

Urbanization and Global Environmental Change AN IHDP CORE PROJECT

The UGEC e-Newsletter Issue 2 - April 2007

WELCOME NOTE

Dear recipients of the second UGEC e-Newsletter,

We would like to start by thanking many of you who expressed their encouragement and offered suggestions regarding the first issue of this e-Newsletter we circulated in February. We have incorporated several ideas in our current issue and will continue to grow and expand in future newsletters. Please always feel free to contribute to this e-Newsletter.

The last couple of months the project experience a substantial growth in its regional and thematic networks. The present distribution list grew by a few hundreds of people. Danielle Tomerlin is now the Communication Coordinator for the project. Our International Working Paper Series had its first two papers circulated; the papers discuss global changes and urban risk in the context of African cities and the conceptualization of the challenge of GEC for cities in poor countries. We are also happy to announce the addition of two new project associates, Dr. Mark Pelling, who studies the human impacts of environmental hazard and social adaptation to environmental risk with a particular focus on urban risks and vulnerability to natural hazards and climate change and Dr. Prakash Tiwari, a geographer with an interest in the study of urban growth, its steering factors and its impact on the natural environment in the fast growing and densely settled up high mountain regions in Indian Himalaya.

With our 4th UGEC Scientific Steering Committee meeting behind us, we are now shifting our

focus to the planned activities for the remainder of 2007 and 2008 (information on which you can find in the next few pages of this e-Newsletter).

Sincerely,
Michail Fragkias, Executive Officer
Danielle Tomerlin, Comm. Coordinator

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ABOUT THIS NEWSLETTER

The Urbanization and Global Environmental Change project (an International Human Dimensions Programme on Global Environmental Change - IHDP - Core project) initiated its e-Newsletter this year as an electronic avenue for important announcements regarding international meetings, workshops, conferences, colloquia, lectures, seminars, calls for papers and grant proposals, and job opportunities. If you wish to contribute content of that scope to the next issue of e-Newsletter please submit the information you wish to see distributed to the UGEC network of scholars and practitioners to fragkias@asu.edu. At this stage we plan to send out a digest every couple of months (with the possibility of establishing it as a monthly circulation as the project expands). Directions on how you may subscribe or unsubscribe are included at the end of this message. An archive of messages sent to the list is available at http://lists.asu.edu/archives/ugec-l.html. Our website (www.ugec.org) will always carry the most up to date so do not forget to visit it from time to time.

UGEC EVENTS

Fourth SSC Meeting in Tempe, AZ, April 14th and 15th 2007

The Scientific Steering Committee of the UGEC Project held its 4th SSC meeting in Tempe, Arizona over the weekend of April 14th and 15th 2007. During the meeting, the project SSC and the Executive Officer reported on the status of the project and future activities of the project (workshops, newsletters, publications, the working paper series, collaborations with other core projects, joint projects and integrated regional studies etc.) were discussed.

One of the primary goals of the meeting was to build strong relationships between the project and the academic community at our host institution, Arizona State University. Researchers and practitioners from ASU (but also from nearby universities, agencies and institutions) were invited to participate in the meeting in

order to explore possibilities for collaboration with the UGEC project. The interaction between the project SSC, associates and the local researchers proved to be fruitful as several avenues for collaboration were identified (pathways that will be explored further in the near future).

UGEC Seminar Series

The UGEC International Project Office established in April its Seminar Series that will be primarily taking place at Arizona State University. Speakers from across the world will be invited to participate individually or as members of panels on specific Urbanization and Global Environmental Change themes.

Peter J. Marcotullio gave the inaugural lecture for the Series titled "Urbanization, increasing wealth and energy transitions: Comparisons between the USA and rapidly developing Asia Pacific economies."

From the lecture abstract: "A combination of direct and indirect drivers has brought changes in development patterns, including those related to urbanization and environmental transitions. These drivers have facilitated the impact of time-space effects. Time-related effects include processes that have increased the speed and efficiency of human activities. Space-related effects include processes that concentrate increasingly diverse phenomena in geographically uneven patterns. Time-space effects combine in cities to create conditions were environmental challenges occur sooner, change faster and emerge in a more simultaneous fashion than previously experienced by the developed world."

Peter explored the patterns created in the contemporary development context by analyzing important differences in the relationship between urbanization levels, energy transitions and increasing wealth in a developed economy (USA) and several rapidly developing East and Southeast Asian economies.

OTHER EVENTS

14th IHDP Scientific Committee Meeting, Angra dos Reis, Brazil

The project's Executive Officer, Michail Fragkias, attended the 14th IHDP Scientific Committee Meeting held at Angra dos Reis in Brazil between the 15th and 18th of March 2007. In this meeting, the IHDP Strategic Plan for the second decade of IHDP (2007-2015) and new scientific initiatives were discussed.

The UGEC project was also represented by its EO at the Joint IHDP/IGBP Scientific Committee meeting held on the 15th and 16th of April. In that meeting several IGBP core projects expressed a strong interest in collaboration with IHDP projects and, in particular, the UGEC project; we expect that members of the projects will soon engage in discussions and initiate formal interactions:

The IGBP International Global Atmospheric Chemistry (IGAC) project

This is an older project (launched in 1988), cosponsored by the Commission on Atmospheric Chemistry and Global Pollution (CACGP) of the International Association of Meteorology and Atmospheric Sciences (IAMAS). The overarching goal of IGAC is "to understand the role of atmospheric chemistry in the Earth System and to determine the effects of changing regional emissions and depositions, long-range transport and chemical transformations on air quality". The project also "examines atmospheric chemistry issues facing society, as well as the challenges of studying and managing an integrated Earth System". Recognizing the role of human activities in the alteration of the chemical composition of the atmosphere on local, regional and global scales, the project focuses on issues of air pollution, ground-level ozone and particulate matter that pose serious threats to human health and agriculture and also places particular emphasis on growth of mega-cities. The project can be found on the web at

The Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS) project

http://www.igac.noaa.gov/

This project focuses on the interactions between the land and atmosphere that underlie how we build our societal infrastructure, and play a vital role in the functioning of the Earth System. The overall goal of iLEAPS is to enhance the understanding of how interacting physical, chemical and biological processes transport and transform energy and matter through the land-atmosphere interface - looking at interactions and feedbacks from local to global scales, and from the past to the future. iLEAPS adopts a historical and present day examination approach towards this interface; how human activities are affecting this interface, and the extent to which terrestrial vegetation determines the physical and chemical environment on different scales. iLEAPS was established in 2004 as the new Land-Atmosphere project within the framework of IGBP-II. The project can be found on the web at:

http://www.atm.helsinki.fi/ILEAPS

The DIVERSITAS Urban Initiative

One of the four big GEC programmes, DIVER-SITAS, is planning its own Urban Initiative. Information regarding an older related DIVER-SITAS activity the Urban BioSustainability workshop in Montreal in 2004 can be found on the web at:

http://www.diversitasinternational.org/montreal_urban.htm
The DIVERSITAS programme is online at: http://www.diversitas-international.org/

UGEC project presented at the 2007 AAG meeting, April 17th – 21st.

Members of the SSC and project associates of the UGEC project participated in the 2007 Meeting of The AAG between April 17th and the 21st in San Francisco, CA, USA. In a side-event, Michail Fragkias and David Simon met with a group of AAG meeting participants, presented the project and discussed possibilities of interactions and collaborations within the framework of the Science Plan of the project.

UGEC Workshops

The project is currently designing a workshop on the theme of urban adaptation to climate change, scheduled to take place during the 4th quarter of 2007 in New York City. The workshop will be led by UGEC SSC members, Bill Solecki and Roberto Sanchez. A preliminary agenda suggests that the workshop will explore issues regarding the nature of climate change in the urban context; the elements of climate change that can (i) help cities understand and respond to climate change and (ii) highlight the relative role of actions in adapting to climate change; the discourses of climate change in cities (how does discourse influence cities conception/perception and response to climate change); the definition and "management" of the discourse (what is the role of the media, scientists, business leaders, govt., NGOs).

The UGEC project will also soon distribute calls for papers for its "Forecasting the magnitude, location and form of urban growth" workshop. This workshop (led by UGEC SSC member and co-chair, Karen C. Seto, and project associate, Peter Marcotullio) will focus on the state of the art in urban growth forecasting and its utility for planners, policymakers, and other stakeholders; it will explore the interactions along the axes of conservation, climate and vulnerability. The workshop targets the facilitation of a discussion among users and developers of data and models to assess the gap in needs.

The plans for a Latin America workshop announced in our last Newsletter are under way. This will focus on strategies for adaptation to reduce the negative impacts of climate change and climate variability on urban areas in Latin America. It seeks to overcome the perception that the impacts of climate change and climate variability will occur in the distant future and, therefore, that there is no justification to rethink allocation of resources in order to address them. It will bring together scholars and practitioners in an effort to facilitate integrating those adaptation strategies in the development of new approaches for current urban problems. The workshop will take place in Morelia, Mexico in November 2007.

For more information regarding the activities planned by UGEC, please don't hesitate to contact Michail Fragkias at fragkias@asu.edu or visit our website at www.ugec.org.

ANNOUNCEMENTS

Selected Recent Journal Publications

Several papers that resulted from the plenary panel session on 'Urbanization and GEC: 21st Century Challenges', in the Annual Meeting of the Royal Geographical Society (30th August 2006) were published in *The Geographical Journal* (March 2007 - Vol. 173 Issue 1):

- Cities and global environmental change: Exploring the links David Simon
- Megacities and global change: Key priorities - Frauke Kraas
- Urbanization and global environmental change: Local effects of urban warming -Sue Grimmond
- Climatic perturbation and urbanization in Senegal - Cheikh Guèye, Abdou Salam Fall and Serigne Mansour Tall

David Simon also published an article title "Urbanisation and global environmental change: new intergenerational challenges" in the journal International Journal of Green Economics (Vol. I, Nos. 3/4, 2007).

New SSC Member

Xue Desheng, the chair and professor at the Department of Urban and Regional Planning, Center for Urban and Regional Studies and Assistant Dean at the School of Geography and Planning in Sun Yat-sen (Zhongshan) University will succeed Xiaopei Yan as a member of the Scientific Steering Committee of the UGEC project. We would like to thank Xiaopei for her contribution to the project and wish her all the best as she focuses in her important role as the Vice-Mayor of the city of Shenzhen China.

New Project Associates

We are pleased to announce the addition of Dr. *Mark Pelling* to the list of project associates. Dr

Pelling focuses on the human impacts of environmental hazard and in social adaptation to environmental risk with a particular focus on urban risks and vulnerability to natural hazards and climate change. To date his research has focused on issues of risk governance at a range of scales including studies of grassroots leadership, linkages between community based organization and international development agencies and the influence of contrasting national governance regimes on risk reduction. Work has recently sought to synthesis theory on social capital and social learning to build up an institutional theory of adaptation to climate change (see http://www.rcc.rures.net/). In addition to research supported by academic awards he has undertaken substantial research for UNDP and DFID. He is currently researching linkages between natural disaster, social and political instability and conflict with funding from the ESRC New Security Challenges Programme. He has also undertaken consultancies for the International Federation of Red Cross and Red Crescent Societies, UN-HABITAT and the Commonwealth Geographical Bureau; he is Chair of the RGS-IBG Climate Change Research Group and a member of the United Nations University Expert Group on Measuring Vulnerability. More information is available at:

http://www.kcl.ac.uk/schools/sspp/geography/people/acad/pelling/research.html

His recent publications include:

- Measuring vulnerability to urban natural disaster risk, Open House International, special edition on managing urban disasters 31 (1) 125-132, 2006
- Understanding adaptation: what can social capital offer assessments of adaptive capacity? Global Environmental Change A, 15 (4) 308-319, 2005 (with Chris High)
- Disaster risk, climate change and international development: scope and challenges for integration, Disasters 30 (I) 19-38, 2006 (with Lisa Schipper)

We are also happy with the inclusion to the list of our project associates of Dr. Prakash Chandra Tiwari, a reader / associate professor from the Department of Geography in Kumaon University Naini Tal, Uttaranchal, India. Prof. Tiwari has held several visiting positions in the past - at the University of Halle and McMaster University in Canada. He holds a Ph.D. from Kumaon University, Naini Tal.

In his association with UGEC, Prof. Tiwari plans to analyse the urban growth and its steering factors and to assess the impact of urbanization on natural environment (land use dynamics, depletion of forests, biodiversity, water resources etc., natural risks, such as, landslides solid waste and water pollution) in the fast growing and densely settled up high mountain regions in Indian Himalaya.

Representative publications by Dr. Tiwari include:

- Environmental Changes and Status of Water Resources in Kumaon Himalaya, in Jansky Libor et al (eds) Sustainable Management of Headwater Resources: Research from Africa and Asia, United Nations University, Tokyo, Japan, 109 – 123, 2005.
- Land use Changes in Himalaya and their Impact on the Plains Ecosystem, Land use Policy, (U.K.), 17 (2000), 101-111, 2000.
- Land use Planning for Sustainable Resource Development in Kumaon Lesser Himalaya: A case study of Gomti Basin, The International Journal of Sustainable Development and World Ecology, Vol. 3 (4), 23-34, 1996.

Project Endorsements

Human security and local governance: negotiating environmental risk management under rapid urbanisation in the Yucatan (Mexican Caribbean)

Michael Redclift and Mark Pelling, Economic and Social Research Council (ESRC).

Abstract: The majority of the world's population and physical assets are urban based, yet little is known of the ways in which competing visions and manifestations of urbanisation effect the social distribution of environmental risk associated with climate change, and the opportunities for new policies to improve human security in coastal zones. Globally, climate perturbations exacerbated by global warming carry important implications for human security, especially in coastal locations. Among the most important of these perturbations is the increased severity of hurricane-force storms. This research will investigate social and political capacity, and action taken to adapt to the risks and impacts of hurricanes, in an area that is increasingly at the 'front line' of global climate change: the Mexican Caribbean coast south of Cancun. It will compare the impact of changes in governance regimes, under rapid urbanisation, on local adaptive capacity and the actions undertaken by state, non-state and individual actors. It will focus on the development of social capital and the uses to which this is put under pressure from risk and impacts of extreme climatic events.

Megacities - Megachallenge: Informal Dynamics of Global Change

("Megastädte: Informelle Dynamik globalen Wandels" - DFG Sequential number 1233)

Overall coordinator: Prof. Frauke Kraas, Department of Geography, University of Cologne. Coordinating committee: Prof. Jürgen Breuste, (University of Salzburg), Prof. Jost Heintzenberg (Leibniz Institute of Troposphere Research, Leipzig), Prof. Peter Herrle (TU Berlin), Prof. Gernot Klepper (Institute of World Economics at the University of Kiel), Dr. Thomas Krafft (National Committee for Global Change Research, LMU Munich), Prof. Volker Kreibich (University of Dortmund), Prof. Günter Mertins (University of Marburg), Prof. Jürgen Rüland (University of Freiburg).

Financial funding planned for six years; granted for the first two years.

The "Megacities-Megachallenge" project is funded by the German Research Foundation

(Deutsche Forschungsgemeinschaft - DFG) as a new priority program. The project now includes more than 60 researchers (not counting postdoctoral scholars and graduate students), held its first scientific meeting in November of 2006 and its kick-off-meetings in Dhaka and Guangzhou in March of 2007. The project seeks to develop theoretical approaches and models of informal processes and structures in megacities, based on the integration of knowledge from the natural and social sciences. The project seeks to move towards the explicit study of the phenomenon of megacities as outcomes of complex processes, interactions between sub-processes (viewed from an interdisciplinary lens) and the process-oriented development of theories, models and scenarios.

From the project website: "Processes and interactions in four problem areas with an extreme dynamism of development and major social relevance are central to this project:

(I) The loss of planning control and governability and the influence of new forms of direction, (2) The dominance and differentiation of urban economies, (3) The complexity and dynamics of material and resource flows, and (4) The multilayered dynamics of settlement development. The four core themes may be examined singly or in combination; it is however absolutely essential that the research teams are multidisciplinary. Given the highly complex nature of process dynamics in megacities, it makes sense to concentrate the research projects on two megacities. This enables intensive interaction and co-ordination between the projects and ensures high returns. The selection of the two megacities was made on the basis of the two contrasting categories "authoritarian, centralised" (with only partially tolerated informality) and "democratic, decentralised" (with a high degree of loss of governability and marked informality). The megaurban regions of Dhaka in Bangladesh and the Pearl River Delta in China (Guangzhou, Shenzhen, Hong Kong) were chosen." More information can be found at: http://www.geographie.uni-koeln.de/megacitiesspp/index e.htm

UGEC International Working Paper Series - Call for contributions

The UGEC International Working Paper Series aims to circulate and promote original and innovative work on Urbanization and Global Environmental Change issues. This Series targets work done by the academic and practitioner communities of the UGEC project.

Work in progress that addresses one or more themes of the Science Plan is especially welcome. Working papers on the need and practical use of scientific knowledge on global environmental change in managing, planning, and development of urban growth are also welcome.

This series provides the opportunity to scholars and practitioners to present the results of their research available in a timely fashion and receive feedback from a broader community of scientists and practitioners. The UGEC working paper series is maintained by the UGEC International Project Office. Many of the working papers will be in draft stages of articles that eventually target publication in scholarly or professional journals. More information on Policies and Procedures, the Review Process, copyright issues and submission instructions can be found on our website (under Activities – Int. Working Paper Series.

On our website you can find the first two papers in the Series: "Global change and urban risk: the challenge for African cities" by David Simon (WP07-01) and "Global environmental change – conceptualizing the challenge for cities in poor countries" by Susan Parnell, David Simon, and Coleen Vogel (WP07-02).

UGEC International Working Paper Series - New additions

Our first two Working Papers in the Series are now online and can be found at www.ugec.org (Navigate to Activities -> Int. Working Paper Series

WP07-01: Global change and urban risk: the challenge for African cities by David Simon

From the introduction: "This is an historic moment in human history, with two dramatic

events coinciding. First, more people worldwide now live in urban than in nonurban areas. Although there is still considerable diversity both within and between different world regions, humankind is becoming predominantly urbanbased, with many rural dwellers, especially the young, aspiring to urban lives or at least increasingly urban lifestyles. In our rapidly globalising world, this will necessarily require considerable adjustment of policy and practice in everything from agriculture to urban design. Second, humankind's impact on the environment has reached the point where Global Environmental Change (GEC) is now acknowledged as a reality by all except the most diehard rejectionists. The option of continuing to ignore this, to regard it purely as somebody else's problem or something that our children will have to deal with, no longer exists. The purpose of this paper is to examine these issues and to relate them to current conditions in Nigeria and West Africa more generally."

WP07-02: Global environmental change - conceptualizing the challenge for cities in poor countries by Susan Parnell, David Simon, and Coleen Vogel From the abstract: "Ongoing urbanisation makes cities a key focus for global environmental change (GEC) research, creating an imperative for a new, city-scale, research agenda. The vulnerability of urban populations to the multiple stresses of GEC lies at the core of overlapping domains of knowledge that could be better integrated in advancing research. The urban development, global change and disasters literatures are fragmented and reveal fundamental cleavages over the role that government could play in mitigating vulnerability to multiple threats and challenges. Important empirical gaps exist, especially on cities of the South. While there are significant knowledge gaps and numerous tensions within and between schools of thought, this overview suggests useful entry points for framing an invigorated research agenda on urban GEC."

Researcher's Database

Registering on our website (<u>www.ugec.org</u>) will allow us to include you in a database of a wide

network of researchers (which will be eventually accessible to our registered users for browsing and searching). This will allow us to also include you in our UGEC-products recipient list (mainly newsletters and reports that will be published in the future).

Other Announcements

Finally, we have two "urban remote sensing" related announcements:

Firstly, there exists an opportunity for the members of our network to explore the possibility of collaboration with the 100 Cities Project, (http://100cities.asu.edu) at ASU: "The 100 Cities Project is a platform designed to bring policymakers and researchers together to apply urban remote sensing to the problems of urbanization, the environment, and sustainability. We seek to create meaningful partnerships with cities internationally. As we build our partnerships, we can then develop models of how best to address cities' problems with urban remote sensing. At the same time we are developing relationships with academic researchers who produce urban remote sensing products and use them in their models."

Urban remote sensing can be and has been used in the recent past for tracking urban growth and the evolution of urban form across time and space; it has been applied in the measurement of urban development trajectories for the purpose of intra-city and national, regional or global inter-city studies and comparisons. The project targets the integration of urban remote sensing data with socioeconomic data with the goal of addressing issues of environmental justice, natural hazard mitigation, land use and land conflict, and population migration, for example, more effectively. The 100 Cities Project has the goal of promoting the application of urban remote sensing solutions to urban problems. For more information contact Lela Prashad at the following address: lprashad@asu.edu.

Furthermore, Chris Elvidge at the NOAA Satellite and Information Service and the National Geophysical Data Center (NGDC) (http://www.ngdc.noaa.gov/) welcomes the use

of the NGDC data products by the UGEC community. The Earth Observation Group at NGDC is home to the Defense Meteorological Satellite Program (DMSP) Archive. They work primarily with low light imaging data from the Defense Meteorological Satellite Program (DMSP) Operational Linescan System (OLS). This system can detect lights from cities and towns and many populated rural areas. Their lab has generated several products: a time series of global cloud-free nighttime lights spanning 1992-2003, a global poverty map, and a global map of constructed impervious surfaces. These products can be found on the web at: http://www.ngdc.noaa.gov/dmsp/download.html In addition to maintaining the archive, the Earth Observation Group performs research on the data as well as creating products. (The DMSP is a Department of Defense (DoD) program run by the Air Force Space and Missile Systems Center (SMC). The DMSP designs, builds, launches, and maintains satellites monitoring the meteorological, oceanographic, and solarterrestrial physics environments.)

COMING SOON

The UGEC project is pleased to announce the following additions to its list of forthcoming activities.

- The UGEC project is designing a online bibliographic management system that will serve the research needs of the academic and practitioner communities of the project. We hope that we will be able to announce this UGEC product in the next issue of this Newsletter in lune.
- The project is planning the publication of its first hardcopy Newsletter for the summer of 2007. A call for contributions will be sent out soon. Please submit all relevant information (book, meeting, job, workshop announcements etc.) that you would like to see distributed through our Newsletter before the end of June of 2007.

SUBSCRIBE/UNSUBSCRIBE INFORMATION

If you have been forwarded this e-Newsletter by email and would like to subscribe directly to the list. please send an email LISTSERV@LISTS.ASU.EDU with the text (command) "SUB UGEC-L" at the message body. If you believe you were added on this list by mistake or wish to not receive email from the UGEC project, you can unsubscribe by sending an email to LISTSERV@LISTS.ASU.EDU with the command "SIGNOFF" UGEC-L" at the message body or by sending a message to the list owner, Michail Fragkias at fragkias@asu.edu

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ABOUT THE PROJECT

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 expanding 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 (www.ugec.org). You can assist us in achieving our goals by forwarding this e-Newsletter to any potentially interested party.