

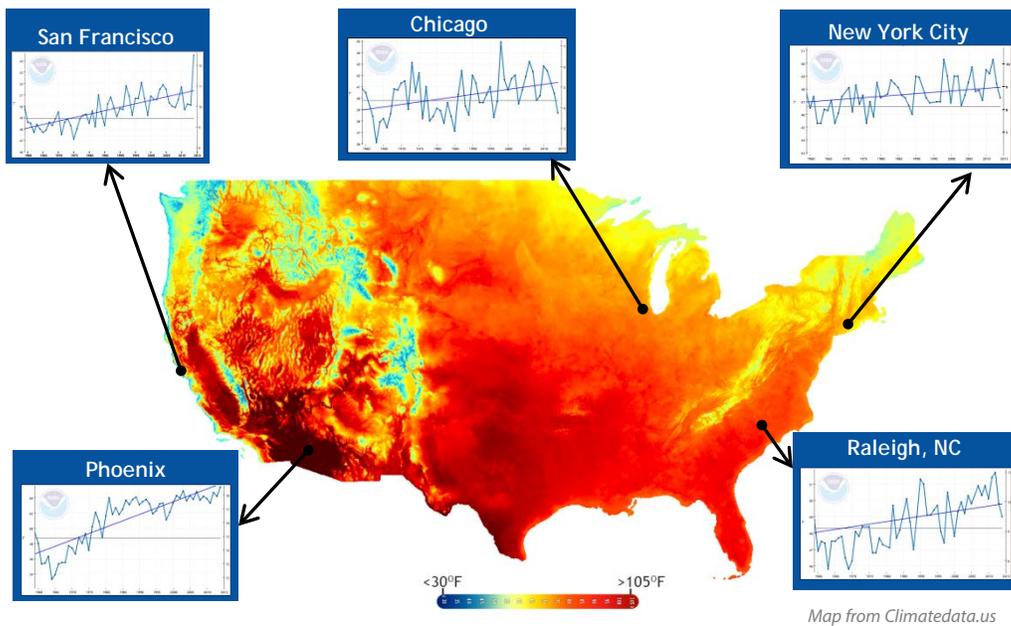


Preparing for Climate and Weather Extremes

Building a National Integrated Heat Health Information System

Extreme weather or climate events such as heat waves, hurricanes, or floods can profoundly affect society and the environment, resulting in loss of life, productivity, property, and natural habitat.

From 1979-2003, **excessive heat exposure caused 8,015 deaths** in the U.S. During that period, more people died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined.



Map from Climatedata.us

The base map shows projected average maximum temperatures for July 2030 in degrees Fahrenheit under a **low emissions** scenario (best case scenario). The call out boxes show each city's observed minimum temperature from 1959 to 2015.

NOAA leads the charge on building a National Integrated Heat Health Information System.

Sustained collaboration between public health and weather and climate communities over the past several years has defined the demand for and capacity to use heat forecasts and related vulnerability and adaptation information. NOAA, led by CPO and in partnership with the Centers for Disease Control, is working to build a **National Integrated Heat Health Information System**.

This system will **provide more advanced warnings and decision support services** to help the public better prepare for, and respond to, extreme heat events. This effort will identify and harmonize existing capabilities and define and deliver the research, observations, prediction, and vulnerability information and operational decision-support services needed to **reduce health-related risk during heat waves**.

Heat early warning systems can be **effective tools for reducing illness, death, and loss of productivity** associated with heat waves.

NOAA.gov

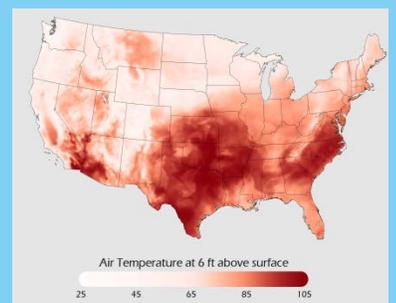
INCREASED HEAT WAVES ACROSS THE U.S.



Heat affects urban and rural populations, outdoor workers, and events and activities that take place outside.



The latest National Climate Assessment found that **extreme heat events will be more frequent and more intense in the future**. In other words, what now seems like an unusually hot day will become commonplace.



Map shows temperatures at 6 ft above surface for July 12, 2011

Heat waves across the country are on the rise, with Texas (2011) and the Midwest (2102) setting records for highest monthly average temperatures.

A National Integrated Heat Health Information System

NOAA's service and research help the nation understand, anticipate and respond to increased heat waves and heat-related events

Define Demand

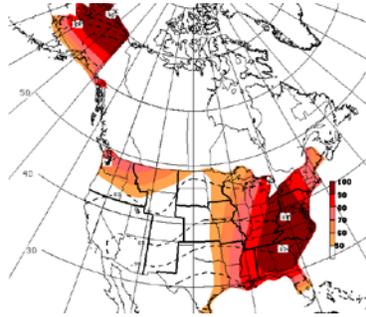


NOAA sustains engagement between climate and public health communities to **identify needs, develop solutions, and inform decisions.**

LINKS AND RESOURCES

- **RISA and Heat Health**
In New York City: www.CCRUN.org
In North Carolina: www.CISA.SC.edu
In Arizona: www.CLIMAS.arizona.edu
- **CDC Climate and Health Program:** www.CDC.gov/climateandhealth

Improve Forecasts



6-10 day forecast from NCEP

NOAA works to **improve current heat forecasts** based on user need and to extend heat projections from weeks to months and beyond.

LINKS AND RESOURCES

- **Local Temperature Forecasts:** www.weather.gov
- **Climate Variability & Predictability Program (CVP):** bit.ly/AboutCVP
- **Modeling, Analysis, Predictions, & Projections Program (MAPP):** bit.ly/MAPPprojects
- **Madden-Julian Oscillation:** bit.ly/MJOandTemp
- **Climate Prediction Center Temperature Outlooks:** www.CPC.NCEP.NOAA.gov

Observe & Monitor



NOAA works to sustain observations that support **improved understanding of the role of climate on extreme heat** and enhance operational efforts.

LINKS AND RESOURCES

- **Climate Observations and Monitoring (COM):** bit.ly/ClimateObs
- **CDC National Environmental Public Health Tracking Program:** bit.ly/CDC-NEHTP

Understand & Communicate

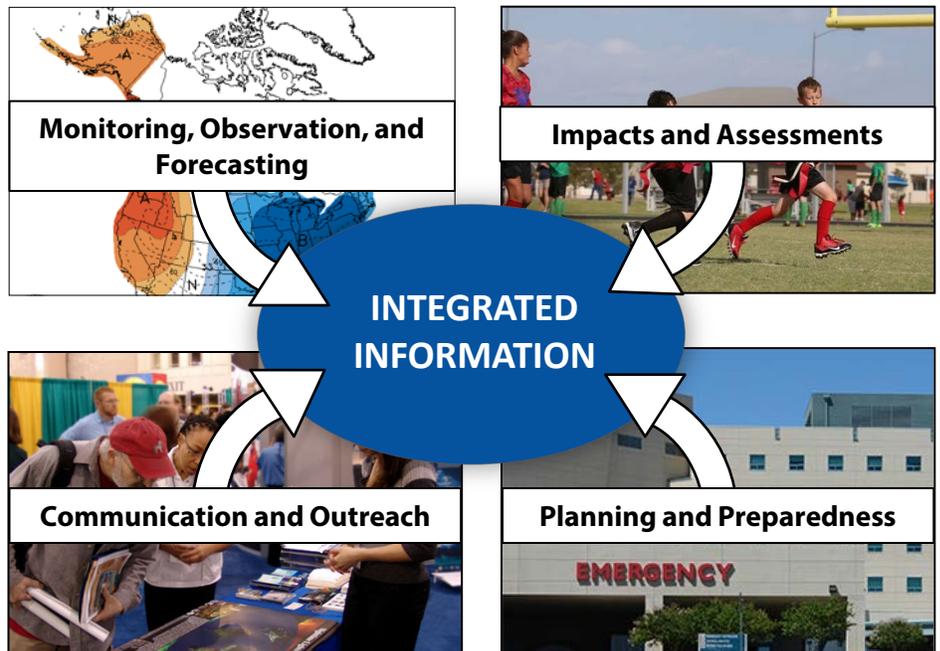


NOAA **enhances understanding** and impact of extreme heat events across time scales, **builds capacity** across climate and public health communities, and develops timely and accessible communication tools **to inform preparedness and adaptation.**

LINKS AND RESOURCES

- **U.S. Climate Resilience Toolkit - Human Health:** toolkit.climate.gov/topics/human-health
- **Regional Integrated Sciences and Assessment (RISA):** bit.ly/CPORISA
- **Coastal and Ocean Climate Applications Program (COCA):** bit.ly/CPO-COCA
- **Heat Safety Information:** www.weather.gov/heat
- **Global Framework for Climate Service:** gfcs.wmo.int/health

Crafting an integrated information system



To make the best decisions, stakeholders need access to more than just one piece of the puzzle. Integrated Information Systems are designed to evolve over time, offer opportunities for diverse participation, and integrate what we learn through practice.