumni Meet in Laos and Cambodia

Marjan Kreijns

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Both Laos and Cambodia are fascinating beautiful countries in the Mekong region. However, both countries have also suffered from a dark history. In recent years, reconstruction efforts have progressed and political stability has returned. Both countries are on the road to recovery. International donors contribute considerably and since a few years ago Cambodians have been eligible to receive NFP fellowships. Hopefully the programme will soon be opened up to Laos too.

The number of ITC alumni is very low because of the history and the limited access to fellowships. But ITC is very committed to contributing to the reconstruction by assisting with capacity building and with strengthening the higher education sector.

ITC's representative in Southeast Asia visited Cambodia in November 2008 and Laos PDR in December 2008. Meetings were held with alumni, and

Mr Kanya Souksakoun from the Center for Environment and Development Studies (CEDS), NUOL

Group of ITC alumni during dinner in Phnom Pehn, Cambodia: Mr So Vanna, Ministry of Land Management, Urban Planning and Construction; Mr Ngin Sambat, team leader, Ton Le Sap Land Use Classification and Buffer Zone Monitoring Project (LUCBZM); Dr Kim Sreang Bouy, managing director Associated Experts of Cambodia; and Mr Ek Menrith, vice-director Remote Sensing/GIS Centre, Ministry of Environment

lively discussions took place on the status of the geo-information sector and its applications and the role it can play in this phase of development.

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News from a Participant

John Bullen   bullen22997@alumni.itc.nl

As an officer in the Australian Army, I graduated with an MSc (PhE) at Delft in 1965. My thesis supervisor was Dr H.G. Jerie. For much of 1965, I was president of the ITC Student Association. Messrs Nkembe (Cameroun) and Malik (Kenya) preceded me and Betsy Chase (Canada) succeeded me. I am still in touch with Betsy (now Holt).

My photogrammetric career back in Australia was brief. I commanded the Australian Army's sole mapping unit in the Vietnam War in 1968-69. In 1973, I transferred to purely military roles for the rest of my career. Aged 72, I am now retired and live in Canberra. I keep in touch with Professor John Trinder in Sydney. He and I were ITC students together. I often wonder how my good Nigerian friends A.B. Umo and Ahmed Musa are managing. Sadly, I lost contact with them at the time of the terrible Biafran War in 1968. My wife and I plan to visit another fellow ITC student, Tom Hasek, in Vancouver during 2009.

Yvonne and I think back on our days at Delft and Rijswijk (where our home was) with great affection. We have just decorated our Christmas tree and we still have some Dutch decorations from our first ever Christmas tree in 1963!

With every good wish,
John Bullen

John Bullen

staff news

Inaugural Address Yola Georgiadou

Marion van Rinsum   rinsum@itc.nl

On Wednesday, 17 December 2008, on the occasion of assuming office as professor of geo-information for governance, Professor Yola Georgiadou delivered her inaugural address entitled *"Using Geo-Information: From a Market to a Polis Perspective"*.

The study of the administrative use of geo-information is an area of increasing interest, both in the Netherlands and globally. GIDEON, the new Dutch vision and strategy concerning geo-information focuses on promoting the use of geo-information in public governance and policy processes.

Commercial virtual globes (such as Google Earth) and scientific infrastructures on the internet (such as Digital Earth) are revolutionising the way in which we use and produce geo-information. The use of geo-information and the accompanying technologies encompasses people's actual use practices in decision and policy making, information exchange between organisations, participatory procedures, the values that people pursue (efficiency, equity, legitimacy, privacy, security and sustainability), and the rules that prescribe by law or simply encourage the optimal use. Values, practices and rules can be

Yola Georgiadou

viewed from the perspective (or through the lens) of the market or the polis. Depending on the chosen lens, we acquire radically different insights into the use of geo-information as a social phenomenon. Seen from a polis lens, values are not easily measurable standards of goodness, dominant public management ideas can be the source of technical-organisational change in government while policies can be fruitfully examined as persuasive arguments to target audiences. With a polis lens, we can perhaps explain how authentic human actors, groups and communities with different values, interests and motivations use geo-information, and how benefits for society may or may not follow. Furthermore, we can probably better understand the emergence of new practices, the clash of values, and the worldwide rules that underlie the commercial virtual globes and scientific infrastructures on the internet.

Inaugural Address Jaap Zevenbergen

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Delivering his inaugural address *"Land Administration: To See the Change from Day to Day"* on 22 April, Dr Jaap Zevenbergen accepted his appointment as professor of land administration systems at ITC, Enschede.

Professor Martien Molenaar, rector of ITC, sees this appointment as a reinforcement of the land administration profile within his Institute (which will integrate with the University of Twente in 2010). There is a great demand worldwide for expertise in the field of cadastre and land administration. Good land registration contributes to social stabilisation and is a condition for development. Not for nothing has a School for Land Administration Studies been established at ITC in cooperation with the United Nations University and the Netherlands Cadastre. Delft University of Technology too makes a significant contribution in this respect.

In his address, Jaap stated that pressure on land was increasing worldwide. Changes in land use cannot be avoided. In the Netherlands, this is all neatly regulated, thanks in part to the efficient registration of land rights, land use and also land value. But this is not the case everywhere - unfortunately in many countries land administration functions poorly, with negative effects on development. In Jaap's view, a land administration system is a combination of elements on a practical level to realise a certain goal. Land administration is a question of relationships between people and ground. These relationships can manifest themselves in many ways. In establishing these relationships, there is a sharp focus on parcel boundaries – although in general no intensive land use takes place there ... it is more intensive in the central parts of the parcels. Still there are many border conflicts relating to parcels. That is why field observation is important, and especially links with field objects. Although the visible boundaries are not always the legal boundaries, high-resolution satellite images can be very useful. Moreover, these images can be understood by everyone. Maps and registration derived from these can be used for many purposes. Often the local population may not really appreciate what a land surveyor with his instrument is actually doing.

In the field of research, Jaap wishes to focus further on the development of the (ITC internally developed) Social Tenure Domain Model, sound simple up-to-date methods of land

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administration (Jaap's historical perspective was brilliant here - apparently it always begins with complicated procedures, leading later to a simpler procedure of transferring land rights), the use of ICT, the use of land administration in a broader context, and also evaluations of existing systems in order to learn from them. Cooperation with other disciplines is a condition.