



# HIRI NEWS

## Rooftop garden retrofit underway for Chicago's City Hall; Several demonstration projects planned for Atlanta

### Call participants

**Maury Estes**, NASA  
(maury.estes@msfc.nasa.gov)  
**Virginia Gorsevski**, EPA  
(gorsevski.virginia@epa.gov)  
**Lucie Griggs**, Atlanta, GA  
(lwgriggs@hotmail.com)  
**Alex Holt**, Chicago, IL  
(aholt@ci.chi.il.us)  
**Fran Stewart**, Baton Rouge, LA  
(frans@deq.state.la.us)  
**Martha Turner**, Sacramento, CA  
(watrtree@pacbell.net)  
**Wendy Drake**, ICF  
(wdrake@icfconsulting.com)

### Urban Heat Island Pilot Project and Cool Community updates

#### Sacramento

*Outreach presentations to city council members*

Martha Turner (Sacramento Tree Foundation) reported that Sacramento's Steering Committee is briefing West Sacramento City Council members during the week of

October 4, 1999, on heat island reduction strategies. The presentation is intended to educate West Sacramento Council members about urban heat island issues and possible solutions. The Steering Committee hopes to implement a parking lot retrofit at a supermarket in West Sacramento.

In late October or early November, the Steering Committee will brief the Sacramento City Council about Sacramento's cool communities program. The City Council also will review proposed amendments to the parking lot vegetation and shading ordinance, which is 20 years old. The City Council will discuss how to improve and enforce the ordinance. The Steering Committee will encourage the City Council to incorporate heat island mitigation strategies into the ordinance.

#### *Tree planting campaign*

The Sacramento Tree Foundation is seeking additional funding to complete its 10-year tree planting campaign. The Foundation hopes

to finish planting its trees by the end of 2000.

#### *Grant proposals*

The Steering Committee submitted several grant proposals. Martha noted that drafting the proposals helped the Steering Committee identify the types of demonstration projects it would like funded, the amount of funds necessary, and outreach activities it would like to initiate. Martha noted that Sacramento is funded through April or May 2000. Therefore, these grants are critical for Sacramento to achieve its goals.

#### Chicago

#### *Heat island mitigation projects*

Alex Holt (Chicago Department of Environmental Health) reported that Chicago will be spending \$2 million on four political subdivisions, or wards, in Chicago to conduct heat island mitigation and energy efficiency projects. (Each ward will receive \$500,000.)

funding comes from a settlement with Chicago's utility company, Commonwealth Edison. Chicago will use these funds to implement a number of heat island mitigation projects. Chicago will implement heat island reduction strategies on several police stations. Chicago also is offering grants to private businesses to pay for the incremental cost of installing or retrofitting reflective roofs.

Chicago also will fund a project to enhance the energy efficiency of an art center. Alex noted that in Chicago, the energy efficiency aspect of heat island mitigation projects may be more important than the associated reduction in heat, because of the lake effect. However, she said that LBNL estimated Chicago could save about 250 tons of NO<sub>x</sub> per year if all of its roofs were reflective.

Alex said that Chicago has been conducting a number of parking lot retrofits to incorporate trees into the parking lot landscape.

#### *Rooftop garden on City Hall*

Chicago is also replacing the roof of City Hall with a rooftop garden. The Mayor of Chicago decided to initiate this project after seeing the rooftop gardens in Europe. The roof of City Hall is 40,000 square feet. The roof will be designed to demonstrate the options available in installing a rooftop garden. Fifty percent of the roof will be covered with vegetation, and the rest of the roof will consist of walkways and other structures.

The roof will be designed to collect a large percentage of the rainfall for watering the garden. The garden will consist of a mix between

extensive and intensive plants. Shrubby, hardy plants are "extensive" plants; and trees are "intensive," which require more maintenance. The hardy plants could be allowed to go dormant during the winter months. Chicago plans to begin planting in the spring of 2000.

#### *Street tree planting*

For the last three years, Chicago's Department of Transportation (DOT) has planted four miles of median tree planters every year, and will continue this effort for the next three years. These planters divide major roadways and shade the streets. Martha asked whether DOT has considered using load-bearing soils to prevent damage to the pavement. Alex said that she would contact DOT to find out. She mentioned that preventing salt damage has been a major consideration in the tree planting initiatives in Chicago.

#### *Chicago's landscape ordinance and building codes*

Alex noted that Chicago recently strengthened its landscape ordinance. She also noted that Chicago's General Services Department requires builders to install white roofs using white gravel to increase the "R" factor. The Department has agreed to allow builders to use other roofing materials to increase the reflectivity, which may become part of the standard specifications.

Chicago is in the process of rewriting its building code to incorporate white or reflective roofing materials. Alex noted that some building codes prohibit energy efficient practices for fire or public health safety purposes.

Alex said that the City of Boulder, Colorado may have adopted a building code that requires new buildings to have a certain number of "green points."

#### **Baton Rouge**

#### *Geographical Information Systems (GIS) Day on November 19, 1999*

Fran Stewart (LA Department of Environmental Quality, or DEQ) said that she has been promoting GIS Day, which is scheduled for November 19<sup>th</sup>, by contacting schools to encourage the students to participate and log on. Students will be able to click on a particular state, view a virtual tour of the state via aerial photographs, and create a GIS map for their classrooms. Fran is working to include information about CityGreen software on the site. She also plans to include information about the Baton Rouge pilot project on the site.

GIS Day will be held during Geography Awareness week, sponsored by the National Geographic Society and the American Association of Geographers.

#### *U.S. Department of Energy (DOE) grant on carbon sequestration*

Fran has information on an \$18 million DOE grant for conducting carbon sequestration studies that focus on CO<sub>2</sub>. She will give information about the grant to Virginia Gorsevski (EPA) to distribute to city coordinators.

## Atlanta

### *EPA's Sustainable Development Challenge grant*

Lucie said that she and Maury Estes (NASA) worked together to apply for EPA's Sustainable Development Challenge grant funding. Applications were due on September 29<sup>th</sup>. Lucie noted that the process of applying for the grant was a useful exercise to help identify priorities and plan for the future.

### *Demonstration projects*

The Steering Committee has received a commitment from a developer to implement a heat island mitigation demonstration site as part of a brownfield project in midtown Atlanta, on the Atlantic Steel site.

This site is part of EPA's Project XL program, which stands for "eXcellence and Leadership." Project XL is designed to encourage environmental projects that incorporate innovative strategies to achieve cleaner and cheaper environmental results than conventional regulatory approaches. The brownfield site is in a non-attainment area, and since the project would involve building new roadways, it would not have moved forward if it had not been accepted by Project XL.

The Steering Committee received a commitment from the Metropolitan Atlanta Regional Transit Authority, to implement a demonstration project at a park-n-ride parking lot or one of the terminal facilities.

The Steering Committee also will be use a new recycling center in south Atlanta as a demonstration

project. Lucie noted that these demonstration projects were included in the Sustainable Development Challenge grant application. Atlanta proposed to conduct studies of the demonstration projects and conduct outreach to public officials as part of these demonstration projects. However, the Steering Committee will conduct the demonstration projects regardless of whether the grant is awarded to Atlanta.

### *Web site*

Lucie said that the Steering Committee is in the process of developing a Cool Communities web site ([www.coolcommunities.org](http://www.coolcommunities.org)). This site will include general information about urban heat island mitigation strategies, and link to specific information about the pilot cities. In the meantime, Lucie noted that Atlanta has posted cool communities information on the Georgia Concrete and Products Association (GCPA) web site at [www.gcpa.org](http://www.gcpa.org).

Lucie said that the web site will be designed based on the brochure that Atlanta developed. She will send extra copies of the brochure to Virginia to distribute to city coordinators.

### *Presentation on Georgia's building code at the conference in Utah*

Lucie noted that Patrick Downey, a roof consultant in Georgia, will be attending the conference in Snowbird, Utah, to discuss the process and strategies used in amending Georgia's building code. (See below for more information about the conference.)

### *Interview with the weather channel*

Lucie mentioned that the weather channel contacted her to schedule an interview to discuss Atlanta's heat island reduction initiatives, which will be aired in October as part of a news release on climate. Lucie will pass along more information about this interview when available.

## Salt Lake City

Camille Russell (Utah Office of Energy Services) was not able to participate in the conference call, but she e-mailed the coordinators an update on Salt Lake City's activities.

### *Kool Kids*

Camille said that the "Kool Kids" program is well underway this fall with the recent delivery of "Kool Boxes" to four elementary school teachers in the Salt Lake City valley. The Kool Boxes contain lesson plans and materials to educate 6<sup>th</sup> graders on the urban heat island phenomenon and attendant energy, air quality, and quality of life ramifications. The lessons are aligned with the core curriculum for 6<sup>th</sup> grade science in Utah. Materials in the Kool Boxes include wooden model homes for testing various roofing surfaces; single ply white and black membranes; temperature devices; digital hand-held "heat spies"; overhead transparencies of ozone formation diagrams, urban development areas, thermal images, and tree diagrams; various data collection and quizzing sheets; thermal maps of downtown Salt Lake City and individual school campuses; and tree identification books; among other materials. Camille will send the four "Kool Kids" lessons to Virginia for distribution to city coordinators.

### *Cool Concepts for Cities and Towns Conference*

The Cool Concepts for Cities & Towns Conference is coming up on October 8<sup>th</sup> in Snowbird, Utah. The conference will bring together a variety of national and local partners in the fields of industry, research, planning, architecture, urban forestry, landscape architecture, government, non-profit earth stewardship, and engineering to address the growing urban heat island phenomenon and its ramifications on the built environment, human health, and the global ecosystem.

The conference will focus on the feasibility of implementing policies and ordinances in local cities and towns that dramatically improve air quality, energy consumption and human health. Local speakers will focus on how they are implementing cool communities strategies into their professional fields. National speakers include Maury Estes (NASA Global Hydrology and Climate Center), Kevin Foley (Sarnafil Roofing), Dan Varvais (National Coatings Company), and Patrick Downey (Merick Inc.). Camille said that she will send a copy of the conference proceedings when available to Virginia to distribute to city coordinators.

### *City plan includes cool communities strategies for new construction*

The City of Highland, Utah, has adopted a master plan that includes cool communities strategies in all residential and commercial development. The city is a new growth town roughly 30 miles south of Salt Lake City.

Soren Simonsen (Cooper & Roberts Architects), an architect and planner, met with Camille and Meryl Redisch (TreeUtah) a couple of months ago to identify where cool communities and other urban forestry and energy efficiency strategies should be implemented. These suggestions recently were approved by Highland's City Council. Camille said that after she receives a copy of Highland's master plan, she will send it to Virginia to distribute to city coordinators.

### **NASA**

Maury Estes and Jeff Luvall (NASA) submitted two proposals to continue analyzing the data for Atlanta and to conduct a fly-over of Houston. Maury said that he has focused his research efforts primarily on land use and land cover analyses using available thermal response data.

Maury said that National Public Radio contacted him to schedule a live interview on October 6<sup>th</sup> at 10:40 a.m., CDT. Jeff may participate in this interview, too.

### **ICLEI's Cities for Climate Protection Campaign**

Virginia noted that Lisa Gartland (Sacramento), Camille, and Gary Gero (Los Angeles) will participate in a panel at the International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection Campaign in Los Angeles on October 7-10, 1999. Virginia will moderate the panel session. Alex and Hashem Akbari (LBNL) will give an introduction on urban heat islands and the Heat Island Reduction Initiative.

Virginia noted that she will distribute any useful information available at this conference to city coordinators. So far, about 100 people have registered for the conference.

### **EPA HIRI workshops**

Virginia noted that she is in the process of planning three workshops. Two of the workshops will focus on the air quality and modeling results and State Implementation Plan (SIP) guidance. The other workshop will focus on measures that cities can implement to reduce heat islands. As part of this effort, ICLEI is developing model language and case studies of building codes and landscape ordinances that incorporate heat island mitigation strategies. This information will be compiled in the form of a tool kit that will be distributed to city coordinators. This workshop probably will be held next fall.

Virginia noted that LBNL is completing its report on the modeling results for the three pilot cities, Baton Rouge, Sacramento, and Salt Lake City, which is due to EPA on October 1<sup>st</sup>. Virginia will contact the city coordinators to schedule a teleconference to review the data with their local air quality offices.

In preparation for the workshop to discuss the SIP guidance, Virginia asked city coordinators to provide her with names of people with air quality and meteorological modeling expertise, who also are knowledgeable about the policy issues. Virginia said that she is working to convene a workshop in February to review the results of LBNL's and other consultants' modeling efforts.

**Next steps**

- C Fran will give information about a DOE grant for carbon sequestration studies to Virginia to distribute to city coordinators.
- C Lucie will send extra copies of a brochure developed by the Atlanta Steering Committee to Virginia to distribute to city coordinators.
- C Lucie will pass along information to Virginia to distribute to city coordinators about the weather channel interview.
- C Camille will send the four "Kool Kids" lessons to Virginia for distribution to city coordinators.
- C Camille will send a copy of the Cool Concepts for Cities & Towns Conference proceedings when available to Virginia to distribute to city coordinators.
- C Camille will send a copy of Highland's final master plan when available to Virginia to distribute to city coordinators.
- C Virginia will distribute any useful information available at the ICLEI conference to city coordinators.
- C Virginia will contact city coordinators to schedule a teleconference to review the modeling data.
- C Virginia asked city coordinators to provide her with names of people with air quality, meteorology, and policy expertise, who might be

interested in participating in the workshops.

---

**The next conference call is scheduled for Thursday, October 28, 1999, from 4:00 to 5:00 p.m. EDT. The call-in number is 202-260-7280, and the access code is 5015#.**

---