

WEATHER READY HOMES

Climate Change, Energy, and Your Health

Project Partners:

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Ali KennerDrexel University
Thomas FlahertyEnergy Coordinating Agency
Julia MenzoLiberty Lutheran
Deepa Mankikar & Tomarra BucknerNational Nurse-Led Care Consortium
Alex SkulaPhiladelphia Department of Public Health

Workshop Schedule

Introduction.....Ali Kenner & Russ Zerbo
Energy Efficiency & Weatherization Tips.....Thomas Flaherty
Disaster Planning.....Julia Menzo
Heat Safety.....Alex Skula
Healthy Homes & Controlling Mold.....Deepa Mankikar
Conclusion.....Ali Kenner

Booklet

Climate, Health, and Home Project Information
Climate Change Glossary
Additional Climate Change Resources
Pre-Workshop Survey
Post-Workshop Survey
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Folder Materials

PDPH Heat Health Brochure
PDPH Severe Storms and Health Brochure
PDPH Fall/Winter Health Bulletin
Clean Air Council Indoor Air Home Checklist
EPA Clearing the Air of Asthma Triggers
PDPH Asthma-Safe Cleaning Recipes
Clean Air Plant Guide
Philadelphia Resources for Home & Health
Nurse-Managed Health Centers in Philadelphia
PHFA Comprehensive Housing Counseling Agencies
PA IPM Pest Control Fact Sheet Series
PDPH Climate Preparedness Plan Worksheet
Guide to City Services
Bleach Alternate Recipe

About the Project:

This workshop is part of an 5-year long education and research project led by six partner organizations:

- **Clean Air Council** provides expertise on climate science and local impacts
- **National Nurse-Led Care Consortium** addresses the health impacts of climate change and discuss strategies for mitigating effects on the home environment
- **Energy Coordinating Agency** provides expertise on the dynamics of energy and climate change, as well as tips and resources for keeping homes and neighborhoods cool
- **Liberty Lutheran** provides expertise on vulnerability as well as emergency preparedness
- **Philadelphia Department of Public Health** provides information about extreme weather events and city resources
- **Drexel University's** role is to provide support for the above organizations in facilitating and evaluating the workshops

This project teaches community members about climate change and its impacts on community health in four areas:

1. Science-based information about climate change and how Philadelphia will be impacted
2. How to keep your home and family safe from extreme weather and mold
3. Energy efficiency in your home
4. Public resources available to you

Our goals:

We hope to prepare and inform you about the risks and solutions associated with climate change so that you may be equipped with the information and tools necessary to reduce the potential effects on your health, home, and community. We will provide you with strategies on how to make your families safe, and what public resources are available to you in the city of Philadelphia.

Climate Change Glossary

Weather: Atmospheric condition at any given time or place. It is measured in terms of things such as wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation.

Climate: Climate can be defined as the "average weather," or the statistical description of conditions over a long period of time. A simple way of remembering the difference between "weather" and "climate" is that climate is what you expect (e.g. cold winters) and 'weather' is what you get (e.g. a blizzard).

Climate Change: Refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns that occur over several decades or longer.

Global Warming: The recent and ongoing global average increase in temperature near the Earth's surface.

Heat Waves: A prolonged period of excessive heat, often combined with excessive humidity in Philadelphia.

Greenhouse Effect: The trapping and build-up of heat in the atmosphere near the Earth's surface. Greenhouse gases prevent heat from leaving the atmosphere, radiating it back toward the Earth's surface. If the atmospheric concentrations of greenhouse gases rise, the average temperature of the lower atmosphere gradually increases.

Greenhouse Gas: Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include: carbon dioxide, methane, nitrous oxide, ozone, etc.

Carbon Dioxide (CO₂): A naturally occurring gas, and also a byproduct of burning fossil fuels and biomass, as well as land-use changes and other industrial

processes. It is the main human-caused greenhouse gas that affects the Earth's radiative balance.

Methane (CH₄): A greenhouse gas with a very high warming potential. Methane is produced through decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Ozone (O₃): When it forms near Earth's surface, ozone is a harmful pollutant. Surface ozone is created through photochemical reactions resulting from both natural and human activities. Ozone in the lower atmosphere acts as a greenhouse gas. Ozone that is farther away from the Earth's surface (in the stratosphere) has a more helpful impact - it prevents too much ultraviolet radiation from reaching Earth's surface.

Energy Efficiency: Using less energy to provide the same service.

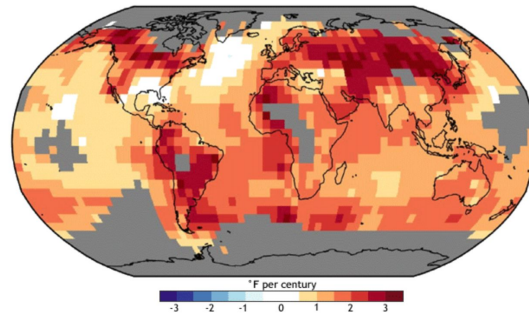
Renewable Energy: Energy resources that naturally replenish themselves when used, such as water (hydropower), the sun (solar energy), the Earth (geothermal energy), and wind energy.

Vulnerability: The degree to which a system (such as the City of Philadelphia) is susceptible to the adverse effects of climate change. The vulnerability of the system depends on the character, magnitude, and rate of climate variation that the system is exposed to, as well as its sensitivity and its ability to adapt.

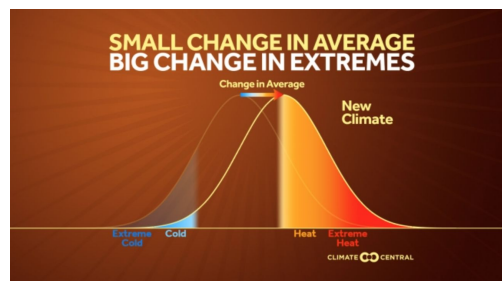
(Definitions adapted from: "Glossary of Climate Change Terms", *Environmental Protection Agency*)

Additional Climate Change Resources

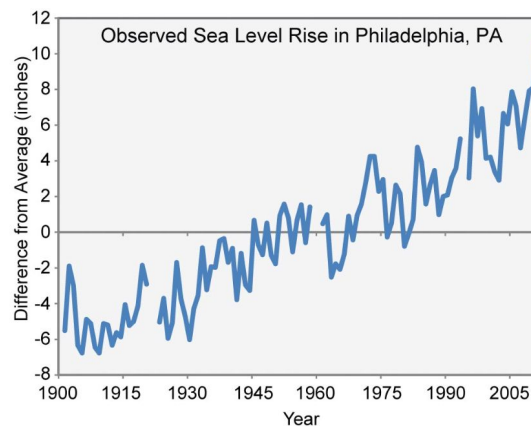
Helpful Links to Stay Informed!



NOAA's website for more information on climate change impacts:
<http://www.noaa.gov/resource-collections/climate-change-impacts>



The Franklin Institute: <https://www.fi.edu/climate-change>



Learn about climate change in the Northeast:
<https://nca2014.globalchange.gov/highlights/regions/northeast>



Philadelphia Department of Public Health: www.phila.gov/health



Type in your zip code to check your Air Quality Index (AQI) here: www.airnow.gov

Weather Ready Homes Pre-Workshop Survey

Zip Code: _____

*****THIS SURVEY IS ANONYMOUS*****

1. Do you know what you pay each month for your utilities (gas/electric/water)? Please write in the amount for:

January: _____

April: _____

July: _____

October: _____

2. Have you ever received a utility shut-off notice?

Yes, Water

Yes, Gas

Yes, Electric

No

3. Are you enrolled in an energy assistance program (such as LIHEAP)?

Yes No

4. What energy sources do you use to heat and cool your home? Select all that apply:

Gas

Electric

Oil

Other, explain: _____

5. Do you use the following appliances to heat your home? Select all that apply:

Space heater

Kerosene heater

Fireplace

Stove

Other, explain: _____

6. Do you use the following appliances to cool your home? Select all that apply:

Window unit

Central air

Fans

Other, explain: _____

7. Has your home ever been damaged by the weather? Yes No

Fallen trees

Flooding

Soil erosion

Roof damage

Broken windows

Other, please describe:

8. Have you ever experienced flooding in your home? Yes No

9. If yes, was there damage to your home? Yes No

10. If you have experienced flooding, what was the cause of flooding? Check all that apply:

A hurricane or coastal storm

Heavy rains

Sewer overflow

Damage to city infrastructure (such as a water main break)

Other, please explain:

11. Have you ever had a problem with mold in your home? Yes No
*If no, skip to question 12

12. If yes, where have you had a problem with mold? Check all that apply:

Bathroom

Kitchen

Basement

Other, Explain:

13. Do you know how to get rid of mold? Yes No

14. Do you know how to prevent mold growth? Yes No

15. Do you or anyone in your household suffer from the following? Check all that apply.

Asthma

Allergies

Other breathing problems

16. If you experience asthma or other breathing problems, during what season(s) do you experience the worst symptoms?

Spring

Summer

Fall

Winter

17. In the event you or someone in your household experiences asthma symptoms, where do you seek medical attention?

Primary Care Provider (Doctor/Nurse)

Emergency Room

Urgent Care Facility

Other: _____

18. Have you or someone in your household participated in any asthma related programs? These can include home health assessments.

Yes; _____ (name of program)

No

19. If there was a flood or severe storm in your neighborhood, describe what you would do to keep you and your family safe.

20. Do you have an emergency preparedness plan?

Yes No

21. If you were asked to explain what climate change is, could you explain it?

Yes No I don't know

22. Climate change affects the environment outside and inside your home. Have any of these climate change impacts been a problem for you or your family? Check all that apply:

Problems with outdoor air quality

Poor indoor air quality

Hotter summer weather

Extreme thunderstorms and/or hurricanes

Colder winters

More precipitation

Increase in insects and/or pests

Changes to gardens or vegetation

Changes in utility bill

Other, Explain: _____

*Answering the following questions is optional:

23. What gender do you most identify with?

Male

Female

Specify: _____

I prefer not to answer

24. What is your age?

Less than 18

45-54

18-24

55-64

25-34

65+

35-44

25. What is your race/ethnicity? Check all that apply.

- White
- Hispanic or Latino
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander

26. What is the highest level of education you have completed?

- No Schooling Completed
- Elementary
- Some High School
- Completed High School
- Some College
- Completed College

27. What is your annual income? _____

28. Where do you call home?

- I live in a house or building that I own
- I rent an apartment
- I rent a house
- I am currently homeless
- I live with a family member or friend
- I live in a mobile unit
- Other: _____

Weather Ready Homes Post-Workshop Survey

THIS SURVEY IS ANONYMOUS

Zip Code: _____

1. What was the most useful part of the workshop?

- _____ The emergency planning activity
- _____ The energy efficiency activity with the model home
- _____ The weatherization presentation
- _____ The mold presentation
- _____ The group discussions

Explain why: _____

2. Where would you go for more information to prepare for climate change?

- 1. _____
- 2. _____

3. What workshop topics would you like to see offered in the future?

4. How can the city better prepare for climate change?

5. What can the health department do to help you prepare for the health-related impacts of flooding and severe storms?

6. Based on what you learned today, do you feel that you are currently at risk for any of the following? Check all that apply:

- Energy inefficiency
- Flooding
- Climate Change
- Extreme Weather
- Mold

7. Do you feel that you have the resources to get help if needed?

____ Yes ____ No

8. Leaving this workshop, do you have any new concerns?

____ Yes ____ No

9. If yes, what are your new concerns? Please explain:

10. Is there anything else you would like us to know?

Thank you for your participation in today's workshop!

Notes