

US EPA ARCHIVE DOCUMENT

HIRI NEWS

Atlanta highlighted in *Newsweek* and *U.S. News & World Report*; *Cool Concepts for Cities and Towns* conference scheduled in October

Call participants

Lisa Gartland, Sacramento, CA
(positivenergy@california.com)

Lucie Griggs, Atlanta, GA
(lwgriggs@hotmail.com)

Virginia Gorsevski, EPA
(gorsevski.virginia@epa.gov)

Camille Russell, Salt Lake City, UT
(crussell@dced.state.ut.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/Cool Community updates

Houston

Houston air quality modeling pilot project

Virginia Gorsevski (EPA) invited Tina Davies (Houston Environmental Foresight) to participate in the conference call. Houston is the fifth and last pilot city to join the Urban Heat Island Pilot Project (UHIPP). Tina is

organizing a team of people to work on the pilot project in Houston. Houston and EPA have signed an agreement to conduct air quality modeling; however, NASA will not be conducting flyovers in Houston. Virginia also noted that Houston may be in the process of becoming a "Cool Community," but this has not been confirmed.

Baton Rouge

Meeting with government representatives on air quality

Fran Stewart (LA Department of Environmental Quality, or DEQ) and Jeff Luvall (NASA) met with Mike McDaniels to discuss the UHIPP. Mike has been an instrumental bridge between the city and state government air quality offices. He was very supportive of the Baton Rouge pilot project and offered to help accomplish its project goals.

Collection of reflective roofing information

Fran said that she is in the process of collecting information on reflective roofing materials. She said that Virginia sent her some

useful materials, and she also spoke with Art Banyon, who sells a variety of reflective materials (e.g., paint, roof products). Lisa Gartland (PositivEnergy) noted that his company's literature tends to exaggerate the energy savings from their products. She said that the products are as good as any other reflective roof products on the market, but they are trying to sell them based on false assumptions.

Fran said that if anyone has any other information on reflective roofing materials to let her know. Lucie Griggs (American Forests) suggested that Fran contact roof manufacturer trade associations, which may be a good source of general information. Fran said that Jeff also mentioned several roofing companies that she should talk with. Virginia Gorsevski (EPA) suggested that she contact the Salt Lake City UHIPP coordinator, Camille Russell (Utah Office of Energy Services), a member of the Cool Roof Rating Council (CRRC), for additional information and to learn about what CRRC is doing, as well as its plans for the future.

Reflective roofing opportunities in a new Baton Rouge development

The Secretary of DEQ recently submitted a letter to the Secretary of the Department of Administration regarding the development of 12 new state government buildings. The letter requests that DEQ be involved in the planning process for the new development. In particular, DEQ would like to encourage reflective roofing specifications for the new buildings.

Potential partnership with a Southern University faculty member

Fran said that she also asked a faculty member of Southern University, Dr. Chi, to participate in the Baton Rouge pilot project as a team member. Chi has published several articles on the effects and benefits of trees and sequestration.

Plans for a "Kool Kids" debate

Within the next school year, Baton Rouge plans on conducting a high school debate or a "Kool Kids" contest with support from Baton Rouge Green. Virginia suggested that Fran speak with Camille about this project because she organized a similar event involving local schools and may have suggestions for Baton Rouge.

Atlanta

Development of technical information outreach kits

Lucie reported that Atlanta is developing technical information kits for architects and engineers with support from the Georgia Environmental Protection Division. The kits are designed to allow for targeting different audiences; the kits consist of a four-page folder with a one-page pocket insert that

contains different information depending on the audience for which it is intended. Engineers in Atlanta's paving and roofing groups will write some of the reflective paving and roofing sections, and Trees Atlanta will write the strategic tree planting sections.

Lucie expects that the kits will be available in October. She would like to have them available at an American Institute of Architects (AIA) meeting in Chattanooga, TN, on October 14-17, 1999. The name of the conference is "Mainstreaming Green: Sustainable Design for Buildings and Communities." She hopes to be asked to present Atlanta's cool communities projects at this conference, but if not, she will probably prepare a poster.

More information about the conference is available on the Internet at www.aiaonline.com or at (800) 242-3837. The AIA conference website also references the U.S. Green Building Council as a resource, and their website address is www.usgbc.org.

The National Ready-Mix Concrete Association Conference on October 13-14, 1999, is being held in conjunction with the AIA meeting in Chattanooga. Lucie has been asked to participate in this conference to present reflective paving alternatives.

Tree ordinances

Lucie mentioned that most counties in the Atlanta metropolitan area are considering adopting more stringent tree ordinances. Two counties have already passed more detailed, stringent tree ordinances. One of the largest counties in the area is also in the process of

revising its tree ordinance. Lucie is not sure exactly why these counties are becoming interested in revising their tree ordinances, but it is probably due, in large part, to the Cool Communities program outreach efforts.

News Week and U.S. News and World Report articles

The loss of tree cover in Atlanta is a big problem and has been the focus of several articles in national publications. Virginia noted that *U.S. News and World Report* published an article about CityGreen software and the loss of tree cover in Atlanta and Puget Sound, WA. *News Week* published an article about urban sprawl in general, and most of the article focused on Atlanta.

On a similar note, an article in the *New York Times* about Salt Lake City and Milwaukee, WI, discussed how the two cities are approaching urban sprawl and their planning decisions.

Sacramento

Subcommittee projects

Lisa and Martha Turner (Sacramento Tree Foundation) gave a report on the activities in Sacramento. They have encouraged the subcommittees to set their priorities by identifying projects that they are most likely to complete.

The Steering Committee recently developed a strategic plan and is identifying funding sources for the subcommittee projects and ongoing administration and oversight to the program.

The Trees and Vegetation Subcommittee is in the process of identifying supermarket parking lots to retrofit with reflective paving surfaces and implement strategic tree planting techniques. The Pavements Subcommittee would like to select a new parking lot to install different types of reflective paving products for comparison purposes.

New Sacramento development opportunities

Lisa and Martha are trying to provide input to the developers of a large property just north of Sacramento concerning reflective materials specifications and strategic tree planting options. They will be meeting with one of the developers, a member of the Sacramento Tree Foundation's Board of Directors, about the best way to present cool communities information to the other developers.

Reflective paving report

Martha has been collecting information on alternative paving materials and is working on a report that describes them. She will distribute the report to UHIPP and Cool Communities city coordinators when it is completed.

Strengthening partnerships with EPA regional offices

Sacramento would like to strengthen its connections with EPA Region 9. Lisa and Martha solicited feedback from other city coordinators on how to receive support and form strong connections with regional EPA offices.

Fran said that she has not been in contact with EPA Region 6 (Dallas, TX). Virginia said that she knows an EPA Region 6 staff person who was very interested in EPA's Heat Island Reduction Initiative (HIRI) when it was first established. She will give Fran that person's contact information. Lucie said that an EPA Region 4 staff person in the Policy Analysis Branch has been involved in Atlanta's cool communities activities for the past five years.

21st Century Homes TV segment

Home and Garden recently interviewed Lisa, Dan Varvais (National Coatings Corporation), and Jeff for a five-minute segment as part of their 21st Century Homes program. Lisa said that National Public Radio also recently did a segment on the NASA flyovers, GIS data, and modeling.

Salt Lake City

"Cool Concepts for Cities & Towns" Conference

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

Camille and Meryl Redisch (Salt Lake City, Utah) are planning a "Cool Concepts for Cities & Towns" Cool Communities/UHIPP Conference, scheduled for October 8, 1999, in Snowbird, Utah. Camille invited all city coordinators to attend the conference.

The "Cool Concepts for Cities and Towns" conference will bring together Utah planners, engineers, architects, policymakers, and interested citizens to discuss the local urban heat island phenomenon. Jeff and Maury Estes (NASA) plan to attend the conference and give presentations, along with other local and national scientists.

The discussion will focus on the feasibility of bringing cool communities strategies into planning and policy to abate heat, improve air quality, decrease energy use, enhance aesthetics, and improve the comfort of residents.

SIP credits

Lisa and Martha said that they have been talking with the local air quality management district about its role in cool communities projects. The district is extremely anxious in obtaining information about SIP credits. Virginia said that she recently spoke with Haider Taha (LBNL), and he said that the results for Salt Lake City, Sacramento, and Baton Rouge will be available in September, in the form of a final report.

EPA's proposed strategy

Virginia explained the work in which EPA is currently involved to allow cities to obtain SIP credits for implementing heat island mitigation strategies. She said that, initially, EPA planned to model several cities and develop a methodology to show to air quality officials.

However, while air quality offices do most of the photochemical

modeling, they often have other entities (e.g., contractors, universities) conduct meteorological modeling for them. Therefore, unless the air quality offices understand the potential for ozone reductions, they probably will not be interested in getting involved in the meteorological aspects of the data. In addition, it is not realistic or cost effective for EPA to model each U.S. city individually.

Therefore, EPA now is trying to consider the problem from the state air quality officials' perspectives by giving them the information they need to make a decision about whether it is worthwhile to implement heat island mitigation strategies. EPA would also like to help them determine what ozone reductions they can expect given certain temperature reductions and what modifications they have to make to achieve those temperature reductions.

The results for the first three pilot cities will be available in September, and this should help the cities in working with their air quality offices. Similar studies also have been conducted in Los Angeles and Atlanta, and information for Chicago and Houston should be available next year. Using this and other data, EPA hopes to better understand the level of ozone reduction possible in different areas of the country.

Determining albedo and vegetation modifications necessary to achieve temperature reductions

Every city is different, which makes it difficult to figure out what

air quality offices and planners need to do to achieve certain temperature reductions. EPA is trying to streamline the process by figuring out the range of albedo and vegetation modifications associated with achieving an expected temperature reduction, and therefore an expected ozone reduction.

For example, LBNL recently obtained high-resolution or "ortho" photographs for a small portion of Sacramento. LBNL used these photos to label each grid cell based on its albedo, change each cell by increasing the albedo, and extrapolate the results out to the entire city. The purpose of this exercise is to determine the albedo modifications necessary to decrease temperatures in Sacramento. EPA will compare Sacramento's results with those from Salt Lake City and Baton Rouge to identify any similarities and to develop recommendations.

Virginia noted that experts suspect that there probably is not much of a difference between the amount of modifications that various cities can make to modify ambient air temperatures. Geography and size are probably the key factors that influence a city's ability to modify its temperatures. Current work at LBNL is focused on verifying whether this is true.

Models

EPA has decided to use the models that are currently most widely used among state air quality modelers. Most modelers seem to be using MM5 and CSUMM for meteorological modeling. Haider uses both of these models.

Most photochemical modelers use the EPA-approved Urban Airshed Model (UAM). Haider uses UAM4 and UAM5 (a.k.a. UAMV). There is also a new photochemical model, Models 3, which currently is mostly being used by the research community.

Project time-frame

Lisa asked about the time-frame for completing this effort. Virginia said that if all goes well, she would like to collect the data from the three pilot cities, plus Atlanta and Los Angeles by the Fall of 1999. In addition, EPA is working with ICF to do similar, less detailed modeling for areas in the eastern U.S. to compare with LBNL's modeling results.

She would also like to conduct a workshop in December 1999 to discuss the results of these analyses. This workshop would include air quality officials from the pilot cities and representatives from EPA's HIRI program; other appropriate EPA offices, such as the Office of Air Quality Planning and Standards (OAQPS); and EPA regional offices. Haider and ICF could present the modeling results and the participants could discuss related technical issues.

EPA could begin to draft the guidance in January and circulate it for comment. EPA could convene another meeting in the Spring of 2000 to discuss the details of the report and possibly complete a final draft of the guidance by the end of the Summer of 2000. While this is the target, the current schedule does not take into account unforeseen issues that may delay the completion of the guidance.

Lisa noted that the Urban Environment Conference, which will be held next Summer at the University of California at Davis, might provide a forum for gathering some of these same people together. The purpose of the conference will be to discuss urban forestry issues and urban forestry's contribution to overall urban health. Lisa said that the conference coordinator is very interested in having the HIRI viewpoint represented.

ICLEI's Cities for Climate Protection Campaign

Virginia said the International Council for Local Environmental Initiatives (ICLEI) has scheduled their Cities for Climate Protection Campaign conference in Los Angeles, on October 7-10, 1999. ICLEI's campaign recruits U.S. cities to make a pledge to reduce greenhouse gas emissions by using their software and developing a plan for implementation. The focus of the conference is on green power generation and heat island mitigation strategies. Virginia is working with ICLEI to prepare for the HIRI-related part of this conference. She has confirmed with ICLEI that the heat island mitigation portion of the conference will be held on October 9th (it was previously scheduled for October 8th), so that people would not be prevented from attending the workshop in Utah on October 8th.

City ordinances and codes

ICLEI will be working with EPA over the next year to: (1) identify

existing codes and ordinances that include heat island mitigation strategies; and (2) develop language for new codes and ordinances with HIRI-related specifications. Virginia said that ICLEI will be contacting the pilot cities to find out about their HIRI-related codes and ordinances since several cities have already implemented such measures..

ICLEI plans to use these codes to develop some language that city planners can adopt to incorporate HIRI strategies into their city's plans. Virginia noted that after talking with planners she has learned that even if one is able to get the city council interested in HIRI strategies, it is just as important to be able to provide them with information about how to incorporate the strategies. For example, they are more likely to adopt HIRI strategies in their codes and ordinances if they are handed sample language with specifications that they can incorporate into their existing codes and ordinances.

Next conference call

The date and time of the next EPA/Pilot City conference call is TBD.