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Climate Change Adaptation in Philadelphia

April 17th, 2013

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Integrated Sustainability Planning

Climate Volatility and Change

Since 2010, Philadelphia has experienced:

The snowiest winter ever
The two warmest summers ever
The most days over 90 degrees ever
The warmest July ever
The wettest month ever
The wettest year ever
Two hurricanes
And a direcho.

MEASUREMENT AND INFORMATION SHARING

CDP Cities 2011
Global Report on C40 Cities

Fig. 02: Emerging practices from C40 Cities in climate change governance

High Level Responsibility
93 % of C40 Cities (39) seat climate change responsibility at the highest level

Climate Change Action Plan
62 % of C40 Cities (26) have developed a climate change action plan

Oversight
50 % of C40 Cities (21) have a dedicated council or steering committee

Reduction Targets
57 % of C40 Cities (24) have specific GHG reduction targets for city-wide emissions

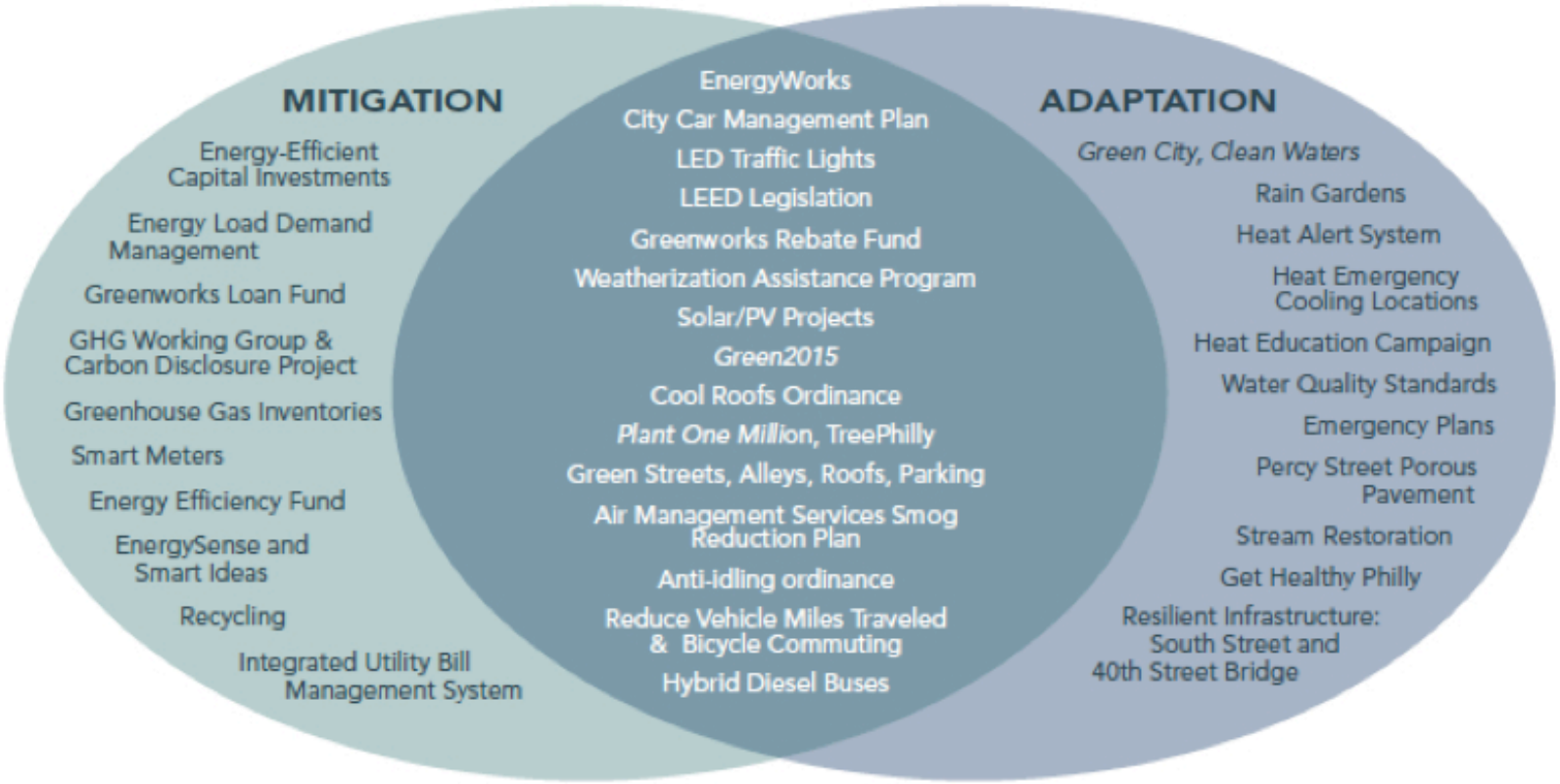
Fig. 07: Cities that incorporate reduction targets into master planning, by region

Total	Africa	Europe	East Asia	North America	Southeast Asia and Oceania	Latin America	South and West Asia
69%	100%	89%	80%	80%	80%	25%	
29 out of 42	3 out of 3	8 out of 9	4 out of 5	8 out of 10	4 out of 5	2 out of 8	0 out of 2

....% as regional percentage

Climate Adaptation Planning Process

Philadelphia's Climate Mitigation and Adaptation Initiatives



December 2011
Columbia Framework

June 2012
Greenworks Update

August 2012
Internal Adaptation Framework

September 2012
Convened Adaptation Working Group

December 2012
Working Group Surveys Complete

April 2013
Intensive Planning Process thru summer

Climate Adaptation Working Group Survey

2. The scientific literature identifies the following most likely effects of climate change for the Philadelphia region. Please rank each of the following in terms of significant impact on your department:

	Significant	Somewhat significant	Moderate	Minimal or no impact
Sea level rise	**41.7% (5)**	33.3% (4)	0.0% (0)	25.0% (3)
Extreme heat events, annual/seasonal temperature increases	45.5% (5)	**54.5% (6)**	0.0% (0)	0.0% (0)
Drought	16.7% (2)	**41.7% (5)**	16.7% (2)	25.0% (3)
Increase in heavy downpours, increased annual/seasonal precipitation	**58.3% (7)**	33.3% (4)	0.0% (0)	8.3% (1)

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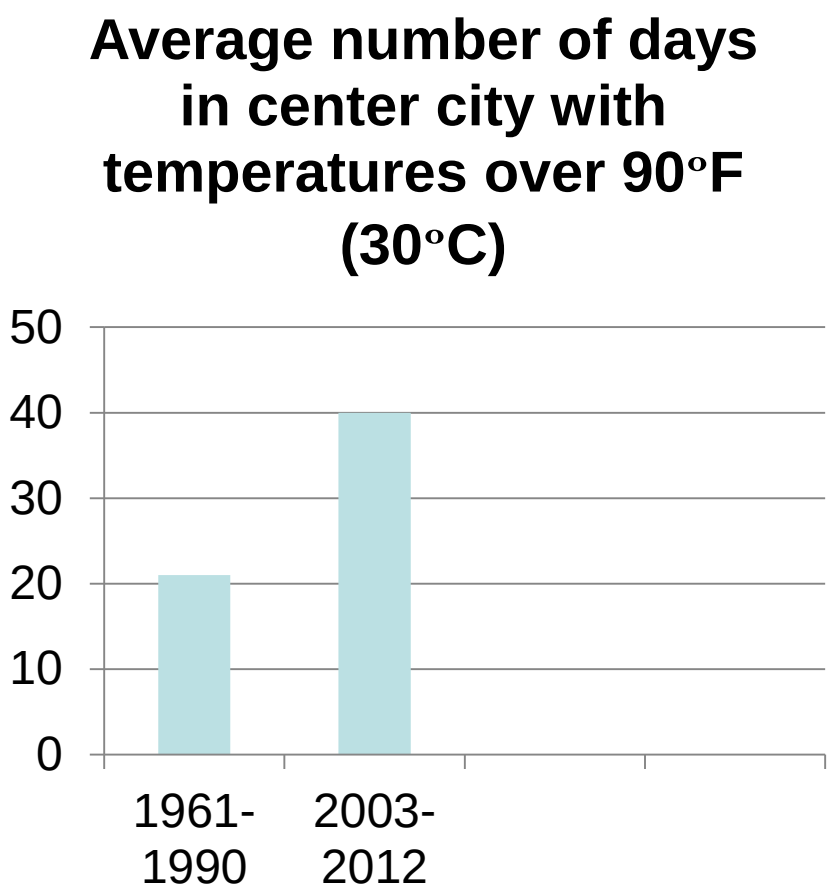
Temperature Data and Trends

Philadelphia



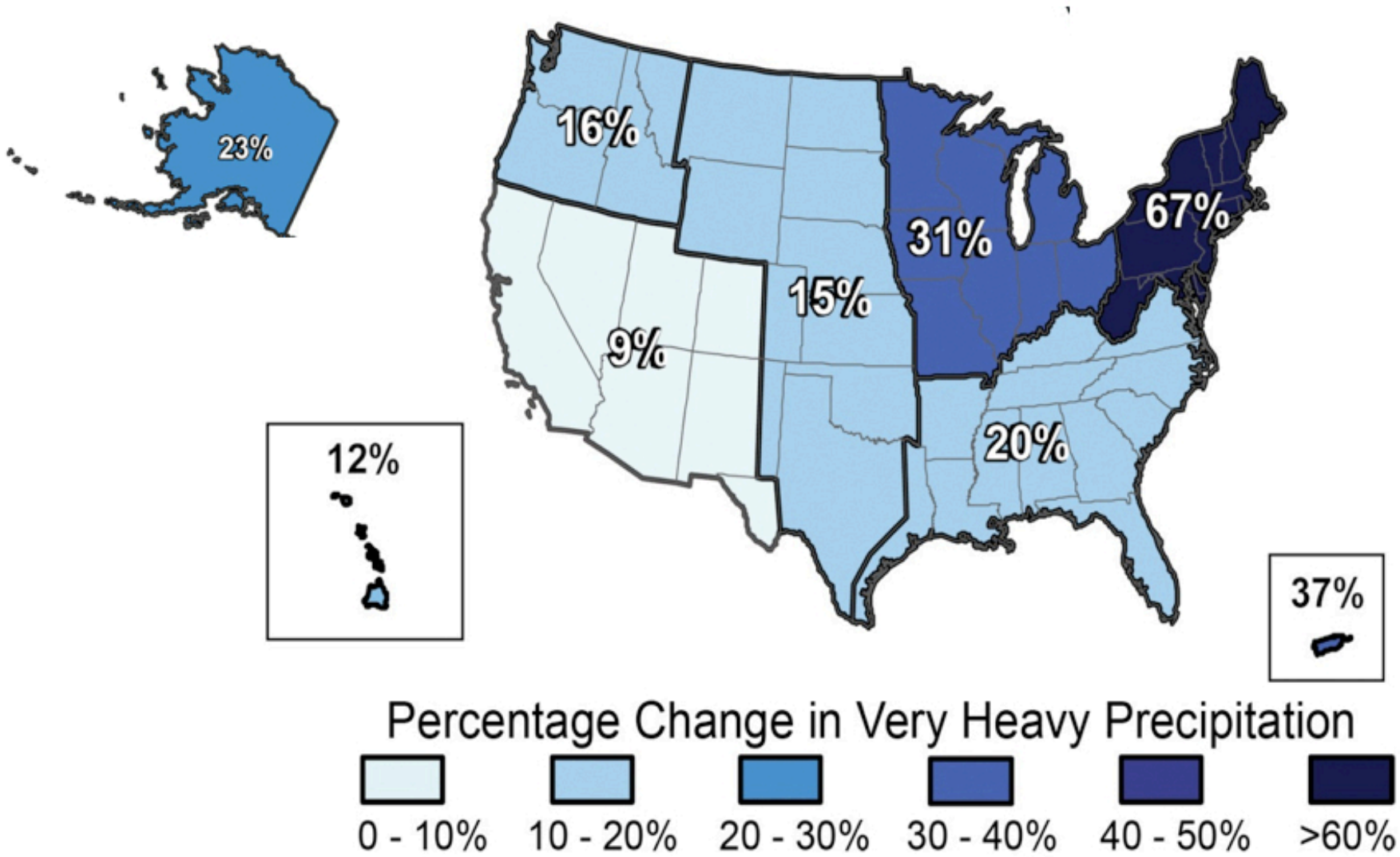
United States

"Since the 1970s, unusually hot summer temperature have become more common in the United States, and heat waves have become more frequent."

Source: EPA Report, Climate Change Indicators in the United States, 2012.

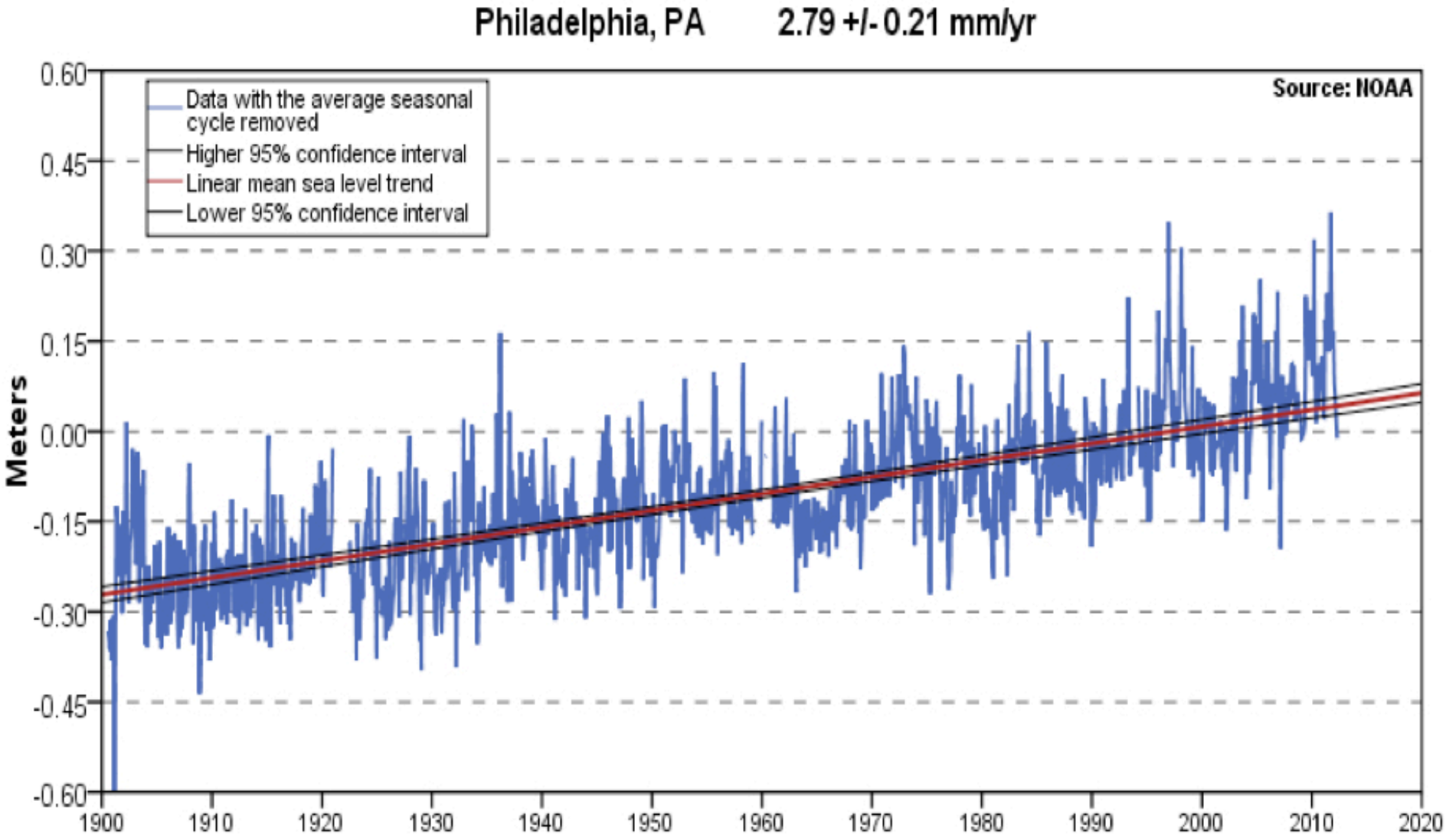
Observed Increases in Heavy Rainfall

Increases in the amount of precipitation falling in heaviest 1% of daily events, 1958-2007



USGCRP, Global Climate Impacts in the United States 2009

Sea Level Rise Past Occurrences (NOAA)



Public - Percy Street Porous Paving

Private - Parcel based Stormwater Billing and SMIP Program

www.phillystormwater.org

Washington Avenue Green and Race Street Connector

Stormwater Management Development Standards

Energy Efficiency and Demand Response

Air Quality and Heat Health Alert Programs

AQI Value	Actions to Protect Your Health From Ozone
Good (0–50)	None
Moderate (51–100*)	Unusually sensitive people should consider reducing prolonged or heavy outdoor exertion.
Unhealthy for Sensitive Groups (101–150)	The following groups should reduce prolonged or heavy outdoor exertion: • People with lung disease, such as asthma • Children and older adults • People who are active outdoors
Unhealthy (151–200)	The following groups should avoid prolonged or heavy outdoor exertion: • People with lung disease, such as asthma • Children and older adults • People who are active outdoors Everyone else should limit prolonged outdoor exertion.
Very Unhealthy (201–300)	The following groups should avoid all outdoor exertion: • People with lung disease, such as asthma • Children and older adults • People who are active outdoors Everyone else should limit outdoor exertion.

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