Workshop Notes

GROUP NUMBER: 1

Note Taker Name: Julia

Attendees:

Jane Gilbert
Tiffany Troxler - FIU, Shading Dade
Elaina Ozrovitz- CLEO
Laura Levey- interested citizen
Nkosi Muse- UM PHD
Robert Hevia- emergency manager
Jeanette Ruiz - Miami Climate Alliance
James Duncan- Miami County RER
Susannah Troner- Office of Resilience
YoonJung Ahn- Florida State
Esber Andiroglu- UM Professor Civil Engineering
Jorge Rodriguez - Tree canopy, parks
Motsa Dubois - interested citizen
Jim Murley- Chief resilience officer

Q1. How do we begin to improve reporting on heat related ER visits, hospitalizations and mortalities?

- EMS in Miami Dade have chiefs
    - They have metrics they report on (trauma, heart attack, stroke)
    - Would not be hard to add heat exhaustion
    - Propose to Hospital Coalition and FOAM D
        - Want to start with emergency department
        - Robert Hevia
    - Questioning how people got to the point of needing emergency assistance
    - Are EMS under identifying / over identifying heat-related illness by comparing discharge data?

- Data from hospitals should be coupled with air quality and pulmonary health issues
- Pacific NW – Hevia can contact these agencies/ hospitals

Q2. What should be priorities for current research or data needs to better understand and address heat exposure in Miami Dade's:

- The built environment, temperature, and tree canopy
    - Why are some places cool and some places hot?
    - Microclimate conditions
        - Elevation, soil moisture
    - Plants can tell the story of climate, ferns/lichens
    - How does planting structure affect heat?
- UHI, land surface temperature is best way to see where there are hot spots
    - Miami is constantly changing, how do we track hot spots
- Shading Dade
    - Large differences between full canopy and open canopy
    - Partial canopy is more grey
    - Deployed iButtons along alton rd, water features are cooling
    - Citizen Science
- StoryMap - Evapotranspiration layer?
- StormWater system and how they serve the environment
- Urban Heat Research Group and Public access?

Q3. What are recommended next steps to improve on Heat Advisory Systems? What data/research do we need to do that?
- How do we customize and deliver messages based on the demographics and microclimates?
- Transportation patterns and how that affects messaging
- TV networks as critical partners
- Simmons, Johnson Controls are interested in sensors
- Bus stops with sensors posted on them to show heat index and give general public message information regarding heat

Q4. What partnerships are necessary to attain these goals? How can we fund it?

- Newscasters
- County - leaning on partners outside of county that are interested in proposed work for funding
    - Ex. fish and wildlife service

Climate and Heat Health Task Force Meeting
Meeting Date: 1/11/22
Meeting Time: 10:30 AM – 12:00 PM

GROUP NUMBER: 2
Note Taker Name: Chelsea Clark
Attendees: listed below
Discussion Notes:

- Introductions: Name, Affiliation(s), interest/work in heat related data/research
    - Alex Harris Miami Herald
    - Katharine Mach UM
    - Allison Higgins,
    - Omar Leon, City of MB
    - Robert Molleda, NWS
    - Albert Gomez, miami climate alliance
    - Victor Robles, MD Parks
    - Carrie Roach
    - Annie Seay, Farmworker Assoc of FL
    - Amy Horton-Tavera, MDC Ofc of man and budget
    - Karina Castillo, MDC ofc of resilience
    - Lisa Williams, Miami Dade student
    - Gabriela Lopez, Neat Streets
    - Geno Olmi
    - Chelsea Clark, TMF
    - Nichole Hefty, MDC
    - Annie Lord, Miami Homes for All

- **Q1: How do we begin to improve reporting on heat related ER visits, hospitalizations and mortalities?**
    - Carrie – school nurses are the frontline with this. Come into direct encounters – they really know what's going on without filters of people trying to hide things. Would suggest to start reaching out to school nurses to find out what they're seeing in schools, what's happening w families – get the narratives from the kids.
    - Albert Gomez – ER means hospitals, therefore, intake forms within hospitals that feed the public database. This can be automated via hospital electronic intake forms
    - Amy – Would defer to professionals in the healthcare system – difficult to speak to that
    - Annie Seay – more paperwork and forms is intimidating to undoc immigrants. They might be hesitant to seek treatment.

- **Q2: What should be priorities for current research or data needs to better understand and address heat exposure in Miami Dade:**

    - Urban Heat Island
        - ▪
    - Workplace

- ▪
  - o Home

  - o Robert Molleda - Consistent methods of measuring temp and humidity. Some sensors may be placed out in the sun and are going to get radiation that will produce artificially high temps. Want to make sure that whatever methods we're using for collecting temp data, consistent in where the device is located so that the data is measuring the same thing. Simple thing but hard to achieve. With this will really see the impact of UHI heat in correct areas and can target weather warnings in these areas.
  - o Katharine Mach – survey monitoring if/when people feel too hot – workplace and home exposure – could link this with some of the health outcomes. Heat sensors.
  - o Albert Gomez – UHI in relationship to micro-mobility/bike/walk corridors and how to relates to prioritizations of the OMB budget process so that funding is applied at a hyper local level to support immediately addressing. Crowdsource temp data via opt-in iphone and android data, which has this capability. Give people volunteer hours to help crowdsource temp data.
  - o Carrie Roach – unhoused populations – meet people where they are – go to laundromats, etc. Go to ppl on a non-extreme heat day to ask these types of questions, when they're not being exposed and potentially affected.
  - o Gabriela Lopez – Million Trees Miami – what we need is a tree inventory for Miami-Dade County. Something that the county is working on, but no budget. Urban tree canopy to be updated every 5 years. Can go to FEMA after a storm to get reimbursed for trees lost.
    - ▪ Albert – intersectionality of the subject matter. More trees = more shade, more permeable pavement for stormwater, GHG draw. Should always look to intersectionality of solutions.

- ● **Q3: What are recommended next steps to improve on Heat Advisory Systems? What data/research do we need to do that?**
  - o Katharine Mach – MDC has much lower variability of temp. May be in a situation where chronic heat exposure is more at play than exposure of specific heat wave. May need much more frequent warnings for people that are chronically exposed.
  - o Annie Lord – for publicly owned housing, should be a communications pathway – underinvestment currently in the 9,000 units in MDC. Many of these 9,000 are also located in areas where the tree canopy may be lesser as well.
  - o Albert Gomez – red, yellow, green with alerts via phone alerts when in red. Going to a naming heat waves systems, would take away from the chronic nature of our heat woes.
    - ▪ Robert Molleda – NWS has a hezards outlook web page which uses a color system to categorize expected impact levels for different hazards – https://www.weather.gov/erh/ghwo?wfo=mfl
    - ▪ Annie Seay – Elderly and immigrant populations may not have smart phones or great internet/wifi where they live

o   Carrie Roach – 33311 zip – her students in this zip code don't have trees or shade, don't go outside bc there are driveby shootings – too dangerous to go outside. We need to be aware what it's like. We need to keep the most vulnerable families in mind. In instances where it's hotter inside, they don't feel comfortable going outside. To get to a public cooling place like a library from home in difficult.

o   Karina Castillo – nationally the convo around ozone is a result of extreme heat. That's a data gap that we don't focus on. Has direct impacts on respiratory illness. Improve our air quality monitoring stations.

▪   Also another convo we need to have – certain populations are more likely to die or be affected in some way as a result of heat exposure – elevating the social determinants of health to help have a better conversation around heat and health.

- **Q4: What partnerships will help attain these goals? How can we fund it?**
  o   Carrie Roach - School system/nurses. Small businesses that are doing this already. Journalists to report on it. Must support CLEO and other youth who are leading the way on educating us.
  o   Annie Seay – NPOs working with vulnerable populations
  o   Nichole Hefty – churches, other community spaces where people congregate. Meteorologists – great that they are starting to talk about these other issues.
  o   Alison Higgins – there haven't been many grant announcements that focus on heat – would hope to find more of this type of funding. // naming of heat waves – Arsht reock has been pushing for this – giving things a name bc people pay more attention to that.
  o   Katharine Mach – internal university funding has been very supportive of extreme heat work. FEMA funding might be relevant.
  o   Geno Olmi, NOAA – think about heat intervention in terms of infrastructure – there will be funds moving through fed agencies from the infrastructure bill.
  o   Karina Castillo – recs and task force are things that MDC can do, but need for coordination among all other municipalities to advance the topics.

Data & Research Workshop – January 11 | 10:30 am
Notes Group 3

Facilitator: Galen Treuer
Note Taker: Ludovica Martella

Name, Affiliation, interest/work in heat related data/research

1.   Amy Clement, Professor at University of Miami. Interested in heat research due to her work at UM on flooding.
2.   Alissa Farina, Resilience Program Manager at City of Miami. Interested in heat research due to her role with the City e.g. Resilience Hubs with Arsht Rock.
3.   Jill Horwitz, Climate Resilience Officer at the Seminole Tribe of Florida. Inteterested in heat research in order to include inland communities as part of the heat discussion. E.g. Indigenous people leaving on reservations. They don't qualify into the "urban heat island" affected populations but they for sure suffer from extreme heat temperatures, especially because they are away from the coast, which usually brings some mitigation due to the breeze.
4.   Gloria Romero Roses, Chair of The Women's Fund of Miami-Dade. This one is launching Research as one of their main projects. She is interested in the gender aspect of heat work.

5. Catherine Toms, Senior Advisor for Climate and Health at Health Care Without Harm. Interested in the effects of heat on public health. Referencing the 1995 heat wave in Chicago where the people who died were mostly the elderly and those living in public housing.
6. Lynée Turek, PhD student at UM, focusing on heat adaptation work. Has building energy modeling background. Due to this she is interested mainly in how heat-efficient the structures in which people are living in are.
7. Mayra Cruz, PhD student at UM, mostly interested in the public health impact of underserved populations in Miami; affordable housing; older buildings; outdoor workers.
8. Chris Uejio, Professor at Florida State University, focuses on extreme heat, racism and health. Has an interest in people without SSI and underserved communities.
9. Marco Tedesco, professor at Columbia, developed a data set that looks at gentrification relative to flood, looking at climate justice. Collaborating with UM. Identifying attribution of extreme heat drivers.
10. Ariana, first year undergrad, intern at city of Miami Beach
11. Maria Perilli, volunteering in Biscayne Gardens, unincorporated MDC, trying to bring attention about the extreme heat. Interested in the increase of tree canopy.
12. Oscar Londoño, WeCount, represents outdoor workers. Interested in better ways of recording heat and gathering data on the absence of heat regulations.
13. Samir Elmir, Director of the Division of Environmental Health and Engineering of the Miami Dade County Health Department.
14. Zelalem Adefris, focuses on environmental and climate justice work at Catalyst Miami as Vice President of Policy and Advocacy.

Q1, How do we begin to improve reporting on heat related ER visits, hospitalizations and mortalities?

- What is missed if we are looking at hospitalization data?
- Gloria: with electronic medical records achieving scale across hospital systems, there is new potential to see trend lines across communities with anonymized health informatics. One illustration of the power and possibility of this capacity is how during the pandemic the trend was identified of people not following up on cancer screenings, thereby increasing the negative health outcomes from undiagnosed or untreated cancers. Understanding this trend in turn led to a concerted campaign to get folks back to scheduling and conducting their screenings. In this vein, Gloria's suggestion would be that the Task Force identify the jurisdictional roles and structures that could provide access to this data to the Emergency Management division through a standard dashboard that would be viewed daily/weekly, etc. *I could follow up with her to get the source of these studies- LM*
- Mayra: It is easier to capture the end impact of heat, like death. But how do we get people to recognize the early signs and how do we record them? For instance, the headaches? Can we develop an app so that people can record their symptoms?
- Make heat-related diseases defined. At the hospitals, there is a lack of understanding from intake people and/or those suffering from heat impacts to accurately diagnose heat as a cause. Staff training at hospitals should be mandatory. Should brainstorm also a way for people to get education for people to self-identify heat-related issues.

Q2: What should be priorities for current research or data needs to better understand and address heat exposure in Miami Dade's:
    o **Urban Heat Island**

- o **Workplace**
- o **Home**

- Gloria: As data gets aggregated, it's important that there is a specific field that ensures that the gender-lens of this issue is visible. Aggregated data usually doesn't enable seeing this reality.
- Jill: everything is reciprocal. Rather than asking for vulnerable populations for data, it's better to give out, for instance, air conditioning, tress, etc, and then see who applies. That is data in itself. Then, the county could go in and ask the populations to provide more data.

Q3: What are recommended next steps to improve on Heat Advisory Systems? What data/research do we need to do that?

- Jill: We shouldn't only protect the human urban development but think also about the ecosystem. For instance, farm animals suffer from this a lot to.
- Prioritizing a landscape analysis of all current systems in the private and public sector related to employment and health care regulatory frameworks that could act as a feeder of data inputs and information dissemination in response to future alert systems.
- Utilize data sets that are already available and solidify them: Alyssa suggested the EIA, citizen residential services. They provide long-term federal level investigation. Perhaps they have already collected data on heat.
- Understanding policies and the lack of policies
- Granular data important for cities to actually implement preferred solutions. Google created Environmental Insights Explorer data for City of Miami https://insights.sustainability.google/labs/treecanopy
- Is there an evening heat evening index?
- Is the national weather service ok with having a localized focus on Miami? Miami has a very particular climate and should have its own analysis and guidelines.
- Oscar: There is no point of advisories if workers are not protected by the law like access to shade, water.

Q4: What partnerships will help attain these goals? How can we fund it?
- Oscar: The County can pass the first ordinance on heat education and regulation in the State.
- Partnering with workers so they know they have rights and experts that can help write the ordinance.
- Earthjustice as legal partner

Group 4
Note taker: Isabella Gandara

Attendees: ?

Q1: How do we begin to improve reporting on heat related ER visits, hospitalizations and mortalities?
- Culturally representative medical professionals should be consulted to communicate the risk and experience of heat for different ethnic and socioeconomic groups
- Health workers could have notifications for environmental conditions i.e. in extreme heat conditions or heat wave
    - If medical professionals haven't been outside for hours during their shift, they may not know to ask questions related to the heat when asking about symptoms.
- Having training for medical professionals to ask questions about living conditions or heat exposure in a way that patients can definitively answer about their experience
    - Ex. instead of asking if someone has indoor mold, which may not be known, asking a question that would indicate the presence of mold
- A good case study for the reporting of medical information is how medical codes are being reported in traffic accidents
    - Appropriate codes are not in reporting system for accurate reporting by first responders
        - Different professionals in ambulances, ER, and primary care could each be asked to report code as a checkpoint and to ensure consistent reporting
    - Model for west coast and San Francisco has been successful
    - 911 responders can provide notes on heat conditions and symptoms - good documentation from first responders can inform medical professionals in wraparound services
- Being explicit about what mapping means - where incidents are happening; are they happening in schools, homes, work?
- Public education would help citizens recognize and report heat exposure to medical professionals in cases of heat-related illnesses
- Collecting data from non-emergency situations of HRI, such as school nurses and primary care, would help capture the extent of heat illness
    - In primary care services, heat illness may be better identified if patients were asked questions that covered heat exposure

Q2: What should be priorities for current research or data needs to better understand and address heat exposure in Miami Dade's?
- **Urban heat islands:**
    - Being wide in reach - creating spaces for different interest groups, such as domestic violence groups
    - Investigating possible at-risk groups:
        - Cancer patients
        - Homeless people
    - When specific data initiatives are not feasible, Miami Dade should determine how to collect data from other sources to identify at-risk groups.
        - Which non-medical community centers might be collecting or able to collect data?

- Collecting qualitative data based on individual and group experience can help people advocate for their own experiences with extreme heat
- **Workplaces**
    - Identifying key times at which risk for heat-related illness is higher to better schedule hydration/rest breaks
    - Prioritizing education and awareness, specifically with bilingual education
    - OSHA is now accepting comments for heat-related guidelines
        - Without state or federal standards, most existing heat standards in workplaces are voluntary policies for each workplace
    - Studying adaptations and coping strategies for migrant workers that may not be reporting unsafe heat conditions due to fear of retaliation by employers
    - Gendered data for home and workplace heat exposure and heat-related illness to understand how heat indexes affect women differently
    - Understanding how the county can work with employers to enforce federal regulations
        - Researching effectiveness and enforcement of OSHA regulations by employers
        - Mandating training programs for employers to be able to renew business licenses
    - Focusing on prevention efforts due to lack of medical insurance and medical attention
- **Homes**
    - Identifying vulnerable geographic areas: accounting for impervious surfaces, tree canopy, and homes without functioning air conditioning

Q3: What are recommended next steps on heat advisory systems? What data/research do we need to do that?

- Lowering the threshold for heat advisory - would give people more time in advance to prepare for extreme heat
- Using the same notification system as hurricane and natural disaster warnings could increase urgency and awareness
    - With education campaigns, emphasizing the impact of heat is comparable to natural disasters such as hurricanes
- Working with community advocacy groups to reach most vulnerable groups in appropriate ways and with appropriate messaging
    - Communicating policy changes to vulnerable groups in culturally responsive ways to inform them of current policies on extreme heat
- Meteorologists tend to be more trusted to represent weather conditions - including heat advisories with weather reporting can reach more people
- Making heat advisories more engaging to avoid notification fatigue

Q4: What partnerships will help attain these goals? How can we fund it?

- Connecting the dots with groups such as the NAACP: laying out interrelated topics with heat to educate the public on topics seemingly unrelated to heat
    - NAACP has website for heat-specific topics
    - Caribbean-American communities are often grouped with African-American communities, even though there are specific radio and news stations for Caribbean-Americans
        - specific messaging within Black communities is needed

- More partnerships with community-based organizations that have an existing membership base
    - Good opportunity for multilingual and culturally sensitive programs and services
- Unions and worker centers can reach at-risk workers
    - May be more trusted because they are seen as representing the interest of workers and are more directly accessible than employers
- Meteorologists - very trusted in Miami and can integrate heat warnings and awareness into existing reporting on weather
- Churches are one of the biggest contributors to fossil fuel divestment and have strong sense of community - can be a great resource for activism and awareness
- Integrating fundraisers into community awareness events for heat