



Urbanization and Global Environmental Change

AN IHDP CORE PROJECT

MAY 2012
ISSUE 18

UPCOMING EVENTS

Adaptation Futures: 2012 Conference on Climate Adaptation

Tucson, AZ, USA
May 29-31 2012

Urban Environmental Pollution: Creating Healthy, Liveable Cities

Amsterdam, The Netherlands
June 17-20, 2012

Rio+20 United Nations Conference on Sustainable Development

Rio de Janeiro, Brazil
June 20-22, 2012

Annual Conference of the Royal Geographical Society (with Institute of British Geographers)

Edinburgh, Scotland
July 3-5, 2012

32nd International Geographical Congress (IGC): Down to Earth

Cologne, Germany
August 26-30, 2012

6th World Urban Forum

Naples, Italy
September 1-7, 2012

11th Urban Environment Symposium

Karlsruhe, Germany
September 16-19, 2012

Earth System Governance Tokyo Conference: Complex Architectures, Multiple Agents

Tokyo, Japan
January 28-31, 2013

Global Land Project Open Science Meeting

Berlin, Germany
March 19-21, 2014

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RECENT EVENTS

New Typologies of Urbanization in the Context of Global Change

New York, NY USA | January 2012

The Urban Typologies (UT) workshop was the first of a two part series, organized by UGEC and involved 11 urban scholars and scientists with the goal of developing a typology that would be of use for science communities. The second workshop will be organized by the World Bank later this year and will involve urban stakeholder, policy communities and several participants of the first workshop. The primary goal of the workshop was to develop a typology of urban areas and urbanization that can be used to compare and contrast places and processes in the context of climate change, understanding that the typologies need to be sufficiently flexible in nature such that they could be used for other global change topics such as ecosystem services or sustainability assessments. The workshop was structured around the following topics/issues:

A. NEED/USE/OBJECTIVE

1. How can typologies help scientists and decision-makers compare, contrast, and examine urban areas and urbanization processes in the context of global change?
2. How can we group the diversity of urbanization processes and urban paces on a variety of quantitative and qualitative variables so that we can make inferences on other places outside of the sample?

B. STRUCTURE/ORGANIZATION AND SPECIFICATION OF CONCEPTS: urbanization, climate change, global change.

3. If we use climate change as a lens, what typologies of urbanization and cities are useful for comparing urban adaptation and mitigation strategies, climate vulnerabilities, and system resilience?

4. How can we develop a multi-dimensional typology that can characterize the different phases and classifications of urbanization and their relationship with global change or climate change?

C. DATA NEEDS AND REQUIREMENTS

5. Beyond population size, economic base, and geography, what key dimensions or attributes of contemporary urbanization and urban places need to be considered when developing these typologies?

* The UT workshop has resulted in a draft paper that will be submitted for publication soon.

AAG Annual Meeting New York, NY USA | February 2012

UGEC organized and presented in a variety of sessions at the Association of American Geographers Annual Meeting, one of which included a panel discussion as a follow-up to two parallel workshops held in April 2011 on the topics of Urban Remote Sensing, funded by the U.S. National Science Foundation, and Forecasting Urban Land-Use Change, funded by NASA and organized by UGEC. The workshops addressed the issue of urbanization through four themes: data, applications, scale and case studies. The goal of this AAG panel discussion was to sustain the momentum that emerged from the two workshops, engage a larger researcher and practitioner community on the topics discussed, highlight lessons learned from the workshop, and identify concrete steps for moving the fields forward.

Four common issues were discussed: 1) The need to improve accessibility and usage of remotely sensed data and forecasting models by non-expert users; 2) The need to explicitly examine the range of scales in analysis, especially spatial, temporal, spectral, decision-making, and economic scales; 3) The need to increase data availability, accessibility, and consistency; and 4) The need to develop an urban typology and framework to facilitate comparative studies across cities. How do we take these lessons learned and move the research communities forward?

* Two publications exist from the workshops and subsequent meetings and interactions to date:

[Understanding the drivers and consequences of global urbanization using emerging remote sensing technologies](#) by Dell'Acqua et al., posted on September 30th, 2011 in Articles, Earth Observation, Urban Monitoring.

Wentz, E.A., Seto, K.C., Myint, S., Netzband, M., & Fragkias, M. (2011, November). [Urban remote sensing \(URS\) and forecasting urban land-use \(FORE\) workshops: common ground and targeted opportunities](#). *UGEC Viewpoints: Addressing Grand Challenges for Global Sustainability: Monitoring, Forecasting, and Governance of Urban Systems*, 6, pp. 15-17.

Planet under Pressure: New Knowledge towards Solutions London, UK | March 2012

Cities are becoming more widely recognized in discussions of global sustainability, as is evident from the recent PUP conference where UGEC convened and co-convened the majority of urban-themed sessions, attracting the attention not only of conference participants but the media as well. Read both the full MSNBC report and Planet under Pressure statement on cities, featuring Karen Seto, UGEC SSC co-chair, and Michail Fragkias, UGEC Executive Officer.

[Planet under Pressure statement: 'Cities expand by area equal to France, Germany and Spain combined in less than 20 years'](#)

[World News Report on MSNBC: 'World's cities to expand by more than twice the size of Texas by 2030'](#)

Additionally, we would like to highlight the work showcased by many of you who attended and presented at the UGEC sessions during the PUP conference in the 8th issue of *UGEC Viewpoints*. Please see the full announcement under the [Calls for Abstracts Section](#).

Workshop on Climate Change Adaptation and Sustainable Urban Development Hue, Vietnam | April 2012

Professor Darryn McEvoy, RMIT University and UGEC SSC member, facilitated a project workshop on climate change adaptation and sustainable urban development

in the city of Hue in central Vietnam this April. Funded by the Asia Pacific Network for Global Environmental Change, the project focuses on the development of climate risk assessment toolkits for secondary cities in Vietnam (Hue) and Bangladesh (Satkhira). Four members of the Satkhira case study, academics and local stakeholders, attended the workshop in Hue. The project was intentionally designed to allow for the sharing of experience and knowledge - both cities are coastal, are already vulnerable to flooding, and need to contend with 'unplanned' urban development pressures - and to actively promote 'south to south' learning. A final project workshop, involving Vietnamese delegates, will be held in Bangladesh in July 2012.

CALLS FOR ABSTRACTS

UGEC Viewpoints VIII - Call for Abstracts

Interested parties should send us a 300 word abstract of your envisioned contribution which should discuss your current research or could be forward looking – including a discussion of problems or knowledge gaps, potential solutions for moving forward, etc. In general, *Viewpoints* articles should be semiformal presentations of research findings in the context of urbanization and global environmental change with more emphasis on the policy implications of the research.

***We particularly encourage those of you who presented in the UGEC convened sessions at the recent Planet under Pressure conference to send in your abstracts. We want to highlight your research in this issue.**

For examples of articles, you will find our most recent issues on our website at this link:

<http://ugec.org/tiki-index.php?page=Viewpoints>

After we make the selections – we aim at a total of 10-12 contributions – we will then ask you to submit a full article of around 1500-1800 words. **Potential contributors should begin by sending us your 300 word abstract by June 15th.** After we notify you of acceptance, we will request your full article by the end of August. We estimate the final product to become available in October. Abstract submissions should be emailed to Corrie Griffith: corrie.griffith@asu.edu

Please feel free to email any questions you may have about the publication or the process.

Earth System Governance Tokyo Conference: Complex Architectures, Multiple Agents

*United Nations University Head Quarters, Tokyo
January 28-31, 2013*

The Earth System Governance Tokyo Conference will be held January 28-31, 2013 at the United Nations University Headquarters in Tokyo, Japan. This event is part of the global conference series organized by the Earth System Governance Project, a ten-year research programme under the auspices of the International Human Dimensions Programme on Global Environmental Change (IHDP). This conference will be the fourth in a global series organized by the Earth System Governance Project. The Earth System Governance Tokyo Conference will be jointly hosted by the United Nations University Institute of Advanced Studies (UNU-IAS), the International Environmental Governance Architecture Research Group and the Tokyo Institute of Technology on behalf of the Earth System Governance Project.

Conference Themes

1. Earth System Governance Architectures in the 21st Century
2. Climate and Energy Governance Architectures
3. The Nexus between Architecture and the other “A’s” in Earth System Governance
4. Political Dynamics in the Interface of Agency and Architecture
5. Methodological Challenges to Complex Architectures and Multiple Agents
6. Special Conference Stream on Nuclear Safety and Post-disaster Governance

Abstract Submission:

Abstracts are invited on one of these six conference themes from scholars in the social and natural sciences, as well as practitioners, from the global South and North.

Abstracts must be submitted electronically through the conference website:

<http://tokyo2013.earthsystemgovernance.org> by

July 1, 2012 and may not exceed 300 words. All abstracts will be evaluated in double-blind peer-review by several members of the conference review panel. For additional information on the Earth System Governance Project, including its Science and Implementation Plan, please visit www.earthsystemgovernance.org.

Making Room for the Lagos Megacity

*Department of Geography, University of Lagos
July 25 & 26, 2012*

The manner in which the city of Lagos has evolved and expanded has existing planning frameworks and instruments of governance merely trying to match the pace of urbanization. The prevailing paradigm of urban regeneration at the inner section of the city seems not to take care of developments at the edges of the city. While trying to tackle and solve existing slum problems at the older section of the city, the newer areas are showing signs of slum developments. This makes governance cumbersome and unpredictable. There is the need for a deeper understanding of the dynamic nature of the major spatial aspects of the Lagos Megacity from different perspectives. What is required therefore is a new understanding of the new geographies of urbanization as it pertains to the Lagos Megacity involving a rigorous analysis of the past, present and future land change trajectories. This will unravel the real issues and provide more realistic strategies for its governance which addresses its inevitable expansion. 'Making room for the Lagos Megacity' as a theme for this national conference is premised on the current inevitable reality of the expansion of the Lagos Megacity and how to deal with it. [Read the full pdf announcement here.](#)

You are hereby invited to submit an abstract of not more than 250 words that is concise and result oriented either of a review paper, theoretical/policy issue or original work to the secretariat focusing on any of the following sub-themes detailed in the pdf. **Deadline for submission: May 19th**

All correspondence including submissions must be electronically to: pelias@unilag.edu.ng or po_elias@yahoo.com

Belmont Forum International Opportunities Fund

The Belmont Forum and G8 Research Councils Initiative on Multilateral Research Funding have opened the long awaited call aimed at supporting research in the areas of *Coastal Vulnerability* and *Freshwater Security* announced in London. Details may be found on the [IOF web site](#).

Important dates: Closing date of submission of pre-proposals: 20th July 2012

Notification of full proposals: 20th September 2012
Closing date for submission for full proposals: 20th December 2012

Call for Papers for a Special Issue of the *Journal of Cleaner Production*

Deadline for submissions of the first draft: June 20, 2012.

Urbanization, particularly in Asia, is taking place in an unprecedented scale posing tremendous technical and institutional challenges to reduce its impact at the local, regional and global levels. Many cities face the tasks of tackling global environmental problems, such as climate change, besides the traditional local environmental problems, such as air and water pollution, while seeking to fulfill the growing demands for jobs, housing, education, health care and transportation. Despite growing efforts to introduce urban management policies and projects, the environmental quality of cities in many Asian countries remains unsatisfactory and is even worsening, both concerning the local and global environmental impacts.

There are a large number of interesting projects, designed to address these types of complex issues, but their individual effects are not enough to change the course of the environmental degradation in those cities. One of the reasons for these underachievements is that policies have addressed specific environmental problems in isolation. Urban environmental management in specific sectors and projects has not considered the mutual impacts and interactions of policies and practices in different sectors, as well as how to scale up innovative changes on a citywide or regional basis. [For more information view the full pdf announcement.](#)

***International Journal of Geographical Information Science* Special Issue on Land Change Modelling: Moving Beyond Projections - Call for Papers**

Papers are sought concerning land change modelling from applied perspectives concerning geography, ecology, planning, and related environmental studies, as well as from technical perspectives concerning process stationarity and model validation that are relevant to the above mentioned features. Of special interest are unique and new ways of conceptualizing, processing, and modelling land change. **The deadline for submission of papers is May 31, 2012.**

Download the full pdf announcement [here](#).

ANNOUNCEMENTS & OTHER NEWS

New Horizons for the UGEC EO, Michail Fragkias

Michail Fragkias is stepping down from his position this summer after 6 successful years as the Executive Officer of UGEC. During his tenure, Michail oversaw and coordinated the launch of UGEC and has been instrumental in its success. We wish him the best of luck and continued success in his new position as visiting associate professor at Boise State University, Idaho!

We are now seeking your assistance in helping us find suitable candidates for the EO position. We will soon be placing a job post that will be advertised at the usual distribution outlets (e.g., AAG, EOS, IHDP newsletter, etc.). Nonetheless, we need your help in identifying the best candidates for the position. The EO manages the International Project Office at Arizona State University and must be able to work independently and productively without extensive input from the UGEC Co-Chairs or SSC. The ideal EO is one who takes initiatives on research and outreach, seeks international research and collaboration opportunities for the project, and is able to push the UGEC agenda forward. The project is at a critical juncture. The topic of urbanization and global change is increasingly important in research and policy. As many of you know, IHDP and the other global change projects will soon transition into the new "Future Earth" initiative. There are high expectations for the project, including the need for a synthesis conference sometime in 2014.

The ideal candidate is someone who is 2-4 years post PhD, possibly finishing a post-doc, and has a successful track record of research, publishing, and outreach. Knowledge of the global change programs, especially IHDP and UGEC is a must. We believe that the position is an exciting opportunity for a dynamic scholar. Ideally, the successful candidate will start August 1, 2012. Please send names of potential candidates to Corrie Griffith (corrie.griffith@asu.edu). Please also feel free to have potential candidates contact us directly. On behalf of the UGEC Scientific Steering Committee, we thank you for your help.

Roberto Sanchez (roberto.sanchez-rodriquez@ucr.edu)
Karen Seto (karen.seto@yale.edu)
UGEC Co-Chairs

New UGEC Project Associates and Endorsed Projects

Benoit Lefèvre, *Iddri, France*

Yangfan Li, *Department of Natural Resources, Cornell University, USA and School of the Environment, Nanjing University, China*

Soe Myint, *School of Geographical Sciences & Urban Planning, Arizona State University, USA*

Laura Reese, *Department of Political Science, Michigan State University, USA*

H.S. Sudhira, *Indian Institute for Human Settlements, India*
Xiangrong Wang, *Center for Urban Eco-Planning & Design, Department of Environmental Science & Engineering, Fudan University, China*

Endorsed Project:

ClimateAdaptationSantiago (CAS) - successor to the Risk Habitat Megacity research initiative | Overall Coordinator Dr. Bernd Hansjurgens & Dr. Kerstin Krellenberg, Helmholtz Centre for Environmental Research - UFZ

Click to learn more about all our [Project Associates](#) and [endorsed projects](#).

PUBLICATIONS

Viewpoints VII: Interdisciplinary Initiatives for an Urban Earth

The seventh issue of *UGEC Viewpoints* is inspired by the discussions held during the recent 'Planet under Pressure 2012' conference about the future of Global Environmental Change research. Naturally, many discussions revolved around the new reorganization of activities within 'Future Earth'. With this issue we attempt to showcase a small sample of 'Interdisciplinary Initiatives for an Urban Earth'. We have tried to exhibit new integrative research that meets the needs of stakeholders at different scales – stakeholders who are currently struggling with addressing both challenges and opportunities of global urbanization and environmental change.

[A digital copy of the issue is available here.](#)

UGEC project co-chair, Dr. Karen Seto and Executive Officer, Michail Fragkias are co-authors to the article "The Rise and Rise of Urban Expansion" which was recently

published in the March issue of the IGBP *Global Change Magazine* No. 78, "[Anthropocene: The Geology of Humanity](#)". Along with articles addressing resource consumption and the economic consequences of natural catastrophes, this short piece offers a glimpse into global patterns of urbanization over the last few decades and the implications this holds for future plans towards sustainability.

Seto, K.C., Reenberg, A., Boone, C.G., Fragkias, M., Haase, D., Langanke, T., Marcotullio, P., Munroe, D.K., Olah, B., & Simon, D. (2012). [Urban land teleconnections and sustainability](#). *PNAS*, published ahead of print May 1, 2012. doi:10.1073/pnas.1117622109

Urban and land-use sustainability are integrally connected, but often spatially disconnected. The paper, "Urban Land Teleconnections and Sustainability," introduces the concept of teleconnections, borrowed from climate science analysis, as a conceptual framework for examining land change by explicitly linking it to urbanization. [Read the full media release on the article.](#)

Fragkias, M., Langanke, T., Boone, C.G., Haase, D., Marcotullio, P. J., Munroe, D., Olah, B., Reenberg, A., Seto, K. C., Simon, D. (2012). [Land teleconnections in an urbanizing world – A workshop report](#). GLP Report No. 5; GLP-IPO, Copenhagen. UGEC Report No. 6; UGEC-IPO, Tempe. May 3 2012.

This GLP/UGEC joint report is based on a workshop with the title "Sustainable Land-use in an Urbanizing World", which was funded through the Global Land Project (GLP) – hosted and organized through the previous International Project Office in Copenhagen, Denmark - and the UGEC project. The workshop was held in Copenhagen, Denmark on the 27-29th June 2011.

National Research Council of the National Academies. (2012). [Urban meteorology: forecasting, Monitoring, and meeting users' needs](#). Washington D.C.: The National Academies Press.

This report, based largely on the information provided at a Board on Atmospheric Sciences and Climate community workshop, describes the needs for end user communities, focusing in particular on needs that are not being met by current urban-level forecasting and monitoring. This report also describes current and emerging meteorological forecasting and monitoring capabilities that have had and will likely have the most impact on urban areas, some of which are not being utilized by the relevant end user communities.

JOBS

Post-doctoral Research Opportunity | Analysis and modeling of urban sustainability challenges

At least two new post-doctoral positions are to open up, starting August 2012, at Northeastern University to expand capabilities in analysis and modeling of urban sustainability challenges. Specific topics for research may include, but will not be limited to urban resilience; urban adaptation to global change; urban material and energy use; and urban climate, public health and environmental justice.

Qualified applicants must have completed by August 2012 a PhD in geography, urban studies, civil and environmental engineering, ecological economics, industrial ecology or a related field, and possess strong analytical skills and relevant modeling experiences (e.g. dynamic modeling, econometrics, GIS) as demonstrated by prior coursework, dissertation, and publication record. Solid understanding of one or more of the following is highly desirable: complex system dynamics; climate change economics and policy; regional science; and urban systems analysis.

For more information and to apply, see the following [link](#).

Get Involved

We are continually looking for projects to endorse and interested members of the community to become UGEC Project Associates in order to enhance and expand our network of scholars and practitioners. You can find more information about these opportunities under the "Get Involved" section of our website.

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ABOUT US

The Urbanization and Global Environmental Change (UGEC) project is a science project that targets the generation of new knowledge on the bi-directional interactions and feedback loops between urban areas and global environmental change at local, regional and global levels. It follows a multi-disciplinary approach and utilizes an innovative framework for the comprehensive understanding of the driving and resulting economic, political, cultural, social and physical processes.

An important feature of this core project is the explicit commitment to translate abstract knowledge about GEC into local decision-making contexts. The project is expected to provide a platform for close interaction between practitioners, political decision-makers and researchers and targets a stronger coordination and collaboration between academics, political decision-makers and practitioners working on urban and environmental issues.

The UGEC project is currently engaged in ongoing efforts to expand its regional and thematic networks. Our website provides links to the UGEC Science Plan, information on how researchers can join our network as project associates, and how research projects and agencies can get their projects endorsed by UGEC. [Download a digital copy of our new brochure.](#)