

NewsLetter

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Geoinfotech 2014



ISPRS SC NewsLetter



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

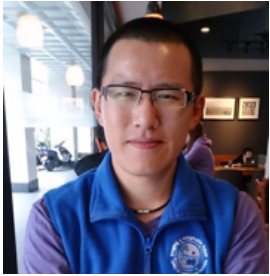
If you can help us with any of the above, please let us know!

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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,



In 2015, we aim at how much we can achieve. Winston Churchill once said, "The farther back you can look, the farther forward you are likely to see." In retrospect, we benefited from the achievements of those past adventures. These foundations lead us forward and help us to understand how we did, what we learned, and what we will do. Beyond these paradigms is a path with unknown challenges. Albert Einstein said, "Imagination is everything. It is the preview of life's coming attractions. Imagination is more important than knowledge." Being curious to grope ideas and figure out our future possibilities can lead us to create reality. Although frustrations and difficulties may come along during the way, we encourage you to keep the love and passion and have faith on future track. Overall, we wish that the SC could be a sparkle to ignite all the members' imagination in the bright future.

Chaoyuan Lo,
ISPRS SC Co-Chair

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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!!!

ROLE OF SATELLITE IMAGING IN CLIMATE CHANGE RELATED ANALYSIS

by Damla Uca Avci, Istanbul Technical University

This article was presented in Climate Change and Climate Dynamics Conference, October 8-10, İTÜ, İstanbul, Turkey, 2014

The Earth's average temperature has increased about 1° Fahrenheit during the 20th century, which is obviously unusual when compared with the long-time climate records of the planet that preserved in tree rings, ice cores and coral reefs (NASA). Considering the balance of nature, that small change in temperature corresponds to enormous changes in the environment (Kirilenko et al., 2000). This rapid climate change the earth faces, is agreed to be the result of human-caused effects and named as global warming (IPCC, 2013). Various models show that the increase in climate variability has significant impacts far from natural long-term low frequency climate change expectations (Kirilenko et al., 2000). Scientists have been warning about global warming affects which threaten the life on Earth (BDO) and impacts on human health and livelihoods (McMichael et al., 2006), insomuch can be defined as the "world's greatest threat" (WWF). Unfortunately, some 20–30% of plant and animal species are foreseen to be under the risk of extinction if the global average temperature warms more than about 2.7 – 4.5 °F (IPCC, 2007). Even the models cannot definitely forecast what will all the consequences be, the negative impacts on life quality and biodiversity of Earth will be arisen due to the climatic imbalances. Expected extreme weather events include very high temperature, torrential rains, storms, floods, and droughts (McMichael et al., 2006). These events have already been started to occur (NASA) and thought to be increased by time. As the IPCC reports, over-normal hot day and night temperatures and heat waves become more frequent globally in the last 50 years (IPCC, 2007). Global warming -making hot days hotter, rainfall and flooding heavier, hurricanes stronger and droughts more severe- causes dangerous changes to the landscape of the earth, adds stress to wildlife species and their habitats (NWF). Regional populations who are adapted to their local climate are stressed by extreme events especially that are beyond their adaptation limits (McMichael et al., 2006).

Today, as many scientists have high confidence, the net damage of global warming is observable on the environment (NASA). Based on IPCC 2007 (p. 13) and Ibid (p. 8) reports (NASA), the recent impacts of global climate change are frequent cold days and nights, less frost, more frequent hot days and nights, more frequent heat waves, increased incidence of extreme high sea level. According to the same references, future trends of the global climate change will be contraction of snow cover areas, increased thaw in permafrost regions, decrease in sea ice extent, more frequent hot extremes, more frequent heat waves, heavy precipitation, precipitation increase in high latitudes, precipitation decrease in subtropical lands, decreased water resources. Adapted from the report of Union of Concerned Scientists (UCS) -a community working on global warming which started as collaboration between

students and faculty members at the Massachusetts Institute of Technology- the impacts of global warming can be listed as: glaciers melting, rising sea level and increasing coastal flooding, heavier precipitations on inlands and flooding, more frequent and intense heat waves that will create serious health risks, longer and more damaging wildfire seasons, more severe droughts in some areas, decreasing water resources, changing seasons (spring coming earlier, snow melting earlier, vegetation and soil drying earlier), growing risks to electricity supplies, disruptions to food supplies (severe droughts and heavy precipitation affecting crop and meat production), plant and animal range shifts (some warm-weather species will expand their habitats, some that depend on cooler environments may face potential extinction), migration of human, animal and plants. Additionally, earthquake, landslide and tsunamis can be added to the list due to the scientific findings of Buffet & Archer's (2004) study, indicating evidence that temperature increase arising from global warming may quite likely cause landslides, tsunami and earthquakes (Lynas, 2007).

In the last two decades, remote sensing has been obviously used as an efficient data provider and technology for understanding the geophysical phenomena. Earth science discipline, handling the interactions between the hydrosphere, atmosphere, biosphere and solid Earth as a system, can get benefit of using satellite images as complementary data to in-situ measurements. RS may highly be the vital data source in the future since it provides i) a synoptic view, that allows data availability of wide areas at a time, ii) multi-temporal data, that allows to study with time-series, iii) easy data for inaccessible regions, especially when it is hard for ground data collection as in case of post-disaster times, iv) digital data, which can be processed in different ways and used many times. RS data and analysis can be used in global warming related environmental studies such as measuring the change, analysing the historical and present data of the land surface, integrating the data with other outputs, modelling, predicting future behaviour for several scenarios and taking the required precautions to protect the environment or the living things that may be possibly affected.

RS can help to output the environmental change and provide efficient approaches for pre- and post-disaster studies such as already found in the literature. The examples of the problems and how RS can be used may be listed as follows even it can be extended to more: Melting glaciers: elevation change in ice sheet, glacier melting observation and areal change, sea level rise prediction; Coastal inundation: detection of possible risk areas; Flooding: detection of risk areas, damage assessment, enhancing vision of precautions; Tsunami: change detection, damage

assessment; Landslide: change detection, distribution of land cover change; Earthquake: accurate change analysis, damage assessment, risk management; Eruption: observation for eruption prediction, damage assessment; Drought: soil moisture, (present and possible) drought region mapping; Decrease in water resource: resource management, drought impacts on water resources, Wildfire: fire control and management, planning precaution acts, damage assessment; Hurricane: model input, damage assessment; High precipitation: impacts on both rural and urban areas; Extreme weather events: meteorologic forecast; Vegetation cover change: extinction of some plant species, vegetation migration, habitat shift: spatial habitat analysis with geographical information systems (GIS)

Comprehensive risk assessment and realistic decision support systems used by policy makers and emergency managers require good qualified and quantified geospatial information which can be effectively derived from satellite images. Reviewing the literature, it can be claimed that:

1. Performance of RS : i) to obtain historical archive of an environmental event, ii) to generate models and output future scenarios, iii) devise mitigation plans and take precautions and iv) to make damage assessment is much more fast, economic and accurate than using ground surveying methods alone.
2. Potential of RS : promising with i) the increase in number of earth observation satellites, allowing rich multi-temporal datasets that will produce more accurate results, ii) the developments in sensor technology that are capable of providing high spatial resolution that will result in much more geometrical correctness, iii) the increase in near-real time data availability, making more real-time applications possible, iv) increase in availability of various data types such as thermal, radar, hyperspectral and lidar data, that will enrich the analysis.

Consequently, it can be said that space technology and satellite imaging capacity will manage the ability in the future to compete with global warming related hazards.

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European Environment Agency (EEA)

<http://www.eea.europa.eu/>

Latin America Geospatial Portal

<http://lagf.org/News/viewall.aspx?LID=EN>

RESOURCES

ArcGIS Open Data

<http://opendata.arcgis.com/>

Harvard Geospatial Library

<http://calvert.hul.harvard.edu:8080/opengeoportal/>

EDUCATION

University of Southern California- GIST Online Graduate Programs

<http://ias.mindsites.com/oxc/1858.php>

FREE SOFTWARE

MeshLab

<http://meshlab.sourceforge.net/>

Potree 1.0RC (WebGL based point cloud viewer)

<http://potree.org/>

JOBS, CAREER OPPORTUNITIES

GIS Job Listings

<http://gisgig.com/>

NEWSLETTER

Results of the GMES Masters 2014 competition

http://www.copernicus-masters.com/downloads/2014/copernicus_results_booklet_2014.pdf

TUTORIALS

Massive Open Online Course (MOOC) on Disasters and Ecosystems

<http://www.themooc.net/default.asp>

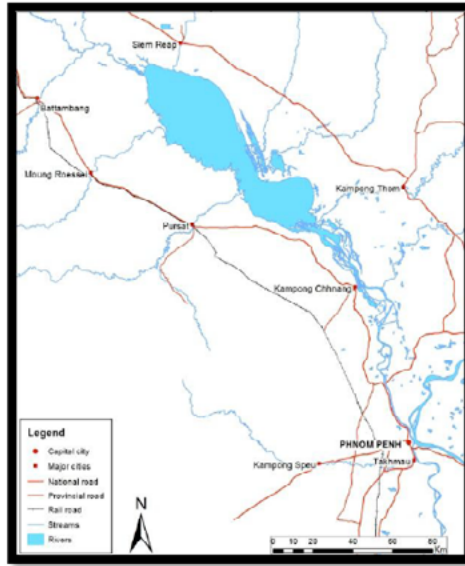
FLOATING COMMUNITIES ON TONLÉ SAP (CAMBODIA): SPATIAL PATTERNS AND ADAPTATION CAPACITY

by Amelia Travers

Tonlé Sap is a unique lake and river system located in the heart of Cambodia, South East Asia.

Cambodia is a country of predominantly low relief characterised by broad alluvial floodplains. The Mekong River runs through the east of the country flooding upstream along Tonlé Sap River into Tonlé Sap Lake located in the centre of the Cambodia (Gupta 2009). The Gulf of Thailand lies on the south-western coast, and north-western Cambodia shares borders with Thailand, Laos and Vietnam (Gupta 2009). The climate is tropical monsoon (Eastham et al. 2008).

The primary income source for Cambodians is agriculture, specifically rice growing, which employs 70% of the working population (MRC 2010b). The majority of rural Cambodians rely on subsistence practices for food supply. Current food supplies are limited and occasionally inadequate due to a number of causes, including natural disasters (MRC 2010b). In areas around Tonlé Sap there is a heavy dependence on fish and fishing for income and nutrition (MRC 2010a). Due to the fertility of Tonlé Sap hundreds of families have moved to live on the lake in floating houses, this allows for easy access to fishing areas.



Cambodia is one of the least developed countries in the SEA region, ranked 139 out of 187 countries globally by the UNDP in 2011, and is heavily aid dependant (UNDP 2011). The tumultuous, recent political past has resulted in a fractured social system and whilst the country is beginning to rebuild its environmental and social structures, a number of significant obstacles remain (Varis & Keskinen 2003). 70% (9.8 million people) of the Cambodian population live within 15km of the Mekong River system, which includes Tonlé Sap (MRC 2010a). Residents in the Tonlé Sap area and flood plains account for 80% of total poverty in Cambodia (MRC 2010a). There are high levels of malnutrition in Cambodia and 28% of the population suffers from malnutrition (MRC 2010b).

Tonlé Sap and the Mekong are closely interconnected systems. The river source is in the Himalayas and is fed by snowmelt and monsoonal rains (Campbell 2009). Tonlé Sap Lake is a unique and highly biodiverse ecosystem and is a key component of Khmer culture (Campbell et al. 2006). The lake has been recognised by UNESCO as being of significance to global biodiversity and was declared a biosphere in 1997 (UNESCO 2011).

The lake depth and area vary seasonally. The depth varies between 3m in the dry season and 10m deep in the wet season while the area varies between approximately 2500km² in the dry season and approximately 17,500km² in the wet season. These areas are variable year to year and change depending on annual rainfall patterns throughout the basin and the extent of Himalayan snow melt.

The lake system is essential to the Cambodian food supply, providing substantial fish catches, whilst the annual flood pulse provides rejuvenating sediments and nutrients for the farmlands and forests in the extensive flood plain.

During the wet season Tonlé Sap River reverses flow direction, flowing “upstream”, to accommodate the Mekong wet season flood flows. This system slows flooding in

SPOTLIGHTS

the Mekong Delta and results in the extensive flooding around Tonlé Sap. This system ameliorates the monsoonal flood in the Mekong Delta by absorbing between 10 and 60% of flood flows, depending on the location, and provides sustained flow into the lower Mekong during the dry season as Tonlé Sap drains (ADB 2005; Campbell, Say & Beardall 2009). Tonlé Sap and the communities bound to that lacustrine system will be impacted by regional changes, geopolitical issues and climate change (MRC 2009a).

The focus of this study, Tonlé Sap River and Lake are located in the centre of the country and are a waterway connection between the capital, Phnom Penh and the historic and tourist centre Siem Reap, the location of the ancient city of Angkor.



Anthropogenic climate change is resulting in significant, and often detrimental, modifications of the global climate systems (IPCC 2007). These changes are having impacts on physical and ecological systems globally and resulting modifications in the nature of the systems. The predicted impacts on Cambodia include increased extreme events, changed weather regimes and sea level rise (IPCC 2007). The primary impacts of climate change on Tonlé Sap and the associated communities are likely to arise from a modified monsoon and the associated change in monsoonal flood pulse (IPCC 2007). It is projected that Tonlé Sap will experience water stress during the dry season and that the monsoonal flood will arrive earlier and have a greater duration (Eastham et al. 2008). A side effect of increased water stress may lead to a greater reliance on groundwater which may result in arsenic contamination of water resources in Southern Cambodia (Eastham et al. 2008). These factors will combine with the impacts of increased intensity and frequency of extreme events and increased temperatures (IPCC 2007).

Natural resource dependent communities will be more heavily impacted by social and environmental changes resulting from climate change and other large scale changes than other communities (Adger 2003). The hydrology of Tonlé Sap is predicted to change considerably due to climate change and the damming of the Mekong, although how this occurs will depend greatly on the dam management (Eastham et al. 2008; MRC 2009b). Both temperature and precipitation are predicted to increase, however dry season precipitation is likely to decrease while wet season precipitation is predicted to increase overall and in intensity (Eastham et al. 2008; MRC 2009a). Temperature is predicted to rise by 0.6oC by 2025 and by 2.5oC by 2100. The change in seasonal rainfall is predicted to increase the area of the lake in the wet season by 3600km² resulting in the permanent inundation of flooded forest potentially destroying parts of these forests and fish habitat (Eastham et al. 2008; MRC 2009a). This is concerning as high levels of deforestation are already lowering areas of flooded forest available for fish habitat, there was a decrease of 424,700ha between 1987 and 1993 (ADB 2005). Increased flooding is predicted to result in serious damage to rice crops, communities and infrastructure (MRC 2010b). Climate change adaptation will be essential for many communities to survive the changes predicted by the IPCC. Adaptation efforts can take many forms, including infrastructure adaptation, economic adaptation, modification of relevant legislation and community capacity building. It is essential when developing adaptation strategies to consider potential temporal and scale issues associated with that adaptation. Through the infrastructure on Tonle Sap it is clear that the residents of the lake have the capacity to adapt to a dynamic environment.

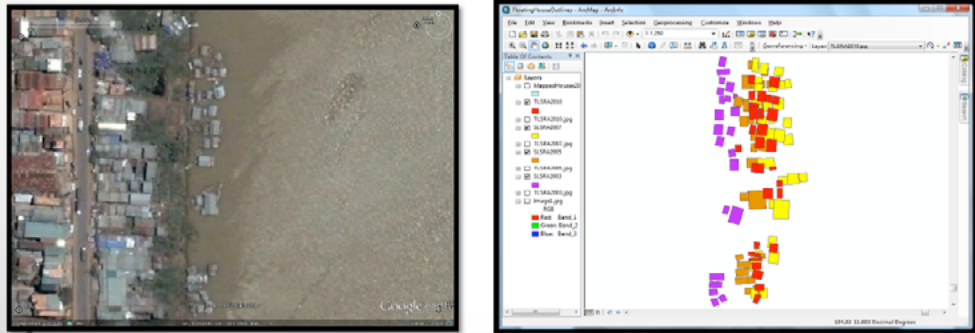


As part of an assessment of the lake communities capacity to adapt the floating house communities were mapped using Google Earth Imagery. This process demonstrated that the houses on the river move regularly, the image below shows the house outlines from a number of different years.

There are distinct patterns to the distribution of floating houses on Tonlé Sap, which

SPOTLIGHTS

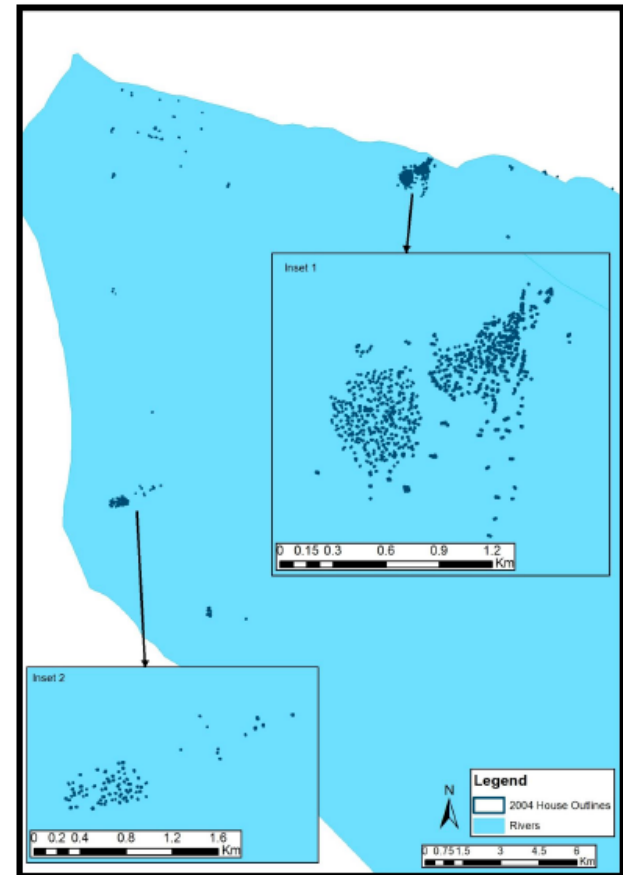
differ between the lake and river. For both the lake and river it appears that the houses are located to allow easy trade pathways between fishermen and the markets on the land, an observation that was reinforced during resident interviews. These trade pathways are different for communities on the lake and communities on the river. Chong Khneas village on the lake relies on water based pathways to transport goods and therefore there is a relationship between the location of houses in Chong Khneas and the nearest river mouth. However this relationship is not apparent for other floating buildings around Tonlé Sap River. River based households travel to the land market to sell their fish, making access to markets via roads a partial determinant in the location of their houses. This is seen in all years of mapped imagery where the majority of floating structures on Tonlé Sap River were located within 200m of the road. There is also an apparent relationship between floating houses on Tonlé Sap River and stilt housing communities along the river banks, in all years of imagery the majority of floating structures were located within 100m of stilt housing. This indicates that there are clear spatial relationships between the floating communities and the stilt house communities. This is consistent with socio-political relationships, with 14 residents of both Tonlé Sap Lake and River indicating that the leader of their village was located on the land, and that land governance had impacts on those living on Tonlé Sap.



The spatial analysis results indicate that there has been an increase in the number of houses on the lake from 2002-2003 to 2010. This indicates that migration to the lake, and population growth, is continuing. This is consistent with the results obtained from interviews where 4 respondents (13%) indicated that they had lived on Tonlé Sap for less than one year. 18 respondents (60%) have lived on Tonlé Sap for over 10 years.

Differing spatial patterns and clustering indicates that the communities have adapted in different ways to the environments of the lake and river. On the lake there is a greater reliance on boats for trade and transport whereas those living near Phnom

Penh utilise a combination of boats and land based transport, such as Romor (an informal bus system) and scooters, to access land based markets. There was greater reliance on land markets for those living on Tonlé Sap River whereas those living on Tonlé Sap Lake in Chong Khneas tended to rely on water based markets to both sell their fish and purchase food. The spatial patterns indicate a capacity of the communities to adapt to different environmental and service factors such as creating different produce market structures to suit the environment. Individuals demonstrate adaptive capacity through movement to the lake. This movement is indicated through the increase in house numbers on the mapped areas of Tonlé Sap River and the desire to move to where there are job opportunities, as discussed in interviews. Although the spatial data for the floating houses on the lake and river are from different years it is assumed that they maintain similar internal spatial patterns over time, allowing comparison between patterns on the lake and patterns on the river.



SPOTLIGHTS

Houses in Chong Khneas Village on the lake are on average 17m apart. This is consistent with visual evidence obtained through field trips that houses are separated sufficiently to allow a boat access to all sides of the house and to limit the likelihood of collision between houses during storms whilst being sufficiently close to maintain a strong sense of community. Houses in the case study village on Tonlé Sap River were on average 9m apart, indicating tighter clusters of houses. This is consistent with observations during field trips which indicate that houses are often tied to each other and access is available between houses without the use of extra walkways. These results demonstrate that there are differences between the micro locations of houses on the lake and river; this may be the result of response to environmental stimuli or a different community structure nature and indicates that there are spatial differences between lake and river building locations.

Distance to the lake shore is important for those people living on the lake who go to the forest rather than use a house-based toilet. A mean distance of 1,156m is a significant journey if it is to be undertaken every time an individual needs to relieve themselves, a journey that those without toilet facilities on floating houses indicated they undertook regularly. Observations during field work indicate that the lake is used directly for untreated waste disposal whether or not a house has a toilet structure and that the journey to the forest is not always undertaken.

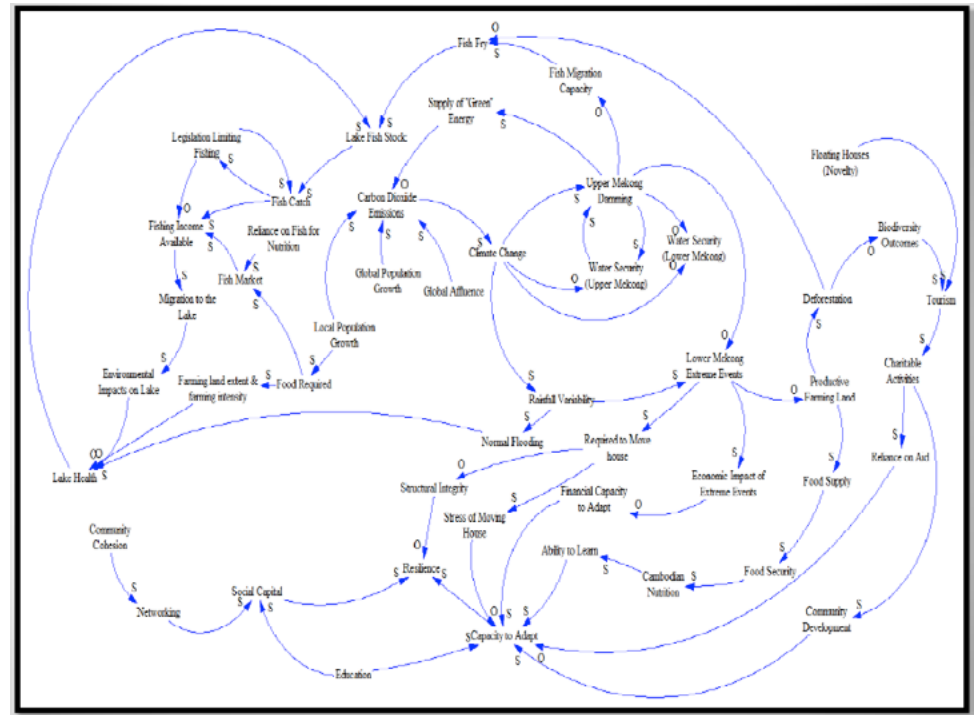
On both the lake and river there are no cadastral boundaries and, as discussed in interviews with residents, limited social constraints on where houses are to be moored. These spatial patterns and village locations are based on environmental factors, such as distance to lake shore, as opposed to externally imposed village locations and boundaries. Therefore the location of these houses is closely associated with facilities and communities within the villages and is flexible to change when required, as discussed in resident interviews.

Alongside a spatial analysis a system analysis was undertaken to understand the interconnections between different issues on the lake, this is shown in the Causal Loop Diagram below.

The adaptations that floating communities will require are dependent on how climate change impacts the region. They will also depend on how the geopolitical issues surrounding the damming of the Mekong are resolved. There is the potential for Mekong dams to successfully mimic the natural flood pulse whilst mitigating any extreme flood or drought events. This would result in lowered variance for residents in the lower Mekong region, lowering requirements to adapt to an otherwise changing regime. It would also ensure that flooded forests received sufficient flood waters providing fish fry habitat and flood plain fertilisation. However it is essential that the system is managed with long term achievable sustainable goals. If the productivity of the lake is limited through mismanagement there is a high probability

that those Cambodians reliant on the lake for nutrition, housing supplies, residency and income would experience lowered resilience.

Future adaptation options include building more resilient housing which can weather storms and house movements due to the flood more easily. Examples of this may be seen in the building of a school and water purification plant by NGO's which are built on sturdy platforms which have longer replacement times than bamboo or wood. It may also be beneficial to develop areas of the lake which are refuges for floating house communities during a storm event. One interviewed resident requested this of the government and another indicated that she moved closer to the forest due to fear of storm events.



A greater diversity in Cambodian diet may also increase resilience in the face of change. Rather than being reliant solely on fish for protein it may be valuable to diversify their food regime to include other protein and iron sources, such as from legumes or other meat products. This would increase resilience in the food system and lower dependence on one food source which may be impacted by climate change or other environmental changes.



Whilst the houses themselves, being floating or stilt, may demonstrate high adaptive capacity at a micro scale, at a macro scale tourists may not visit the area during floods if cities such as Phnom Penh or Siem Reap are flooded. So whilst there is high micro adaptive capacity there is low macro adaptive capacity for those reliant on tourist trade.



Sustainability outcomes are increased when climate change adaptation is integrated into development. It is beneficial to combine climate change adaptation and development, they don't need to be distinct things. Important to understand the local impacts of climate change so that adaptation can be most effectively tailored to the area within social, economic and cultural constraints. This is essential on Tonlé Sap where three different ethnic groups are present with unique social requirements, as discussed in resident interviews.

Residents of Tonlé Sap have demonstrated a high capacity to adapt to a dynamic environment and social issues. Their capacity to adapt to further changes will be dependent on the nature of the changes they will face and how governments within the region respond to the challenges.

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The End...

Thailand National Conference on Space Technology & Geo-Informatics: Geinfotech 2014

November 12 -14, 2014

by Mr. Jakrapong Tawala, Geoinformatics Scientist and National coordinator of Thailand

Rationale

Geo-Informatics and Space Technology Development Agency (Public Organization): GISTDA, under the supervision of the Minister of Science and Technology is the core agency in space technology and geo-informatics development, along with associated Thai agencies - Royal Thai Survey Department, Remote Sensing and GIS Association of Thailand, Surveying and Mapping Association, Geography Association of Thailand, Geology Association of Thailand, Thai Mapping Association and Logistic and Traffic Intelligent Association, jointly organize the National Conference on Space Technology & Geo-Informatics: Geinfotech 2014 during November 12 -14, 2014 in Bangkok, Thailand.

National Conference on Space Technology & Geo-Informatics is the forum for research presentation and dissemination from private and public sectors in Thailand. This conference will provide an opportunity to share valuable knowledge and experiences and extend the knowledge in advanced technology. The forum will increase expertise in the field leading to the increase in quality of life and income and to generate employment for all levels as well as to enhance sustainable development of the country. Most importantly, this particular exchange forum for information and experience among participants, including academicians, will further strengthen cooperation among various organizations in Thailand.



Mr. Jakrapong is reporting ISPRS-SC and ASG activities to Ms. Saowanee Musidang, Vice Minister for Ministry of Science and Technology of Thailand

Objectives

- To provide participants with advancements in geo-informatics and space technology.



ISPRS-SC Booth

- To offer opportunities for students, researchers and scholars from private and governmental sectors in publishing academic research, and provide opportunities for youth in presenting geo-informatics and space technology projects.
- To serve as a geo-informatics and space technology forum for participants to exchange valuable knowledge and ideas for further research and development leading to accumulation of experiences at national levels.
- To promote utilization of geo-informatics and space technology applications in private and government sectors.

Goal

Enhancing practical utilization of researches leading to intellectual property registrations and patent registrations later on, and encouraging young generation to learn and apply geo-informatics and space technology.

Activities

- Special lecture from national and international experts, resource persons and specialists.
- Panel discussion on interesting topics and current events
- Presentation and competition of geo-informatics and space technology academic papers
- Exhibition from public and private sectors and educational institutes, including governmental booth
- Geo-informatics Media Contest (GMC)
- Geo-informatics Applications Contest (G-CON)

In this occasion, ISPRS-SC and ASG had attended the conference as booth exhibition which organized by Mr. Jakrapong Tawala, national coordinator of Thailand. The booth exhibited not only history and activities of ISPRS-SC and ASG, but also announced and invited Thai researcher to participate our activities, ISPRS SC Summer School and WEBCON which will be happened in ACRS2015 in Philippine.



MASTER and PHD SCHOLARSHIPS**Adelaide Scholarships International (ASI) for Overseas Applicants in Australia, 2015**

University of Adelaide is accepting applications for Adelaide Scholarships International (ASI) available for overseas students to pursue Higher Degree by Research.

<http://www.adelaide.edu.au/graduatecentre/scholarships/research-international/opportunities/adelaide-scholarship-international/>

POSTDOC OPPORTUNITIES**Call for expressions of interest: Researchers - Function group IV - COM/1/2015/GFIV - Research**

The European Commission is launching an open-ended selection procedure to create a pool of candidates from which to recruit contract staff.

<https://ec.europa.eu/jrc/en/working-with-us/jobs/vacancies/function-group-iv-researchers>

TRAINING OPPORTUNITIES**6th ESA Advance Training Course on Land Remote Sensing**

European Space Agency (ESA) organises an advanced Land Training Course devoted to train the next generation of Earth Observation (EO) scientists to exploit data from ESA and operational EO Missions (e.g. Sentinels) for science and applications development.

<http://seom.esa.int/landtraining2015/>

JOB OPPORTUNITIES**Data Research Instructor at the College of William and Mary**

<https://jobs.wm.edu/postings/19750>

Research Associates needed at the Great Basin Institute

<http://www.thegreatbasininstitute.org/employment/research-associates-employment/>

Junior Researcher/Doctoral Student for Remote Sensing based research at the Centre for Remote Sensing of Land Surfaces (ZFL), University of Bonn

<http://www.zfl.uni-bonn.de/whoweare/jobs-applications/junior-researcher-doctoral-student-for-remote-sensing-based-research>

ISPRS & CIPA Workshop: Underwater 3D Recording and Modeling

Piano di Sorrento, Italy, 16-17 April 2015

For more info visit: <http://3dom.fbk.eu/files/underwater/index.html>

Interexpo GEO-Siberia 2015

Novosibirsk, Russia, 20-22 April 2015

For more info visit: http://expo-geo.ru/event/4-Interekspo_GEO-SIBIR/

SkyTech 2015 UAV

London, UK, 24 April 2015

For more info visit: <http://www.skytechevent.com>

MMT 2015 Summer School

Xiamen, China, 26-30 April 2015

For more info visit: <http://mmt2015.xmu.edu.cn>

36th International Symposium on Remote Sensing of Environment

Berlin, Germany, 11-15 May 2015

For more info visit: <http://www.isrse36.org>

ISPRS Workshop: Indoor-Outdoor Seamless Modelling, Mapping and Navigation

Tokyo, Japan, 21-22 May 2015

For more info visit: <http://isprs2015tokyo.geo.db.shibaura-it.ac.jp>

ISPRS Workshop: Photogrammetric techniques for video surveillance, biometrics and biomedicine

Moscow, Russia, 25-27 May 2015

For more info visit: <http://technicalvision.ru/ISPRS/PSBB15/>

ISPRS Workshop: Trust in Spatial Data and Validation of Global Land Cover Mapping

Shanghai, China, 05 June 2015

For more info visit: <http://celiang.tongji.edu.cn/trust2015/home.html>

IEEE/ISPRS workshop: Multi-Sensor Fusion for Dynamic Scene Understanding

Boston, Massachusetts, USA, 12 June 2015

For more info visit: <http://www.sfpt.fr/msf15/>

IEEE/ISPRS workshop: Advances in Web-based Education Services

Potsdam, Germany, 18-19 June 2015

For more info visit: <http://misc.gis.tu-berlin.de/ISPRS/>



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Our previous Newsletter issues

