

# HIRI NEWS

## Baton Rouge to participate in GIS day; Air quality modeling reports for three pilot cities available next month

### Call participants

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

#### Chicago

##### *Rooftop gardens*

Virginia Gorsevski (EPA) invited Dr. Alexandra Holt (Chicago Department of Environmental Health, Deputy Commissioner for the City of Chicago) to participate in the conference call. Alexandra could not participate, but she sent Virginia information on Chicago's current heat island reduction activities, including plans to

develop a rooftop garden for the City Hall building. Lisa Gartland (PositivEnergy) noted that rooftop gardens tend to be expensive. Virginia said that the energy savings of rooftop gardens may be comparable to reflective roofs, but more information is needed. Additional rooftop garden benefits include insulation, storm water runoff retention, and aesthetics. Virginia noted that information from the Chicago project should provide a good cost-benefit comparison.

It was noted that many buildings in Germany, San Francisco (the GAP building), Salt Lake City, and Sacramento have rooftop gardens.

##### *Rewriting city ordinances to require reflective roofs*

Chicago hopes to rewrite city ordinances to require reflective roofs. Currently, these ordinances contain some information on gravel roofs. (Lisa clarified that aggregate gravel roofs provide protection from movement and sunlight. Generally, the color of the rocks used in the gravel roof is not specified in the ordinance.)

Alexandra plans to work with the Department of General Services to rework the ordinances and consider different reflective materials. Alexandra will focus more on parking lots and pavement in the coming months. Virginia suggested that Lisa contact Alexandra since Sacramento is also working on parking lots. Alexandra hopes the Lawrence Berkeley National Laboratory (LBNL) can measure the reflectance and before and after surface temperatures of various materials. Lisa said that she could suggest appropriate instrumentation.

#### Sacramento

##### *Proposal for cool roofing residential shingles*

Sacramento recently submitted a proposal to the California Energy Commission for developing cool roofing asphalt shingles for sloped residential roofs. This proposal was part of a larger proposal prepared by the Davis Energy Group, a consulting firm in California. Lisa noted that the asphalt shingle market comprises

over 50% of the U.S. shingle market.

Sacramento's proposal involves using white shingles and shingles of four other colors which are 40-50% more reflective than asphalt. The other colors would be produced by mixing in titanium dioxide to make lighter color granules. Lisa plans to work with granule manufacturers from 3M or ISP Minerals and with companies that produce the shingles. It will be challenging to get the funds, but once Sacramento does find the money, Lisa hopes to persuade the roofing industry to use the cool roofing shingles.

#### *Subcommittees*

Four of the five Steering subcommittees in Sacramento are now meeting and are actively working on projects.

Visit the Sacramento Cool Communities web site at [www.energy.ca.gov](http://www.energy.ca.gov). Lisa hopes to soon post a listing of products and roofing suppliers.

#### *Parking lot conference*

Lisa is working to find funding for a parking lot conference. She is writing to the EPA Challenge grant program, and the National Tree Trust which has grant proposals due October 1, 1999. Lisa suggested the city coordinators look into the National Tree Trust grants.

#### **Baton Rouge**

*GIS day – November 19, 1999*

Fran Stewart (LA Department of Environmental Quality, or DEQ) recently attended the ESRI/GIS conference in San Diego. ESRI promoted GIS day which will be held on November 19, 1999, during Geography Awareness week, which is sponsored by the National Geographic Society and the American Association of Geographers. ESRI's goal is to have one million users around the world working on GIS that day. Currently, about 500,000 users are signed up for the event.

Fran sees this day as an opportunity to feature Baton Rouge's Urban Heat Island project. Baton Rouge has a committee that will support GIS day and will feature Baton Rouge's project. The committee is working on planning GIS day events involving Louisiana State University, Southern University, the DEQ, the Department of Natural Resources, and the city government.

Fran noted that ESRI is doing a great job of instructing Baton Rouge on how to host a successful GIS day. ESRI provided Baton Rouge with a CD-ROM including logo information, posters, signs, and a web page template.

Fran urged the city coordinators to visit [www.gisday.com](http://www.gisday.com) to sign up for GIS day on November 19, 1999.

#### *Reflective roofing*

Virginia mentioned that Jeff Luvall (NASA) had talked to Jerry Clear, a city engineer in Baton Rouge, regarding roofing projects in the

downtown Baton Rouge area. Maury Estes (NASA) noted that Jerry is the head of Public Works for East Baton Rouge. Jerry is interested in using more reflective roofing on public buildings.

#### **Los Angeles**

##### *Air quality modeling*

Los Angeles will hold a kick-off meeting in September with key members from the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). Attendees will discuss methods appropriate for conducting tests to assist the modeling effort.

Gary has been working with Haider Taha (LBNL) and Environ, a consulting firm in California. Environ is conducting a literature review of all air quality modeling and heat island publications. Gary asked the city coordinators to send him publication titles. Fran said she would e-mail a list of publications to Gary and the city coordinators.

Gary noted that activities for the next six to eight months will involve the literature review and modeling. Next summer, Los Angeles will conduct field work of before and after cases to validate model results.

Gary said that Environ has conducted a peer review of Haider's Los Angeles study. Haider has been using the Urban Airshed Model 4 (or UAMIV) and CSUMM, and might upgrade to the UAMV and MMV models. Virginia noted that there are always benefits and disadvantages associated with each type of modeling. Gary said that the SCAQMD is using UAMIV,

UAMAERO (for aerosols and particulate work), UMLC (a linear chemistry model), and MMIV (for meteorology). The SCAQMD has not yet decided if it will update its models next year.

#### *Proposals*

Los Angeles is developing a joint proposal with Environ. Another joint proposal with LBNL submitted to DOE is for funding assistance for the next fiscal year, which begins October 1, 1999.

#### *California Air Resources Board*

Lisa noted that suggestions for next year's research at the California Air Resources Board are due September 3, 1999. Lisa urged Gary to put together a synopsis of Los Angeles' work to submit to the California Air Resources Board. Sacramento plans to provide input to the Board.

#### **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.

#### *Cool Spaces 2002 project*

The Memorandum of Agreement is almost complete for the Cool Spaces 2002 project, an official Olympic project which will plant trees in "hot spots," using thermal data to determine priority areas. TreeUtah has hired a full-time coordinator, Ruth Steed, to coordinate activities among the local and national signatories, and to handle tree planting events.

#### *"Kool Kids" teacher training*

Salt Lake City is busily preparing for the "Cool Concepts for Cities & Towns" conference scheduled for October 8, 1999, in Snowbird, Utah. This conference will bring together Utah planners, engineers, architects, policymakers, and interested citizens to discuss the local heat island phenomenon. Camille will send the city coordinators conference information and an invitation.

Camille said the "Kool Kids" teacher training went remarkably well. Four lesson plans focused on the air quality and energy ramifications of urban heat islands. Salt Lake City is currently preparing teacher materials and educational activities to be implemented in classrooms in September. Camille is happy to share the lesson plans and "kool boxes" with Fran, who is implementing a similar program in Baton Rouge.

#### **Atlanta**

#### *Sustainable Development Challenge workshop*

Maury and Lucie Griggs (American Forests) attended EPA's Sustainable Development Challenge workshop in Atlanta on August 23, 1999. The workshop indicated that there are more funds available from the Department of Transportation (DOT) than through the EPA Challenge Grant program. The DOT funds might be applicable to implementing Cool Communities strategies with transportation projects. Maury will send the grant

information to Virginia to send to the city coordinators.

#### *NASA proposals*

NASA will submit a proposal for work with Region IV. NASA is also working to continue heat island work in Atlanta and possibly Houston.

#### *GreenShade*

Maury asked if anyone had experimented with GreenShade. (A materials packet sent out by ICF to city coordinators included a GreenShade application narrative by Christopher Steele, Austin, TX.) GreenShade makes use of fast growing vines on a trellis to shade and cool parking lots, cars, buildings, and people.

#### **Houston**

Tina Davies (HARC Center for Global Studies) was not able to participate in the conference call, but she e-mailed Virginia an update on the Rice Model Lab ozone survey.

#### *Rice Model Lab ozone survey*

A city- and county-wide ozone survey conducted by the Rice Model Lab is scheduled for September 9, 1999, from 1:00 to 2:00 p.m. (The rain date is September 10.) Students and as many as two to three hundred teachers trained to use the Clean Air Challenge will participate in the survey.

Students will set an ecostrip in a sunny location on school grounds for an hour before reading the results. During the same hour, students will also set on thermometer in the same sunny

location and another thermometer in a shady location.

Houston hopes that the survey will encourage students to think about urban heat island issues. Preliminary contacts with the media have been positive, and station KUHF will do a sound byte. City coordinators who have suggestions or who can assist in preparing or carrying out the survey should contact Linda Knight (Rice Model Lab) at 713-524-9686.

### Conferences and meetings

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

The International Council for Local Environmental Initiatives (ICLEI) is holding the Cities for Climate Protection Campaign conference in Los Angeles on October 7-10, 1999. The focus of the conference is on green power generation and heat island mitigation strategies. Alexandra will speak on "What is the Urban Heat Island Effect?" Lisa will also speak on the "Heat Mitigation Strategies for Local Governments" panel on Saturday, October 9, 1999.

ICLEI also hopes that Camille and possibly Lilian Kawasaki from Los Angeles will speak on the panel. Lisa suggested that other city coordinators call ICLEI if they would like to speak at or attend the conference. An hour-long training session will follow Alexandra's speech and the hour and a half panel.

Gary said that ICLEI has developed software for cities in the Climate Protection Campaign. Attendees can receive training on how to use this software at the conference. A few city coordinators would have

liked the conference to spend more time on heat islands, including current local government activities. Lisa will send the draft conference agenda to Virginia to fax to the city coordinators.

EPA has given ICLEI a grant to identify mechanisms, such as codes and ordinances, that would encourage widespread implementation of heat island reduction strategies. EPA hopes that ICLEI will research existing codes that promote heat island reduction strategies, and then develop model language for cities to use in planning for the implementation of these measures.

#### *Urban forestry conference in Seattle*

Camille and Meryl Redisch (TreeUtah) will attend the urban forestry conference in Seattle the week of August 30. They hope to see other city coordinators at the conference.

#### *Meeting for modeling methodology*

EPA plans to hold a meeting in the fall or spring for LBNL to present its modeling results from Salt Lake City, Baton Rouge, Sacramento, and Los Angeles. ICF's SAI in San Francisco is also doing broader scale regional modeling in the eastern U.S. using OTAG data. Meeting attendees would discuss air quality modeling methodologies. Virginia noted that EPA will make more progress on preparing the meeting once it receives the results from the pilot cities.

### ABC television segment

A television segment on urban heat islands aired on ABC on August 23, 1999. On the segment, Jeff

commented that concrete is lighter in color and better than asphalt. Lucie was also quoted on the segment. Virginia later received two calls from pavement companies in Lexington, MA and Chattanooga, TN who asked how they can get involved. Virginia mentioned the pilot projects and said that these companies can do a demonstration project, submit materials, or do a cost-benefit analysis or life-cycle costs. Lisa is interested in receiving materials to test from these companies.

Virginia also talked to Mark Rothenberg (Bay Area Air Quality Management District) who is interested in green roofs. Virginia gave Mark the contact information for Lisa and Gary. Virginia has also talked with various concrete companies and Chris Brimmel at Mesa Construction, a roof product manufacturer and an ENERGY STAR partner.

Haider's modeling reports for Salt Lake City, Baton Rouge, and Sacramento should be available in September 1999. Virginia hopes that the coordinators can discuss the results at the next conference call on September 30, 1999.

### Next steps

- C Fran will e-mail a list of air quality modeling and heat island publications to the city coordinators.
- C Lisa will send the draft Cities for Climate Protection Campaign conference agenda to Virginia

for distribution to the city coordinators.

- C Maury will send the EPA Challenge Grant program information to Virginia for distribution to the city coordinators.

**Next conference call**

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**The date and time of the next EPA/Pilot City conference call is scheduled for Thursday, September 30, 1999, from 4:00 to 5:00 p.m. EDT.**

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