



# Urban Nature & Environmental Justice

## Two Keys to a Sustainable Future

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# **Part One: What Is Nature?**

Picture something that comes to mind immediately . . .



# What Is Nature?



Dramatic western landscapes evoke the beautiful & sublime:  
Rocky Mountains, Crested Butte CO (M. Bryson, 2014)

# What Is Nature?



Midwestern agricultural lands epitomize rural America,  
but are highly modified natural spaces.  
Woodford County, central IL (L. Bryson, ~2010)

# What Is Nature?



Remote wilderness areas in extreme environments challenge our assumptions about nature's character.

Canada Glacier, Taylor Valley, Antarctica (M. Bryson, 1991)



# What Is Nature?



What are we looking at in this photo? Where are we?

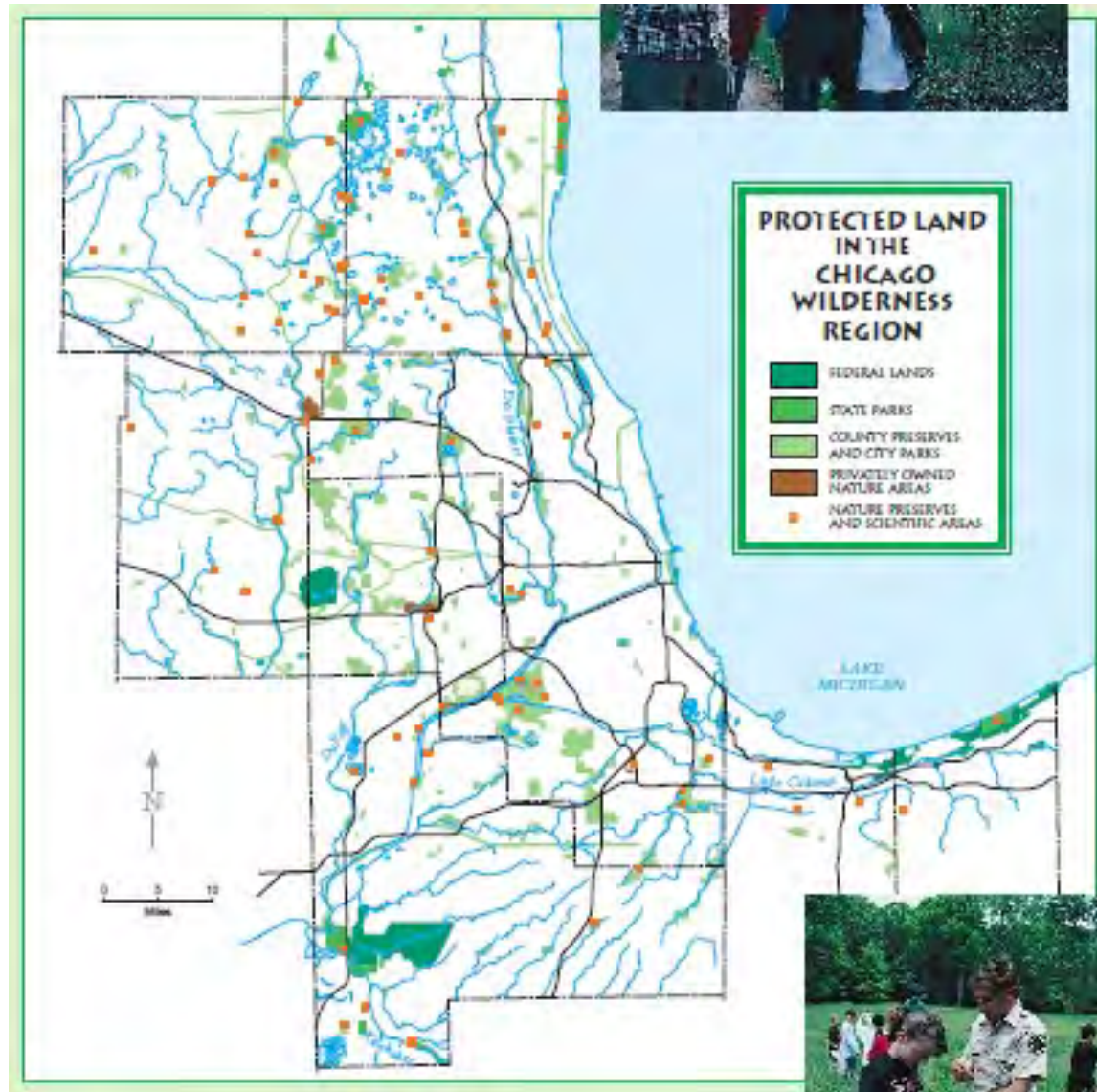


# What Is Nature?



Paddling the upper North Branch of the Chicago River, Morton Grove IL  
(M. Bryson, Fall 2012)

# Geography of Chicago's Wilderness



Protected lands of the Chicago region (source: *Atlas of Biodiversity*, 2000)

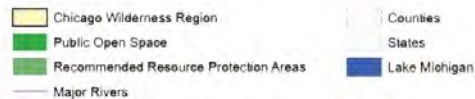


# Geography of Chicago's Wilderness



**The Chicago Wilderness Region**

## Legend



0 20 40 Miles

© Chicago Metropolitan Agency for Planning



Left: CMAP [Chicago Wilderness Region](#) (2011)

Right: Chicago Wilderness [Green Infrastructure Vision](#) (2009)

# Two Persistent Perceptions of Cities



Chicago Loop, seen from "The Brownlands" (Ryan Hodgson-Rigsbee)

## City vs. Nature

Fosters the illusion of technology-mediated independence from the natural world as well as a profound yet often unfulfilled longing for contact with wildness within a polluted and biologically-impooverished cityscape.

## City as Living Ecosystem

Recognizes that cities and suburbs comprise a complex urban ecosystem, a dynamic mosaic in which imperiled nature interacts with humans and their built environment, and where the idea of "natural" can be interrogated.



# The Stunning Diversity of Urban Nature



Chicago Lakefront at Northerly Island, Oct 2011 (L. Bryson)



# Urban Nature



Morton Arboretum, May 2013 (M. Bryson)



# Urban Nature



Stearns Quarry Park (est. 2009), South Side of Chicago (M. Bryson)

# Urban Nature



Chicago Lights Urban Farm, Near North Side, April 2012 (M. Bryson)



# Urban Nature



Detention Basin at Roosevelt University's Schaumburg Campus (M. Bryson)

# Urban Nature



Life on the retaining wall – Bubbly Creek, South Side of Chicago (M. Bryson)



# Urban Nature



Hickory Creek by Washington Jr. High, Joliet IL, March 2011 (M. Bryson)

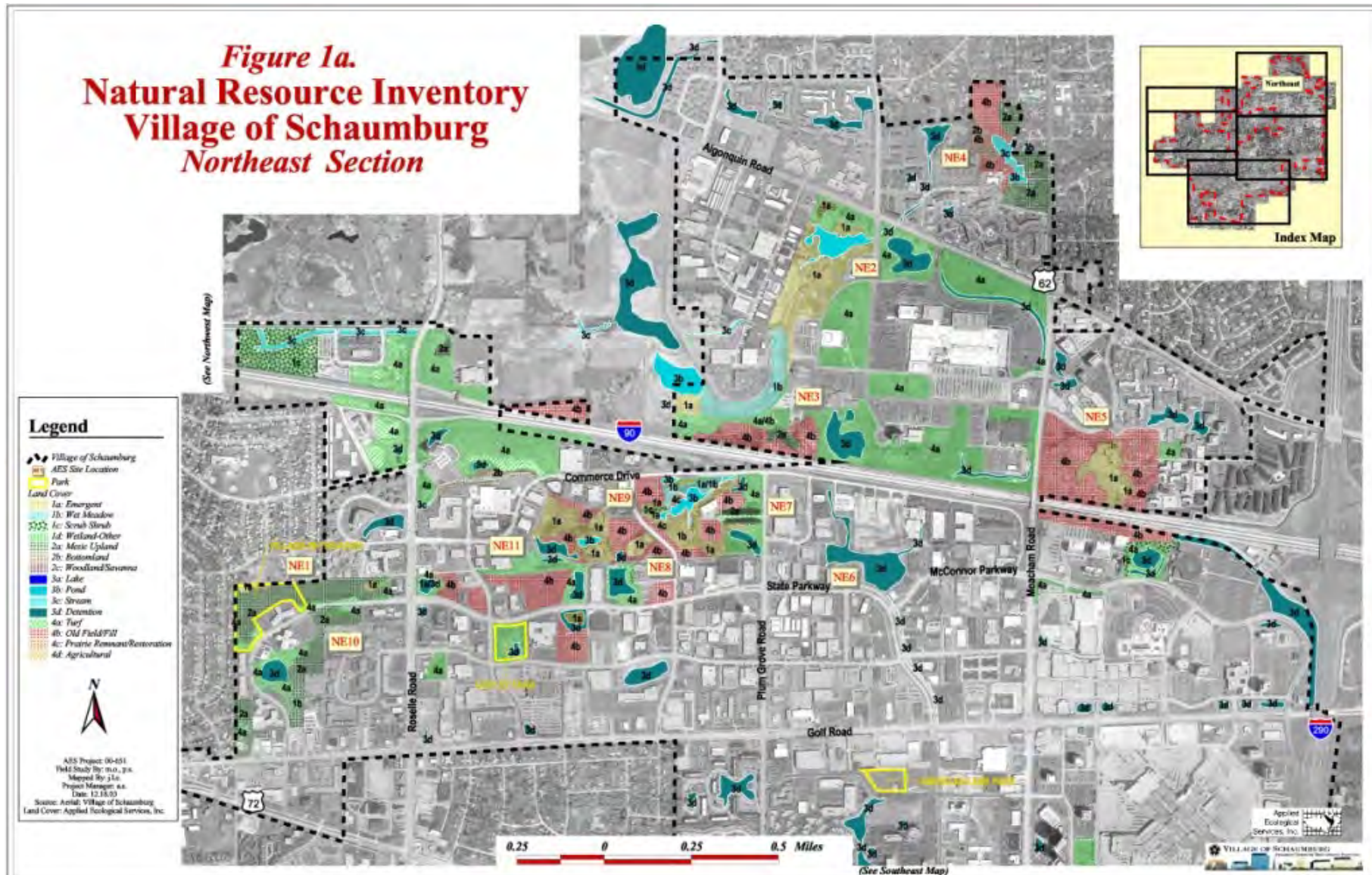
# Urban Nature



Stickney Wastewater Treatment Plant, SW of Chicago (courtesy MWRD). In the foreground, the Sanitary and Ship Canal, which transports Chicago's (and much of Cook County's) wastewater effluent across an ancient continental divide and thence "downstream" via the Des Plaines, Illinois, and Mississippi Rivers to the Gulf of Mexico.



# Documenting Suburban Biodiversity



Map from the Schaumburg Biodiversity Plan (2004) identifies & classifies green space according to type and ecological value



# Landscape Sustainable Site Transformation



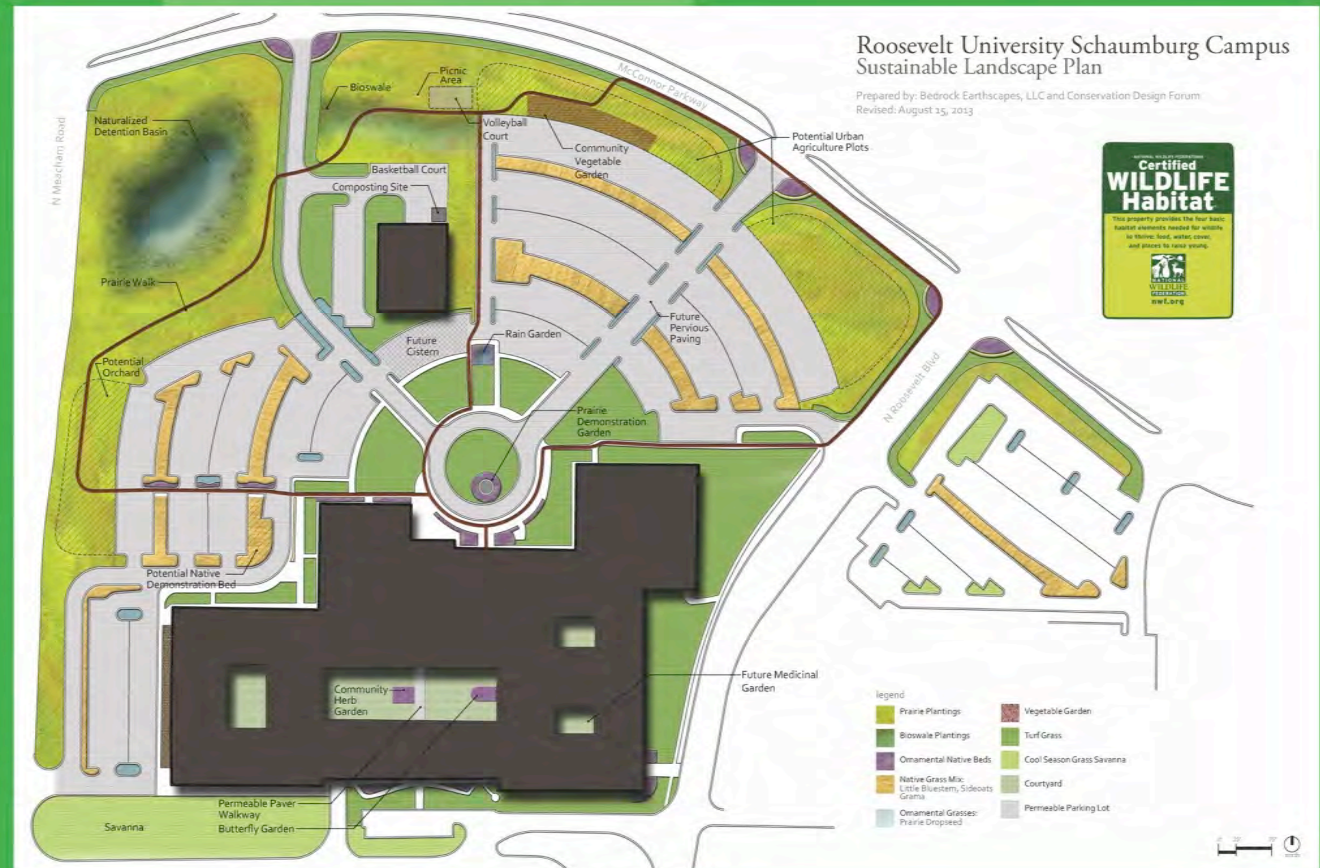
Roosevelt University is committed to transforming the Robin Campus into a truly sustainable site. The landscape plan here is being implemented using native plants and sustainable water conservation methods to transform this campus into an environmentally sustainable, cost-effective earthscape. The result: a beautiful setting which supports biodiversity, uses less water, costs less to maintain and enriches campus lifestyle.

## Good Stewardship Makes Good Sense

**Economic:** the conversion to native plants was paid out of savings from funds previously spent on turf maintenance. The University saves 50% annually overall on landscape maintenance, primarily due to the native plantings which save 80% over the cost to maintain turf.

**Environmental:** Native plants require less fertilizer, herbicides, fuel and labor. They beautify and support biodiversity. Natives have deep roots which absorb water, reduce runoff, thus reducing energy and water use while providing effective bio-regulation of this habitat.

**Social:** The Robin Campus uses less resources and generates fewer pollutants, demonstrating corporate social responsibility by planting natives and observing sustainable site practices.



RU began its Sustainable Landscape Redevelopment Project in 2011 to enhance its green space, retain water onsite, and provide wildlife habitat. This map is from 2013.





Prescribed burn of detention pond/wetland (April 2011) at SCH Campus to discourage non-native plants and stimulate growth of native wetland/prairie species.





Prairie restoration at detention pond (Fall 2012): though an artificial wetland, RU's humble stormwater pond is an example of biodiverse green infrastructure.



# Transforming RU: from concrete slab . . .



Aerial view of RU Schaumburg Campus, pre-redevelopment (Google Maps)



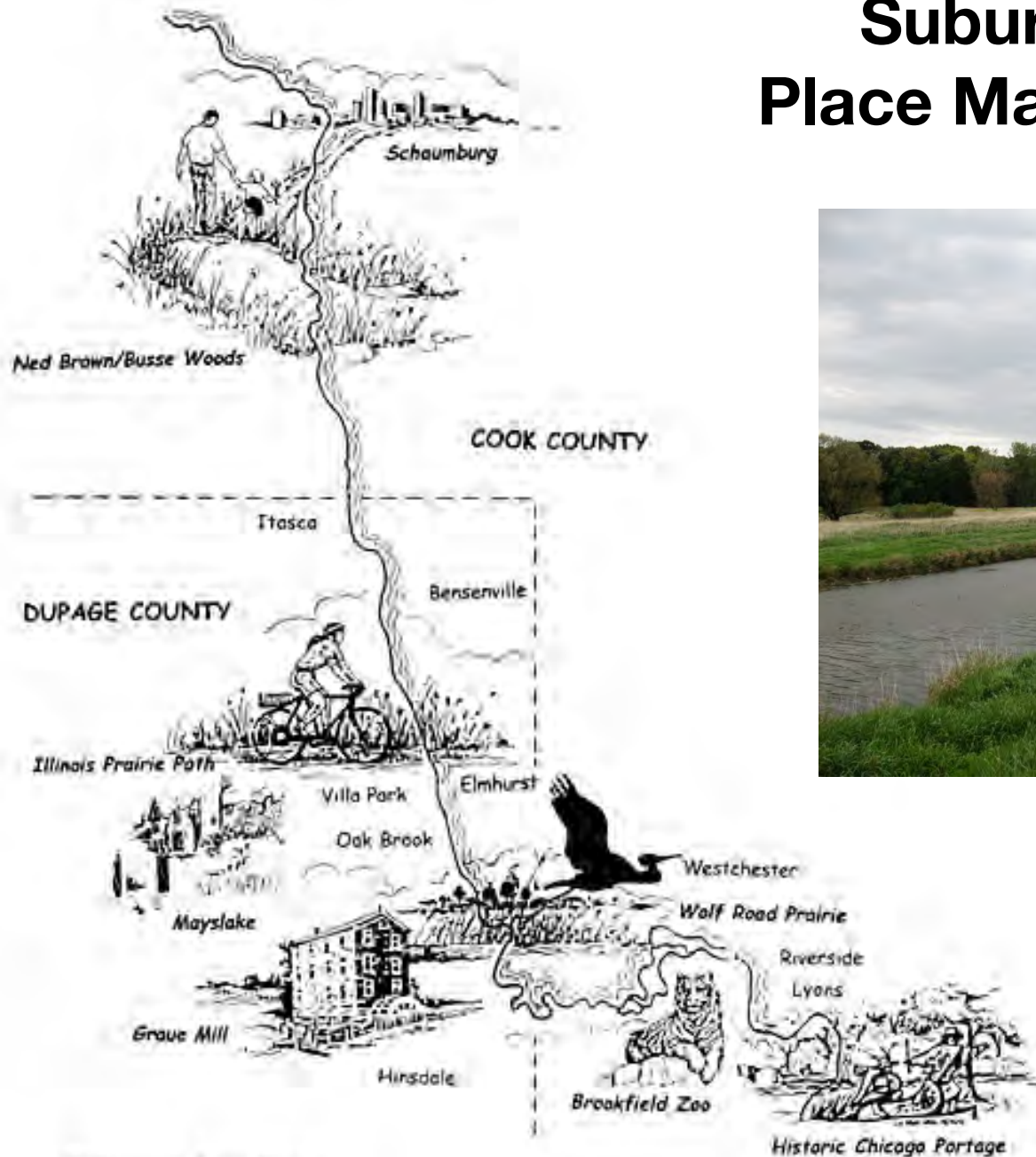
**. . . to living lab\***



Schaumburg Campus prairie restoration, Summer 2013  
(photo: M. Radeck, a SUST major who also coined this phrase\*)



# Suburban Nature: Place Map of Salt Creek



A major river in the western suburbs, Salt Creek flows through Busse Woods, east of Schaumburg IL.

# Salt Creek Watershed



Covering roughly 150 square miles, the Salt Creek watershed incorporates more than 30 municipalities that are home to nearly 500,000 people.





# "Development"



Much of suburbia, as with larger cities, is "developed." That means a transformed land surface characterized by "hardscape," which results in water runoff that has to be managed, rather than normal groundwater replenishment.



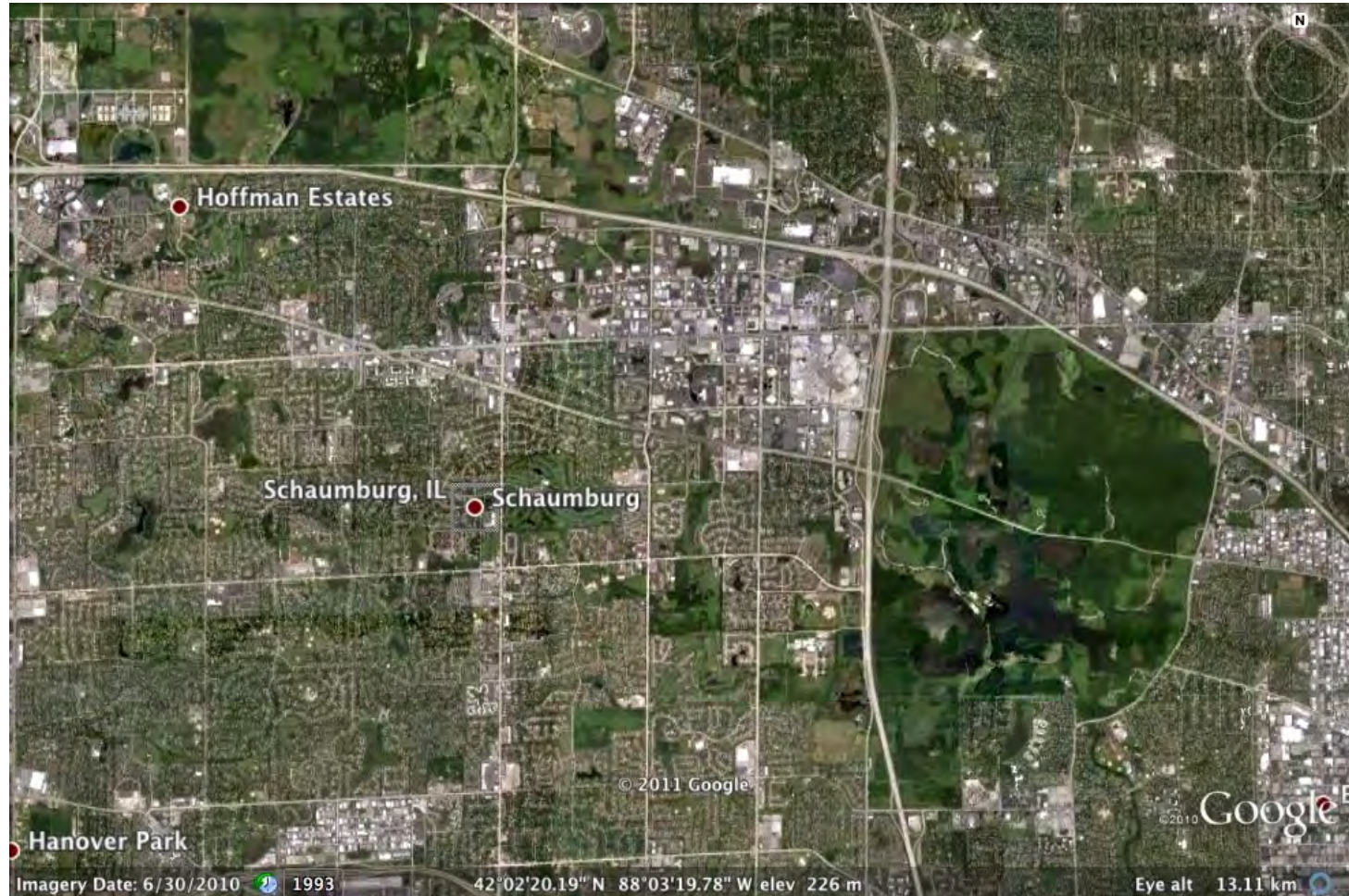
# Wastewater Treatment



Here's an extraordinary view of the connection between "hard path" technology and "soft path" green infrastructure. The West Branch of Salt Creek winds around the John Egan wastewater treatment plant, which cleans sewage and then releases it into the creek; from there, the West Branch flows west into the South Pool of Busse Lake.



# Green Infrastructure



That's why green infrastructure is so important. Here we see Schaumburg in the larger context of Chicago's NW suburbs and a couple of large Cook County Forest Preserve units: the Paul Douglas (partial view, upper left) and the Ned Brown / Busse Woods (lower right) forest preserves. Besides recreation and wildlife habitat, these green oases absorb tremendous amounts of precipitation as well as run-off from the surrounding hardscape, and thus act as giant sponges – taking in water and holding it, then releasing it slowly over time.

# Part Two: Sustainability & Environmental Justice

**Environmental resources** are being consumed, degraded, and despoiled; biodiversity is decreasing; climate is warming; human health is compromised.

**Economic development** is pursued as an end-to-itself without regard to its ecological impacts or sufficient acknowledgment of its social costs.

**Ethics** are short in supply and are viewed, if at all, as irrelevant to governance and economic processes. Profound disconnection between nature and humanity.



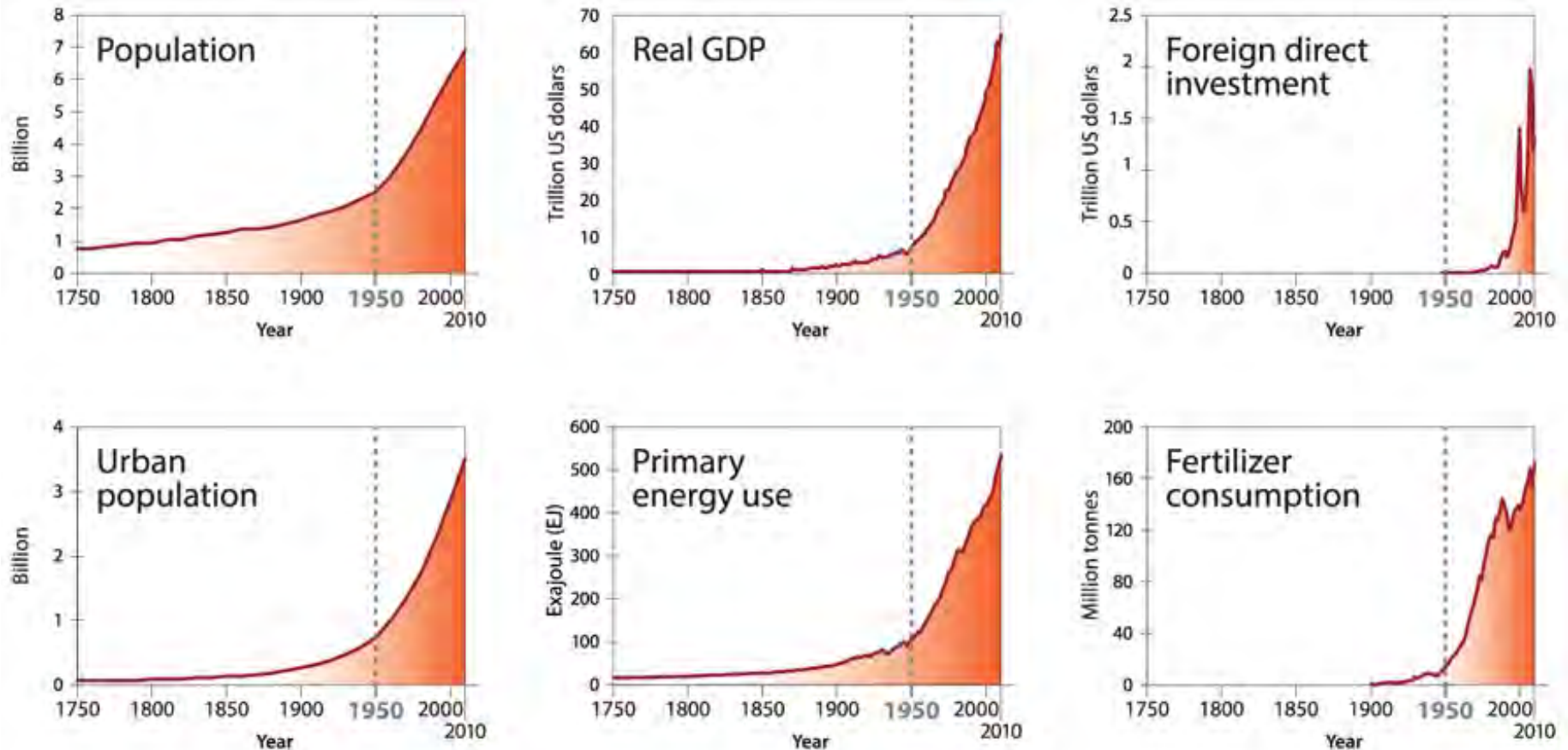
LeaAnne Walters holds up bottles of her tap water in Flint, MI (2015)



Climate justice activism in London (Reuters, 2018)

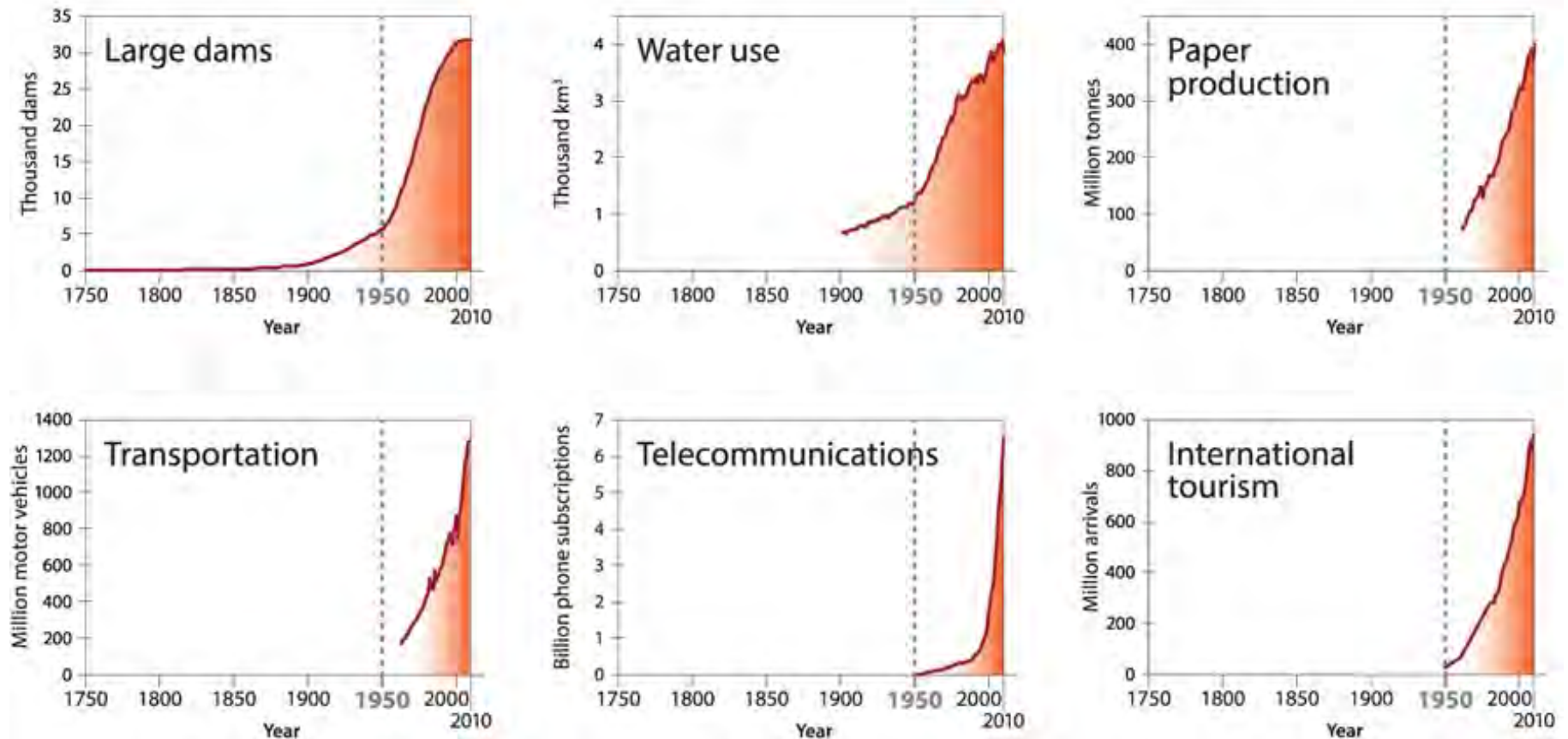


# The Shape of the Problem Before Us



**Iyengar, Figure 2-2. Global socioeconomic trends, 1750–2010.** From Lerch, ed., ch. 2.  
(Source: Will Steffen et al., “The Trajectory of the Anthropocene: The Great Acceleration,”  
*Anthropocene Review* 2 (2015), 84.)

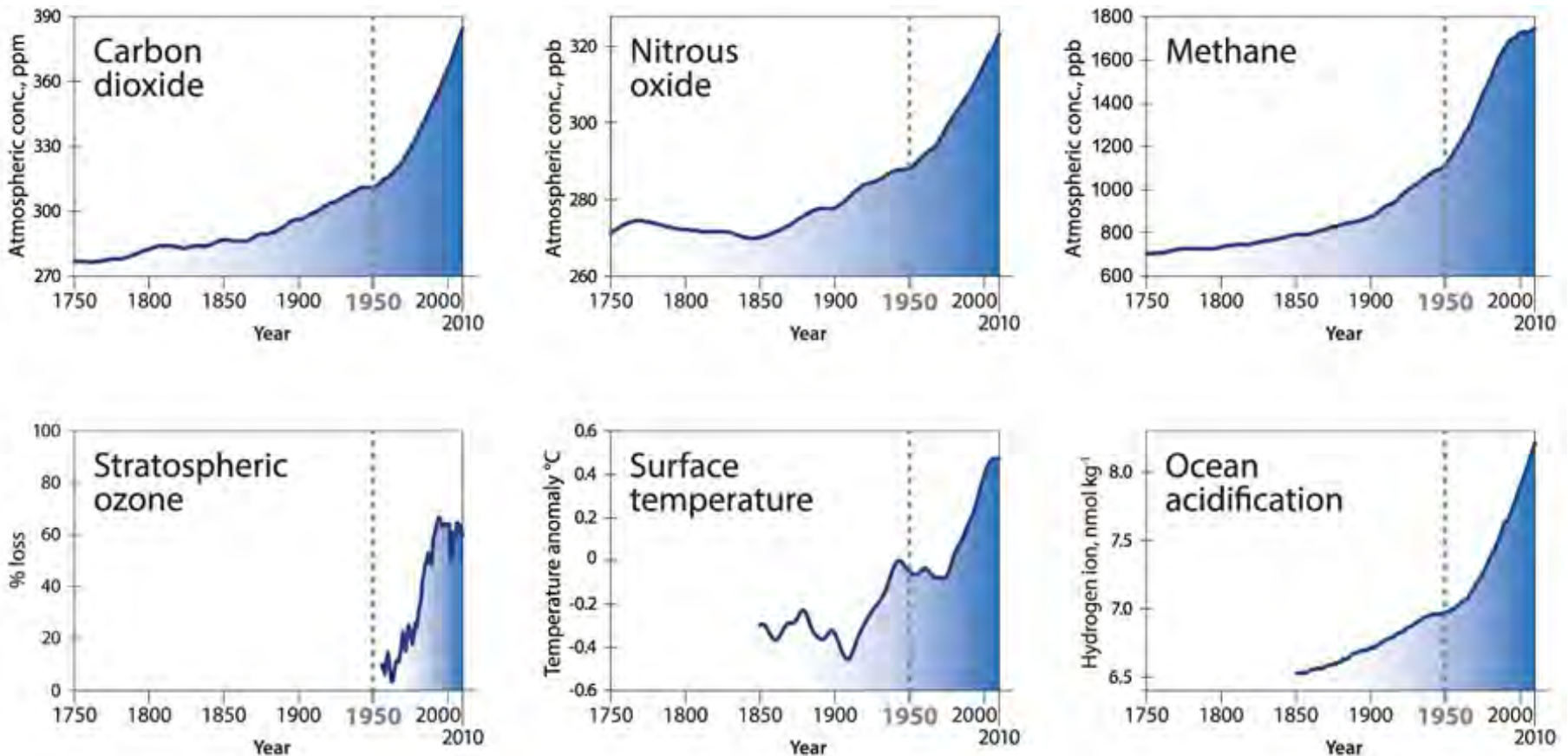
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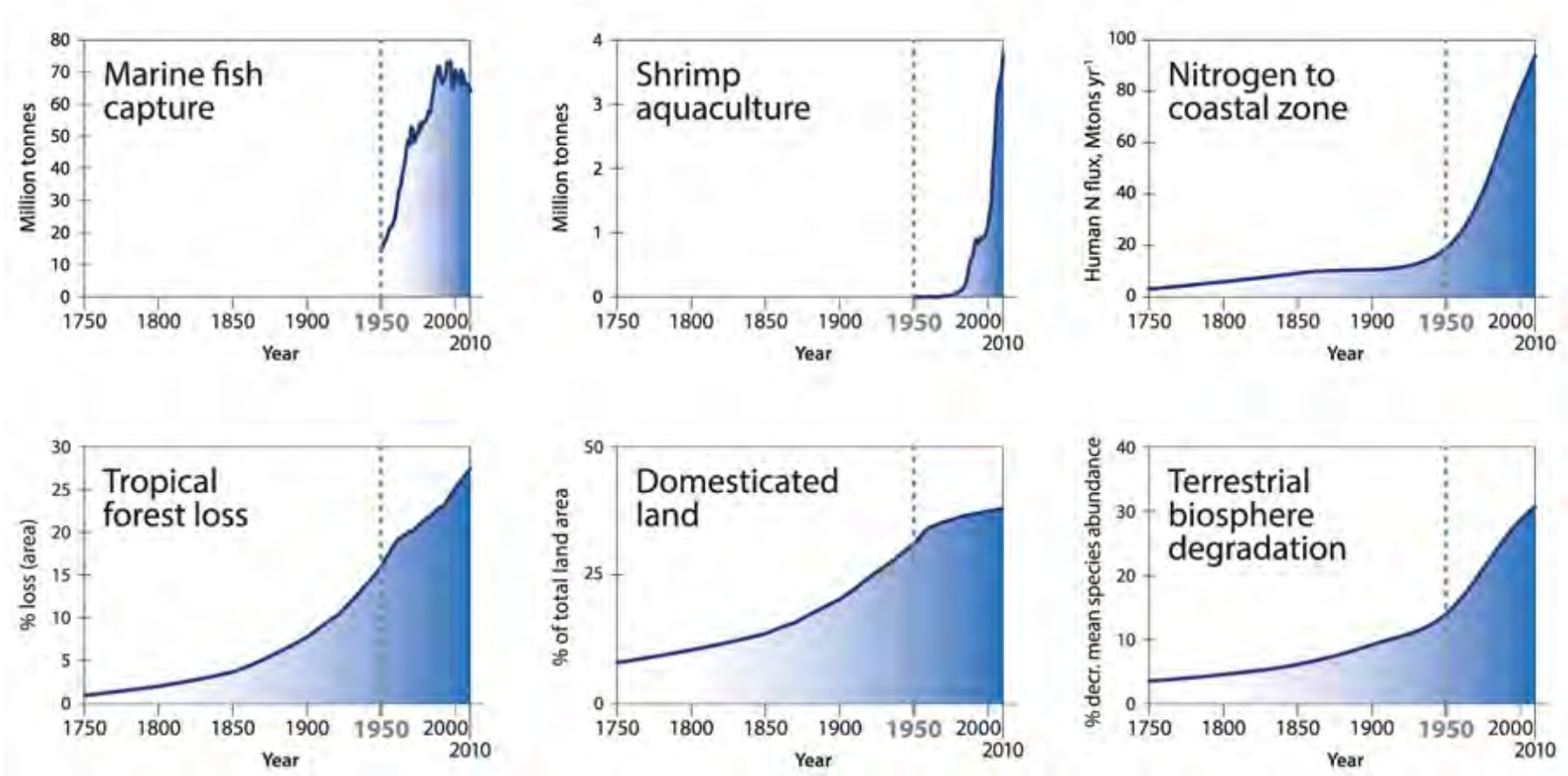
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# Goals for a Sustainable Future



Michael Howard at Eden Place Nature Center, in the Fuller Park neighborhood on Chicago's South Side (photo: EPNC)

**Environmental resources** are conserved for both future human generations as well as non-human biota.

**Economic development** occurs not at the expense of the natural environment, but in a way to mitigate ecological costs and impacts.

**Equity** – social, economic, and environmental justice – governs the process of sustainable development. Ethics inform everything we do.

# Sustainable Development as Holistic Framework



A model for integrating ecology, economy, and ethics that is espoused by the United Nations in their [Sustainable Development Goals](#) for 2030



# Sustainable Development Goals



The UN has established these laudable SD Goals for its [2030 Agenda for Sustainable Development](#). Note the centrality of social justice in this list.

This is about people as well as the environment.

# The Environmental Justice Movement



**People of Color Summit, Washington DC, 1991:** Delegates created the Principles of Environmental Justice (EJ for short) at this historic gathering (photo: [Robert Bullard](#)).

For more information on EJ, [see this website](#).

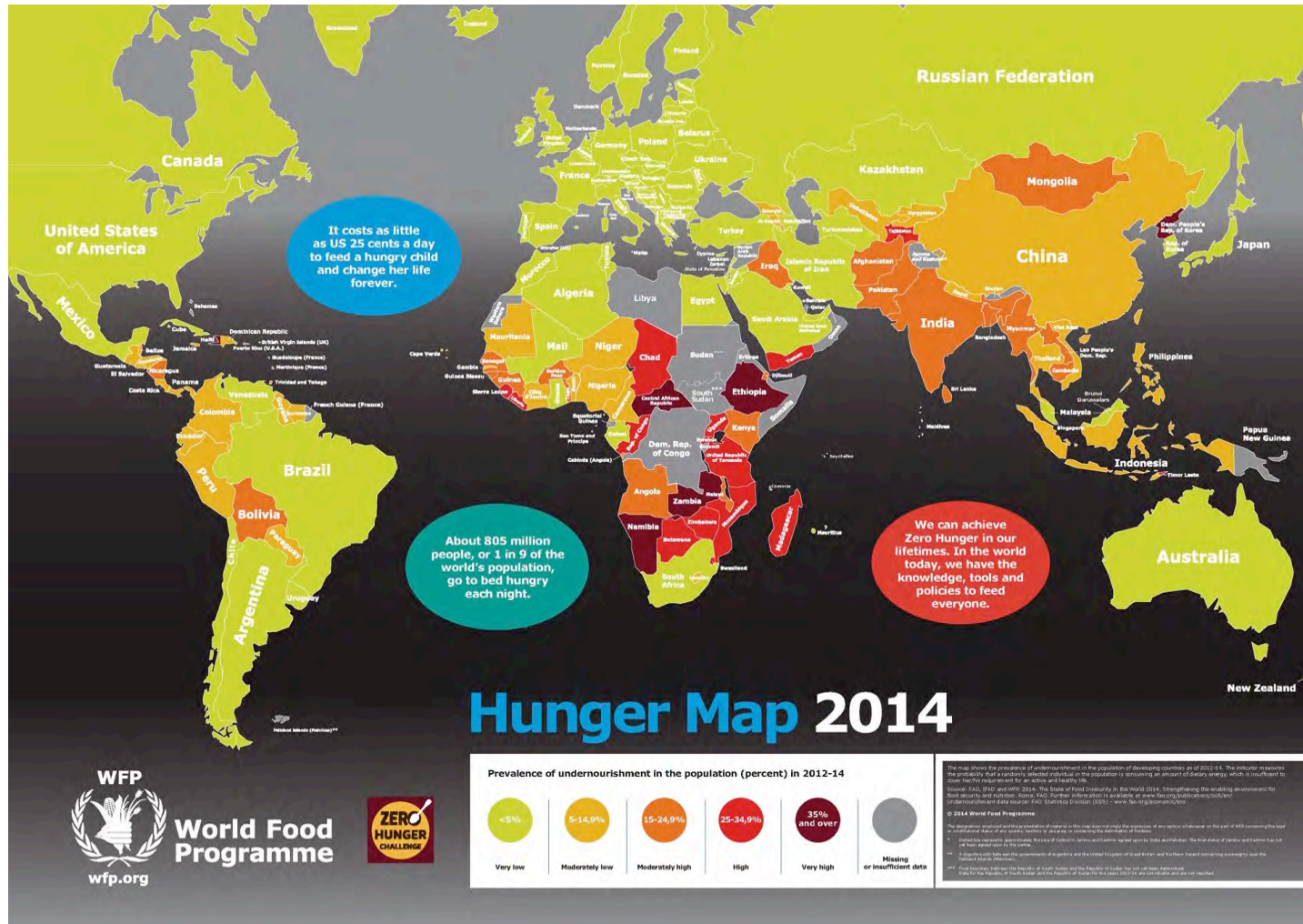


# Environmental Justice Principles

- 1) **Environmental Justice** affirms the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction.
- 2) **Environmental Justice** demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias.
- 3) **Environmental Justice** mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things.

**People of Color Summit, Washington DC, 1991.** The first three of the 17 Principles of Environmental Justice (EJ for short). For more information on EJ, [see this website](#).

# Global Hunger

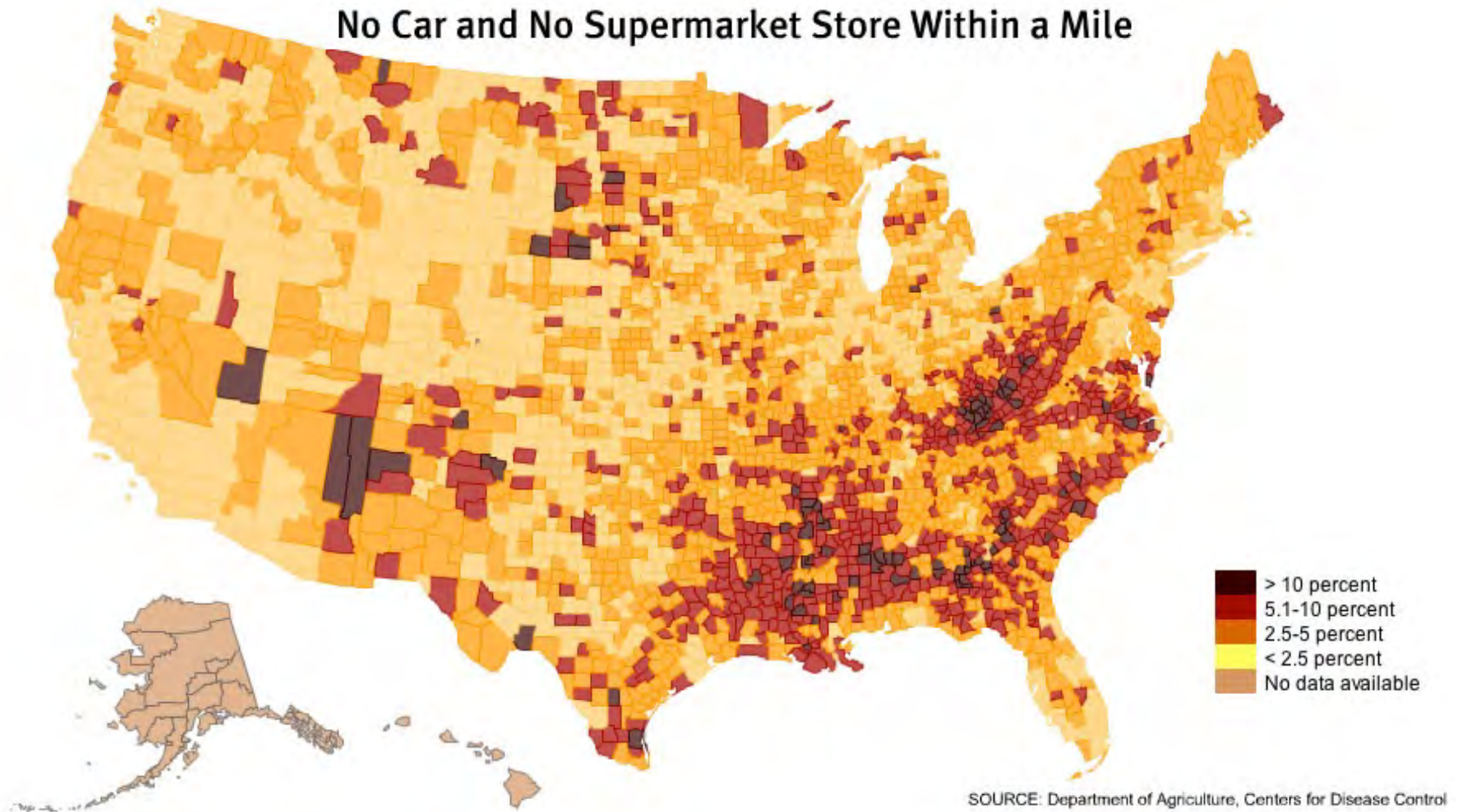


This map from the World Food Programme illustrates one aspect of environmental injustice: the pervasive hunger throughout much of the world.



# Food Access

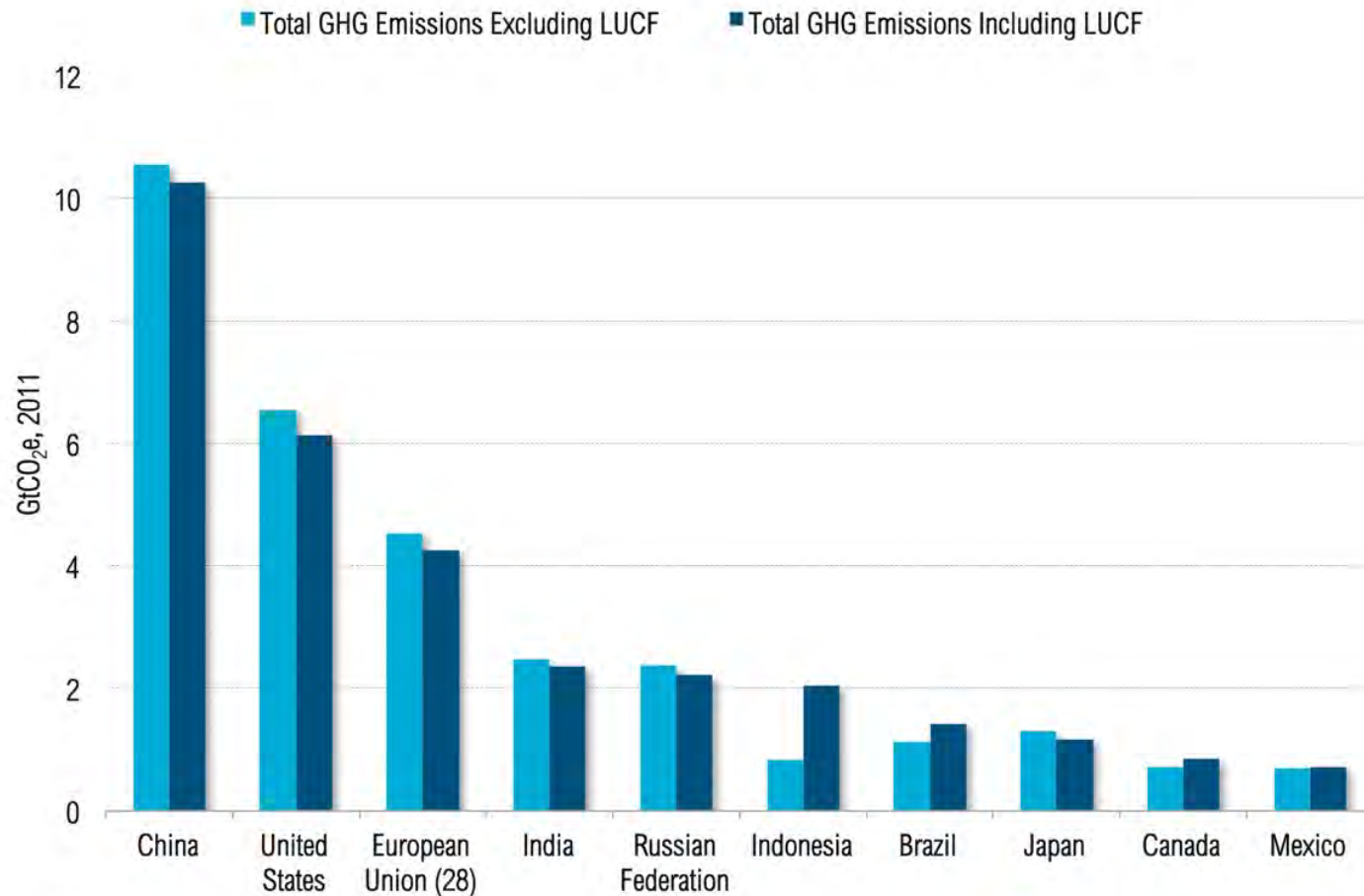
No Car and No Supermarket Store Within a Mile



What about the US? This map from the USDA and CDC shows how access to food sources is hampered by lack of transportation and/or proximity from grocery stores.

# Climate Change: GHG Emissions

## Top 10 Emitters



<http://bit.ly/11SMpjA>

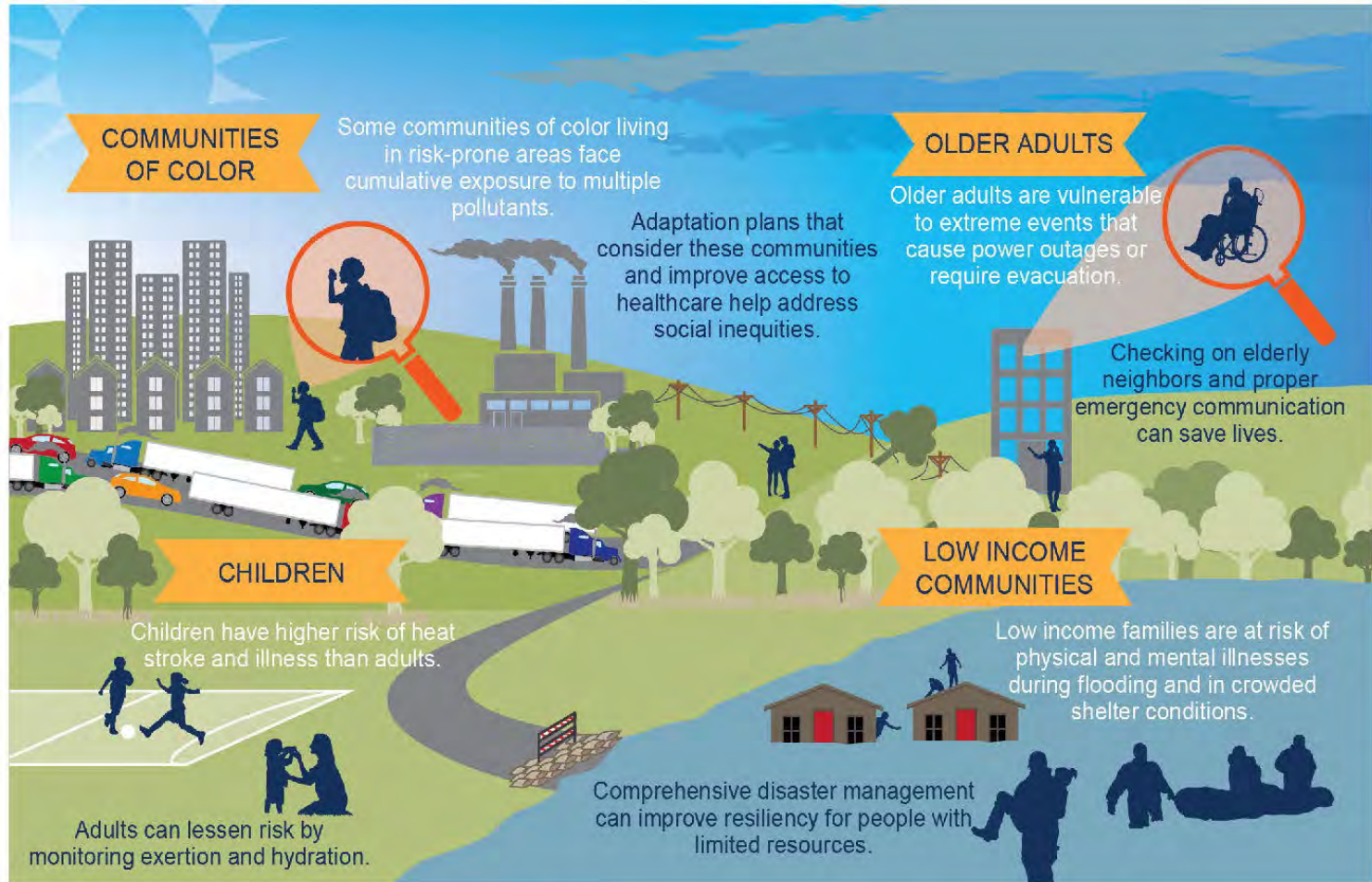
 WORLD RESOURCES INSTITUTE

What strikes you about this list of top GHG polluters? (LUCF = Land Use Change & Forestry)

Source: M. Ge, et al., "[6 Graphs Explain the World's Top Ten Emitters](#)." WRI, 25 Nov 2014



# Climate Change: Health Impacts



Examples of populations at higher risk of exposure to adverse climate-related health threats are shown along with adaptation measures that can help address disproportionate impacts. When considering the full range of threats from climate change as well as other environmental exposures, these groups are among the most exposed, most sensitive, and have the least individual and community resources to prepare for and respond to health threats. White text indicates the risks faced by those communities, while dark text indicates actions that can be taken to reduce those risks. *From Figure 14.2 (Source: EPA).*

Source: US Global Change Research Program, *Fourth National Climate Assessment, Vol. II: Impacts, Risks, and Adaptation in the US* (2018), p. 111



# Consumption & Waste

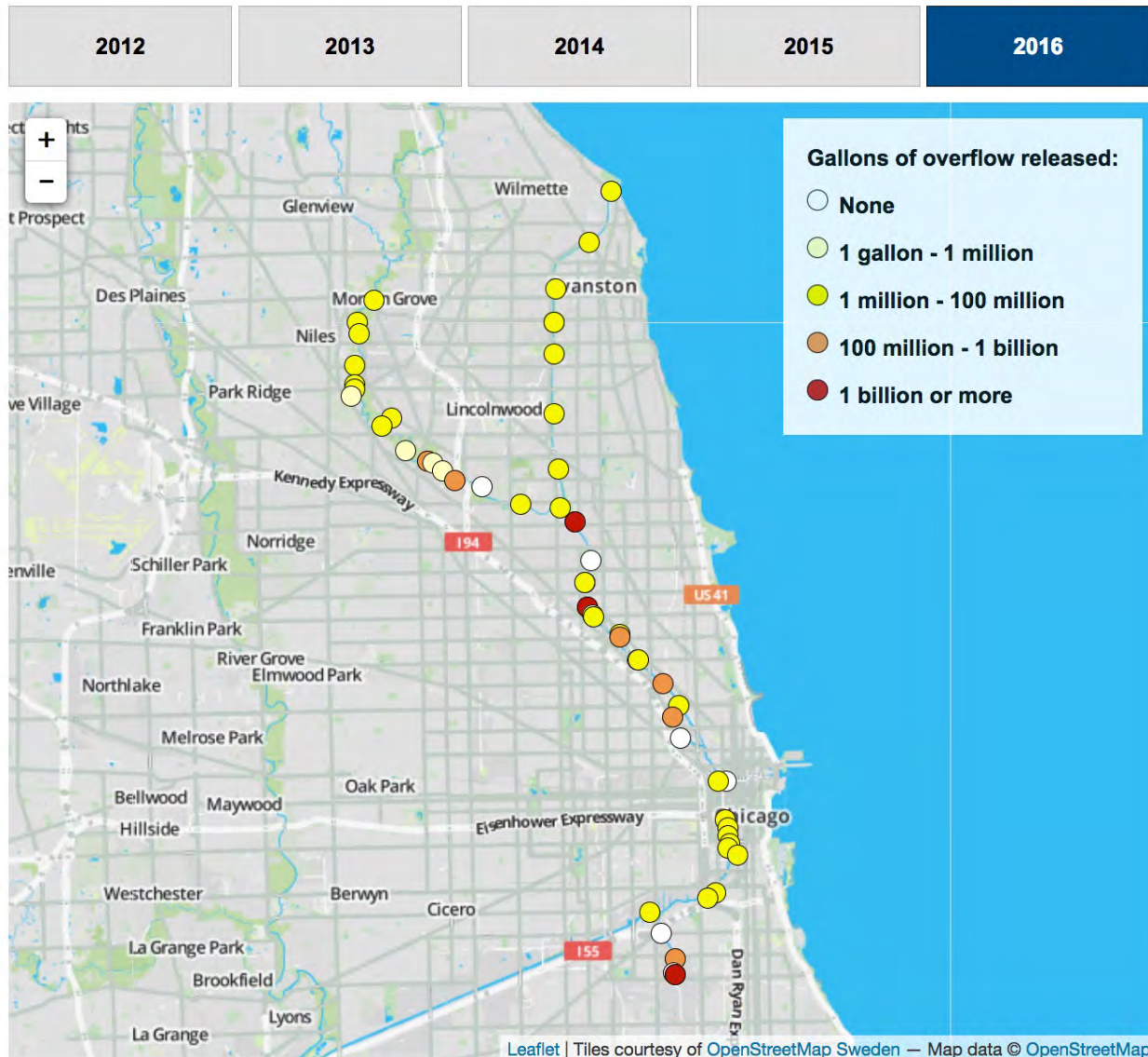


Chris Jordan, *Cigarette Butts*, 60x72" (2013). The provocative artwork inspires us to consider the impact of our consumption and waste (click image to go to website).



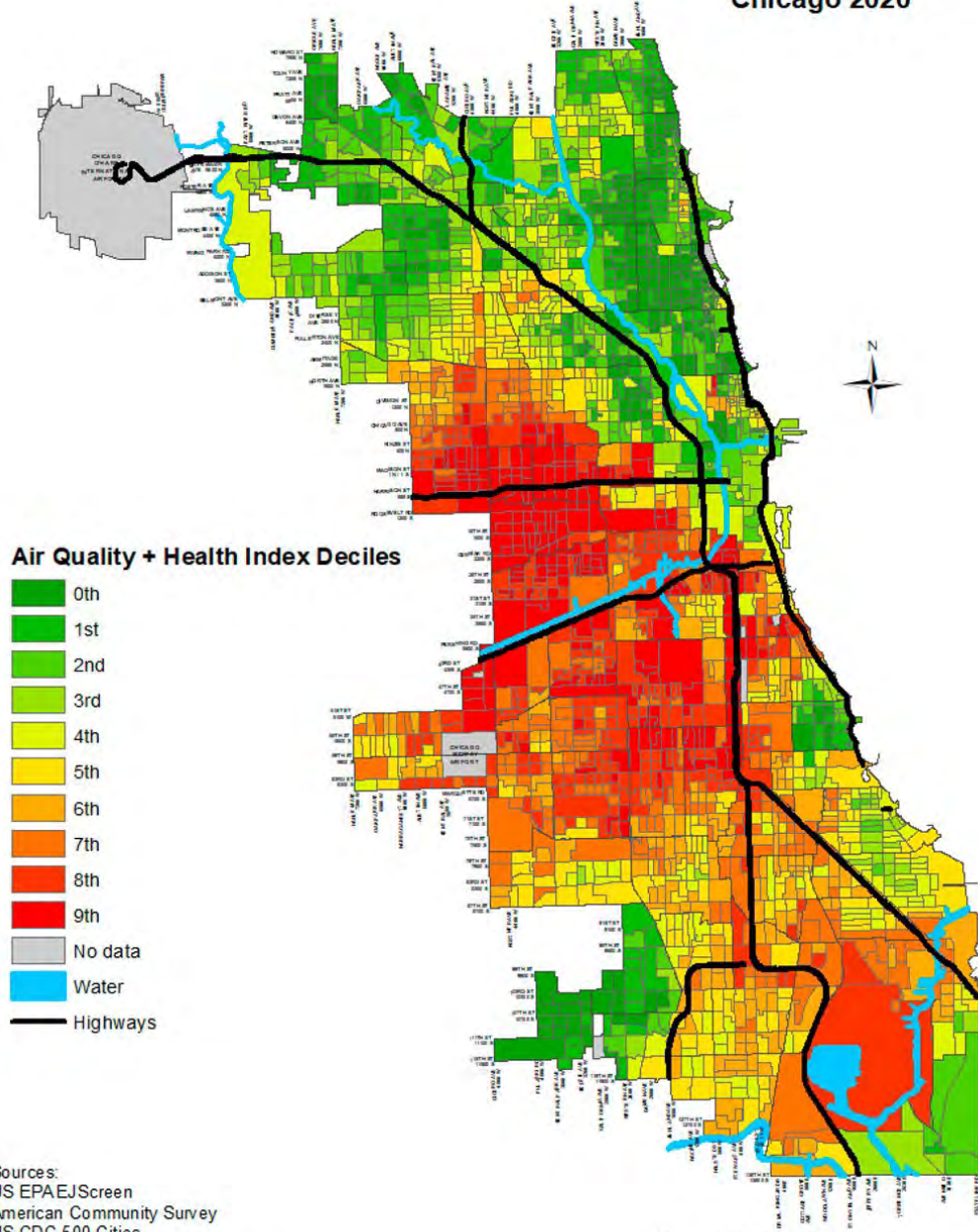
# Water Quality Impairments

Sewage overflows into the Chicago River, by year



Source: Metropolitan Water Reclamation District of Greater Chicago

## Air Quality and Health Index, Chicago 2020



# The Environmental Injustice of Air Quality

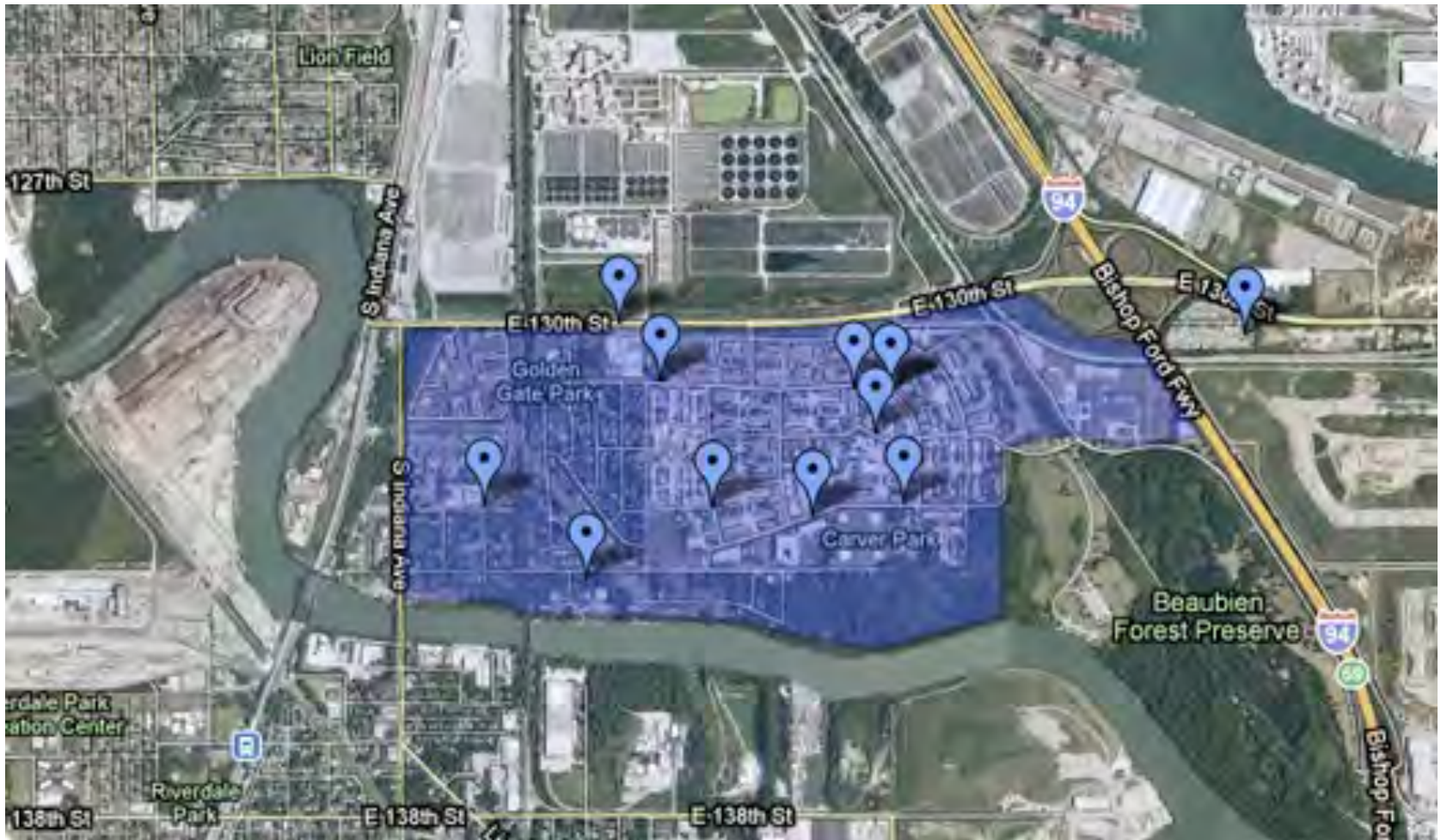
"The Air Quality and Health Report found that air pollution disproportionately burdens neighborhoods on the South and West Sides, with parts of the City bisected by major highways and high concentrations of industry facing significant impacts." (City of Chicago, [Dept of Public Health](#))

Sources:  
US EPA EJScreen  
American Community Survey  
US CDC 500 Cities  
IDPH Vital Statistics  
Various years combined, 2011-2018

Created by Office of Epidemiology,  
Chicago Department of Public Health, January, 2020



# Frontline Communities



Map of the Altgeld Gardens community in Chicago (click image to view interactive map). This area was described by EJ activist Hazel Johnson as the "toxic donut" because it is literally surrounded by polluted/hazardous land and water. The map illustrates how few economic, social, and transportation resources are available to AG residents.

# Failures of Leadership & Governance



Here's a political science question for you: any idea who these guys are?



# A Crisis in Govern/Environmental Ethics



Trump-appointed EPA chief **Scott Pruitt** (left) [resigned in July 2018](#) after a scandal-ridden tenure of incompetence and wholesale deregulation/demoralization within the EPA. Another scandal-plagued and ethics-challenged administrator is **Ryan Zinke**, [who left the Dept of the Interior](#) in December of 2018 after months of promoting fossil fuel extraction in national parklands and shrinking the size of national monuments/wilderness areas. Both were replaced by skilled and inoffensive bureaucrats who shared the same anti-environment/pro-industry values as their corrupt and craven predecessors.

# Change: New Leaders of EPA & Dept of Interior



**Michael Regan**

EPA Administrator (2021-)  
1<sup>st</sup> Black man to lead the agency

[bio](#)



**Deb Haaland**

Secretary of the Interior (2021-)  
1<sup>st</sup> Native American cabinet member

[bio](#)



# Hope: Environmental Ethics & Justice Orgs



**Union of  
Concerned  
Scientists**

Citizens and Scientists for Environmental Solutions

Spend a little time checking out these orgs that address matters of policy, social justice, & environmental ethics; in terms of their scope, they range from the local to national to global: [Center for Humans & Nature](#), [Little Village Environmental Justice Organization](#), [Union of Concerned Scientists](#), [United Nations](#)

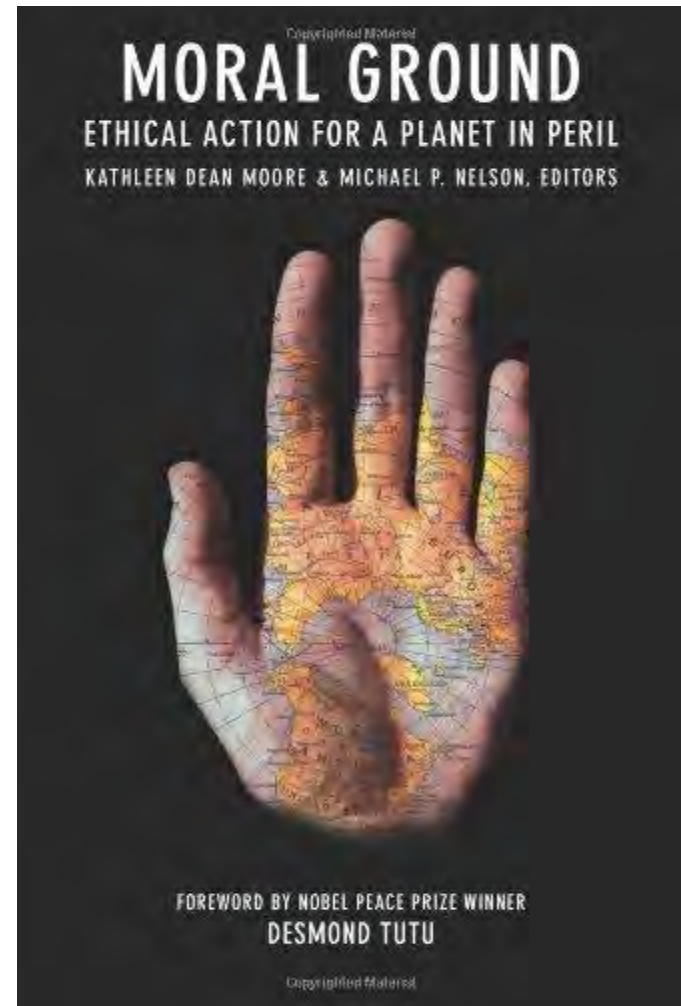
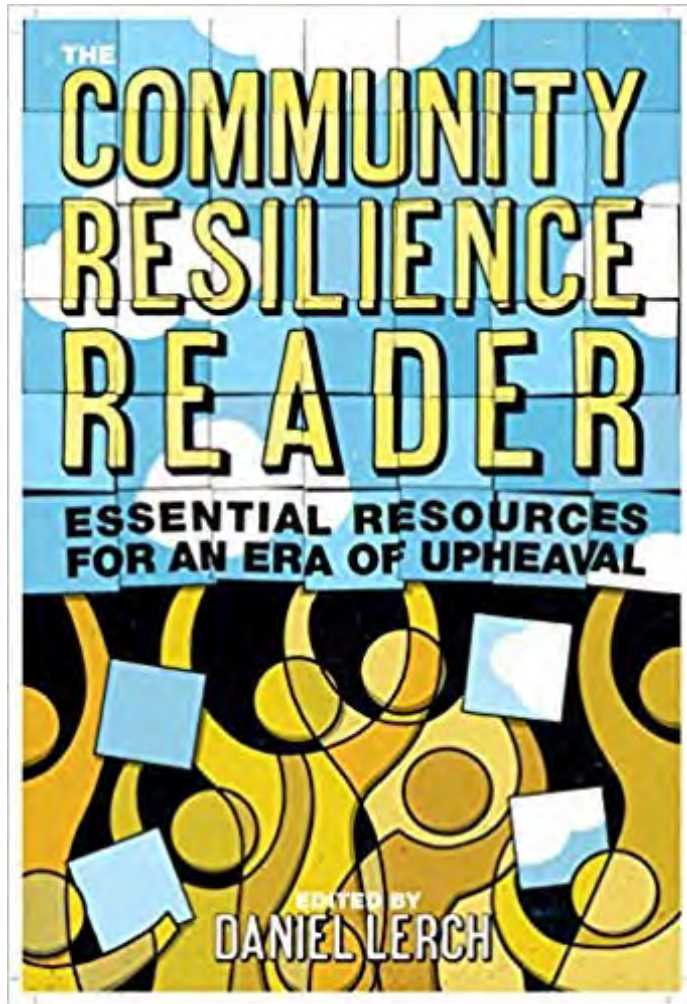
# Inspiration: People Fighting for Change



**Clockwise from top left:** SUST 240 Waste students @RU clean up Bubbly Creek; Will Allen, urban farmer; Hazel Johnson & a young community organizer; Lois Gibbs, environmental activist; Dallas Goldtooth, Native American climate activist; Kim Wasserman, community organizer/activist



# Knowledge: Books I Recommend



# Questions for Discussion

- Which **principle of environmental justice (EJ)** resonates most strongly with you? Why?
- What environmental and/or social justice issues are most important to **your home community**?
- What **people** inspire you? Who should we know about and learn from?
- **Political engagement:** how can we get more involved at the local, state, national, global levels?
- What are some of the ways **you can get involved here at Augie** on behalf of sustainability and social justice?
- What are your **questions**? Your **passions**? Your **values**?