NewsLetter

ISPRS Student Consortium

Issue No.3, Vol. 9 - February 2016

Flood EViDENs Project

13th ISPRS SC Summer School

ASG Activities in ACRS

isprs
information from imagery

ISPRS SC NewsLetter

SC Newsletter (ISSN Y506-5879) is published by ISPRS Student Consortium.

To join our members area visit
www.isprs-sc.org

Frontpage designed by Ayda Aktaş

Would you like to join SC Newsletter team? Do you want to make a difference? Want to learn new skills?

SC Newsletter is at a stage where getting broader and better demands more people to be involved in the process of it's formation. That's why SC Newsletter team is looking for the following volunteers:

- More **people who would be willing to prepare articles** for existing or new rubrics,
- Designers of Newsletter

If you can help us with any of the above, please let us know!

info@isprs-studentconsortium.org

And also...
If you **would like to publish your research work** in the SC Newsletter send us your abstract on email written above. We will soon contact you for further information.

Dear ISPRS SC Newsletter readers,

Photogrammetry and remote sensing have an important role to play in solving global issues. By adopting the Paris Agreement at the UN Climate Change Conference (COP21) in December 2015, 195 governments agreed to strengthen the transparency that will hold each country accountable for reducing its own emissions and for helping all societies to deal with the impact of climate change, by publishing regular status reports and meeting periodically to review targets. Achieving these goals will require international assessment protocols even though access to data varies greatly from place to place.

The community of photogrammetry and remote sensing is expected to help tackle this global challenge by using the technology's ability to make broad-scale and frequent observations of climate, natural resources, and human impacts which cannot be completed by traditional field surveys. In addition, the cost efficiency of the technology may result in innovative breakthroughs especially helpful for countries that cannot afford to apply conventional approaches.

I suggest that members of ISPRS-SC prepare to deal with this challenge by learning about all the scientific disciplines in which future collaborators will be working. This newsletter has been a platform for the members to share information on a wide range of technologies and applications in the field of photogrammetry and remote sensing. As a member of the Board, I hope to promote interdisciplinary understanding and international exchanges among ISPRS-SC members so that when we get into senior positions we can work together effectively. Let's foster communication that will lead to future collaboration!

Hiroyuki Miyazaki

ISPRS SC Web Responsible

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Let's Come Together to Make The World Smaller and Smaller, While Enlarging and Powering Our Student Consortium Network!!

JOIN US!!!

Green Sponsorship for a Sustainable Summer School

by Sheryl Rose Reyes and Dr. Martin Isenburg

The Asian Conference on Remote Sensing is the annual event of the Asian Association on Remote Sensing (AARS), which brings together international participants in the fields of remote sensing, photogrammetry, geographic information sciences, geodesy and other geospatial information sciences. At the recently concluded ACRS2015, rapidlasso GmbH was given the Green Asia award. Sponsored by the Chinese Taipei Society of Photogrammetry and Remote Sensing (CTSPRS), this award is given for a paper presented at the conference that discusses research leading to a greener Asia using remote sensing technology.

Dr. Martin Isenburg, owner of rapidlasso GmbH, donated this US$ 300 prize to the Student Consortium Summer School held at the University of the Philippines right after ACRS2015. Dr. Isenburg has been assisting the summer schools as a lecturer since 2013.

According to Dr. Isenburg, rapidlasso GmbH is very happy to initiate a "Green Sponsorship" at ACRS2015 and the 13th ISPRS SC and WG VI/5 Summer School. Dr. Isenburg wants to promote more environmentally friendly options for conferences and workshops, avoiding the use of plastics, Styrofoam and other forms of potential garbage. Through greater financial support from rapidlasso GmbH, he is eager to introduce this "Green Sponsorship" specifically to promote more sustainable choices.

The organizers and Dr. Isenburg decided to bring the participants to a restaurant that serves healthy, organic food. The restaurant uses only locally grown organic vegetables and the meat of free-range pigs, chickens, and cattle raised without artificial growth supplements. The students enjoyed the food and rapidlasso GmbH accomplished its new mission of demonstrating that better choices for the environment do not have to compromise the food or quality of services during the summer school.

Dr. Isenburg stated, "We at rapidlasso GmbH hope that other conferences, workshops, and summer schools will copy some of these ideas and either start adding the possibility to become a "Green Sponsor" to their usual "Bronze", "Silver", "Gold", and "Platinum" sponsorship levels or simply make it an integral part of their event planning to make pragmatic environmental choices whenever possible."

GIS Ostrava 2016
Ostrava, Czech Republic, 16-18 March 2016
For more info visit: http://gis.vsb.cz/gisostrava

Latin American Remote Sensing Week
Santiago of Chile, Chile, 29 March 2016
For more info visit: http://www.lars.cl

RSCy2016
Paphos, Cyprus, 04-08 April 2016
For more info visit: http://www.cyprusremotesensing.com/rscy2016

EGU 2016
Vienna, Austria, 17-22 April 2016
For more info visit: http://www.egu2016.eu

Interexpo GEO-Siberia- 2016
Novosibirsk, Russia, 20-22 April 2016
For more info visit: http://www.expo-geo.ru

16th International Multidisciplinary Scientific GeoConference & EXPO SGEM2016
Albena, Bulgaria, 28 June - 07 July 2016
For more info visit: http://www.sgem.org

International Summer School on Mobile Mapping Technology 2016
Hanoi, Vietnam, 04-08 May 2016
For more info visit: http://sm.humg.edu.vn/GMMT2016/GMMT_Home.html

EORSA 2016
Guangzhou, China, 04-06 July 2016
For more info visit: http://www.eorsa2016.org

Summer school Natural Resource Management: From data processing to web publishing
Telč, Czech Republic, 05-11 July 2016
For more info visit: http://www.isprs2016-prague.com/youth-activities/summer-school

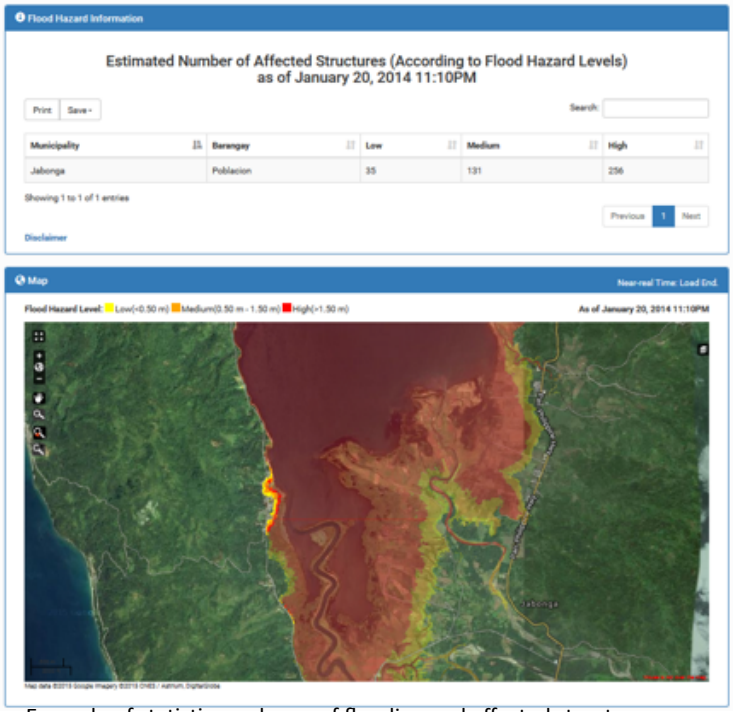
XXIIIrd ISPRS Congress
Prague, Czech Republic, 12-19 July 2016
For more info visit: http://www.isprs2016-prague.com

Flood EViDENs: a web-based application for near-real time Flood Event Visualization and Damage Estimations

By Jojene R. Santillan, Meriam Makinano-Santillan and Edsel Matt O. Morales
CSU Phil-LiDAR 1 Project, Caraga State University, Butuan City, Philippines

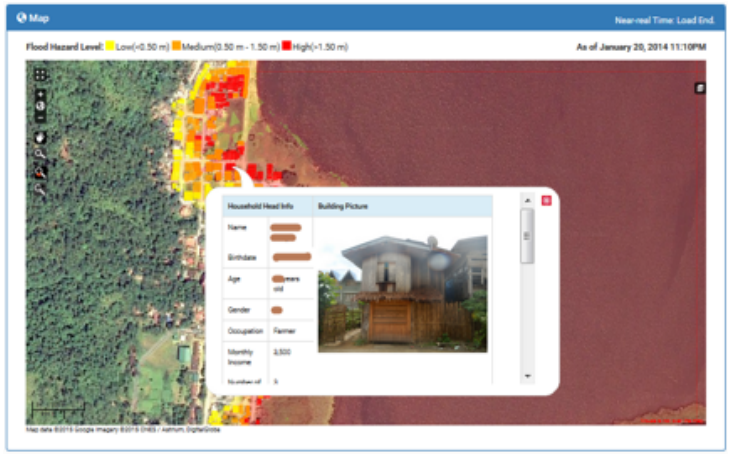
Flood EViDENs is a web-based application developed by the Phil-LiDAR 1 project of Caraga State University (CSU Phil-LiDAR 1) in Mindanao, Philippines, as part of an initiative that assists local government units (LGUs) in making geo-spatially informed decisions before, during and after a flood disaster. CSU Phil-LiDAR 1 is one of several projects under the "Phil-LiDAR1: Hazard Mapping of the Philippines using LiDAR" program initiated and supported by the Department of Science and Technology (DOST). Fifteen higher education institutions began implementing projects under this program in 2014. Its primary aim is to generate flood hazard maps through the use of high spatial resolution Light Detection and Ranging (LiDAR) datasets and other geospatial datasets and techniques. The CSU Phil-LiDAR 1 project covers the river basins of Caraga Region, Mindanao. Flood EViDENs is one of many applications that materialized during the implementation of this project.

Flood EViDENs is essentially an amalgamation of open source web mapping technologies, various geospatial datasets including LiDAR-derived elevation and information products, hydro-meteorological data, and flood simulation models that visualize in near-real time the current and possible future extent of flooding and associated damage to infrastructure. There are several sets of information provided by the application that may be used to properly manage an impending flood disaster. Among them are:



Example of statistics and map of flooding and affected structures generated during Tropical Storm Agaton as viewed in Flood EViDENs.

- Information on the current extent and levels of flooding along a water body (in this case, a river) and the areas that are presently flooded;
- Forecasts on how water level will rise (or recede) at different locations along the river as rainfall events occur in the upstream watersheds;
- Information on the expected extent and levels of flooding based on the predicted increase/decrease in water levels; and
- Information on the estimated number of structures (e.g., buildings) that are affected or might be affected by the current or predicted flooding, including their locations.



Household information of an affected structure can also be viewed in Flood EViDENs.

The application facilitates the release and utilization of this near-real time flood-related information through a user-friendly front end interface consisting of web map and tables. The application's back-end consists of computers running flood simulation models and geospatial analysis to dynamically produce (in an automated manner) current and future flood extents and tabulated information on the structures affected by flooding including hazard types. This output is forwarded to a spatial database where it is accessed by the front end interface for web visualization. Flood EViDens uses various open-source technologies including Django framework, PostgreSQL, GeoServer, Bootstrap, Openlayers and JavaScript libraries. A public version of the application can be accessed at http://evidens.csulidar1.info.

The information generated by Flood EViDENs is very important especially to the LGUs and the community as it can increase awareness and responsiveness by the public to an impending flood disaster. Providing this kind of information during a heavy rainfall event is useful as it could assist in preparation for evacuation, by easily identifying areas that need immediate action, by identifying areas that should be avoided, and by estimating the severity of damage to people and infrastructure as flooding progresses.

Report on the 13th ISPRS Student Consortium and Working Group VI/5 Summer School

Sheryl Rose Reyes

The 13th ISPRS Student Consortium and Working Group VI/5 Summer School was held at the Institute of Environmental Science and Meteorology (IESM), University of the Philippines, Diliman, Quezon City, Philippines from October 24-28, 2015. The summer school theme was "Using Geospatial Technologies for Natural Resources Management". This summer school continues the collaboration and cooperation of the ISPRS Student Consortium with the Asian Association on Remote Sensing (AARS) and the AARS Student Group (ASG).

Fifty-four participants attended the summer school. Among these participants, thirty came from Indonesia, Ghana, South Africa, Slovakia, India, Iran, Mongolia, Egypt, Japan, China and China Taipei. Twenty-four participants were Filipinos from state universities, research institutes and government agencies. The participants were welcomed by Dr. Lemnuel Aragones, Director of IESM, and Dr. Emmanuel Baltsavias, former chair of the ISPRS Working Group VI/5. This summer school consisted of intensive lectures on open source tools and image processing techniques. The first lectures were delivered by OpenStreetMap Philippines. The OSM (read: awesome!) seminars and simultaneous practical demonstrations included how to create an account in OSM, how to contribute to the OSM database, and the potential applications of OSM to natural resources management. Dr. Emmanuel Baltsavias of the Swiss Federal Institute of Technology gave a comprehensive lecture on the status, processing and application of high resolution images. Dr. Martin Isenburg of rapidlasso GmbH discussed methods of computing vegetation metrics and generating improved canopy height models and digital surface models using LiDAR data. LAStools, the flagship product of rapidlasso GmbH, was used to process the LiDAR data and to further illustrate Dr. Isenburg's lectures. The use of Synthetic Aperture Radar (SAR) data in agriculture, specifically in rice and crop monitoring, was extensively discussed by Mr. Massimo Barbieri of sarmap Switzerland.

The participants then toured another unit of the University of the Philippines in Los Baños. They first visited the Phil-LiDAR 2 project, which focuses on the use of LiDAR technology in natural resources management of the Philippines. Dr. Damasa Macandog and her team gave a brief but very informative introduction to the project. The participants then had the opportunity to see the project's research laboratory. Participants learned more about rice, rice production and rice research at the Riceworld Museum of the International Rice Research Institute. The group also had a brief nature encounter at the Makiling Botanic Garden and gained more knowledge about the fauna and flora of the garden with the assistance of forestry students and experienced guides. After the tour, the participants were rewarded with a healthy, organic dinner provided by rapidlasso GmbH through its Green Sponsorship.

Social events were organized after the lectures so that the participants could get to know more about each other and their fields of interest and expertise. The ice-breaker game had participants guessing which among three statements about each other's personalities was true. Filipinos are famous for singing in karaoke, and the participants were challenged to take part in a karaoke night. Teamwork with new-found friends was also tested through a game that required synchronized movement to get to the finish line. During the closing ceremonies, the participants were entertained by the students of the Department of Geodetic Engineering with their singing and beat box talents.

The participants also experienced the Philippines through food, funny games, and riding the indigenous public transportation known as the jeepney. The friendliness and hospitality of the host country was communicated through the warm welcome and genuine smiles. The summer school was a success through its intensive lectures and in time well spent with new friends and colleagues.

Report on Student Activities in the 36th Asian Conference on Remote Sensing (ACRS 2015), Manila Philippines

Sheryl Rose C. Reyes, Wilson V. C. Wong

The 36th Asian Conference on Remote Sensing (ACRS2015) was held in Manila, Philippines, October 19-23, 2015. The conference gathered 926 participants - scientists, academicians, researchers, students, industry experts and practitioners - from 36 different countries. A significant number of the attendees came from the Philippines (460), Japan (93), China-Taipei (84), South Korea (70) and Malaysia (43). The conference featured 9 plenary presentations, 21 sub-plenary presentations, 14 special sessions, 30 sponsors/exhibitors, 445 oral presentations and 162 poster presentations.

The Asian Association on Remote Sensing Student Group (ASG) is the part of AARS that supports students in ACRS. As in previous years, ASG worked to promote and encourage student participation by holding a special WEBCON competition, a student session and the student night.

This year, the WEBCON5 competition attracted 11 entries from the Philippines, China-Taipei and Japan. This contest for students and young scientists promotes the development of web materials which show how we can use the Internet to share tools related to geo-information sciences. WEBCON5 was conducted in the morning session on October 20, starting with a presentation from each group and then followed by demonstrations of the entries. This year's winner was the Japanese team of Shibaura Institute of Technology (Tatsuya Yamamoto, Hiroki Ishida and Shido Tanaka) whose project was "Supporting summer vacation homework for Japanese elementary school students: Location-based automatic diary generation using geotagged photos". The Silver award went to the China-Taipei team of National Central University (Jhe-Syuan Lai, Tzy-Shyuan Wu and Ting-Chun Lin) for "Application of indoor environment visualization and modelling", while the Bronze award was won by the Philippines team of Caraga State University (Jojene R. Santillan, Edsel Matt O. Morales and Meriam Makinano-Santillan) for "Flood EViDENS: A web-based application for flood event visualization and damage estimations". All the awards were presented by Prof. Kohei Cho accompanied by Prof. Fuan Tsai.

Student activities continued after lunch with the traditional White Elephant Session which was chaired by Prof. Kohei Cho. Here, well-known professors gave tips to students and young researchers on research writing and presentation techniques. At this year's session, Prof. Emeritus Armin Gruen spoke on "Thesis Writing", Prof. Orhan Altan spoke on "Research project proposal writing," and Prof. Shunji Murai talked about "Presentation techniques".

The Student Session provided students with the opportunity to introduce student activities and researches in their respective university department and laboratories. This year, 7 presentations were given by participants from Philippines, China Taipei, Indonesia and Japan. The session was chaired by Sheryl Rose Reyes from the Philippines, First Co-Chair of ASG and board member of the ISPRS Student Consortium.

The Student Night was held at PBA Café, about 10 minutes' walk from the main conference venue. A friendly 3-on-3 basketball match between the Philippines and China-Taipei teams started the event; since the China-Taipei team won, the Philippine team was required to give a stage performance during intermission. It was a night of fun, music and a lot of singing!

This year, Student Awards were presented to ten winners for their research activities. The winners are Brent C. Fallarcuna (Philippines), Teng Fei Long (China), Jyun-Bin Chen (China Taipei), Va-Khin Lau (Vietnam), Javkhaa Gereltuya (Mongolia), Tae-Hong Won (Korea), Joy C. Casinginan (Philippines), Ngoc Thi Mong (Vietnam), Regine Anne G. Faelga (Philippines), and Hui-Hsin Chen (China Taipei). The prestigious Shunji Murai award was won by Mr. Tuan Sy Le from National Central University for his research on "Surface deformation assessments in Hanoi, Vietnam using ALOS PALSAR interferometry". The winner took home a certificate and a travel scholarship which was sponsored by the Japan Society of Photogrammetry and Remote Sensing (JSPRS).

Free and open source software for research

Call for special issue contributions

The next installment of the Student Consortium Newsletter, Vol. 9 No. 4, will be a special issue on free and open source software used for research in photogrammetry, remote sensing, GIS and other related geo-spatial sciences. The ISPRS Student Consortium is now accepting contributions fro this newsletter. A typical article is one or two pages of text with at least one figure; longer articles are also encouraged! Articles can be on such topics of interest as how to install, customize and/or use free or open software packages or libraries that can do any of the following:

- Interfacing with data collection hardware (e.g. Canon SDK)
- processing point clouds (e.g. CloudCompare) or raster data (e.g. OpenCV)
- performing least-squares adjustments or other optimization techniques (e.g. Ceres Solver)
- visualizing and plotting data (e.g. Octave)
- computing statistical properties (e.g. R)
- writing articles and theses/dissertations (e.g. LaTeX or LyX)

The deadline for submissions to be included in the next issue is Mon, Feb 29, 2016. Contributions received after this date will be published in future issues. Please send all submissions to the ISPRS Student Consortium main e-mail address - info@isprs-sc.org.

CAREER BUILDER

INTERNSHIPS

GIS service intership at ESRI
http://www.esri.com/careers/main/job-detail?jobID=5061&term=Short%20...

PHD SCHOLARSHIPS

GIGA Doctoral programme
https://giga.hamburg/en/dp/application/fellow/

PhD funding at the University of Manchester
http://www.mbs.ac.uk/phd/programme-overview/funding.aspx

JOB OPPORTUNITIES

Manager, GIS
http://chk.tbe.taleo.net/chk04/ats/careers/requisition.jsp?org=CONSERVATION&cws=1...

MASTER SCHOLARSHIPS

Scholarship-Positions
http://www.nottingham.ac.uk/studywithus/international-applicants/scholarships-fees-and...

Informatics international masters scholarship
http://www.ed.ac.uk/student-funding/post-graduate/international/science-engineering...

Geospatial Platform (USA)
http://www.geoplatform.gov

Geoportail (France)
http://www.geoportail.gouv.fr/accueil

Geoportal IDEE (Spain)
http://idee.es

RESOURCES

GeoNames
http://www.geonames.org

David Rumsey Map Collection
http://www.davidrumsey.com

EDUCATION

UNIGIS International
http://www.unigis.org

FREE SOFTWARE

FugroViewer 2.2
http://www.fugroviewer.com

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Scholarship-Positions
http://scholarship-positions.com

eBook

Sustainable Development in Africa & Satellites
http://www.satellites-and-africa.com

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http://speclab.ua.edu

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Our previous Newsletter issues