ICUC-6

GÖTEBORG, SWEDEN
JULY 12-16, 2006.
ICUC-6
Conference Report

Congratulations and Thank You.

On behalf of the members of the IAUC, we would like to congratulate the local organisation committee for ICUC-6 for a superb conference and to thank all those involved for a wonderful event.

ICUC-6 Local Organisation Committee
Prof. Sven Lindqvist, Local Chair
Dr. Sofia Thorsson
Ms. Eugenia Andersson, Secretary
Associate Prof. Ingegard Eliasson
Mr. Fredrik Lindberg, Webmaster
Ms Jenny Lindén, Conference administrator
Ms Maria Lindqvist, Conference administrator

Prof. Sven Lindqvist prepares to ring the bell outside the main lecture hall to announce the commencement of a paper session.

The Conference Centre of Göteborg University where all the academic proceedings were held.

Poster sessions were held in the lobby of the Conference Centre.

The larger of the two lecture halls held over 300. This was the venue for the plenary sessions, which introduced paper sessions.

The smaller of the lecture halls seated over 100 and was used for concurrent sessions.
Remarks made by Dr. Buruhani Nyenzi at the opening of ICUC-6.

Distinguished guests and participants,

It is my great pleasure to be here today on this important occasion of the opening of the Sixth International Conference on Urban Climate. On behalf of the World Meteorological Organization and that of my own, I wish to express my sincere thanks to the International Association of Urban Climate and Goteborg University for organizing and hosting this conference.

The World Meteorological Organization’s involvement in Urban Climatology has a long history that includes the Conferences on Urban Climatology dating back to 1968. In the last decade, there have been a series of highly successful events – in Sydney, Lodz, and now Goteborg. My presence here today, and WMO’s co-sponsorship of this event, are indicative of our commitment to the subject of urban climatology.

The WMO is particularly pleased to have been able to provide the required support for participants from several countries to attend and participate in this conference. It may be relevant here to point out that the World Meteorological Organization is composed of 187 Member Countries mainly represented by National Meteorological and Hydrological Services. These Services have a responsibility to the citizens of their respective countries to ensure that they are well informed about urban climate issues, and facilitate urban development to benefit from state-of-art climate information.

With the rapidly growing urban populations across the whole world, these issues are of paramount importance for socio-economic well-being. The WMO support for scientists to participate in this conference, in association with the support extended by several other organizations and institutions, is an important component of its efforts to spread the knowledge of urban climatology across all member countries. The WMO proactively pursues such partnership in addressing the weather and climate concerns of the society, and it is gratifying to note the excellent synergy that we have been able to accomplish in working with our partners.

I would like to take this opportunity to describe briefly the work of the WMO’s Expert Team that focuses on Urban and Building Climatology. The expert members of this Team, several of whom are here today, are led by Sue Grimmond, and are engaged in a series of activities to develop the urban and building climate science, to further its application, and to facilitate training.

Some of the planned actions of this group include, among others:

- Updating the WMO Technical Notes 149 and 150 on Applications of Building Climatology and Urban Climatology and Urban Design, both originally written in 1976, under the leadership of Drs John Page and Gerald Mills.
- Initiation of a project to inter-compare urban models – you will hear more about this from Martin Best later this week.
- Development of a web based urban climate bibliography which is a collaborative venture with the IAUC.

With the strong scientific community actively participating in this conference, I believe that the members of our Expert Team present here and all those others active in urban climatology will learn much over the next five days from the papers and posters that are to be presented and the associated discussions and interactions. Furthermore, I believe that this international conference provides a forum for the world’s urban climatologists to discuss research and application of the rapidly expanding urban climate science to design better and more sustainable cities for all.

Finally, I thank the organisers of this conference for offering WMO the privilege to participate and providing it with the opportunity to co-sponsor this wonderful event. I wish you all the very best for successful and stimulating proceedings at the conference.

Dr Buruhani S. NYENZI
Director World Climate Programme (WCP) World Meteorological Organization

Thanks to WMO and Formas for their support to bring delegates to the meeting from eight different countries.
On behalf of William Lowry

Dr. William Lowry would have been thrilled to attend this meeting of bright minds, here in its northern setting. That's partly because his lifelong love of weather and climate was born at a similar latitude – in Nome, Alaska, in the U.S., where he was stationed in the 1950s. It's partly because of his fondness for this host country, which he came to know through a 1960s correspondence with a fellow-meteorologist here – on reel-to-reel tape! – and through later visits to the Stockholm-archipelago home of his colleague, Lasse Olsson.

But mostly it's because of the bright minds. Being among men and women thinking about the future of the planet, enjoying a good climatology anecdote or a nice, complicated equation – and above all, caring, and seeking truth – were his greatest uplift.

He'd have been honored to have prizes given in his name, to fresh colleagues of merit, for work of quality.

And he would say to them:

Do your life's work well.

Samuel and Peter Lowry
ICUC-6 was held in Göteborg Sweden over the week June 12th to 16th. During the five days over 200 papers and over 90 posters were presented. A total of 338 registered for the event drawn from many countries (see tables below).

As at ICUC-5 in Lödz, the extraordinary participation of delegates from Japan was noticeable. Almost twice as many attended from Japan as from the host country, Sweden. This is a measure of the strength of urban climatology in Japan and their commitment to developing the field. This list illustrates both those countries where urban climate research has been traditionally very strong (e.g. Germany and Israel) and those countries where it is growing (e.g. Hungary, Poland and Italy).

To a considerable extent this expansion can be explained by the broadening of the subjects covered by ICUC. In addition to the ubiquitous urban heat island (28 presentations), there were an almost equal number on various aspects of urban air quality. Traditional area of urban research, such as urban biometeorology were well represented, but it was gratifying to see other areas of research becoming increasingly prominent. For example, one of the concerns expressed at ICUC-5 was that there were comparatively few papers presented on applied urban climate. On this occasion, presentations were concerned with urban planning/design and climate. Moreover, the expansion in presentations on urban green-spaces (12) signals the development of significant new research area.

Other areas that had a strong showing at ICUC-6 were aspects of the interaction between the urban canopy and boundary layers. This area of research is critical to both understanding and modelling the fluxes of heat, moisture, particulates and gases between these layers. Increasingly, this research has become part of the core of the field. The presentations show that this topic is being examined using a great variety of techniques including physical and numerical modelling and sophisticated ob-
ICUC-6 Conference Report

Methodological concerns surrounding the classification of urban and rural climate stations to define urban heat island magnitudes.

<table>
<thead>
<tr>
<th>METADATA</th>
<th>CLIMATE ZONE CLASSIFICATION</th>
<th>UHI TYPOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>sky view</td>
<td>meteorological classification</td>
<td>UHI Magnitude</td>
</tr>
<tr>
<td>impervious surface</td>
<td></td>
<td>Low (less than 2°C)</td>
</tr>
<tr>
<td>roughness</td>
<td></td>
<td>Medium (2°C to 5°C)</td>
</tr>
<tr>
<td>soil moisture</td>
<td></td>
<td>High (5°C to 10°C)</td>
</tr>
<tr>
<td>albedo</td>
<td></td>
<td>Very High (greater than 10°C)</td>
</tr>
</tbody>
</table>

A conceptual scheme for objective assessment of UHI magnitude in the canopy layer. The climate zone classes (centre) are standardized by way of local-scale surface climate metadata (left) and give basis to a universal UHI typology (right).

Looking through the list of papers, there are perhaps a few ‘gaps’ where one would have expected greater interest from the urban climate community. One area is that of global climate change and the role of cities. Perhaps it is because of the great number of conferences that are explicitly devoted to the topic of climate change but, given that cities are frequently identified as the drivers of this change, there were few papers that directly examined this topic. For example, there were 4 presentations on carbon exchanges in urban areas, a critically important component of research in assessing anthropogenic emissions and their mitigation. Other areas where one might of expected more presentations are in the policy arena where scientific knowledge is converted into practical urban policy and in the education arena.

A measure of the health of a field of study is the diversity of interests and the healthy demographic profile of its practitioners. One of the highlights of ICUC-6 was the contribution of graduate students to the growing corpus of urban climate knowledge.

The images in this conference report are just a few examples drawn from the presentations by graduate students and were not selected to provide a comprehensive picture. They give a measure of the scope of the field. For example, Iain Stewart’s presentation asked urban climatologists to reflect upon the nature of urban heat island studies, the methodology for which is often taken for granted. In another area, Jenny Lindén’s paper presented research on air pollution in Ouagadougou that demonstrated the different exposure environments for men (outdoors) and women (indoors). This paper illustrated little explored gender-based differences in experienced air quality and considered both the indoor and outdoor components of the urban canopy layer. Abel Tablada’s research on courtyard climates brought a refreshing approach to the topic by drawing together architecture, urban climate and observational studies which require co-operation among many agencies, many of which are drawn from other countries.

These images illustrate air pollution (and its causes) in Ouagadougou, Burkina Faso, which is the subject of a research project by Göteborg University. One of the major pollutants, both indoor and outdoor, in this environment is Particulate Matter. The kitchen and traffic pictures represents to some extent the differences in personal exposure situations, associated with different activity patterns, for men and women that we are trying to compare.

Jenny Lindén, Göteborg University.

Urban climate and air pollution in Ouagadougou, Burkina Faso.

Jenny Lindén, Göteborg University.

Iain Stewart, University of British Columbia.
The bioclimatic environment of a rapidly expanding desert metropolis

The figure is a summary of heat index cases for July-August in Dhahran, Saudi Arabia for the period 1948-2005. Each available July-August hour in the record was classified into one of the NWS established heat index categories using relative humidity and temperature information.

What is striking is that dangerous or extremely dangerous heat indices occur 40% of the hours in July and August. This equates to approximately 10 hours per summer day. In the study, it was determined that both dangerous and extremely dangerous heat index events are increasing in frequency, likely due to subtle changes in low-level circulation documented in the presentation. Specifically, an increase in atmospheric heights at the 850hPa and surface level east of Saudi Arabia in conjunction with more frequent ‘troughing’ over the Red Sea has led to enhanced easterly flow across the Arabian Peninsula. Easterly flow in the coastal region of Saudi Arabia during summer produces extremely hot and humid conditions given the warm waters of the Persian Gulf.

James Miller, Arizona State University.

fluid dynamics. Fredrik Lindberg's presentation illustrated the extraordinary information that can be obtained from urban building databases using relatively simple techniques. The potential for this work was illustrated in a Plenary Talk by Koen Steemers, who discussed the value of climate diversity in the built environment. Finally, James Miller’s paper on Dhahran, Saudi Arabia introduced a ‘new’ climatic environment to the urban climate audience. His work illustrated the extreme heat stress experienced in Dhahran and showed how its variation over time is related to broader, regional-scale, climatic patterns. The contribution of the graduate students to the field is amply illustrated by the level of competition for the various prizes.

Fredrik Lindberg, Göteborg University.

A final note. Although the study of urban climates has had a lengthy history, the substantive development of the field has occurred in the last forty years. The creation of the IAUC was an important step in its continued development and ICUC-6 represented the first opportunity to recognise the contribution of a generation of scholars. Two events in Göteborg were particularly significant in this regard. Firstly, the presentation of The Luke Howard Award (p6) to Tim Oke and Ernesto Jauregu. Secondly, a special session to recognise the contribution of Tim Oke to the field of urban climatology at the end of the conference. John Arnfield’s exhaustive examination of Tim’s academic work impressed upon everyone its enduring mark on the field.

Gerald Mills
ICUC-6 The Luke Howard Award

This is given annually to an individual who has made outstanding contributions to the field of urban climatology in a combination of research, teaching, and/or service to the international community of urban climatologists. The first presentation of this award occurred at ICUC-6.

The first recipient of this award was Tim Oke:
The award of the Inaugural (2004) Luke Howard Award to Tim Oke thus acknowledges his unequalled contributions to the science of urban climate over four-decades. Through this award, the IAUC membership thanks him for his past and current contributions, and looks forward to his continued insights into the causes and nature of urban climate.

Bob Bornstein
(IAUC Newsletter #8)

The 2005 recipient was Ernesto Jauergui:
Ernesto epitomizes several of the admirable qualities of Luke Howard, as he is undoubtedly a pioneer who has extended the field of urban climate to the tropics; he relies on personal observation, intuition, and scientific acumen; and he is a humanitarian who seeks to improve the welfare of city dwellers. His recognition by his international colleagues adds luster to IAUC and to the Luke Howard Award.

Bob Bornstein
(IAUC Newsletter #14)

At ICUC-6 Bob Bornstein finally had the opportunity to formally make the award. The prize is an IAUC edition of Howard’s monumental work in this area, *The Climate of London*. On p12, the production of this edition is described as well as plans for its wider dissemination.

Awards Ceremony
A reception, hosted by the Physical Geography department at Göteborg University, was held in the atrium of Earth Science Centre. As part of the event attendees were treated to a concert by members of a local signing club. The event itself was hosted by Prof. Sven Lindqvist on behalf of his department.

Eldo Luyando accepts The Luke Howard Award on behalf of Prof. Ernesto Jauaregui (inset) of UNAM, who could not attend. Ernesto recorded a message of thanks that was broadcast at the conference.
IAUC Japan Prize

The Japan Prize honors researchers from developing countries who are judged to have given the best papers at an International Conference on Urban Climate. At each conference, there is a maximum of three awards, each of $1000 (US) to give out. The awards committee judged all papers presented by individuals from developing countries (as defined by the World Bank list of low and low-middle income countries). The committee, led by subgroup Chairs Manabu Kanda (Tokyo Institute of Technology) and Gerald Mills (University College Dublin), were very impressed by the quality of all the presentations.

Abel Tablada de la Torre
(Historian Office of Havana)

Architect Abel Tablada de la Torre finished his Ph.D studies in March 2006 at the Katholieke Universiteit Leuven in Belgium. Since 1995, he has worked at the Direction of Heritage Architecture of the Historian Office of Havana which is responsible for the restoration projects of old buildings and of the design of new buildings in the Historical Centre of Old Havana in Cuba. He also teaches the discipline of Environmental Conditioning at the Faculty of Architecture of the Higher Poly-technical Institute J.A. Echeverria in Havana.

His research interests are focused on the influence of the building form on the potential of natural ventilation and thermal comfort in courtyard buildings in compact urban environments of warm-humid climates. He uses field measurements and building simulations using Computational Fluid Dynamics (CFD) and Building Energy Simulation (BES) programs to assess and compare different cases.

Rohinton Emmanuel
(University of Moratuwa)

Rohinton is an architect/urban designer and a university teacher at the University of Moratuwa in Sri Lanka. His research and teaching interests are focused on environmental changes brought about by urbanization in the warm, humid tropics. Having received advanced research degrees in the U.S., he has spent nearly 15 years researching and teaching urban climate change in humid and dry climatic contexts. His particular focus is on urban heat island mitigation using design strategies at neighborhood scale, building and urban bioclimatology and urban transportation planning. He has also worked with urban planning and development agencies to steer urban development on a sustainable, climatically-sensitive and energy-efficient path.

Shiguang Miao
(China Meteorological Administration, Beijing)

Shiguang Miao is an associate professor in the Institute of Urban Meteorology, China Meteorological Administration, Beijing. His research interests are the numerical simulation of the urban boundary layer and the atmospheric environment at neighborhood scales, urban scales, and mesoscales; and the impact of urbanization on weather, especially on rainfall.
William P. Lowry Awards

**Graduate Student Prize**
This is a cash award of $200 made to the student author/presenter of the best paper in urban biometeorology/bioclimatology presented at the IAUC meetings by a graduate student.

James Miller  
Arizona State University

James is a PhD student in the Department of Geography at Arizona State University studying local to regional scale climate change. He is a National Science Foundation Doctoral Fellow in the IGERT (Integrative Graduate Education and Research Training) Urban Ecology program and his research focuses on the effect of urban processes on surface climate within and around metropolitan regions. In addition, James has developed a keen interest in arid regions and has directed much of his research to understanding the effect of climate change on desert environments. James presented two papers and a poster on urban climate within hot arid regions. The first paper was a collaborative study on the microclimate of Tempe, Arizona, which documented changes to local climate that may arise due to increasing urban density. The second paper focused on the synoptic climatology of extreme heat stress events in Dhahran, Saudi Arabia. James demonstrated that long-term changes in the low-level circulation of the Middle East have led to enhanced easterly flow over the Arabian Peninsula, which may be responsible for the higher frequency of heat stress events observed recently in Dhahran. The Dhahran study is similar to James’ dissertation research, which will investigate the role of urbanization and atmospheric circulation patterns on the changing climate of the Mojave Desert and Las Vegas, Nevada.

**Methodology Prize**
This is a cash award of $200 made to the author/presenter of a paper (or poster) presented at the IAUC meetings that incorporates the best conceptual or experimental methodology.

Iain Stewart  
University of British Columbia

Iain is in his second year of the PhD program at UBC (Geography). He has developed a special interest in experimental methodology, especially as it applies to the study of urban heat islands (UHI). Lowry’s treatment of the scientific method in urban climatology influenced his own critical investigation into the ground-based methods of UHI observation. In raising broad questions of epistemological concern, his PhD research examines the nature and limits to our knowledge of canopy-layer urban heat islands. In doing so, it directs attention to the methodological inconsistencies surrounding UHI experimentation. The specific intent of his research is to develop an objective and universally applicable landscape classification scheme for assessing UHI magnitude in the canopy layer. The scope of his study extends well beyond the boundaries of a single urban or geographic region; in fact, it encompasses more than a half-century of empirical UHI literature from hundreds of cities and towns worldwide. Through detailed inventory and rigorous appraisal of this literature, he hopes to develop a new interpretative framework for defining and classifying structured observations of urban impact on surface temperature climate.

**African Student Travel Award**
This is a cash award of $300 to help defray travel expense to the IAUC meetings for a graduate student traveling from the continent of Africa or a similarly challenged region.

Lilly Rose Amirtham  
Sathyabama Deemed University, Chennai

Lilly Rose completed her Bachelors and Masters in Architecture at the School of Architecture, Anna University, Chennai, India in 1995 and 1999 respectively. Currently she is registered for the doctoral programme in the same University. Her area of research is the “Urban heat Island and Built environment” using the case study of Chennai, India. In her research she is concentrating on the impacts of urbanization on the heat island, analysing the effects of features in built environment on comfort conditions at street level and in developing planning guidelines based on mitigation of heat island effects. She is also involved in teaching undergraduate Architecture students at Sathyabama Deemed University, Chennai.
## IAUC Student Awards

### Best Oral Presentation

**Scott Krayenhoff**  
*University of Western Ontario*

Scott Krayenhoff received his BSc. in Atmospheric Science from the University of British Columbia (UBC), his MSc. in Physical Geography (Urban Climate) from the University of Western Ontario, and he has recently returned to UBC for his Ph.D. in Urban Climatology. Scott's research interests lie in urban surface-atmosphere exchange modeling at several scales, and his work has focused on modeling heat mitigation strategies and effective thermal anisotropy in urban areas, and on micro-scale energy balance model development.

### Best Student Poster

**Tomoko Hasegawa**  
*Osaka City University*

Tomoko completed her under-graduate degree in Urban Environmental Engineering at Osaka City University, Japan, in 2002. She went on to get a MSc from the Graduate School of Global Environmental Studies in 2006. Her thesis examined the thermal properties of an urban area. She studied with Professor M.Nakao at Osaka City University. Her research considered the environmental heat distribution in Osaka City using a vehicle equipped with thermal sensors and GPS, and her thesis focused on a mobile measurement method to estimate environmental heat distribution. Currently she is studying ways to estimate future CO₂ emissions, using bottom-up type models at the Graduate School of Kyoto University.

### Honourable Mention

**Andrew Coutts**  
*(Monash)*

Andrew is a PhD. student from Monash University in Melbourne, Australia, in his final year of candidature, conducting urban climate research. His research project focuses on the link between urban planning and urban climate, specifically using climate science to help to better inform and improve urban planning decisions. He also enjoys teaching climatology. His research interests include land/atmosphere interactions, surface energy balance and CO₂ flux measurements, urban heat islands, environmental policy and urban sustainability.

**Andres Soux**  
*(University of British Columbia)*

Andres Soux completed his BSc. and MSc. in Physical Geography at UBC. His Masters thesis was titled "Modelling surface structure and temperature of relevance to remote sensing of cities ". In it he developed a 3-D urban surface model (SUM) to simulate what a remote sensor would view of an urban surface. His PhD work is being conducted under the supervision of Prof. Tim Oke. His focus is to develop and test a new dual-channel radiometer to measure longwave radiative flux divergence over both rural and urban surfaces at night.

**Pravin Bhiwapurkar**  
*(Illinois Institute of Technology)*

Pravin Bhiwapurkar is currently pursuing PhD at the College of Architecture, Illinois Institute of Technology, Chicago, IL, USA. He is a Ford Foundation International Fellow from India. He has also served as a Lecturer with the Department of Architecture, VNIT, Nagpur (India). His research focuses on interlinkage of urban climatology with urban design and Architecture. Pravin is presently investigating the role of urban building configuration (aspect ratio and orientation) on building energy consumption for the city of Chicago, USA.
On the opening night of the conference, a welcome reception was held in Göteborg’s City Hall (upper left). The reception was opened by Prof. Sven Lindqvist and by Jörgen Linder, Lord Mayor and Chairman of the City Council (upper right). As the pictures below illustrate, the event was enjoyed by all.
The conference dinner was held at the Universeum (shown above), which was opened specifically for this event. The dinner itself was held in an exhibition area of which one side was formed by a large aquarium. On the way into the dining hall, delegates passed by a large circular pool occupied by rays, while sharks circled by during dinner. All in all, a memorable event.

As this was the last formal evening event of the conference, it provided an opportunity for our hosts to be formally thanked for organising a faultless conference.

Before the dinner, a reception was held on the rooftop balcony of the Universeum. On route to the reception, attendees travelled through the exhibits, which depict a variety of aquatic and terrestrial ecosystems.

One of the highlights of the conference was a wonderful tour of the Swedish coastline on a beautiful summers’ evening.
LUKE HOWARD & THE CLIMATE OF LONDON

The IAUC has embarked on a project to re-publish Luke Howard’s edition of THE CLIMATE OF LONDON. This work is generally recognised as the first book that identifies and studies the urban ‘effect’ on temperature.

The IAUC edition is based on the second edition of this work, which was published in three volumes in 1833. Howard is justifiably famous for his seminal ‘Essay on clouds’, which is reprinted in CLIMATE. However, in many respects, it is the CLIMATE OF LONDON that captures the essence of his scientific career. Over a period of 26 years, he maintained a daily register of weather information. Volumes 2 & 3 contain monthly tabulated information on pressure, wind, temperature, etc. These data form the basis for Volume 1, which is a treatise on climate, as viewed from the vantage point of London. This volume is organised around the parameters of climate (Temperature, Pressure, etc.) and is introduced with an extensive discussion of meteorological instruments. In many respects it is the first modern climatology textbook; he uses figures to illustrate his points (see adjacent box) and employs an observational and experimental mindset throughout.

For us in the IAUC it represents a starting point for our discipline and we believe that is important to establish our historical origin, particularly as the field becomes increasingly popular. We have made the Luke Howard Award the highest accolade of the organisation. The actual prize for those receiving the award will be a high-quality boxed set of THE CLIMATE OF LONDON.

The IAUC edition has been completed and we are currently discussing how best to produce the high-quality volumes required for the prize, while ensuring access to the widest possible audience.

The options available are:
1. Web publishing where the text would be available as a PDF
2. The production of an inexpensive paperback edition (perhaps of volume 1 only)
3. The production of a limited number of high-quality volumes.

These options are not exclusive. We would like to get a sense for the interest of the members in either or both of options two and three. Some have already done so at ICUC-6.

I would be grateful for an email indicating interest. Please use Climate of London in the email header.

Gerald Mills
Gerald.mills@ucd.ie
Thanks to everyone for their contributions this month. Please send any further references to papers published since January 1 2005 for inclusion in the next newsletter to j.salmond@bham.ac.uk. As before, please mark the header of your email with 'IAUC Publications 2006'. In order to facilitate entering the information into the database please use the following format:

**Author:**

**Title:**

**Journal:**

**Volume:**

**Pages:**

**Dates:**

**Keywords:**

**Language:**

We look forward to hearing from you soon! Jennifer Salmond and Evyatar Erell

**Recent publications in Urban Climatology**

(Languages are specified where the publication is known to be in a language other than in English.)


Newsletter Contributions

This edition of the Newsletter has been dedicated to ICUC-6. The next edition, which will appear in early October will resume its normal pattern. There are several items that had been received, which will appear in that issue. However, any other items to be considered for the next edition should be received by September 30, 2006.

The following individuals compile submissions in various categories. Contributions should be sent to the relevant editor:

**News:** Dr. J. Marshall Shepherd
marshall.shepherd@nasa.gov

**Conferences:** Jamie Voogt
javoogt@uwo.ca

**Websites:** Gerald Mills
gerald.mills@ucd.ie

**Bibliography:** Jennifer Salmond
j.salmond@bham.ac.uk

**Urban Projects:** Sue Grimmond
sue.Grimmond@kcl.ac.uk

General submissions should be relatively short (1-2 A4 pages of text), written in a manner that is accessible to a wide audience and incorporate figures and photographs where appropriate. In addition we like to receive any images that you think may be of interest to the IAUC community.

Front Page Image

Spatial data originated from a vector database managed by the municipality in Göteborg is used to produce images of various climate relevant parameters. The image covering the central parts of Göteborg shows continuous values of Sky View Factors for all pixels in a DEM comprising building geometry and ground topography. Since the raw data is mainly used for planning purposes both spatial accuracy and precision is very high which makes it possible to produce very detailed raster images. Image courtesy of Fredrik Lindberg.

Next Issue

Country report from Australia (right).

Air ventilation in Hong Kong (above).

Change in urban heat island intensity as recorded at Beijing Climatic Station during 1961-2000.

Members of the IAUC Board at Göteborg. From left to right: Manabu Kandu, Jamie Voogt, Matthias Roth, Gerald Mills, Sven Lindqvist, John Arnfield, Arieh Bitan, Jenny Salmond, Sue Grimmond, Bob Bornstein and Benedicte Dousset