

**STATE ENVIRONMENTAL HEALTH INDICATORS COLLABORATIVE (SEHIC)
CLIMATE CHANGE INDICATORS**

Indicator: CC5: Adaptation Indicators

Measure(s): CC5.6: Level of Climate Change Expertise in Public Health Workforce

MEASURE DESCRIPTION

Last updated:	January 10, 2013
Measurement units:	Varies according to question. Mostly 5-point Likert scale measuring the relative level of agreement/disagreement. (Note: Requires access to state's survey responses)
Geographic scale:	Statewide
Time scale:	One-time survey in 2008-2009
Significance/background:	The level of Public Health engagement on climate change will be largely determined by how fully its workforce integrates climate-related priorities into their work. In particular, education on the science behind climate change and its connection to core public health services will be an essential component of a successful public health response to the health effects of climate change.
Rationale:	Estimating the level of climate change expertise in the workforce indicates the level of awareness about the links between health and climate change across the public health sector.
Limitations:	The current indicator does not specify any level of training or specific core concepts, such as climate change science.
Data limitations:	The ASTHO survey was not made public other than through a PowerPoint presentation. Researchers must therefore request access to the survey responses provided by the state in question either from ASTHO or directly from the state department of health services.
Related SEHIC measures:	CC 1.1: Greenhouse Gas Emissions CC 1.2: Air Mass Stagnation Events CC 1.3: Ozone due to Climate Change CC 1.4: Maximum and Minimum Temperatures/Heat Index CC 1.5: Increase in Heat Alerts/Warnings CC 1.6: Pollen Counts CC 1.7: Frequency, Severity, Distribution, and Duration of Wildfires CC 1.8: Droughts CC 1.9: Harmful Algal Blooms CC 2.1: Excess Mortality due to Extreme Heat CC 2.2: Excess Morbidity due to Extreme Heat CC 2.3: Number of Injuries/Mortality from Extreme Weather Events CC 2.4: Human Cases of Infectious Disease/Positive Test Results in

	Sentinels and Reservoirs CC 2.5: Respiratory/Allergic Disease and Mortality Related to Increased Air Pollution and Pollens CC 3.1: Population Vulnerability or General Social Vulnerability CC 3.2: Heat Vulnerability CC 3.3: Flood Vulnerability CC 3.4: Sea Level Rise Vulnerability CC 4.1: Total Energy Consumption per Capita CC 4.2: Renewable Energy Generation per Capita CC 4.3: Vehicle Miles Traveled per Capita CC 5.1: Development of State Adaptation Plan CC 5.2: Access to Cooling Centers CC 5.3: Number of Heat Alerts, Heat Health Watch/Warning Systems CC 5.4: Number of Municipal Heat Island Mitigation Projects and Plans CC 5.5: Number of Health Surveillance Systems Related to Climate Change CC 6.1. Number, Percent, and Percent of Population of Local Governments Participating in ICLEI CC 6.2 Number, Percent, and Percent of Population Living in Cities Participating in the U.S. Conference of Mayors Climate Protection Agreement CC 6.3: Creation of a State Climate Change Advisory Board CC 6.4 Completion of a Greenhouse Gas Inventory CC 6.5 Completion of a State/Local Climate Change Action Plan
Recommendations:	Identify a more systematic way to measure the level of training, whether through degrees, coursework, or a specific number of continuing education hours each year. Supplement the information gathered through this how-to guide with training data gathered at the state level, for example via an online training center or knowledge assessments collected during in-person climate change trainings.
Resources:	Balbus J, Ebi K, Finzer L, Malina C, Chadwick A, McBride D, Chuk M, et al. (2008). <i>Are We Ready? Preparing for the Public Health Challenges of Climate Change</i> (p. 41). New York, NY. Retrieved from www.edf.org

HOW-TO GUIDE: Level of Climate Change Expertise in Public Health Workforce

1. The Association of State and Territorial Health Officials (ASTHO) has issued two rounds of surveys on climate change and state and territorial public health: the first in 2008 issued to Chief Health Officers and a follow-up pair of surveys in 2012 issued to senior deputies and state environmental health offices. Both the 2008 and 2012 surveys gather information about the level of climate change expertise in the state or territory's public health workforce. A PowerPoint presentation summarizing the 2008 survey is located at: <http://www.astho.org/Programs/Environmental-Health/Natural-Environment/PowerPoint--SHO-survey/> An abstract summarizing the 2012 survey is located at:

<https://apha.confex.com/apha/140am/webprogram/Paper268273.html>

2. Contact the Chief Health Officer, Deputy Director, and/or Environmental Health Director in your state department of health to request a copy of their completed surveys.
3. Note the responses to the following questions to determine the level of climate change expertise in the State Public Health Workforce:

In the ASTHO 2008-2009 survey :

Question 2: "I am knowledgeable about the potential public health impacts of climate change." (*strongly disagree – strongly agree can be translated to a scale of 1-4*)

Question 8: "My health department currently has ample expertise to assess the potential public health impacts associated with climate change that could occur in my state or territory." (*strongly disagree – strongly agree can be translated to a scale of 1-4*)

Question 9: "My health department currently has ample expertise to respond to the potential public health impacts associated with climate change that could occur in my state or territory." (*strongly disagree – strongly agree can be translated to a scale of 1-4*)

Question 10: "My health department is capable of developing and delivering public education materials designed to reduce/prevent community contributions to climate change." (*strongly disagree – strongly agree can be translated to a scale of 1-4*)

Question 20: "My health department currently has ample expertise to create an effective plan to address the public health implications of climate change." (*strongly disagree – strongly agree can be translated to a scale of 1-4*)

Question 25: "Would further staff training significantly improve your healthy agency's ability to deal with climate change as a public health issue?" (*yes, no, don't know*)

In the ASTHO 2012 survey to the Director of Environmental Health:

Question 2: How knowledgeable are you about the potential public health impacts of climate change? (*low-high on a scale of 1-5*)

Question 7: My health department currently has ample expertise to assess the present and potential public health impacts associated with climate change that could occur in my state or territory. (*no expertise – very experienced on a scale of 0-5*)

Question 9: My health department is capable of developing and delivering public outreach tools, education materials, and risk communication messages on climate change as a public health issue. (*yes, no, I don't know*)

Question 16: "Would further staff training significantly improve your healthy agency's ability to deal with climate change as a public health issue?" (*yes, no, don't know*)

4. Record whether the survey responses are either positive (for a yes/no question) or fall within the top two levels on the scale.
5. Record whether the answers to questions that were repeated in both surveys improved from 2009 to 2012.