IAUC Newsletter

International Association for Urban Climate

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President's Column

Board replacements. I would like to thank all members who have participated in the recent election and in particular the six candidates who stood for the Board. I am pleased to announce that the new Board members as of August 2007 are Toshiaki Ichinose (Japan) and Petra Klein (USA). Petra is also the current Chair of the AMS Board on the Urban Environment. Gerald Mills (Ireland) has been re-elected (please see announcement in this newsletter). Janet Barlow (UK) and Krzysztof Fortuniak (Poland) will be leaving the Board and I would like to take this opportunity to thank them on behalf of the Board for their work. Janet is running the well-known met-urblim distribution list and was Chair of the Membership committee and Krzysztof was Chair of the International Representative Committee.

Country report. The urban climate research country/city report series continues in this issue with a fascinating account of the historical development of UHI research in Phoenix, AZ written by Tony Brazel (USA).

Conference. IAUC will be sponsoring a session on "Urbanization and Climate Change" at the 2008 International Geographical Union Conference which takes place in Tunis (Tunisia) between 12-15 August 2008. Please mark this date in your calendars.

Reminder. If you have **articles** for the newsletter please send them directly to Gerald Mills (gerald.mills@ucd.ie). **Recent publications** in urban climate should be e-mailed to Jenny Salmond (j.salmond@bham.ac.uk) to be included in the next newsletter (see the last newsletter for the format). If you know of any **upcoming conferences** with urban themes (regional, national, etc.) please e-mail James Voogt (javoogt@uwo.ca) with the details so they can be compiled for the next newsletter.

Matthias Roth
geomr@nus.edu.sg

Urban Images

PATRICK BLANC'S VERTICAL GARDENS
Source: www.inhabitat.com/2007/01/15/vertical-gardens-by-patrick-blanc/

Twice during the year, in May and July, the sunset at New York's latitude corresponds with the orientation of NYC's streets.

Source: This photograph was taken in July 2006 and posted on www.jeffsweather.com.

Contents

Urban Climate News

City parks could cool urban areas by 4°C

Published at 18:34 on 15 May 2007 by
NewScientist.com news service
Author: Catherine Brahic

Creating more parks and green spaces in urban areas could cool cities by up to 4°C – possibly enough to offset the warming from climate change – say researchers.

"If you look at infrared maps of cities, the woodland areas are 12°C cooler than city centres with no trees," says Roland Ennos at Manchester University in the UK, who carried out the study with colleagues.

Ennos's team used the city of Manchester as a template for their study. With two computer models – one to calculate changes in temperature and one to calculate changes in rainwater run-off – they investigated how the urban climate would change if world greenhouse-gas emissions continue to rise at the current rate.

"We found that the temperature in Manchester will go up by 4°C by 2080 if the amount of green area remains unchanged," says Ennos.

But, by altering the amounts of green cover in the city, the researchers found that the temperature rise could effectively be cancelled out. "Adding 10% of green cover could reduce surface temperatures by 4°C by 2080," Ennos told New Scientist.

Vegetation cools local temperatures when the water it has absorbed is evaporated from its leaves - much like the cooling effect of perspiration. The researchers say that the increased greenery would not have to involve building new parks. For instance, green roofing - roll-out strips of soil planted with succulents, commonly used in Germany - would have a similar effect.

"Even if a fraction of city's buildings had green roofs, this could have a big impact," says Ennos.

Chris Huntingford of the Centre for Ecology and Hydrology in the UK says that unless people undergo significant lifestyle change, heat stress is likely to be the biggest health issue facing city dwellers in the UK as a result of climate change.

"These new results are dramatic and, if correct, indicate that relatively little alteration to our cities would be needed to combat the adverse effects of future temperature extremes," he told New Scientist.

But he cautions that the findings are so dramatic that they need to be verified through further studies. He suggests this could be done by altering the amount of parkland in an existing city "to see if temperatures can be changed now".

Huntingford also points out the importance to human health of finding out if night-time temperatures would also be affected by the additional greenery. "This period is critical in allowing the body to rest from the effects of excessive day-time warmth," he says.

Studies have suggested that a great number of deaths in France during the 2003 heatwave were due to the fact that people were not given any night-time respite from the high day-time temperatures.

Journal reference: Built Environment (DOI: 10.2148/benv.33.1.115)

THE TIMES OF INDIA

The 'Glass' effect

19 May, 2007 l 0034 hrs
ISTITushar Dutt/TIMES NEWS NETWORK

Ahmedabad is one city which boasts of buildings designed by leading architects like Le Corbusier, Charles Correa and Louis Kahn. But then that seems to be a thing of the past. As the state rides on the wave of retail therapy, one sees the mushrooming of swanky commercial complexes and shopping malls in every nook and corner of major cities of the state. Many might find buildings with glaring material cool. But then are they really 'cool'?

Leading architects and urban planners simply find them "hot as these buildings reflect more heat than the normal concrete buildings." As says Rajan Rawal, faculty Centre of Environmental Planning and Technology (CEPT), "Glass, fibre and aluminium can be good only if these materials are used effectively so that it doesn't affect the environment. But in India (unlike the West), most people don't know how to use these materials effectively. If used properly, such materials can keep the buildings cool from inside." It seems to be an advantage of the reflecting material, but again the question arises —- what about the surroundings?

Krishna Kumar, senior scientist, Indian Institute of Tropical Meteorology, Pune, says, "Because of materials like glass and fibre, the urban heat island phenomenon comes into picture. Urban heat island means the area difference in the temperature of a city and the surrounding area of it. The use of such material makes the city warm as compared to its surrounding areas. I still don't understand why they use the glass material? It may satisfy some people's aesthetic requirement but it is definitely not a very good idea to use these materials."

Senior architect Yatin Pandya explains it further. He says, "The drawbacks are many. Use of such material is not part of Indian architecture. It also affects the climate by raising the temperature. Its high conductivity keeps the building warm from outside. These kind of buildings also consume high energy in comparison to normal brick buildings apart from the high maintenance cost. Moreover, these buildings seem to be a part of assembly line production."

Architects and planners might not approve of such buildings but then they are becoming a part of urban landscape. Ask Pravin Bordia, former chairman, Builder's Association of India (Ahmedabad sector) and he says, "Time factor is the main advantage of using this type of material. It is expensive than the regular brick-concrete material but it takes less time to construct such buildings. Moreover people in India find these buildings posh."

Posh might look cool right now but not in the light of global warming phenomenon. Anybody looking at the 'heat' factor?

ahmedabadtimes@timesgroup.com

Urban Climate News

U.N. climate adviser seeks fast guidance for cities

By Timothy Gardner

NEW YORK (Reuters) - A leading United Nations climate adviser said on Wednesday the world's largest cities should get independent scientific guidance about every two years to help them fight global warming.

The U.N.'s Intergovernmental Panel on Climate Change produces a series of reports every five or six years. Drawn on the work of 2,500 scientists, they assess the causes of climate change, describe its impacts and ways to fight it.

But large cities are emerging as a force in sharing ideas on cutting heat-trapping gases and may need more frequent scientific assessments to gauge how well their actions are working, Cynthia Rosenzweig, head of climate impacts at New York's NASA Goddard Institute for Space Studies, said in a interview. "Cities are efficient, they take things on more quickly," she said.

Urban areas consume 75 percent of the world's energy and produce 80 percent of its greenhouse gas emissions.

Rosenzweig, who is also a lead author of the IPCC's impacts assessment, said she recently helped form the Urban Climate Change Research Network with representatives from cities on each continent. The network hopes to publish a scientific assessment of city efforts against climate change.

"Cities are just taking climate change on board, it's extremely new," she said on the sidelines of the second C40 Large Cities Climate Summit in New York, an event that was first held in London in 2005.

The urban climate network is in talks with C40 to produce the report to coincide with future meetings of the large cities group, which is expected to occur about every two years.

Rosenzweig said cities are well placed to cut greenhouse gases in ways that also help people adapt to the expected rise in heat waves, flooding and droughts that could be brought about by heat-trapping gases already emitted.

Roofs covered with vegetation instead of steel or blacktop that are popular in Chicago, Berlin and Portland, Oregon, are an example of something that can both cut emissions and help people cope with climate change, she said.

Widespread so-called green roofs could help combat the urban heat island effect that makes cities several degrees warmer in summer and would also cut emissions by reducing the need for air conditioning.

Cities in developed countries could also learn from ones in developing countries, she said. Cities in Bangladesh, which are at greater risk of flooding from climate change, have already taken more action than coastal cities like New York, she said.

City growth is reducing rainfall

Published on 12:08 07 June 2007.
NewScientist.com news service

Author: Jim Giles

The extraordinary growth of China's cities is changing regional climate and reducing rainfall, say researchers.

The region around Hong Kong, known as the Pearl River Delta, is experiencing extraordinary urbanisation: in the nine years from 1988 to 1996, urban areas expand by 300%. And that growth is leaving its mark on the region's rainfall patterns.

Using a statistical technique adapted from economics, Robert Kaufmann at Boston University, US, and colleagues compared satellite imagery of urban growth with data from 16 local weather stations. After controlling for year-to-year fluctuations in weather, they found that urbanisation was having a statistically significant impact on rainfall around the region's cities.

Kaufmann is now running further tests to confirm that size and magnitude of the link, but says that it appears that urbanisation reduces rainfall during the dry season.

It is not the first time that cities have been seen to impact on weather. Temperatures are known to be higher in urban areas, for example.

But Kaufmann's work is different in that is suggests that cities may be cutting rainfall, says Marshall Shepherd, who researches urban climatology at the University of Georgia in Athens, US, and was not involved in the study. Most previous work has suggested that higher temperatures and other urban effects help force warm air upwards, generating clouds and extra rain.

Kaufmann says he is the first to look at how urbanisation and climate change together over time, a situation made possible by China's recent rapid growth. Other studies tended to compare rural and urban areas and may have missed this trend.

The decrease in rainfall may be because the loss of vegetation, and the fast rate at which water runs off city streets, reduces the transfer of water to the atmosphere, he adds.

Although urban areas currently take up just a few per cent of the world's surface, it is worth studying them now because they are growing so rapidly, says Kaufmann. By 2030, he notes, it is predicted that 60% of the world's people will live in cities.

Journal reference: Journal of Climate (vol 20, p. 2299)

Urban Climate News

Masdar - World's First 'Zero-Carbon' City
Meena Janardhan

This article is abstracted from //www.ips.org/. *IPS, civil society's leading news agency, is an independent voice from the South and for development, delving into globalisation for the stories underneath* (from website).

DUBAI, Jun 15 (IPS) - A city free of cars, pedestrian-friendly, powered by renewable energy and surrounded by wind and photovoltaic farms -- all in the middle of a petroleum-rich desert.

This five billion US dollar plan, which might do credit to a sci-fi film set, is envisaged for Abu Dhabi, the capital of the United Arab Emirates (UAE). When complete, in 2009, it will be the nearest thing yet to a zero-carbon, zero-waste city.

Using the traditional planning principles of a walled city, together with existing technologies to achieve sustainable development, this six sq km expanse will house an energy, science and technology community.

Called the Masdar (meaning ‘source' in Arabic) Initiative, this ambitious plan for a 'Green City' is being driven by the Abu Dhabi Future Energy Company, a private, joint stock company established and wholly-owned by Mubadala Development Company.

‘‘As the first major hydrocarbon-producing nation to take such a step, Abu Dhabi has established its leadership position by launching Masdar, a global cooperative platform for open engagement in the search for solutions to some of mankind's most pressing issues -- energy security, environment and truly sustainable human development,'' Masdar chief executive Sultan Al Jaber said.

Abu Dhabi accounts for more than 90 percent of the UAE's oil resources, and the country's reserves, exceeding 100 billion barrels, ranked third largest in the world.

The ‘Green City' will house the Masdar Institute of Science and Technology, a graduate science and research institute that will be established in cooperation with the Massachusetts Institute of Technology; world-class laboratories; commercial space for related-sector companies; light manufacturing facilities and a selected pool of international tenants who will invest, develop, and commercialise advanced energy technologies.

It will also host Masdar's offices, residences for its staff, as well as a science museum and edutainment facilities. It is expected to house at least 50,000 people initially and as many as 100,000 eventually.

‘‘We are creating a synergetic environment; it is a true alternative energy cluster with researchers, students, scientists, business investment professionals, and policy makers in the same community. It will combine the talent, expertise and resources to enable the required technological breakthroughs,'' Jaber explained to IPS.

To encourage people to be a part of this setup amid harsh weather conditions that witness temperatures soaring up to nearly 50 degrees Celsius during July and August, a pedestrian-friendly environment has been planned with narrow streets and shaded walkways. The maximum distance to the nearest transport link and amenities is likely to be no more than 200 m and will be complemented by a rapid personal transport system.

This self-sustaining city is expected to provide up to 1,500 companies with an attractive incentives package, including a one-stop shop programme for government services, transparent laws, 100 percent foreign ownership, tax-free environment, intellectual property protection and proximity to nearby manufactures, suppliers and markets.

Mohammed Raouf of the Gulf Research Centre, said the Abu Dhabi plan could be replicated and improved upon. ‘‘We need more than just ideas, thoughts and studies; we need ways to implement them effectively. Hopefully this initiative will trigger others in the region to follow suit.”

Though the Dubai-based environmentalist was sceptical about achieving ‘zero levels of carbon emissions', he said, ‘‘There is no doubt this project will cut emissions drastically.''

According to a recent report by the Intergovernmental Panel on Climate Change, the greenhouse effect on climate change in the Middle East region will increase the region's temperatures by 1-2 degrees Celsius during the next 25 years. The ‘Green City' plan is a part of Abu Dhabi's decision in April 2006 to embrace renewable and sustainable energy technologies.

‘‘By attempting the first carbon neutral city in the world, Masdar is demonstrating its commitment to change the way the world understands energy and sustainable resource utilisation. One day all cities will be built like this,'' Jaber added. (END/2007)

Images from http://www.bdonline.co.uk/ reporting on a firm of architects, Foster & Partners, and their plan to build green city in Abu Dhabi.

Urban Climate News

Post Carbon Cities

Preparing local governments for energy and climate uncertainty

About the Post Carbon Cities Program

The Post Carbon Cities program helps local governments understand the challenges posed by energy and climate uncertainty, and provides resources for elected officials, planners, managers and others to develop plans and responses appropriate to their communities.

Post Carbon Cities is a program of Post Carbon Institute. Post Carbon Institute conducts research, develops resources and organizes leaders to aid the smooth transition of local economies to a world no longer dependent on hydrocarbon fuels nor emitting climate-changing levels of carbon: the post-carbon world.

About postcarboncities.net

This website provides a valuable set of resources on energy and climate change, designed specifically for the people who work with and for local governments. It includes:

- News from around the world on how cities are addressing the challenges of energy and climate uncertainty.
- Special Features by leading professionals, scholars and elected officials, developed exclusively for Post Carbon Cities and Post Carbon Institute.
- A Resource Database of policy tools, reports, case studies and best practices.

The following stories are examples taken from the website http://www.postcarbon.org/.

U.S. Cities Take Lead On Environment As Debate Drags At Federal Level

Posted 15 June 2007.

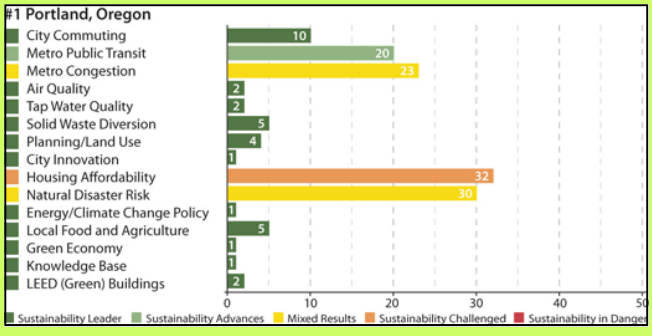
Over 520 mayors have now agreed to meet Kyoto standards for greenhouse gas reductions. Characterizing President Bush's new global warming proposal, Austin (Tex.) Mayor Will Wynn said, "He suggests we talk about it for two more years and save action for his successor. Well, mayors are acting now."

Swedish municipalities going fossil fuel free

Posted 20 June 2007

The Swedish city of Vaxjo is chasing a future free of fossil fuels, and it's almost halfway there without having sacrificed lifestyle, comfort or economic growth. Vaxjo's model of investing in bioenergy, combined heating and power (CHP) systems and district heating has been repeated all over Sweden.

The SustainLane 2006 US City Rankings



Cut out of the forest, Portland offers plenty of parks and bike paths as well as stunning views of Mt. Hood. Cafes, restaurants, and markets are integrated into most neighborhoods, encouraging people to walk rather than drive. Air and water quality are among the best in our study. Public transportation, including free transit downtown, is excellent, and mixed-use development in downtown's Pearl District is an urban model for cities across the nation. In 1993, it was the first city to reduce greenhouse gas emissions, and its #1 ranking in city innovation, energy, and knowledge base reflect a deep-seated understanding of sustainable practice. Citizens and politicians have worked together to keep the city's pristine environment in synch with its emerging clean tech economy.

City Report
Phoenix, Arizona U.S.

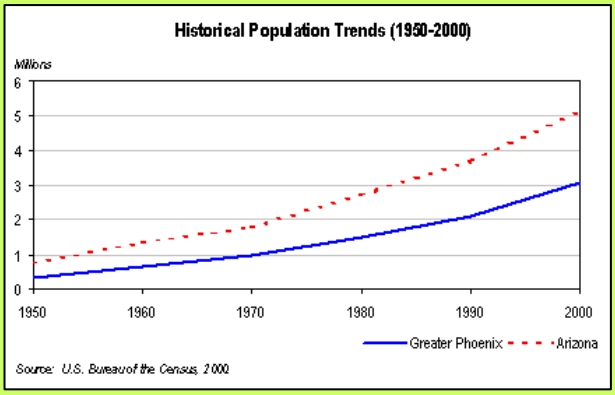


Figure 1. The historical growth of population in Arizona and Phoenix. Source: http://www.gpec.org/InfoCenter/Topics/Demographics/HistoricalPopulation.html.

Introduction

Phoenix is the fastest growing large (>2 Million) metropolitan area in the USA. It is projected to grow to almost 9 million by 2050. The modern settlement was reborn like the mythical Egyptian Phoenix fire bird in Heliopolis (the city of the sun), rising from the ashes of the Hohokam civilization in the Southwest USA (200 BC to 1450 AD - http://en.wikipedia.org/wiki/Hohokam). Entrepreneurs noticed the old irrigation canals left by the Hohokam and realized that modern agriculture might be feasible.

By 1900, 5,000 residents lived in the Phoenix area, but the harsh droughts and unchecked floods down the Salt River through the city made the community perilous at best until major upstream dams were built, such as the Roosevelt Dam in 1911. Once the world's tallest masonry dam, this structure is named after Theodore Roosevelt, the 26th President of the USA, who was instrumental in approval of the National Reclamation Act of 1902, and who dedicated the original dam in March, 1911. Canal water flowed from reservoirs fed by snow melt in the mountains and agriculture started to flourish.

Following World War II, Phoenix grew rapidly into a major desert city (Figure 2). Although the early economy of Phoenix was primarily agricultural, mainly cotton and citrus farming, in the last two decades the economy has diversified as rapidly as the population has grown. As the state capital of Arizona, many residents in the area are employed by the government. Numerous high-tech and telecommunication companies have also recently relocated to the area. Due to the warm climate in winter, Phoenix benefits greatly from seasonal tourism and recreation.

Urban Climate

Formal research on the heat island of Phoenix and its surroundings started with impetus from the Salt River Project (SRP), National Weather Service, and the State Climate Office at Arizona State University, stimulated by the need to understand local variations of temperatures and other climatic conditions throughout the broad Salt River Valley in which the metropolitan area is situated.

SRP, based in Phoenix, was established in 1903 as the nation's first multipurpose reclamation project authorized under the National Reclamation Act which encouraged construction of irrigation works for the reclamation of arid lands. Today, SRP is the nation's third-largest public power utility and one of Arizona's largest water suppliers, providing power to customers throughout a 2,900-square-mile service territory in central Arizona in which the metropolitan area is located (http://www.usbr.gov/dataweb/html/saltriver.html).

Included here are some maps showing the historical progression of the winter heat island in Phoenix. The first is from early temperature surveys which were used to aid in locating where to grow citrus trees in frost-free zones of the valley (Figure 3). These surveys started in 1913 using minimum thermometers and thermographs in improvised

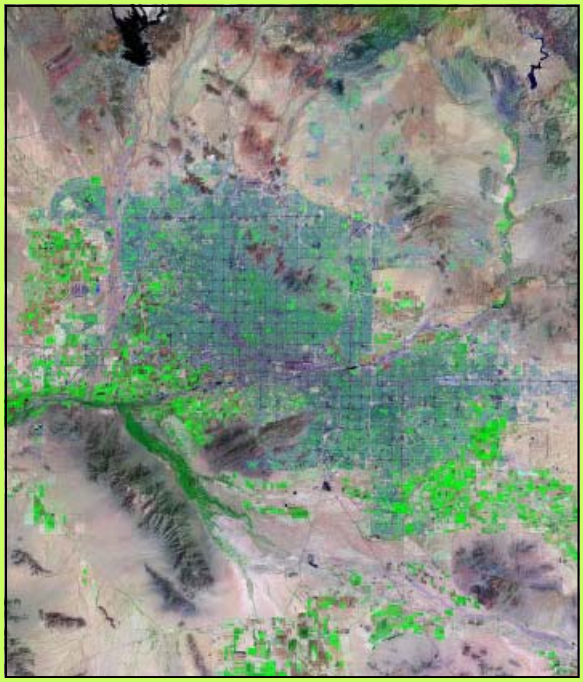


Figure 2: Landsat image of modern Phoenix. Source: http://geology.com/satellite/cities/phoenix-satellite-image.shtml

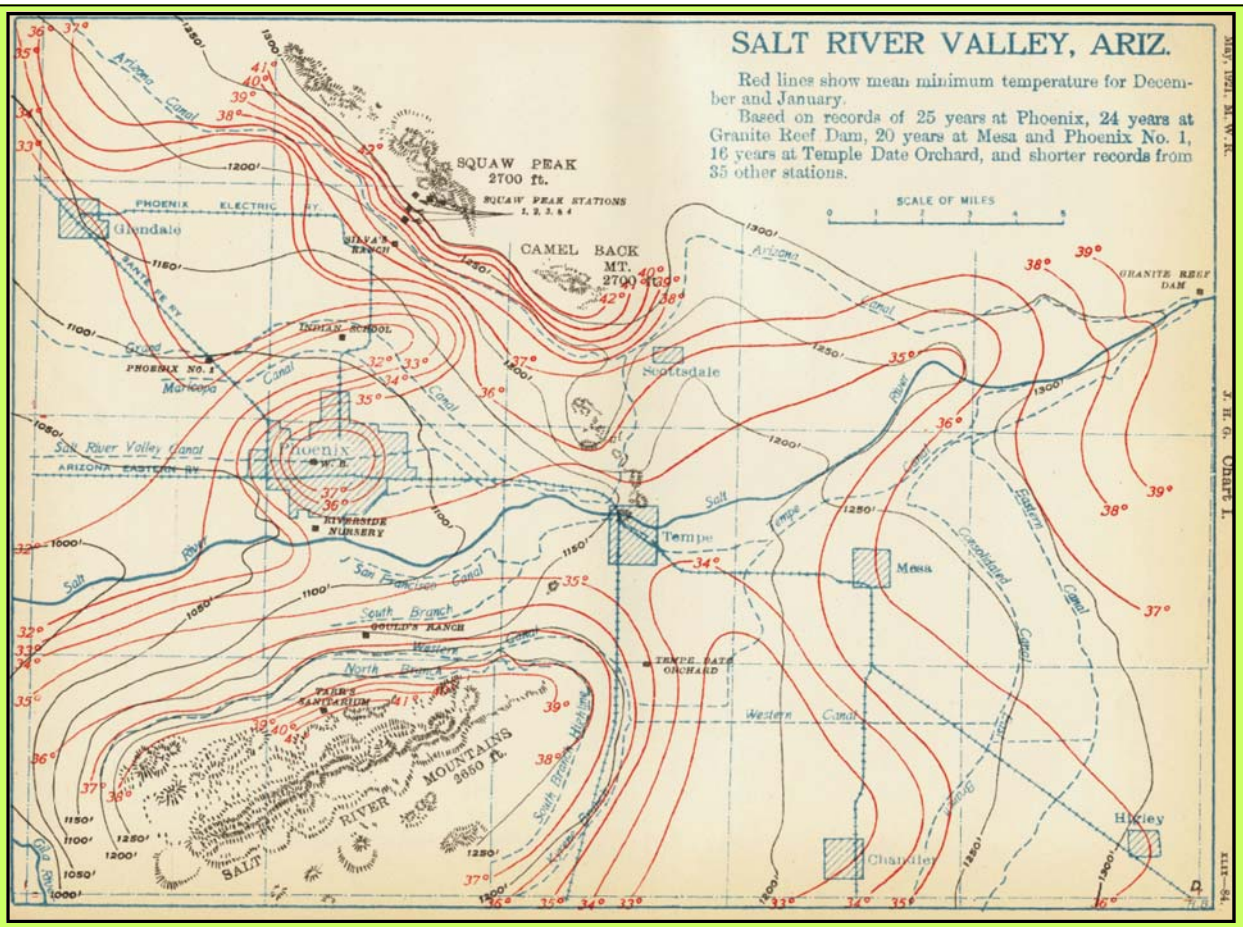


Figure 3: An early temperature (°F) survey used to aid in locating where to grow citrus trees in frost-free zones of the valley.

weather shelters, and this led to the fruit-frost forecast network run by the National Oceanic and Atmospheric Administration's National Weather Service for the Salt River Valley until relatively recently. Gordon (1921) was very perceptive and noted from Figure 3 that the city must have had a temperature influence on the survey results (looks to be about 2ºF (1.1º C) with the population ~ 15K by 1920). He, and/or others, drew several isolines in a heat island arrangement.

The first formal dissertation from ASU on the heat island was by Sheng-I Hsu in 1979 (he is now at the Department of Geography, National Taiwan Normal University, Taipei, Taiwan). He previously taught at the Chinese University of Hong Kong and wrote many occasional papers for the department of geography there (e.g., Data loggers for field study in Physical Geography: a case study of solar radiation monitoring, and Spatial Variation of solar radiation in Hong Kong, both in 1985). Figure 4 is a sketch of the winter heat island (minimum temperature) for the period December/January 1961-1977 (by then Phoenix was ~ 400K population) and later appeared in Hsu (1984). The winter UHI appears to be about 7ºF (3.9ºC). After this time, a number of papers were written up to the present on the UHI and most recently on its impacts and relation to urban ecology and human quality of life (see many references listed below).

An ongoing recent study (Figure 5) of heat island mapping is a Baysian Maximum Entropy (BME) interpretation of winter minimum temperatures by Lee (forthcoming), showing upwards of a 10-12ºF (5.6-6.7ºC) UHI (total population of contiguously adjacent cities in the metro area is now over 2.8 million). The BME method is used to account for data uncertainty of soft data. The BME method substantially improved mapping accuracy (up to 35.28% over traditional linear kriging analysis) and provides high spatio-temporal resolution of estimated minimum temperatures.

Resulting maps of the UHI can be integrated with other data about human and environmental processes in future studies of urban sustainability. It should be noted that the 1921 to 2004 UHI figures quoted here (1.1ºC/15K, 3.9ºC/400K, 5.6-6.7 ºC/2.8M), making note that the numbers are not the "maximum" UHI, nevertheless compare well for the range of tropical hot, dry city max UHI values over a range of city populations cited in Chow and Roth (2006) – as interpolated from their regression line

City Report

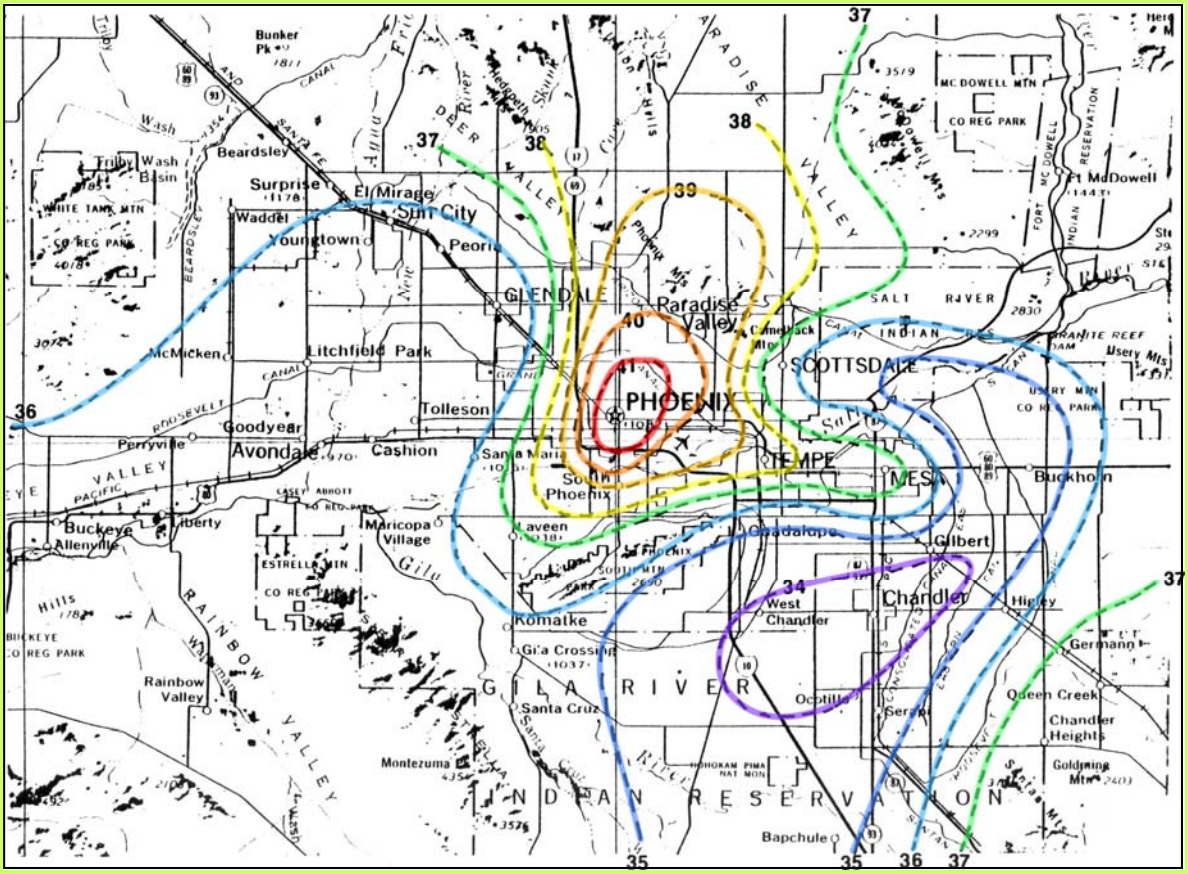


Figure 4: The winter heat island (minimum temperature) for the period December/January 1961-1977 (Hsu (1984).

for those cities (i.e., ranging from ~ 1.0ºC/10K to ~ 7ºC/3M). We believe this is so because Phoenix experiences close to the "maximum UHI" conditions a large deal of the time due seasonal dominance by a subtropical high pressure pattern and the resultant desert climate conditions (clear skies, low winds).

Conclusion

With ASU and stakeholder projects going on in air quality, urban ecology, meso-meteorology, remote sensing, climate change, climate vulnerability, and future urban climate scenarios, the UHI has attained key significance in learning how this desert city copes (and will cope) with water, heat, energy, drought, and expected rapid city growth in the future (e.g. http://sustainable.asu.edu/gios/index.htm, http://www.eas.asu.edu/~pefdhome/).

In sum, a large amount of empirical, statistical, and applied research has occurred on understanding the UHI of Phoenix primarily because of the stimulus for applications needed by the users of information. Over the last few years (and for the future), a more modeling and processed-based agenda has been developed and is needed to create important missions of understanding urban ecology, verifying local and regional climate models, and investigating prospects for mitigation of the UHI in the future.

Submitted by Anthony J. Brazel, School of Geographical Sciences, Arizona State University, Tempe, AZ USA 85287-01904.

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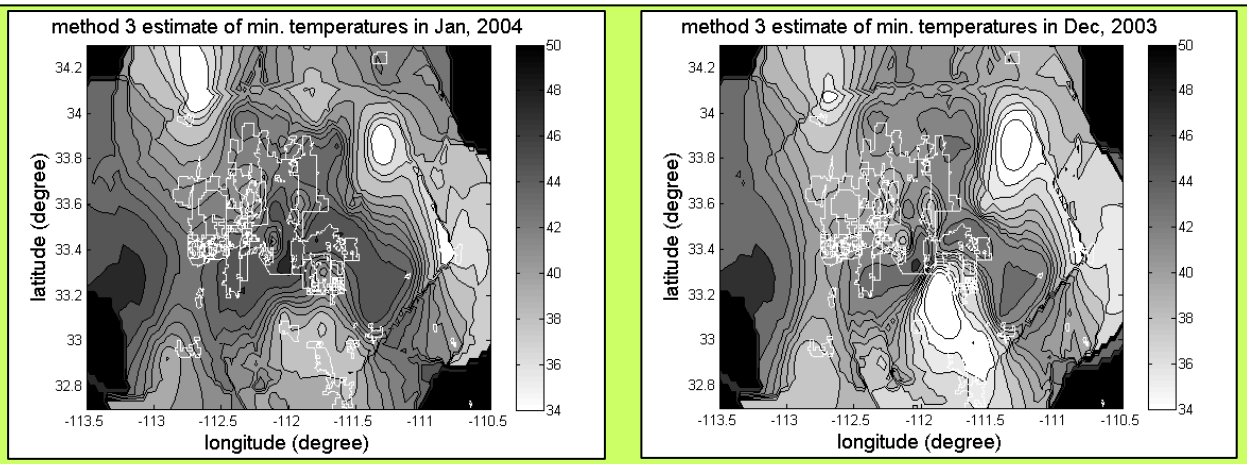

Figure 5: Heat island mapping using a Baysian Maximum Entropy interpretation of winter minimum temperatures (Lee, forthcoming). It reveals a maximum UHI of 10-12ºF (5.6-6.7ºC) UHI for the Phoenix metro area of 2.8 million.

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IAUC Committee Reports

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

Author:
Title:
Journal:
Volume:
Pages:
Dates:
Keywords:
Language:

We look forward to hearing from you soon!

Jennifer Salmond
j.salmond@auckland.ac.nz

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

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Roberts, S., T. R. Oke, et al. (2006). "Comparison of Four Methods to Estimate Urban Heat Storage " Journal of Applied Meteorology and Climatology **45**(12): 1766-1781.

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IAUC Board & Newsletter

Board Members & Terms

- Toshiaki Ichinose (National Institute for Environmental Studies, Japan): 2007-2011.
- Benedicte Dousset (Hawai`i Institute of Geophysics and Planetology, USA): 2006-2010
- Rohinton Emmanuel (University of Moratuwa, Sri Lanka): 2006-2010
- Kevin Gallo (National Oceanic and Atmospheric Administration (NOAA), USA): 2006-2010
- Dr. Petra Klein (University of Oklahoma, USA): 2007-2011
- Sue Grimmond (King's College London, UK): 2000-2003, President, 2003-2007
- Manabu Kanda (Tokyo Institute of Technology, Japan): 2005-2009, ICUC-7 Local Organizer, 2007-2009.
- Wilhem Kuttler (University of Essen, Germany): 2004-2008
- Sven Lindqvist (Göteborg University, Sweden): ICUC-6 Local Organizer, 2004-2006*
- Gerald Mills (UCD, Dublin, Ireland): 2007-2011.
- Tim Oke (University of British Columbia, Canada): President, 2000-2003, Past President, 2003-2006, Emeritus President 2007-2009*
- Matthias Roth (National University of Singapore, Singapore): 2000-2003, Secretary, 2003-2007, Acting-Treasurer 2006, President 2007-2009
- Jennifer Salmond (University of Birmingham, UK): 2005-2009, Secretary, 2007-2009
- James Voogt (University of Western Ontario, Canada), 2000-2006, Webmaster 2007-*.

*appointed members

IAUC Committee Chairs

Editor IAUC Newsletter: Gerald Mills
Bibliography Committee: Jennifer Salmond
Membership Committee: TBA
Nominating Committee: Tim Oke
Int. Representative Committee: TBA
Chair Teaching Resources: Gerald Mills
Chair Awards Committee: Manabu Kanda
WebMasters: James Voogt

Newsletter Contributions

The next edition will appear in early April. Items to be considered for the next edition should be received by **July 31, 2007.** 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.

Dear Colleagues,

Thanks to everyone who has participated in the voting for the new IAUC Board members. It is my great pleasure to inform you that the following have been elected to the Board of the IAUC for a 4-year period starting in August 2007:

Dr. Eng. Toshiaki Ichinose (National Institute for Environmental Studies, Japan)

Dr. Petra Klein (University of Oklahoma, USA)

Dr. Gerald Mills (University College Dublin, Ireland)

Gerald will continue to serve on the Board, whilst Petra and Toshiaki will replace Janet Barlow (University of Reading) and Krzysztof Fortuniak (University of Lodz) whose terms will come to an end. The Board would like to take this opportunity to thank Janet and Krzysztof for their many contributions to the IAUC. The Board would also like to thank all the other candidates who generously agreed to stand for this position.

Jennifer Salmond
Secretary, IAUC.