



**PUBLIC POLICY CENTER**



# **Climate-Healthy Cities: Building public health resilience to climate change**

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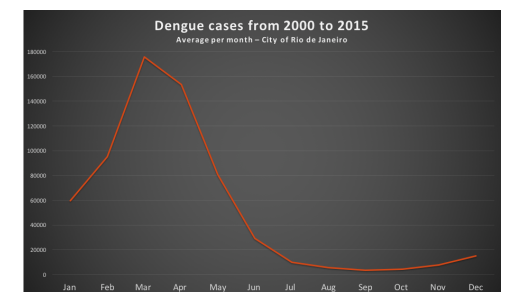
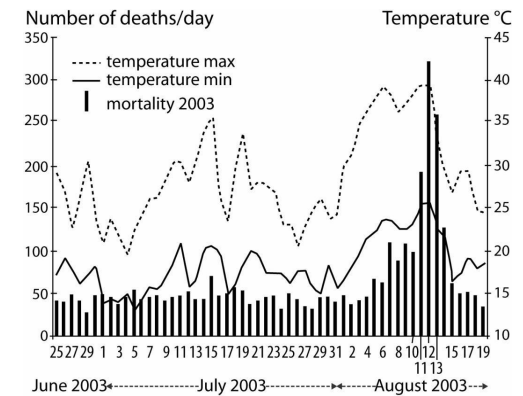
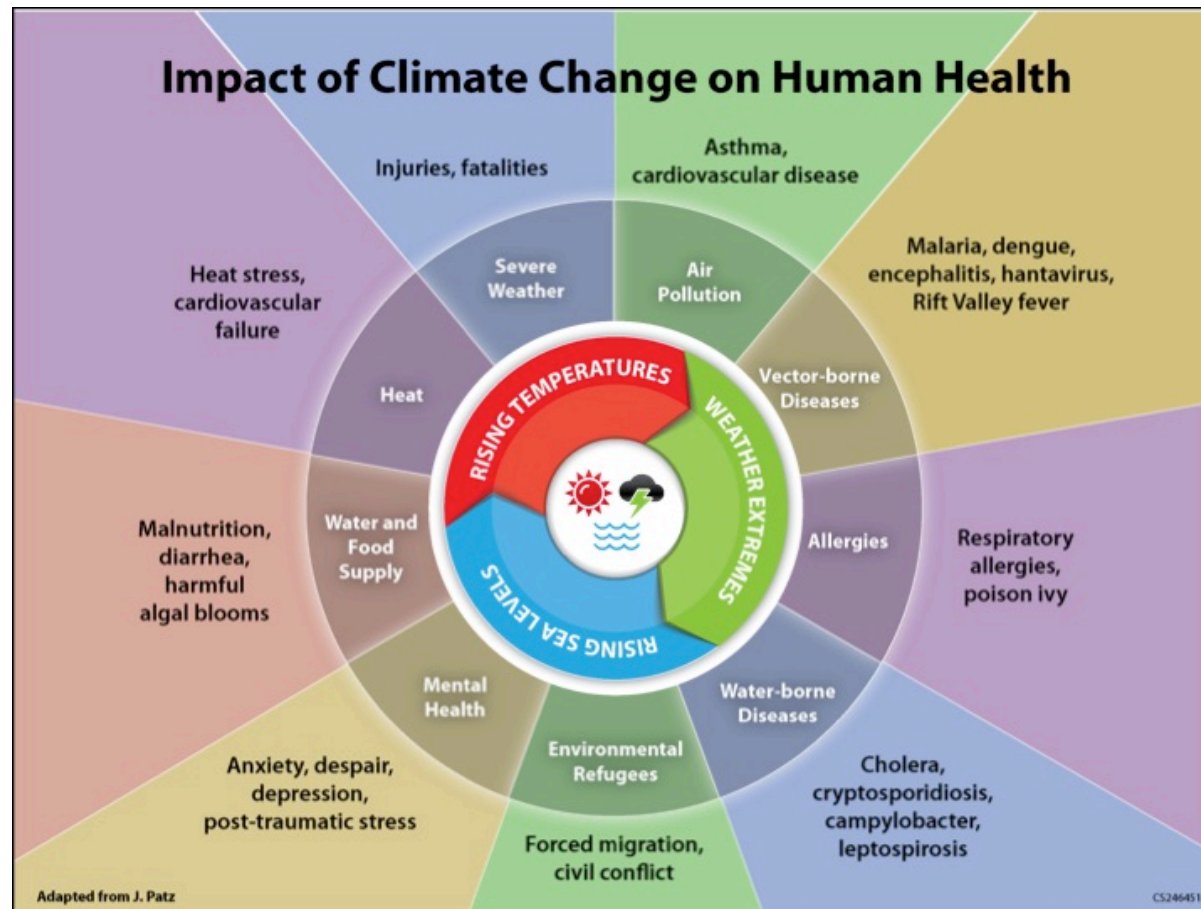
BLOOMBERG SCHOOL  
*of* PUBLIC HEALTH

# Presentation Outline

- Climate health impacts: cities on the frontline
- Are cities' public health services climate resilient?
- Climate-Healthy Cities network
- Aims and first steps
- Heatwaves: targeting the most vulnerable
- Three-year vision and how to get there



# Climate impacts on health

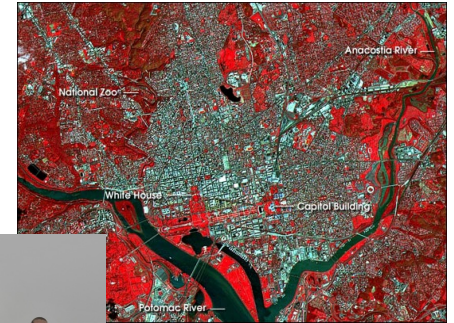


US CDC (cdc.gov); Paris heat mortality (nasa.gov); dengue fever in Rio de Janeiro (Luciana Nery).



# Cities on climate health frontline

- Large concentrated populations
- Urban heat island effect
- Storm & flooding risk
- Tourism & migration hubs

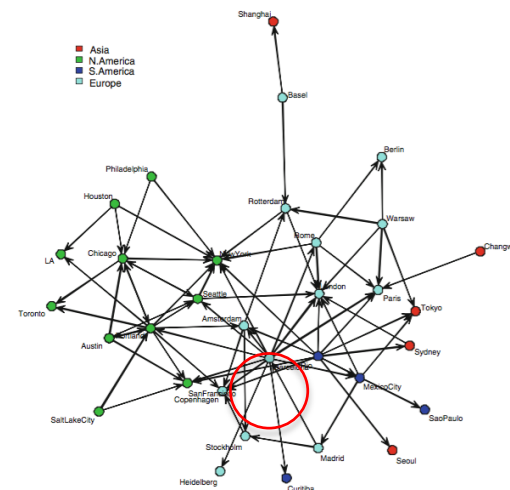
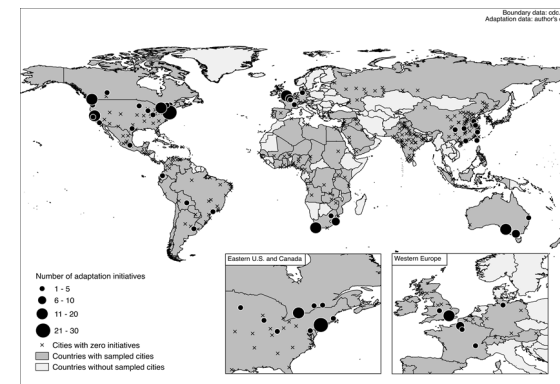


Moscow 2010 heatwave ([pbs.org](http://pbs.org)); Washington DC heat island ([Washington Post](http://WashingtonPost.com)); Baltimore flooding ([environmentalintegrity.org](http://environmentalintegrity.org)) Miami Beach flooding ([Miami Herald](http://MiamiHerald.com))



# Are city PH systems resilient?

- Many cities have PH responsibilities
- Some are working to build PH resilience
- But this not yet widespread
- City networks disseminate policies and practices that work
- But no global public health city network



Map of health adaptation activities in 400 largest world cities (Araos et al. 2015). Schematic map of C40 Cities network (Lee & Van der Meene 2012).



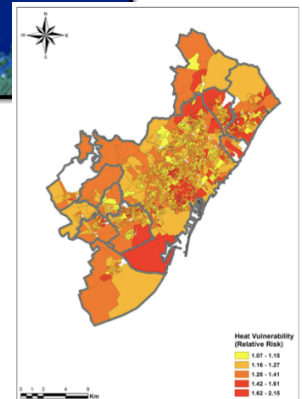
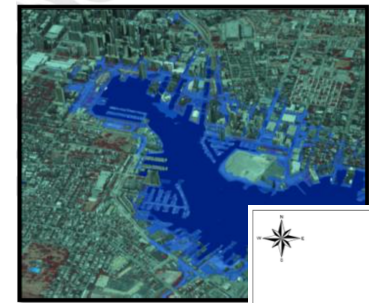


# Climate-Healthy Cities network

Knowledge partnership to share city experiences and translate science to effective policy

*Goal – help prepare city public health services to be resilient to climate change*

- JHSPH – public health science & practice
- UPF – social, environmental health
- Barcelona – heat & vector diseases
- Baltimore – disaster preparedness



Baltimore Harbor storm surge map (baltimorecity.gov); Barcelona heat vulnerability map (Xu et al. 2013)



# Initial steps

## Convening partners

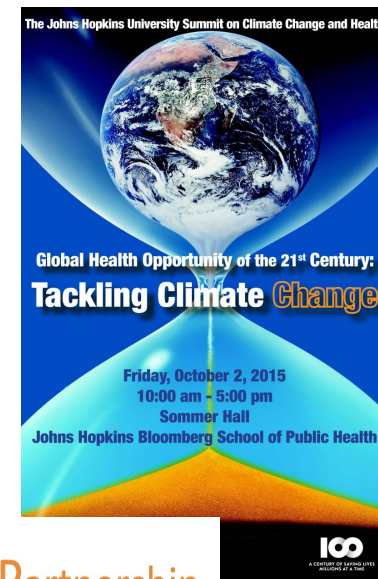
- JHSPH Climate & Health Summit (Oct 2015)
- Core group of cities

## Connecting cities

- Barcelona-Baltimore meeting (Jan 2016)
- BCN Resilience Week (Mar 2016)
- Community of practice: website, newsletter

## Translating evidence to policy and practice

- JOH: building city climate health baseline
- Systematic reviews, evaluation
- Heat vulnerability pilot



# Heat vulnerability

## Extreme heat

- 80% large cities consider important risk
- Higher mortality (up to 20-30%) for vulnerable
- Heat plans can reduce mortality, but must be targeted

## How we are helping cities reduce risk

- Science
  - Synthesize evidence on heat vulnerability targeting
  - Develop and test city self-assessment tool
- Practice
  - Convene leading cities
  - Link cities in learning network

City	Vulnerability risk factor	Increased heat-related mortality risk (95% CI)
Stockholm Sweden	Age >50	8% (3-12%)
	Psychiatric disorder	33% (10-61%)
Rome Italy	Age >50	22% (18-26%)
	Diabetes	25% (13-37%)
135 US Cities	Atrial fibrillation hospitaliz.	6% (4-8%)
	Alzheimers	8% (4-12%)
Guangzhou China	Female gender	25% (17-33%)
	Ischemic heart disease	30% (13-47%)
7 Korean Cities	Age > 65	16% (~0-25%)
	Female gender	15% (3-33%)

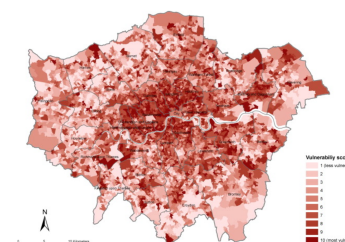
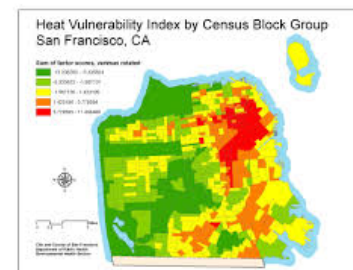


Table of selected heat vulnerability factor and risks (Sheehan, unpublished); San Francisco heat vulnerability map (SF Dept Public Health, 2012); London heat vulnerability map (Wolf & MacGregor, 2013)





# Vision and next steps

*Map of large cities – 20% climate-health active*

- **Convening partners**
  - Consolidate network structure
  - “Davos” of climate & health
- **Connecting cities**
  - Partner with C40, Big Cities Health Coalition
  - Significantly scale up city members
  - Health integrated into climate adaptation plans
- **Translating science to policy**
  - Estimate health “co-benefits” (e.g., air pollution)
  - Vector-borne disease early warning, others



London air pollution ([guardian.com](http://guardian.com)); *Aedes aegypti* mosquito ([oglobo.com](http://oglobo.com)); Rio de Janeiro slums; Karachi heat ([wikipedia.com](http://wikipedia.com)); Guangzhou flooding ([europe.chinadaily.com](http://europe.chinadaily.com))

