Linking Complex Science to Policy for Heat-Health Decision-Making

Shubhayu Saha

Climate and Health Program
Centers for Disease Control and Prevention

SIMMER workshop, 2013

Climate and Health Program at CDC

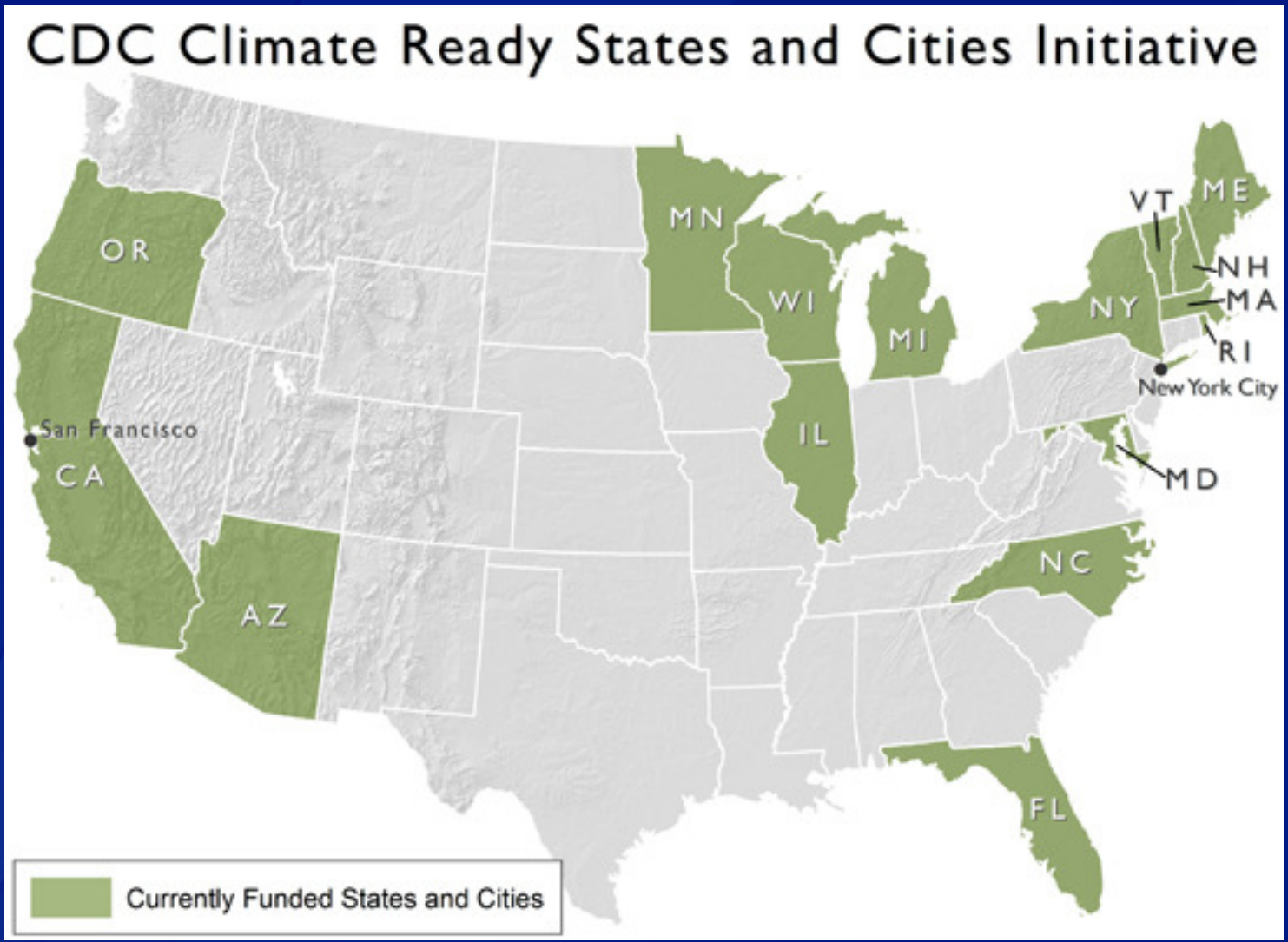
The mission:

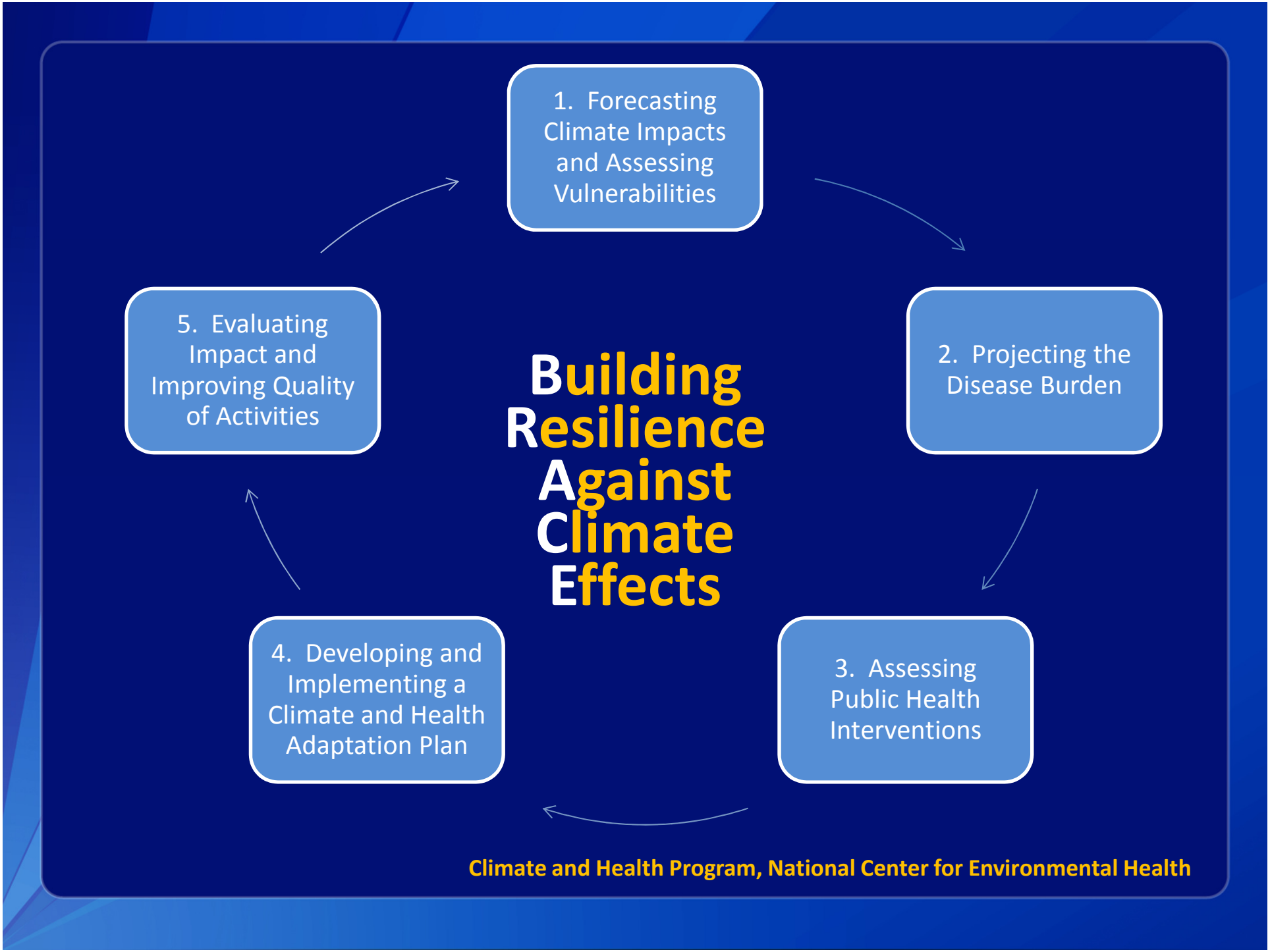
1) Identify vulnerable populations to climate change
2) Prevent and adapt to current and anticipated health impacts
3) Assure that systems are in place to detect and respond to current and emerging health threats

3 core functions:

1) Translate climate change science to inform health departments and communities
2) Create decision support tools to build capacity to prepare for climate change
3) Assist in planning for the public health impacts of climate change

CDC Climate Ready States and Cities Initiative




1. Forecasting Climate Impacts and Assessing Vulnerabilities
2. Projecting the Disease Burden
3. Assessing Public Health Interventions
4. Developing and Implementing a Climate and Health Adaptation Plan
5. Evaluating Impact and Improving Quality of Activities
Building Resilience Against Climate Effects
Climate and Health Program, National Center for Environmental Health

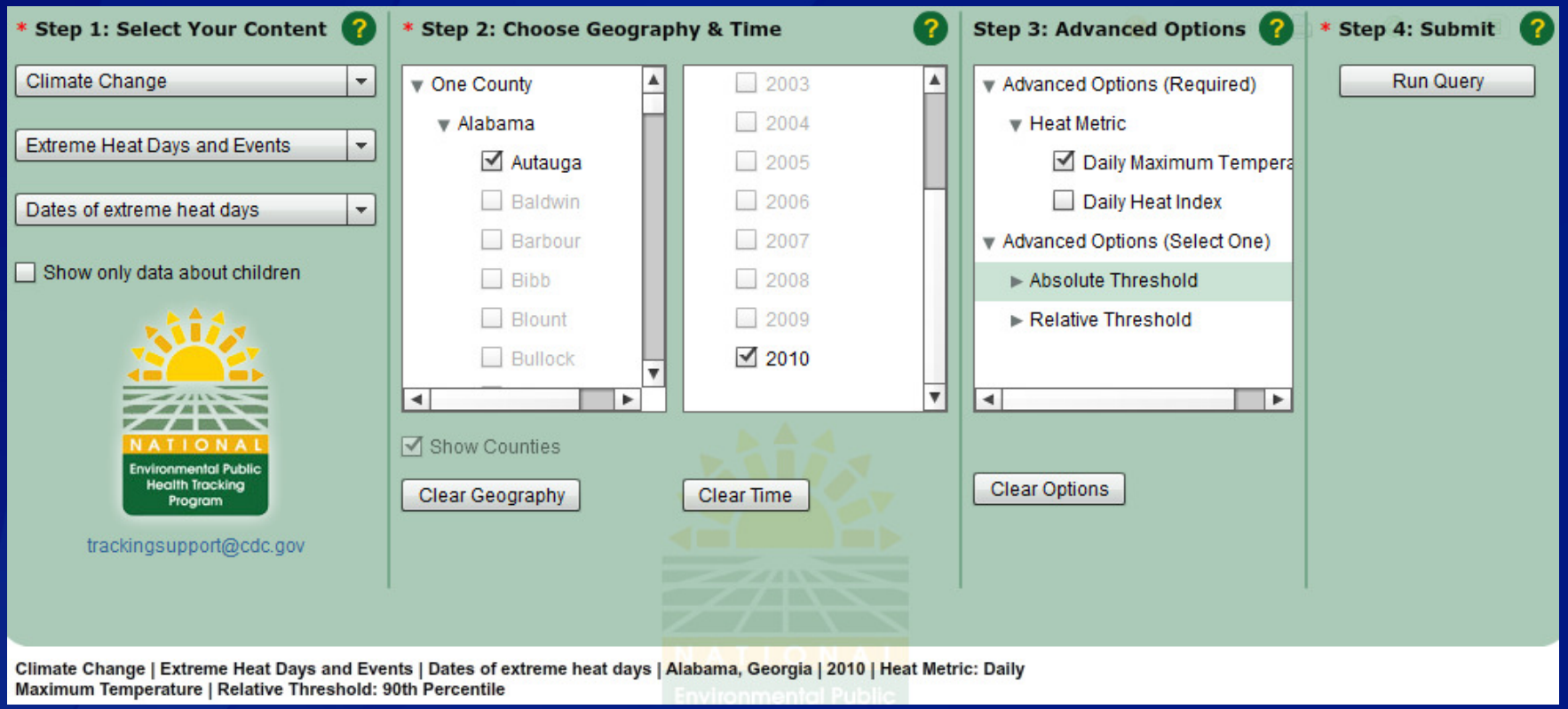
The focus on extreme heat…

- Common environmental exposure in popular perception
- Extreme heat is the primary cause of weather-related mortality
- Widely assessed as an important threat by local health agencies
- Availability of exposure data at varying spatial and temporal scales
- Robust epidemiologic research linking ambient temperature and health

Access to exposure data

Vulnerability assessment

The National Environmental Public Health Tracking Network



The network provides data on:

- Extreme heat days and events
- Heat vulnerability
- Health effects associated with extreme heat

http://ephtracking.cdc.gov/showHome.action

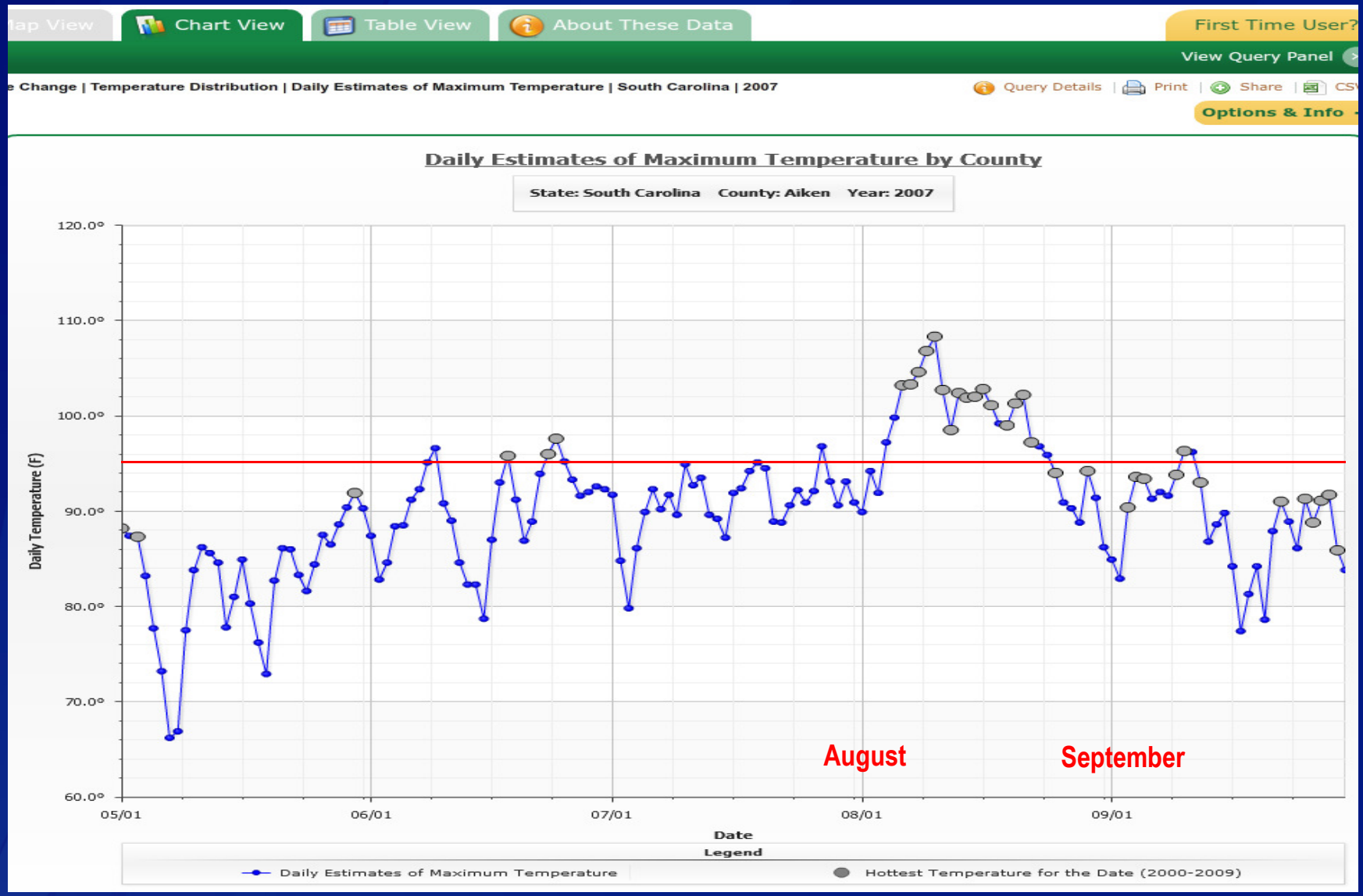
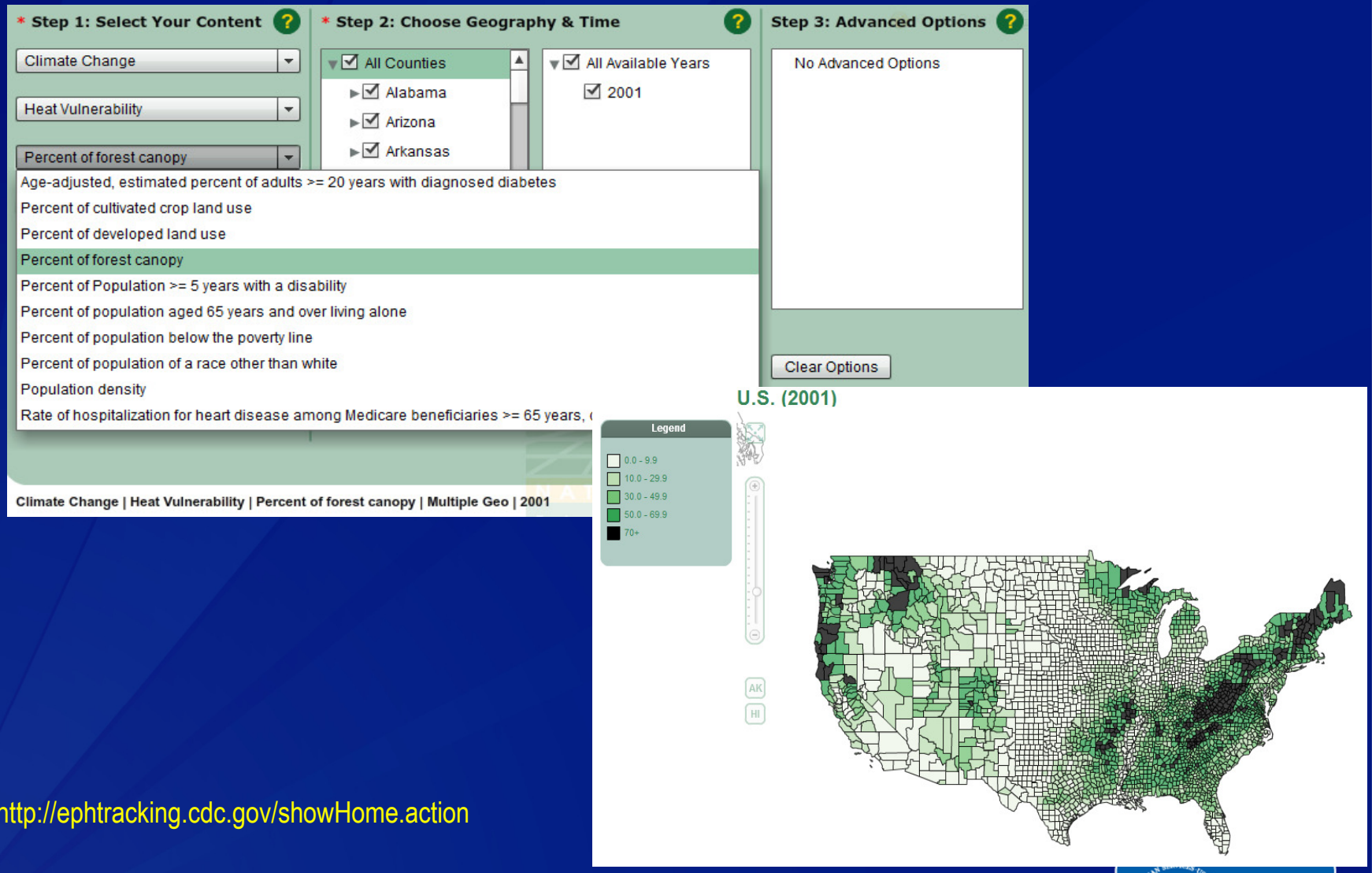


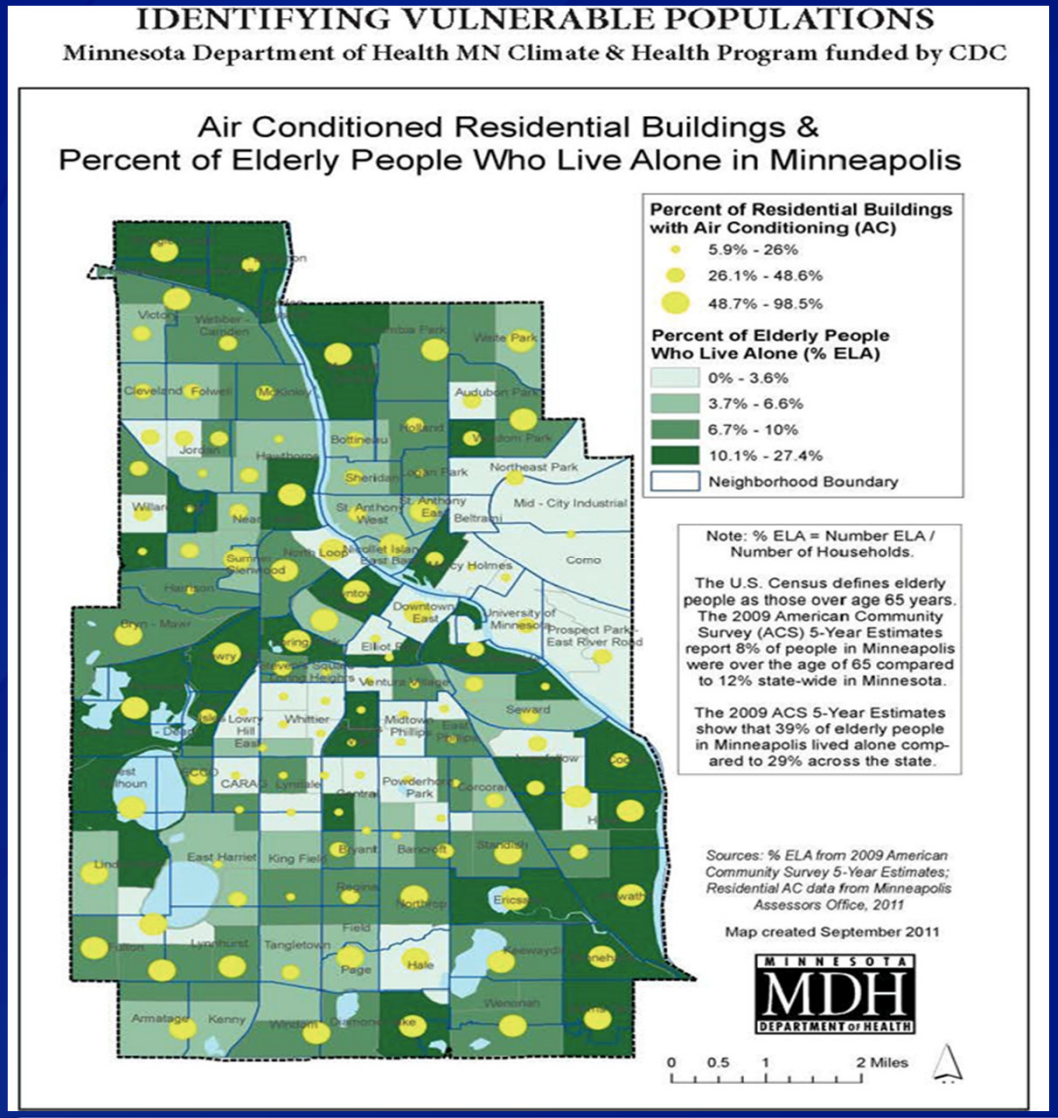
Chart View
Table View
About These Data
First Time User?
View Query Panel
e Change | Temperature Distribution | Daily Estimates of Maximum Temperature | South Carolina | 2007
Query Details
Print
Share
Options & Info
Daily Estimates of Maximum Temperature by County
State: South Carolina County: Aiken Year: 2007
120.0°
110.0°
100.0°
90.0°
80.0°
70.0°
60.0°
Daily Temperature (F)
August
September
05/01
06/01
07/01
08/01
09/01
Date
Legend
Daily Estimates of Maximum Temperature
Hottest Temperature for the Date (2000-2009)

The National Environmental Public Health Tracking Network



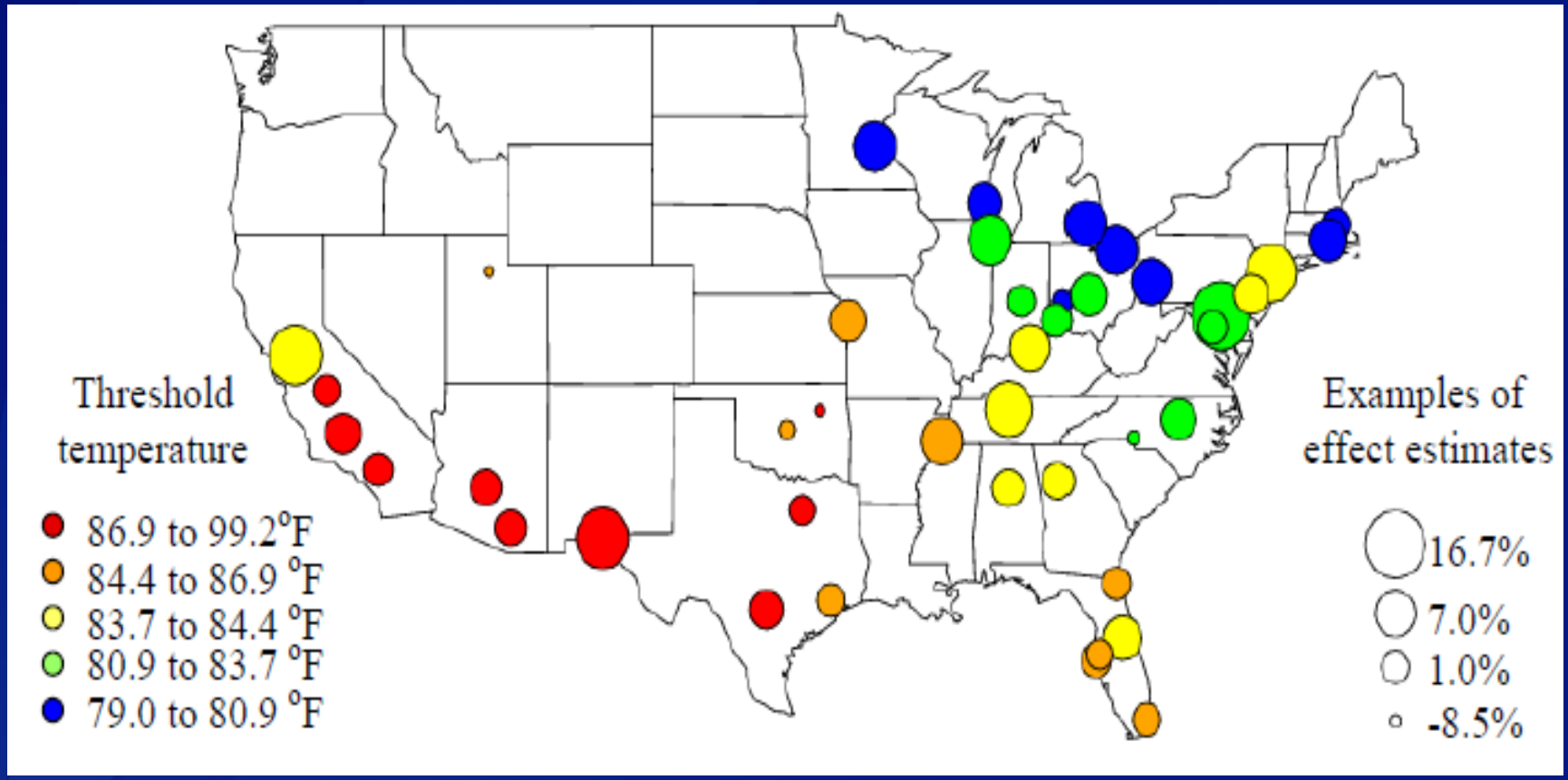
http://ephtracking.cdc.gov/showHome.action

Vulnerable neighborhoods during heat wave



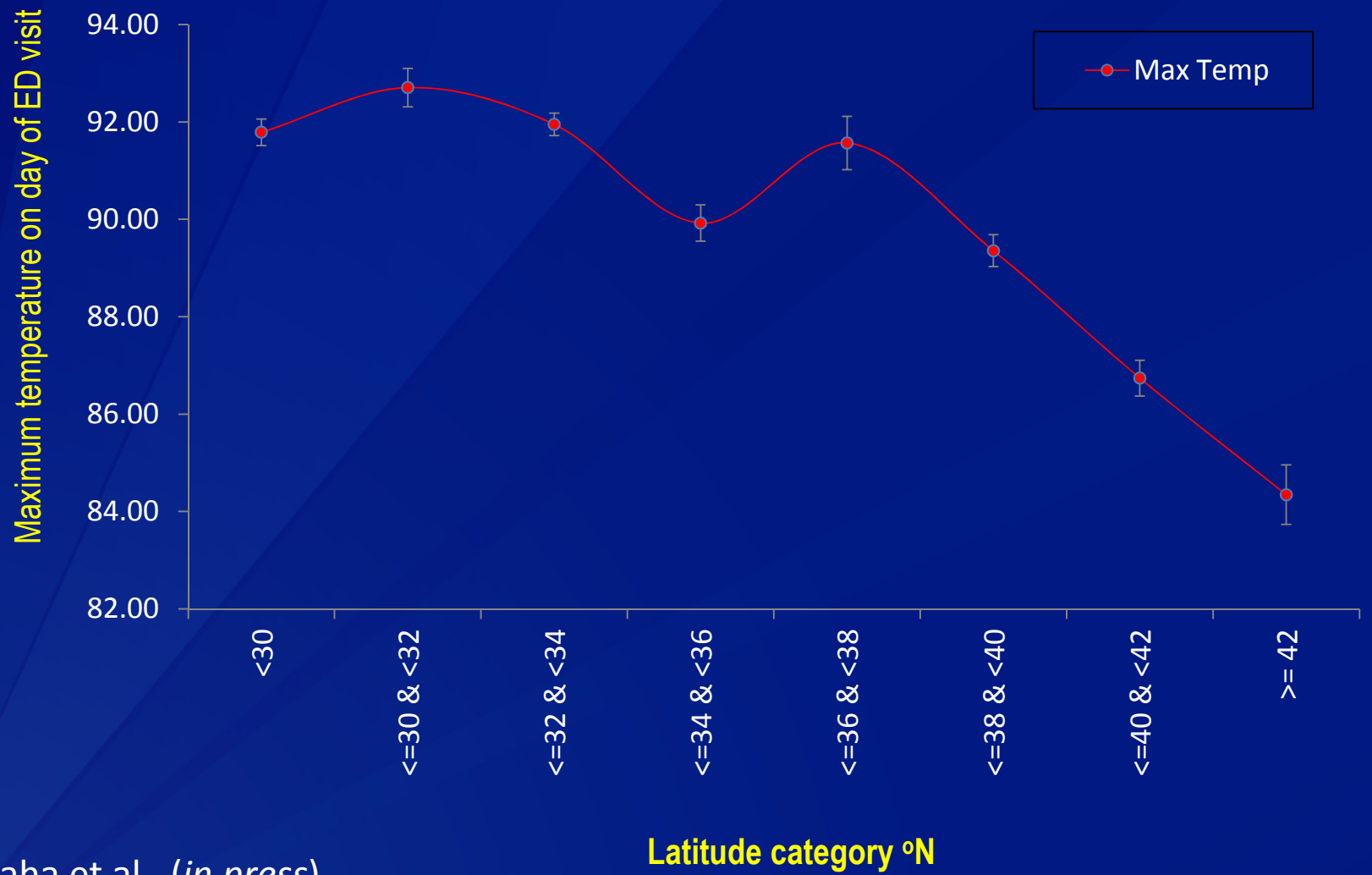
Estimating the burden of disease

Mortality risk from heat waves



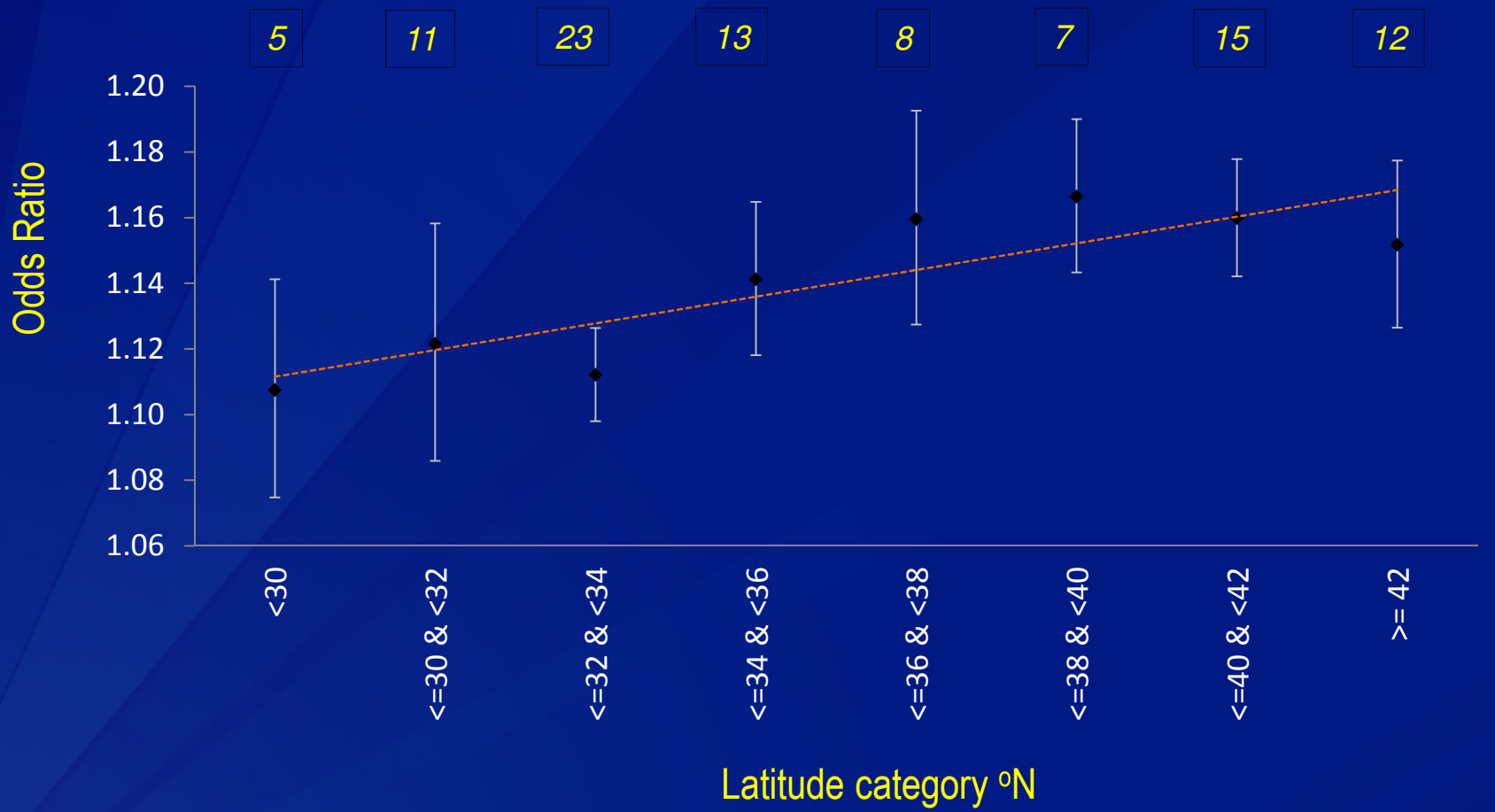
Andersen and Bell, 2011, Environmental Health Perspectives

Temperature profile on ED visit days change by place



Saha et al., (*in press*)

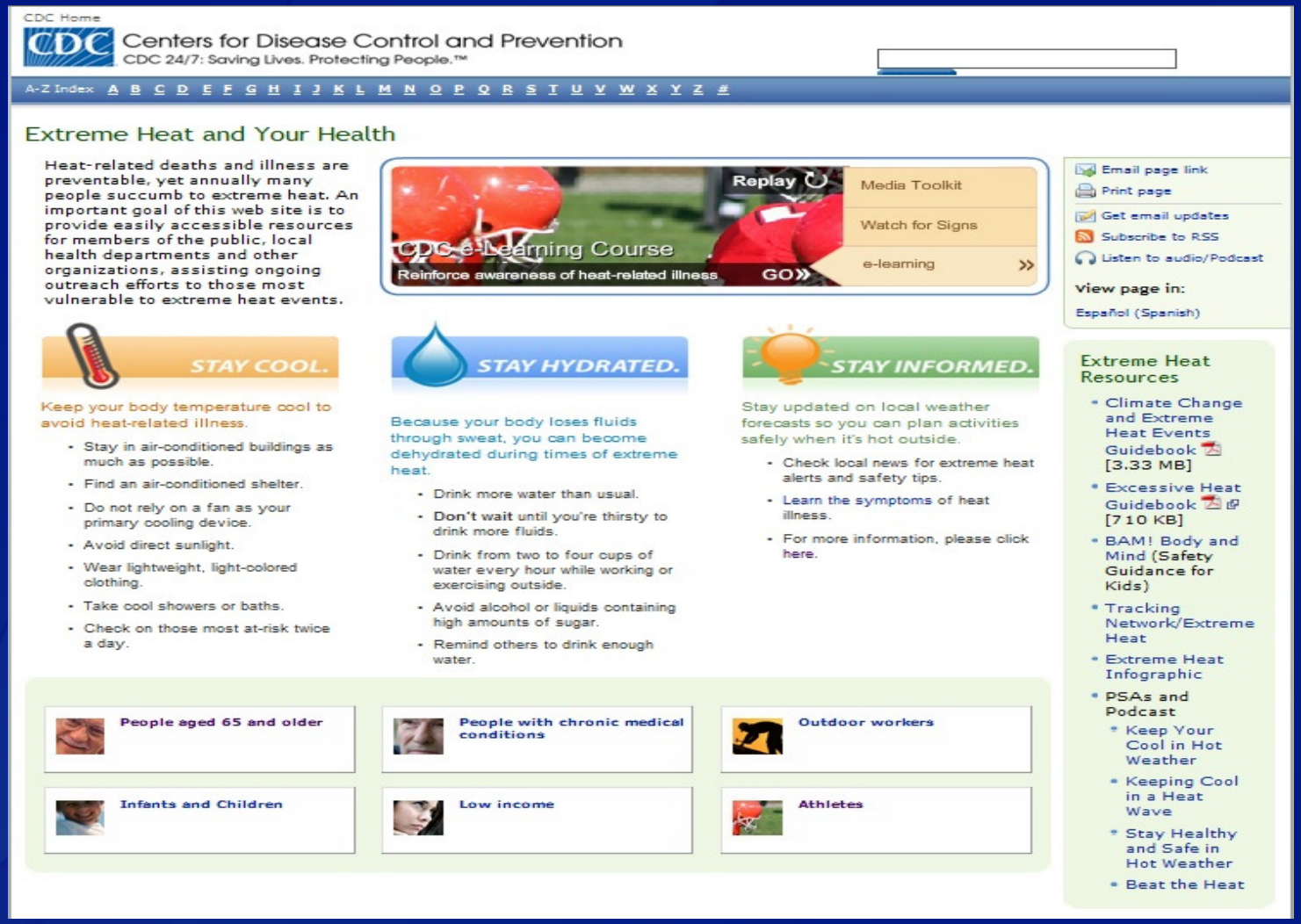
Odds ratio of ED visit associated with extreme heat by Latitude



Saha et al., (*in press*)

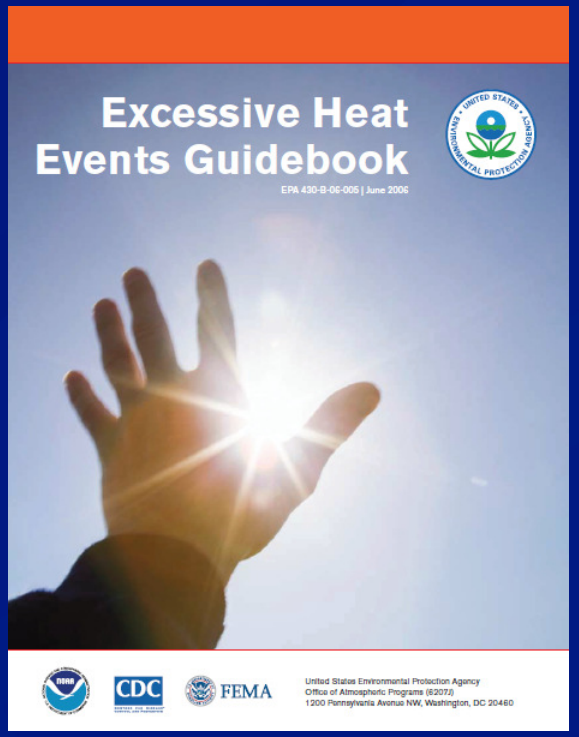
Building capacity for health interventions

CDC's *New* Extreme Heat Webpage



A one-stop shop for CDC extreme heat resources, organized by subject and audience

Guidance for preventing heat-related illness



These guidebooks provide information about:

- Defining and responding to extreme heat events
- Climate change and extreme heat events
- Variables that affect extreme heat events
- The development and implementation of extreme heat event programs (case studies)

Thank you

Climate and Health program
Centers for Disease Control and Prevention
http://www.cdc.gov/climateandhealth/

ssaha@cdc.gov
Phone: 770.488.0783