

TO THE PRESENTER

This presentation—which starts on Slide 4—includes the most important points about climate science and how climate change relates to the Chicago region, from the tool [*Climate Change in the Windy City and the World*](#). It includes four sections:

1. **Introduction**
2. **Climate change science**
3. **Climate change action**
4. **Quiz and discussion questions.**

It should take approximately 30 minutes to present sections 1 through 3.

TO THE PRESENTER (cont.)

- The impacts presented here apply to the Chicago REGION, not just the city of Chicago. The region stretches from southern Wisconsin, through northern Illinois, into northwestern Indiana and southwestern Michigan.
- Make sure to check the NOTES section under each slide for additional ideas and references. For more information on particular points, see [*Climate Change in the Windy City and the World*](#) and [Climate Science Facts and Updates](#).
- Some of the Notes sections include DISCUSSION PROMPTS: questions to ask participants that relate the slide point to their lives. We encourage you to ask some of these prompts and pepper your presentation with discussion, rather than holding discussion until the end. One of the primary goals of the whole Toolkit is to make climate change local and personal, so people come to see it as an issue that is about their lives—and that they can impact.

TO THE PRESENTER (cont.)

- Feel free to revise the presentation according to your style and needs. That is why it is presented as a PowerPoint file rather than a PDF. If you want to include additional images or replace some, take a look at the high-res Toolkit images on the project's [Flickr site](#).
- If you make changes, please credit the images and ideas. The images are all branded; please make sure to retain that branding. For ideas, you can just say: “Courtesy of The Field Museum, Chicago Community Climate Action Toolkit, 2012: climatechicago.fieldmuseum.org.”
- Finally: don't feel like you have to be a climate science expert to use this presentation. It is meant to be a starting point for discussing how climate change relates to the Chicago region and all of our lives. Have fun learning together with your audience!



CHICAGO COMMUNITY
CLIMATE ACTION TOOLKIT

Find this and other climate action tools at
climatechicago.fieldmuseum.org

CLIMATE CHANGE

IN THE WINDY CITY AND THE WORLD



Climate Change in the Windy City and the World was created as part of the Chicago Community Climate Action Toolkit. © The Field Museum, ECCo, 2012

INTRODUCTION:

5 things to remember about climate change—even if you don't remember all the science!

1

The world's climate scientists overwhelmingly agree that climate change is happening and is caused primarily by human activities.

2

People in the Chicago region are also concerned about climate change and want to understand more about how it relates to their lives.

3

Climate change affects different regions in different ways and is already impacting the Chicago region.

4

People everywhere are finding ways to live that will reduce the impact and help their communities adapt to the changes that are inevitable.

5

“Climate action” will not only address climate change, but can make our communities better places to live.

CLIMATE CHANGE SCIENCE: 11 QUESTIONS

1. What's the difference between weather & climate?
2. What is climate *change*?
3. What's the difference between climate change and global warming?
4. What does climate change have to do with ozone?
5. How is climate change today different from the past?
6. How does human activity cause climate change?
7. What is the greenhouse effect?
8. What is the carbon cycle and what's happening to it?
9. How is climate change affecting the Chicago region?
10. How will it continue to alter life here for people?
11. How will it alter life here for plants and animals?

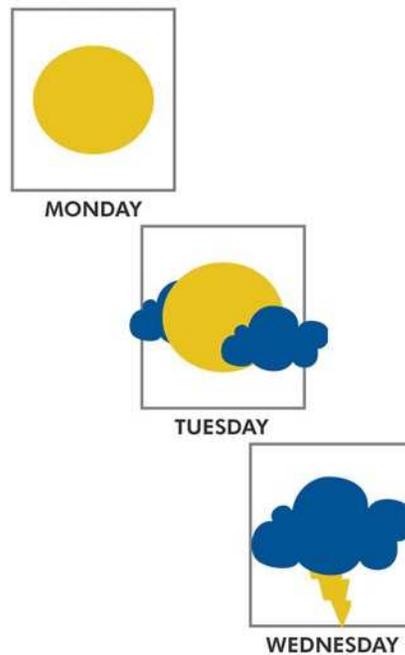
1.

WHAT'S THE DIFFERENCE BETWEEN WEATHER AND CLIMATE?

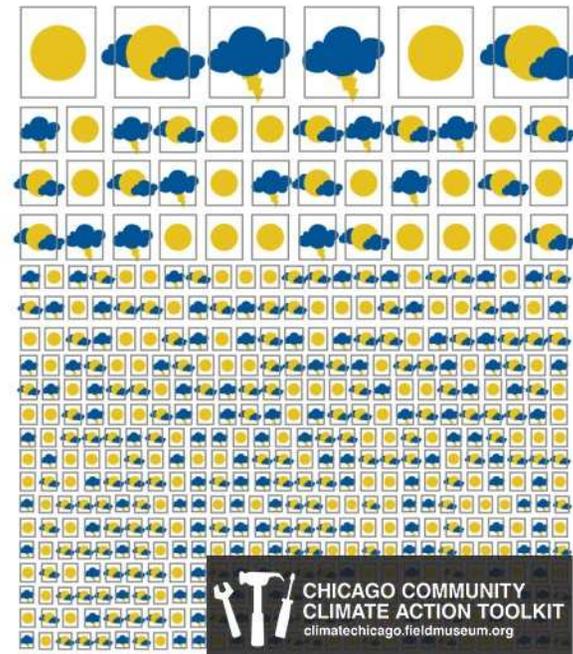
Weather is the short-term changes in the atmosphere: what we experience day-to-day.

Climate is the average long-term weather pattern of a specific location: how the atmosphere behaves over many, many years.

Weather



Climate

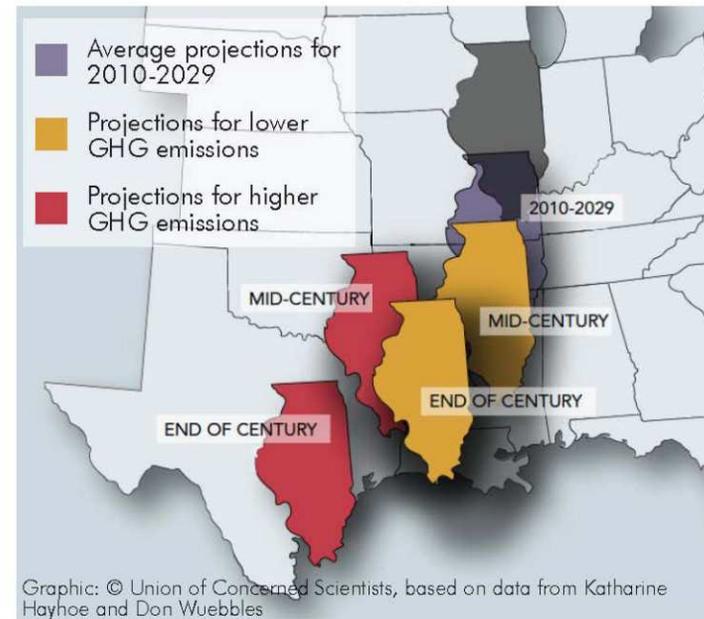


2.

WHAT IS CLIMATE CHANGE?

Shifts in weather patterns over long periods of time— patterns like temperature, precipitation (rain/snowfall), humidity, wind and ocean circulation.

This map shows the projected summer climate changes over this century for Illinois relative to existing average summer temperature and precipitation found throughout the United States. For the higher-emissions case, the Chicago region would have a summer climate more like eastern Texas by the end of the century.



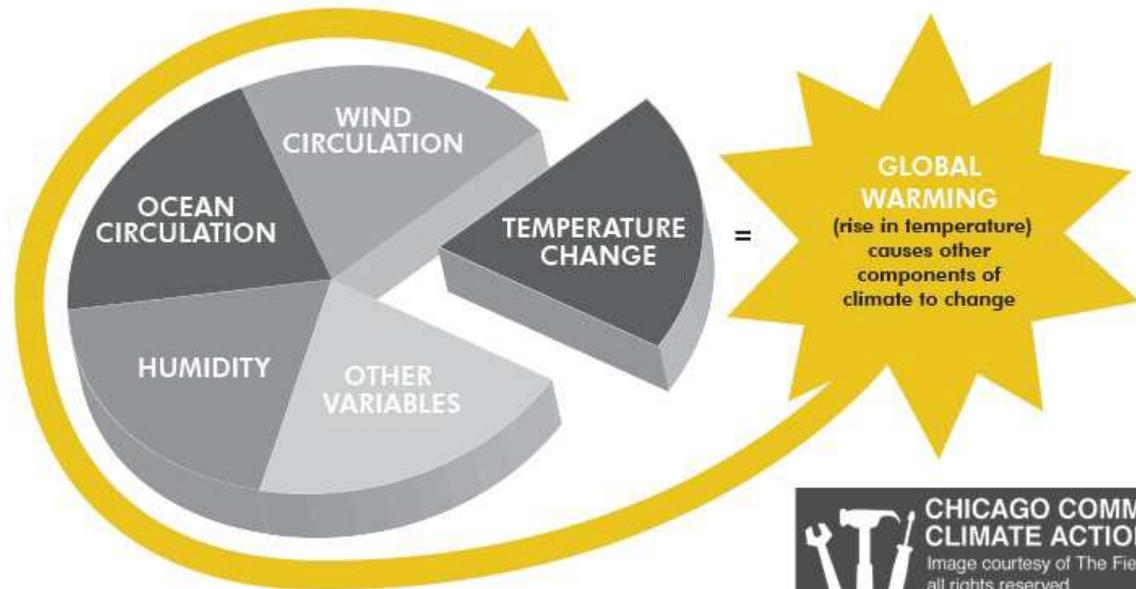
3.

WHAT'S THE DIFFERENCE BETWEEN CLIMATE CHANGE AND GLOBAL WARMING?

Global warming is the rise in the Earth's average temperature. It is caused by an increase in the amount of greenhouse gases in the atmosphere. These gases trap heat.

This rise in temperature causes other components of climate to change.

Components Of Climate Change

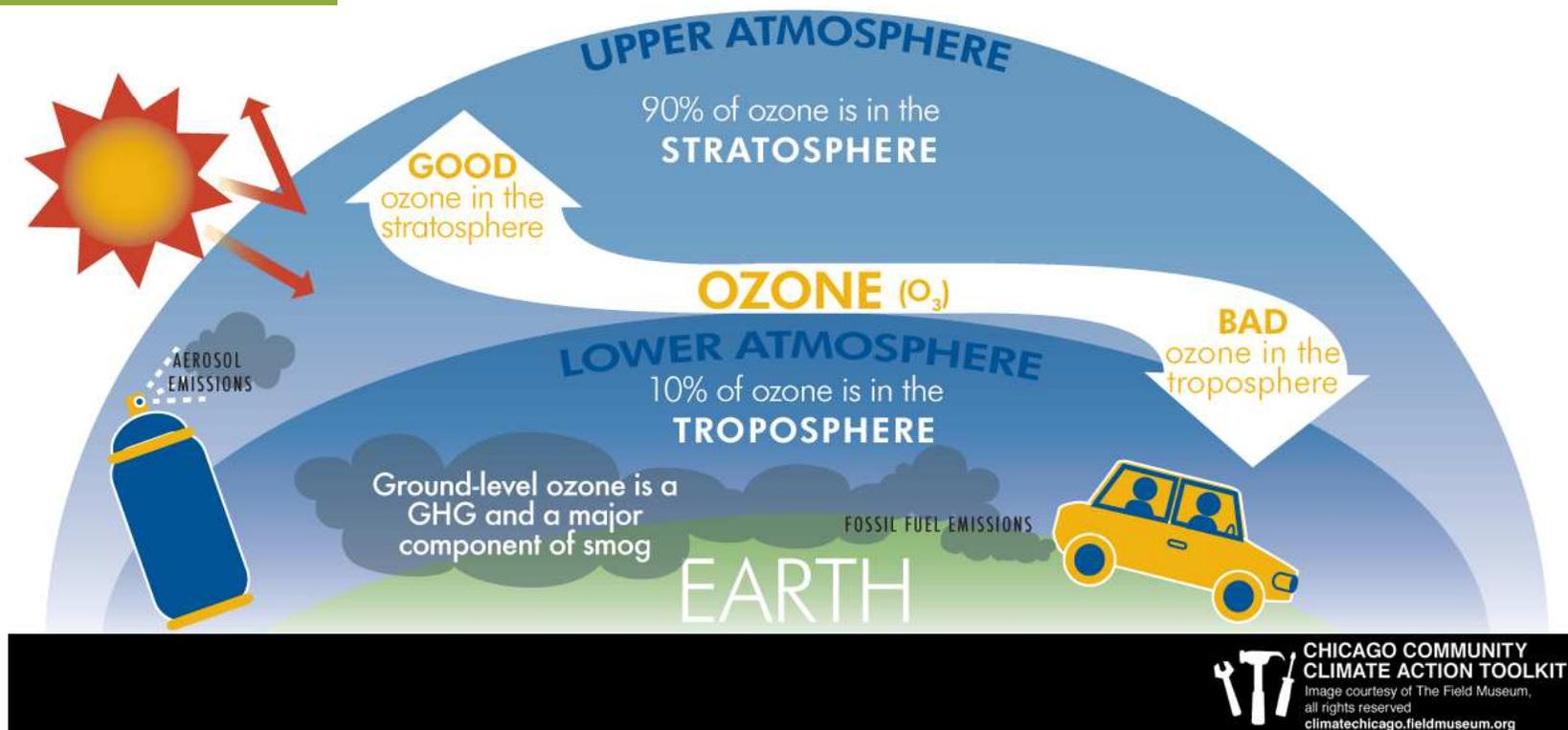


4.

WHAT DOES CLIMATE CHANGE HAVE TO DO WITH OZONE?

Upper atmosphere ozone is good: it blocks UV-B radiation emitted by the sun (which is why we don't want to deplete the ozone layer).

Ground-level ozone in the lower atmosphere is bad: it is a greenhouse gas, like CO₂, that contributes to climate change.



5.

HOW IS CLIMATE CHANGE TODAY DIFFERENT FROM THE PAST?

The climate has always been changing, but today:

- It is largely caused by human activities
- CO₂ levels are the highest they have been in over 800,000 years
- The rate of increase has never been seen before



6.

HOW DOES HUMAN ACTIVITY CAUSE CLIMATE CHANGE?

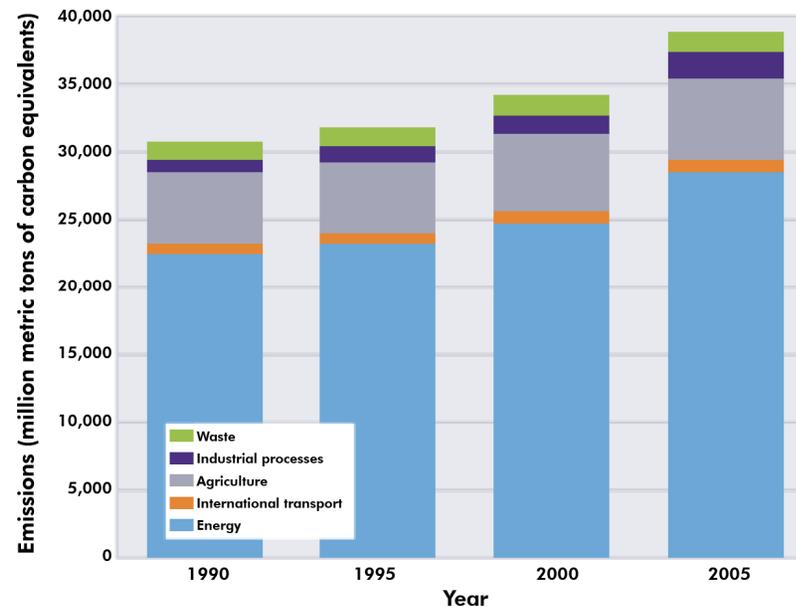
Climate change today is caused in large part by human activity, primarily burning fossil fuels like coal, petroleum, and natural gas.

We burn fossil fuels when we do things like drive, heat our homes, dispose of waste, and process food.

Burning fossil fuels produces greenhouse gases (GHGs), the most significant being carbon dioxide (CO₂). GHGs trap heat in the Earth's lower atmosphere.

Global Greenhouse Gas Emissions by Sector, 1990–2005

World Resources Institute, 2009

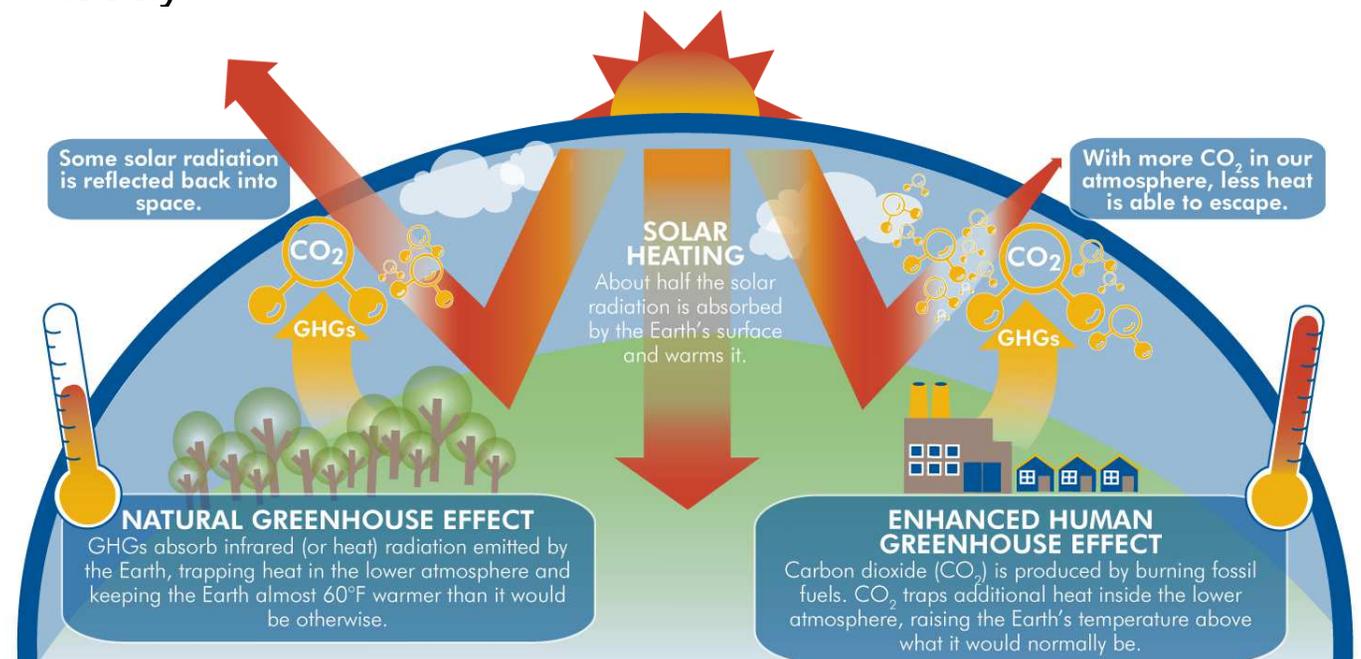


7.

WHAT IS THE GREENHOUSE EFFECT?

GHGs are produced by many natural sources such as forests and oceans. This is called the “natural greenhouse effect.”

But it is the additional amount of human-produced GHGs, largely the result of burning fossil fuels, that cause the “enhanced human greenhouse effect”—which is causing the climate to change too quickly today.



Adapted from the Chicago Climate Action Plan

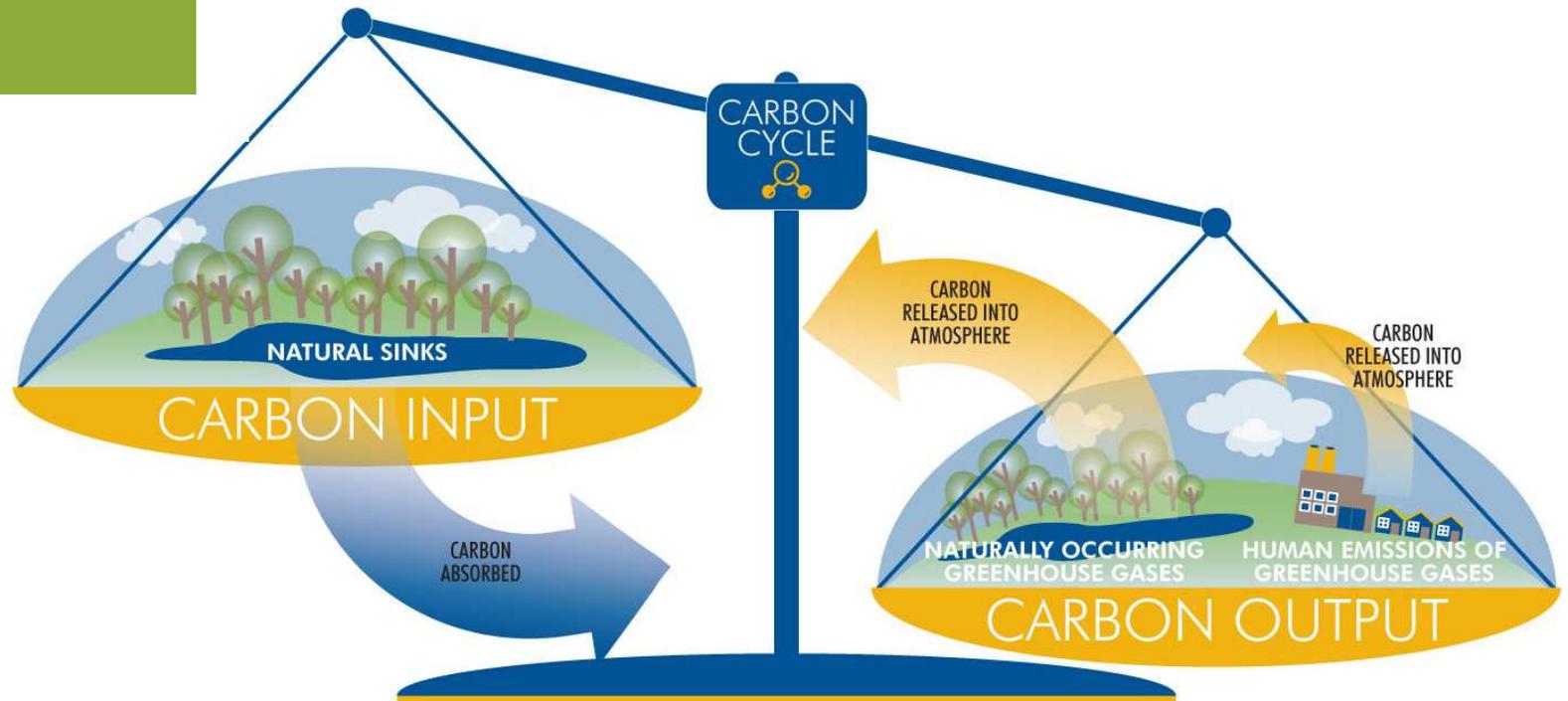
8.

WHAT IS THE CARBON CYCLE AND WHAT'S HAPPENING TO IT?

The “carbon cycle” refers to the process of natural “sinks”—like oceans, lakes, forests—absorbing GHGs. Until recently, this process kept carbon quantities in check.

Now, though, this cycle is off kilter, for two reasons:

1. We have fewer natural sinks (like trees) and those we do have are often not healthy, and
2. Humans are emitting more GHGs.



9.

HOW IS CLIMATE CHANGE AFFECTING THE CHICAGO REGION?

Temperatures have risen by 2.6° F since 1980—which is causing Lake Michigan to be frozen for shorter periods of time during the winter.

We are experiencing more extreme weather events—heat waves, flooding, blizzards, and 100° F summer days.

Many of our immigrant communities maintain very close ties with their home countries and are affected by climate events in those countries, like droughts or flooding.



The Chicago region's Polish community rallied to help people in Poland affected by severe flooding in 1997 and 2010 (left). Hurricanes in Mexico in 2010 caused some people to migrate to Chicago's Pilsen community as "climate refugees" (right).

10.

HOW WILL CLIMATE CHANGE CONTINUE TO ALTER LIFE HERE FOR PEOPLE?

Scientists project increases in ...

- Heat-related diseases like heart attacks and asthma
- Flooding
- Electricity shortages
- Government expenses (e.g., road maintenance, emergency response)

739 people died from Chicago's heat wave in 1995. Most were low-income elderly. Their deaths remind us that climate change will have the greatest impact on those lacking the resources to adapt.



11.

HOW WILL CLIMATE CHANGE ALTER LIFE HERE FOR PLANTS AND ANIMALS?

Scientists expect that ...

- Animals and plants may become stressed
- Rivers, lakes, and wetlands may become more polluted
- Invasive species and pests may become a bigger problem

The Chicago region doesn't have polar bears, but climate changes threaten animals here too. The Hine's emerald dragonfly (right) is an endangered species only found in a few remaining wetlands, including some in the Chicago region. The Bobolink (left) is already rare in the region due to a scarcity of large open spaces for nesting and food. Climate change threatens the habitats of both animals.



CLIMATE CHANGE ACTION: YOU AND YOUR COMMUNITY CAN MAKE A DIFFERENCE!

The Chicago region has two climate action plans, which aim to lower GHGs (“mitigation”) and help the region cope with changes already underway (“adaptation”).

Chicago Climate Action Plan: 5 Strategies for the City of Chicago

- 1 Energy Efficient Buildings
- 2 Clean and Renewable Energy Sources
- 3 Improved Transportation Options
- 4 Reduced Waste and Industrial Pollution
- 5 Adaptation

Learn more:
chicagoclimateaction.org

Climate Action Plan for Nature: 5 Strategies for the Chicago Region

- 1 Climate-Friendly Gardens and Lawns
- 2 Water Conservation
- 3 Monitoring
- 4 Stewardship
- 5 Climate Change Education

Learn more:
climatechicago.fieldmuseum.org/learn#capn

CITIES WILL LEAD THE WAY

Cities are often pointed to as a major cause of climate change because they produce so many emissions. But in fact, they offer the solution.

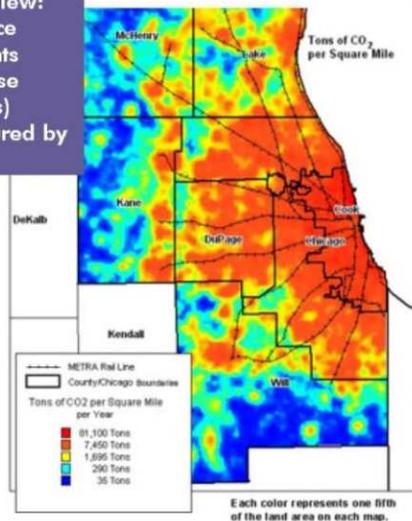
In cities, everything is closer together. This pattern supports local businesses, encourages people to ride trains and buses instead of drive, and shortens travel times.

The effect: much lower emissions per household.

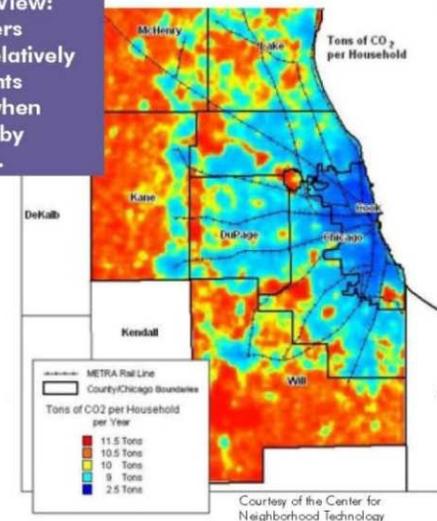
A New View of Cities and Climate Change:

CO₂ Generated by Automobiles in the Chicago Region per Year

Traditional View:
Cities produce large amounts of greenhouse gases (GHGs) when measured by square mile.



Emerging View:
City dwellers produce relatively low amounts of GHGs when measured by household.



RESIDENTS
ARE ALREADY
TAKING
CLIMATE
ACTION—

IN WAYS THAT
ALSO
IMPROVE
QUALITY OF
LIFE



When she leaves the house, one resident from Chicago's Roseland neighborhood disconnects all of her non-essential appliances. Her monthly bill has been reduced by \$100.



Some residents in Chicago's Pilsen and Southwest Side neighborhoods learned to conserve water from a 1970s TV campaign in Mexico called "Cierrale!" ["Turn it off!"]. One resident said it was as popular as the U.S. "Got Milk?" ads.



Volunteer stewards have been working with the Forest Preserve District of Cook County since 1977 to revitalize Glenview's Harms Woods.



To save money and energy, an electrician/carpenter built this solar water heater for his family's home in Chicago's Jefferson Park neighborhood, duplicating what he did at his recreational home in the Polish countryside.

AND SO ARE COMMUNITIES



Fernwood United Methodist Church in Chicago's Roseland neighborhood composts and encourages community members to donate leaves and food scraps in return for a discount on goods at their farmers' market. The composting provides natural fertilizer for the farmers and the church-run community garden while reducing the amount of landfill waste.



The Little Village Environmental Justice Organization (LVEJO) participates in national and international climate justice efforts and leads local campaigns on public transit, water, and clean power. It advocated the closing of Chicago's two coal-fired power plants, including the Fisk plant in Pilsen (pictured).



Blacks in Green (BIG) builds awareness of climate change in Chicago's South Side communities through "Green-Village-Building" activities that highlight African-American sustainable traditions. These include classes run in partnership with the University of Chicago and cultural activities such as movie discussions, green "expos," and story circles.



The Council of Islamic Organizations' "Green Ramadan" campaign promotes green living and climate action among Chicago region Muslims as part of a long-term solution to social disasters in Africa, including drought and famine in Somalia.

CHICAGO COMMUNITY CLIMATE ACTION TOOLKIT

The Field Museum worked with partners in four Chicago neighborhoods to develop and implement community-led climate action projects.

Each project builds on research conducted by Museum anthropologists, which identified local strengths and concerns that can serve as springboards for engaging communities in the region's two climate action plans.

Learn more and download tools: climatechicago.fieldmuseum.org.

FOREST GLEN
In Forest Glen, Boy Scout and Girl Scout troops are engaging homeowners in water conservation and promoting climate- and nature-friendly outdoor practices.

PILSEN
In Pilsen, community organizations are transforming a vacant lot into a native garden where children can play and families can learn about climate change.

BRONZEVILLE
In Bronzeville, community organizations are building on the neighborhood's African-American history to develop culturally meaningful gardens, healthy vegan cooking events, and green tours.

SOUTH CHICAGO
In South Chicago, youth organizations are creating a community-wide exhibit that celebrates local green practices and their community's vision for a green future.

LAKE MICHIGAN

CHICAGO COMMUNITY CLIMATE ACTION TOOLKIT
Image courtesy of The Field Museum, all rights reserved
climatechicago.fieldmuseum.org

TEST YOUR KNOWLEDGE: CLIMATE CHANGE QUIZ

Try answering these key questions in your own words:

1. What is the difference between weather and climate?
2. What's the difference between climate change and global warming?
How are they related?
3. Describe the “natural” greenhouse effect and the “enhanced” greenhouse effect.
4. How is climate change today different from the past?
5. What is happening to the carbon cycle?
6. How is climate change affecting people, plants, and animals in the Chicago region?
7. What is one action we can take to mitigate (reduce) climate change?
8. What is one action we can take to help people, nature, and animals adapt to changes that are already inevitable?

DISCUSSION QUESTIONS: CLIMATE CHANGE AND YOUR COMMUNITY

1. How do you think people in your community understand, relate to, or don't relate to climate change, as it is defined and explained in this booklet?
2. What populations make up your community? How do you think their understandings might differ based on age, background, gender, etc.?
3. What changes in climate have you noticed in your community since two generations ago? One generation? How have these changes impacted community life? Individuals' lives?
4. The Chicago Climate Action Plan and the Climate Action Plan for Nature focus on ten different aspects of our lives related to climate. Which of these issues do you think community members might relate to most? How so? Share some specific community stories around these issues.
5. [*Climate Change in the Windy City and the World*](#) encourages communities to take action in two areas: reducing the amount of fossil fuel energy we use and caring for natural areas and green spaces. How are individuals and organizations in your community already taking one or both of these actions? In closing, brainstorm how they might do more, based on what you've learned through this booklet and your discussion.

READY TO START THINKING ABOUT YOUR OWN COMMUNITY CLIMATE ACTION PROJECT?

Explore more tools to help you in the [“Do Your Own” section](#) of the Chicago Community Climate Action Toolkit

The screenshot displays the Chicago Community Climate Action Toolkit website. At the top left is the logo, which consists of a stylized 'T' and 'A' with a wrench and a screwdriver, followed by the text 'CHICAGO COMMUNITY CLIMATE ACTION TOOLKIT'. To the right of the logo are social media icons for Facebook, Twitter, and Email, along with a printer icon and a notification bell showing '0'. A yellow 'SEARCH' button is located on the far right. Below the header is a navigation bar with five tabs: 'TOOLS' (highlighted in yellow), 'COMMUNITY PROJECTS', 'CLIMATE ACTION MODELS', 'ABOUT', and 'SHARE'. The main content area shows a breadcrumb trail: 'Home » Tools » Tools - Do Your Own Project'. Below this is a large image of several stacks of terracotta pots. To the right of the image is a white box with the heading 'DO YOUR OWN PROJECT' and the text: 'Take climate action and address other issues that your community cares about, at the same time.' Below the image and text are two columns of content. The left column is titled 'IDENTIFY LOCAL STRENGTHS AND CONCERNS' and contains the text: 'COLLAGES: Use photographs of climate-friendly practices taken in the Chicago region to have conversations with residents about what they are already doing that is climate-friendly, what more they want to do, and what barriers they encounter. Four collages: Energy...'. The right column is titled 'DEVELOP A PROJECT IDEA' and contains the text: 'PROJECT PLAN: What's your approach to local climate action? For each of the community Toolkit projects, we created an approach diagram that maps out how the project idea links select strategies from the region's climate action plan with community strengths and...'