

Maine Climate and Health: Preparing for Extreme Heat Events in Maine (*You've Got to be Kidding!*)

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Extreme Weather, Climate and Health Symposium
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Extreme weather in Maine

Ice Storms



Floods

Maine's Climate and Health Project

- ❑ Build capacity for responding to extreme heat events
- ❑ Develop Public Health Response Plan

The Portland Press Herald

September 1, 2010

Extreme heat closing some schools in midcoast

Some schools along midcoast Maine have closed for the rest of the day because of the extreme heat.

The superintendent of Regional School Unit 13, serving the towns of Cushing, Owls Head, Rockland, South Thomaston, St. George and Thomaston, decided to dismiss students at midday

BANGOR DAILY NEWS

September 1, 2010

Heat taking toll on vulnerable populations

BANGOR, Maine — This week's heat, humidity and poor air quality are posing health risks for many Mainers, chief among them the elderly, young children, and people with respiratory or cardiac problems.

... a spokeswoman for Eastern Maine Medical Center in Bangor said ... an adverse effect.

The Portland Press Herald

July 22, 2011

Portland sets heat record for July 22

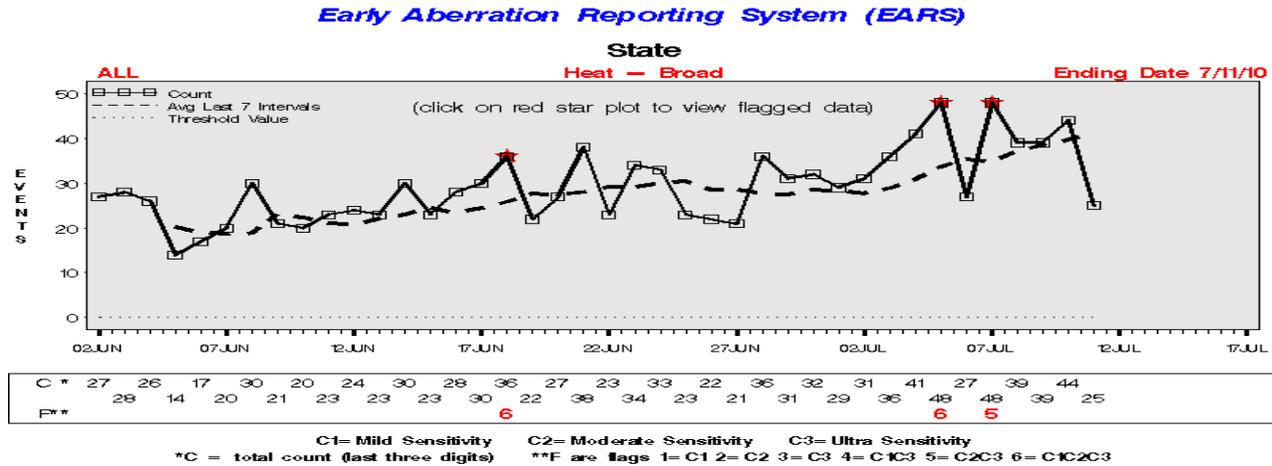
The temperature soared to 100 degrees on Friday in Portland for only the fourth time since records have been kept as oppressive heat that gripped the Midwest moved to the nation's northeasternmost tip, a region where many homeowners don't even have air conditioners in their homes.



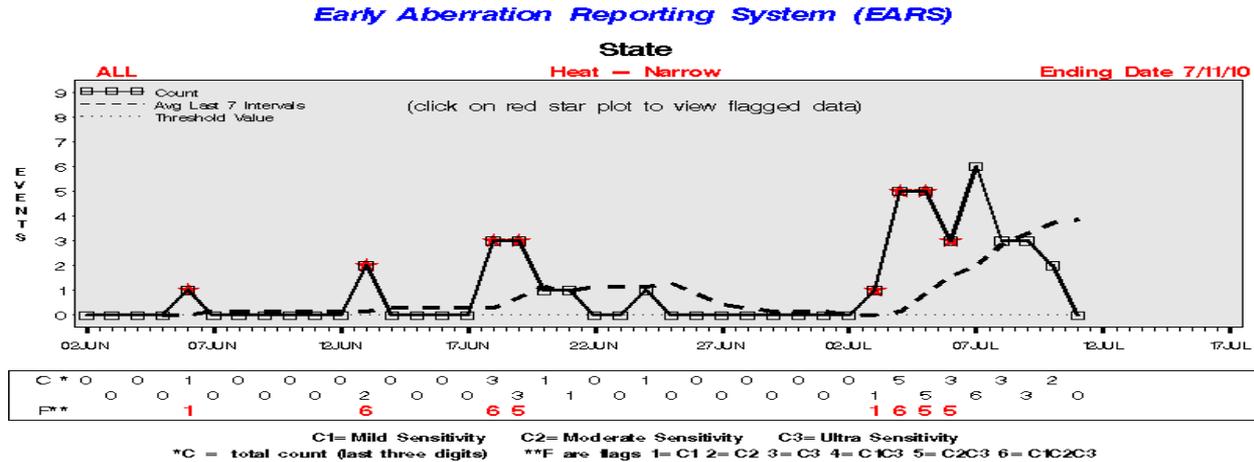
Maine Center for Disease
Control and Prevention
An Office of the
Department of Health and Human Services

Early Warning System

Broad
Heat-illness
Syndrome



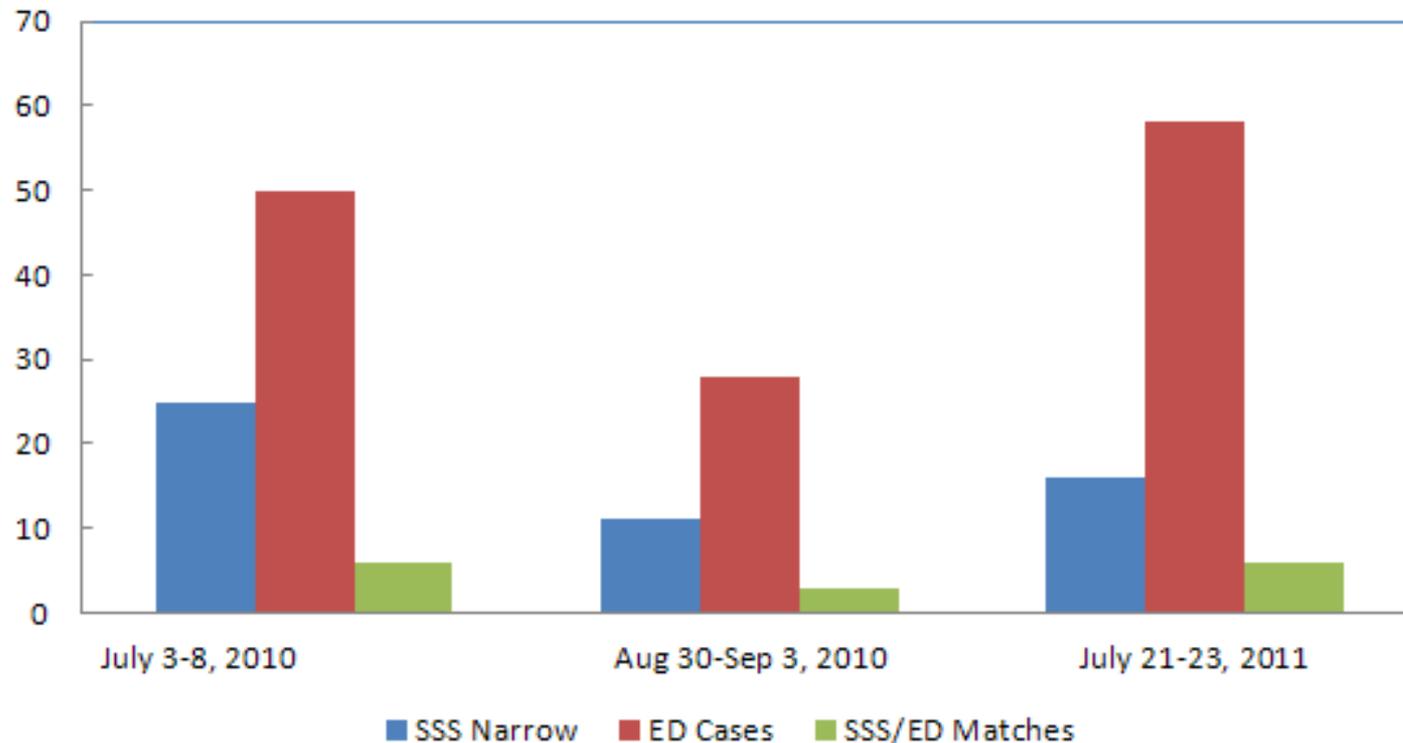
Narrow
Heat-illness
Syndrome



Maine Center for Disease
Control and Prevention
An Office of the
Department of Health and Human Services

Early Warning System - Evaluation

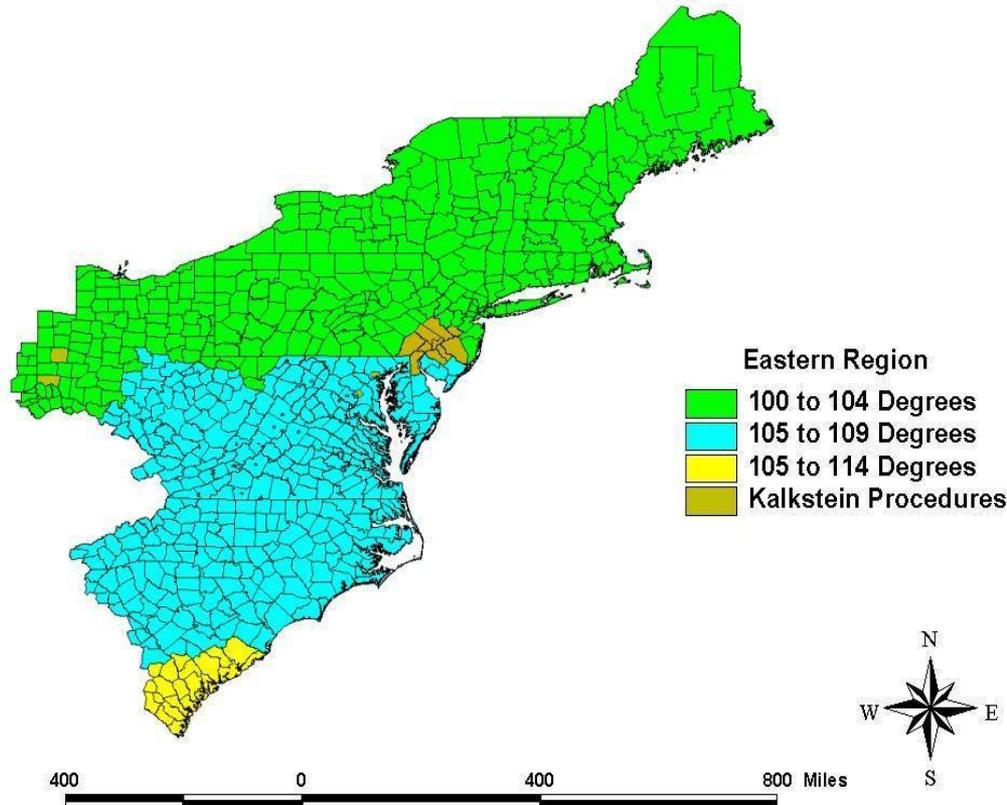
Heat Illness Cases by Event by Source



Threshold for Heat Advisories



Heat Index Advisory Criteria



<http://www.erh.noaa.gov/msd/Resources/Heat/resource.htm>

Threshold for Heat Advisories

Research

Summer Heat and Mortality in New York City: How Hot Is Too Hot?

Kristina B. Metzger,¹ Kazuhiko Ito,² and Thomas D. Matte¹

¹Bureau of Environmental Surveillance and Policy, New York City Department of Health and Mental Hygiene, New York, New York, USA;

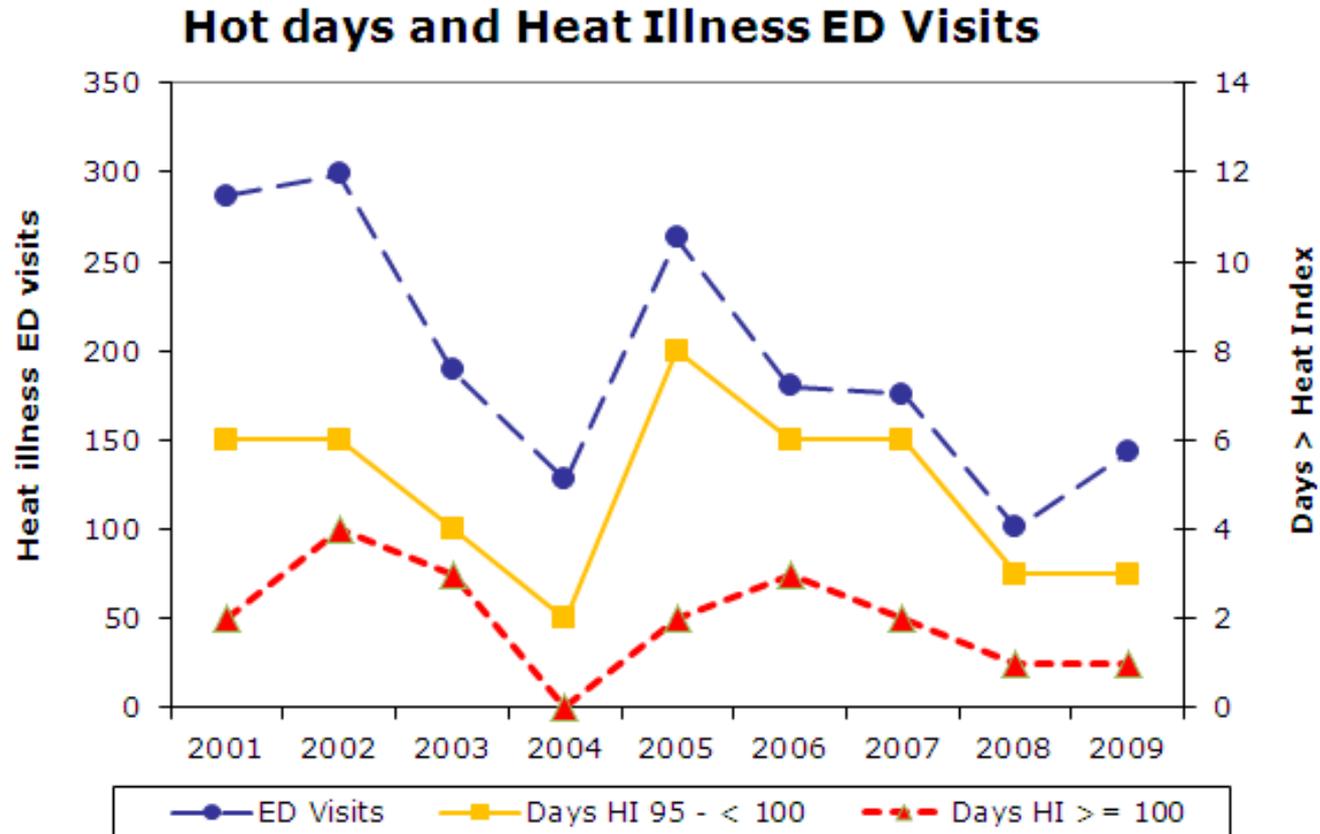
²Department of Environmental Medicine, New York University School of Medicine, New York, New York, USA

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CONCLUSIONS: In New York City, maximum heat index performed similarly to alternative and more complex metrics in estimating mortality risk during hot weather. The linear relationship supports issuing heat alerts in New York City when the heat index is forecast to exceed approximately 95–100°F. Periodic city-specific analyses using recent data are recommended to evaluate public health risks from extreme heat.

For New York City, a Heat Advisory is now issued when the heat index is forecast to reach 95 to 99° F for at least 2 consecutive days or 100 to 104° F for any length of time.

Threshold for Heat Advisories

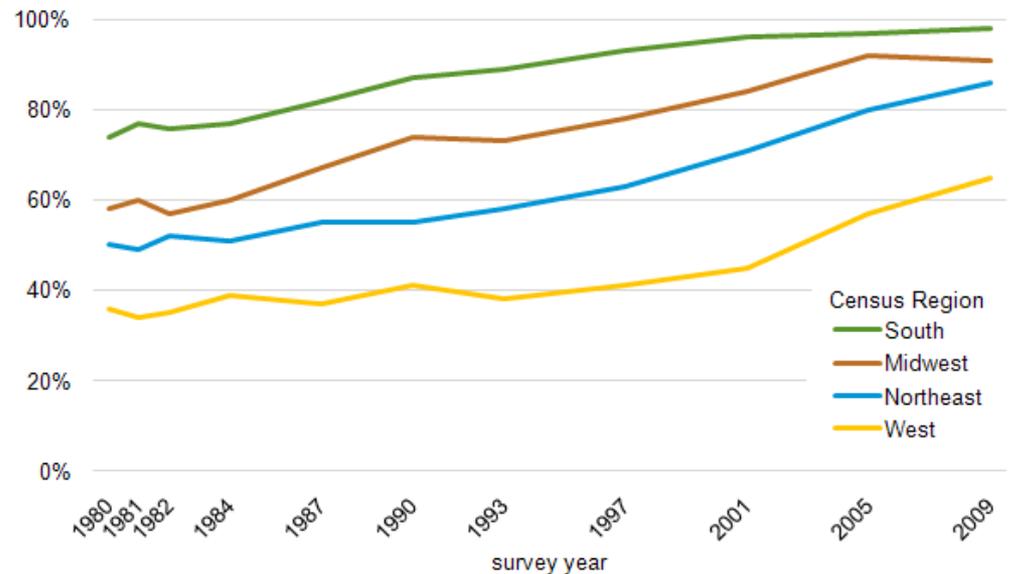


Air Conditioning

In Maine –

- ❑ 53% population has AC
- ❑ Big differences by county (27 – 68%)
- ❑ 92% window units
- ❑ Only 6% central AC

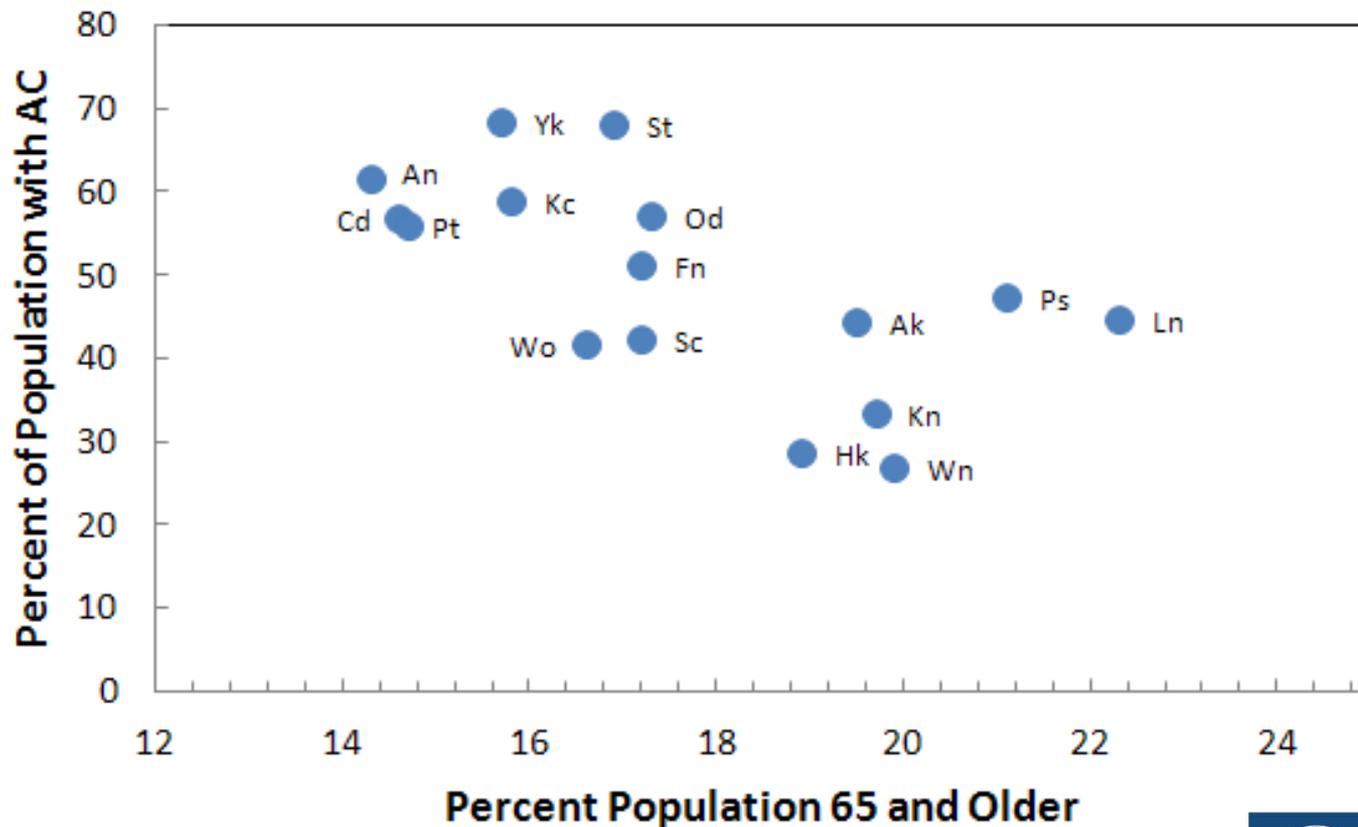
Figure 1. Steady rise in air conditioned homes in all regions of the U.S.
percent of homes with AC



Source: U.S. Energy Information Administration, 2009 Residential Energy Consumption Survey

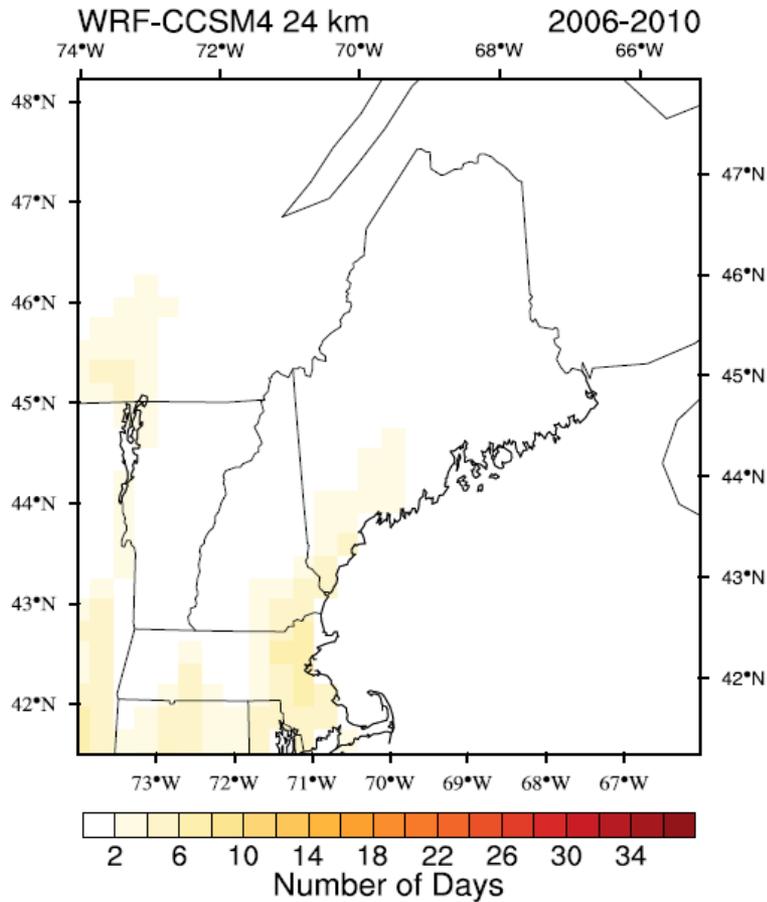
Vulnerable Populations

County Level Population 65 Years and Older versus Air Conditioning Prevalence

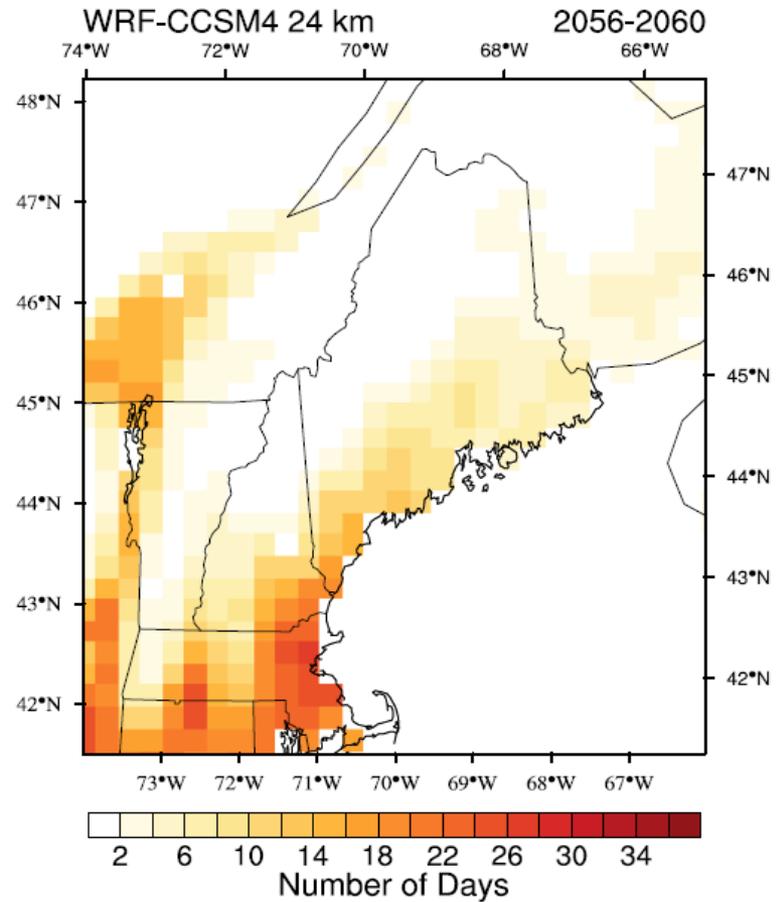


Maine's Climate Future

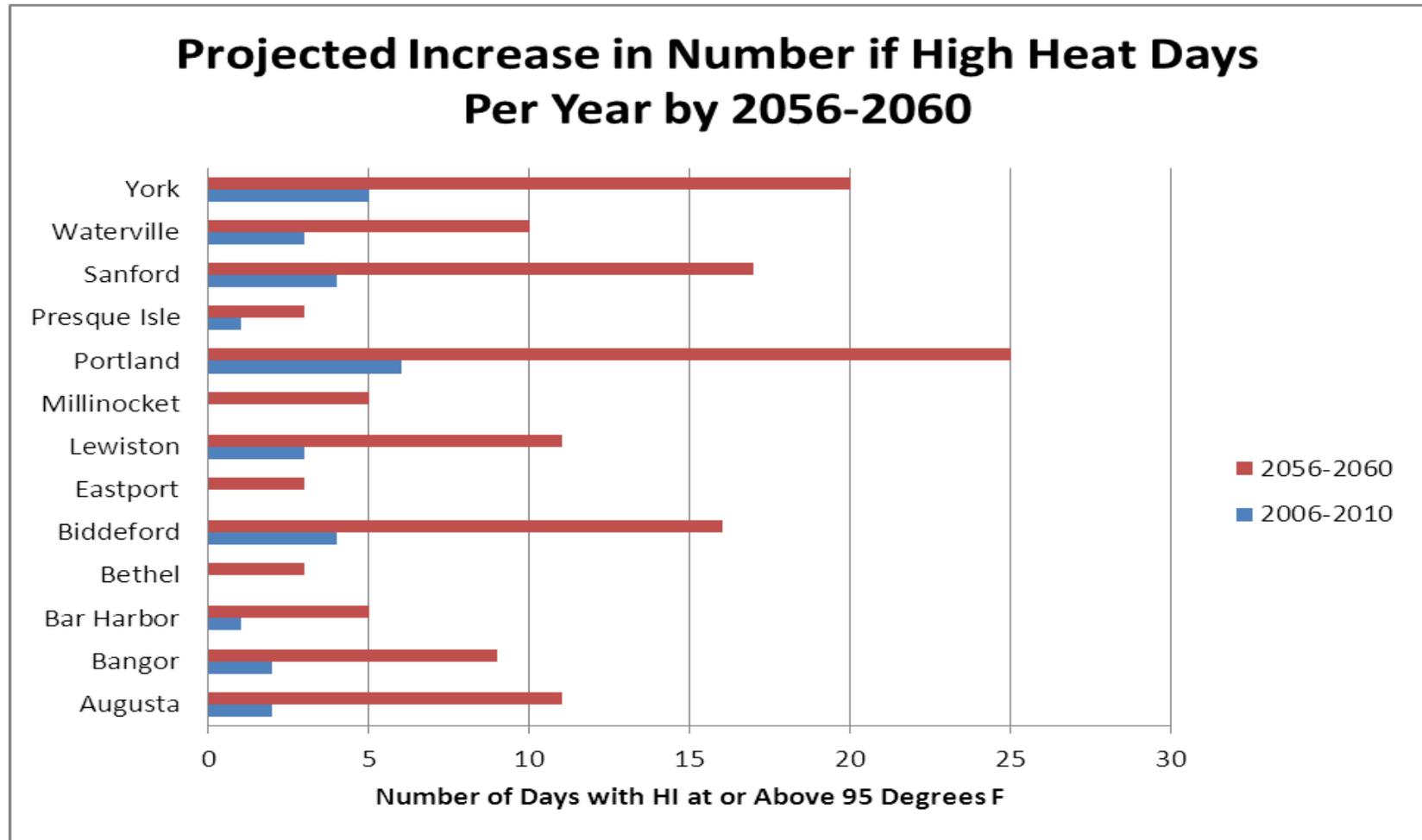
Heat Index $\geq 95^{\circ}\text{F}$



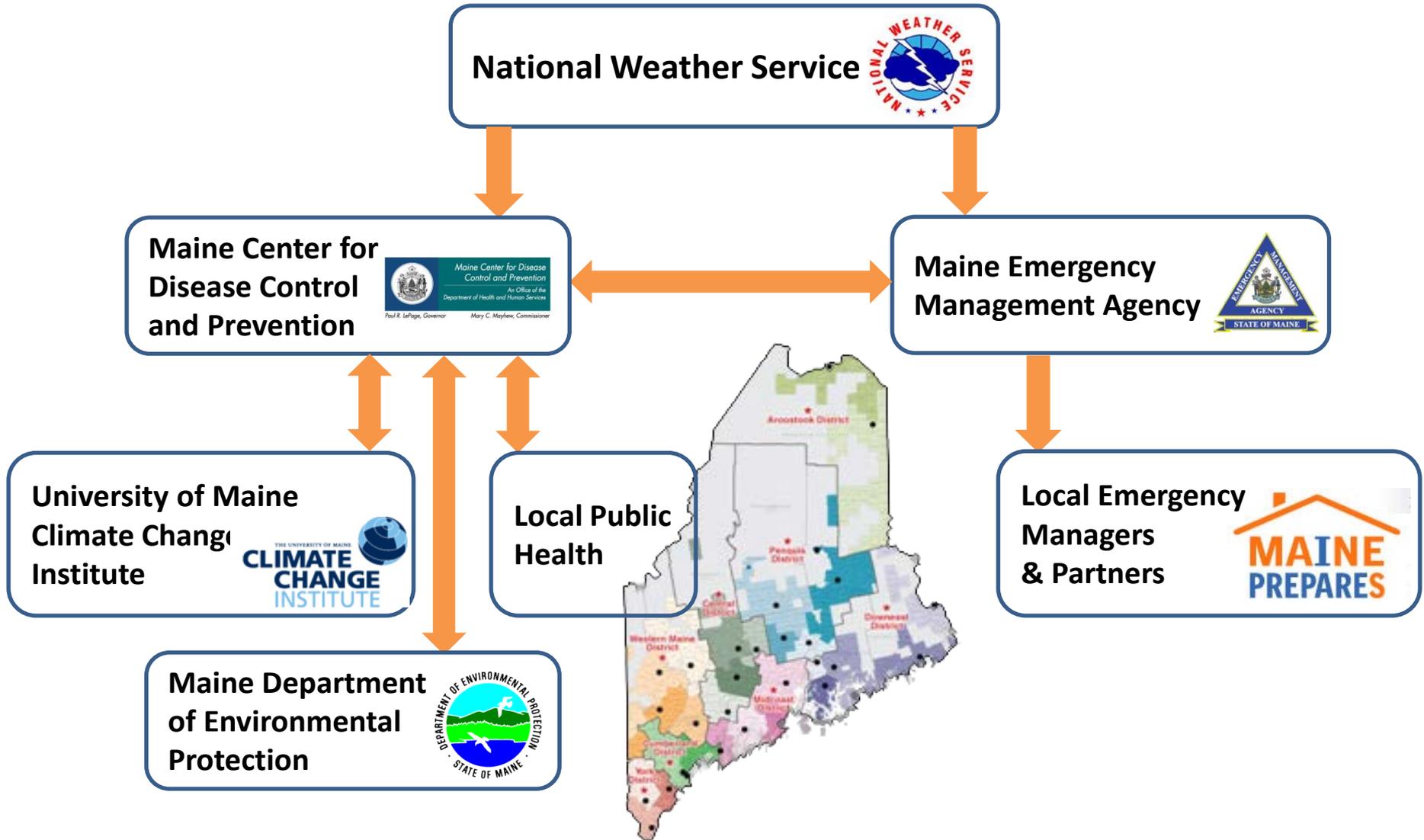
Heat Index $\geq 95^{\circ}\text{F}$



Maine's Climate Future



Heat Response Plan: Partnerships



Progress

- ❑ Developed, tested, and evaluated an early warning system for heat illness
- ❑ Assessed air conditioner prevalence
- ❑ Documented morbidity associated with past heat events
- ❑ Obtained future climate projections for increase heat events in 2055-2060
- ❑ Examining protectiveness of current heat advisory threshold
- ❑ Identifying vulnerable populations (e.g. 65 and older and low AC prevalence)
- ❑ Building new partnerships
- ❑ Working on a heat response plan for Maine

Research Questions

- ❑ What is an appropriate heat advisory threshold for Maine?
- ❑ What is an appropriate indoor air temperature threshold for closing public buildings without AC?
- ❑ How protective are window AC units as compared to central AC?
- ❑ How reliable are current predictions of Maine's future climate?
- ❑ In addition to seeing more high heat days, will we also see heat events that are longer in duration?
- ❑ What are the economic costs associated with Maine's current and future heat-related morbidity and mortality?

Contacts

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