

WHAT ARE SOME APPLICATIONS OF THE CLIMATE CHANGE INDICATORS DATA?

Climate change indicators data can be used to inform policymakers and health officials to guide strategic planning for climate change. State and local health agencies are encouraged to test these indicators and adopt them as part of public health surveillance and practice. Data should be presented to stakeholders interested in the impact of climate change and can be used to build collaborations with identified climate change partners. Many of these indicators allow for analysis at the local and county level.

For more information, questions, or to request printed copies of the climate change indicators materials please contact the Environmental Health staff contact at the CSTE National Office:

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CLIMATE CHANGE INDICATORS

A suite of indicators to measure the impacts of climate change on human health and its determinants, including environmental conditions, population vulnerabilities, and policy responses.



BACKGROUND

Increasing concern about the impacts of rising temperatures on human health led a workgroup of public health epidemiologists from the Council of State and Territorial Epidemiologists (CSTE) to develop a set of environmental indicators of climate change. These measures of risk, vulnerability, mitigation, adaptation, and policy can be used to more clearly understand the associations between long-term changes in our surrounding climate and health outcome(s) at the state or local level.

ABOUT CSTE:

CSTE works to improve the public's health by supporting epidemiologists at the state, local, tribal or territorial level. The CSTE National Office and members promote effective use of public health surveillance and good epidemiologic practice through training, consultation, capacity and standards development.

CLIMATE CHANGE INDICATOR DEVELOPMENT

Based on a review of the scientific literature and data availability, the workgroup proposed a set of 25 climate change indicators. The description of these findings was published in *Environmental Health Perspectives*¹. A detailed rationale for each indicator and the methods and sources to be used to calculate each one were then developed by the CSTE workgroup, and the suite of indicators was pilot tested in Spring 2011 by eleven state and local health departments representing diverse climate regions of the United States.

Participants provided feedback on ease of calculation, time requirements for calculation, perceived usefulness, likelihood of adoption and suggested edits for each indicator. A summary report presenting the results of the pilot is available on the CSTE website (www.cste.org/climatechange.asp).

¹English, P.B., Sinclair, A.H., Ross, Z., Anderson, H., Boothe, V., Davis, C., Ebi, K., Kagey, B., Malecki, K., Shultz, R., Simms, E. Environmental health indicators of climate change for the United States: findings from the State Environmental Health Indicator Collaborative. *Environmental Health Perspectives*. 2009 Nov;117(11):1673-81.

What is an Environmental Health Indicator?

Environmental public health indicators are measures of health status or risk as it relates to the environment. It may be a direct measure of morbidity and mortality or it may be a measure of environmental or social conditions that impact health. These indicators may be used to assess baseline status and trends, track program goals and objectives, and build surveillance capacity in state and local health agencies.

SUITE OF CLIMATE CHANGE INDICATORS

An informational guide and set of instructions on how to calculate the following indicators are available on the CSTE website (www.cste.org/climatechange.asp).

Environmental Indicators

- Greenhouse Gas Emissions
- Air Mass Stagnation Events
- Max/Min and Diurnal Temperature
- Pollen Indicator (under development)
- Number of Fires and Percent of Total Acres Impacted
- Positive Test Results in Sentinels and Reservoirs (for WNV)

Health Outcome Indicators

- Rate of Heat Deaths, Hospitalizations, and ER Visits During Summer Months
- Injuries and Deaths Due to Extreme Weather Events
- Human Cases of Lyme Disease
- Human Cases of West Nile Virus
- Human Cases of Hantavirus, Valley and Dengue Fever
- Allergic Disease

Mitigation Indicators

- Total Energy Consumption Per Capita
- Renewable Energy Consumption Per Capita
- Vehicle Miles Traveled



Adaptation Indicators

- Development of a State Adaptation Plan
- Access to Cooling Centers
- Heat Island Mitigation Plans
- Health Surveillance Systems Related to Climate Change
- Public Health Workforce Trained in Climate Change Research, Surveillance and Adaptation

Policy Indicators

- Development of a State Climate Change Advisory Board
- Development of a State Climate Change Action Plan
- Completion of a Greenhouse Gas Inventory
- Number and Percent of Local Governments Participating in ICLEI
- Percent of Population Living in Cities Participating in the U.S. Conference of Mayors Climate Protection Agreement

