Greater Baltimore Wilderness Coalition:

Green Infrastructure for Regional Resilience and Equity

Kristin Baja
Climate and Resilience Planner
City of Baltimore, Office of Sustainability

Overview

- Baltimore

- Climate Impacts

- Resiliency

- Green Infrastructure
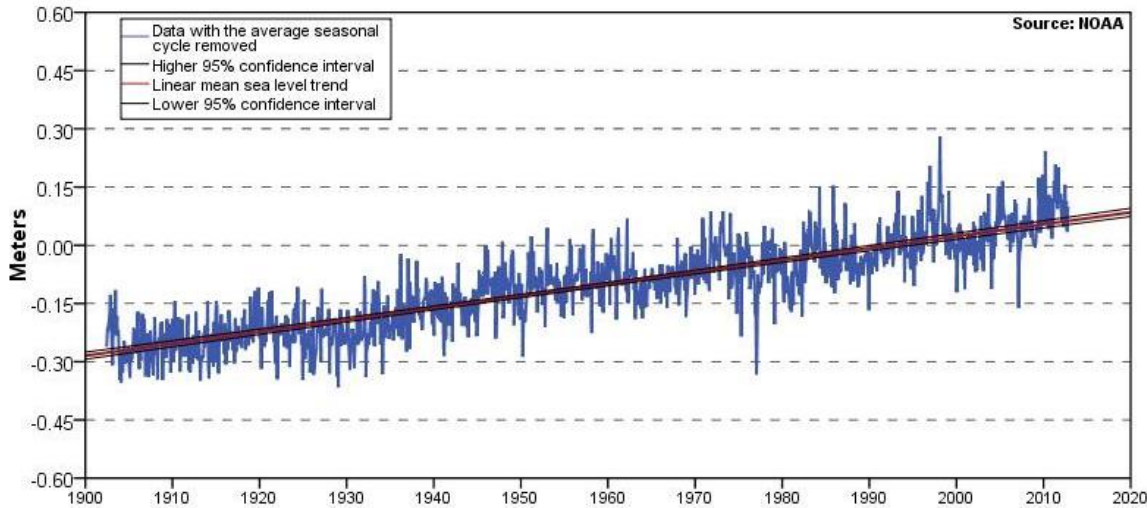
- Equity

Baltimore City Intro

- Most heavily developed area in Maryland- population 622,000

- Port and waterfront are extremely important assets

- Home to many Universities and Health Institutions

- Known as the City of Neighborhoods

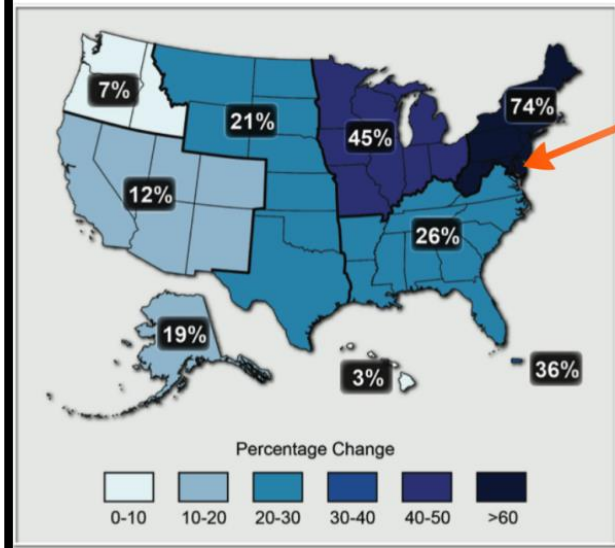- 64% African American, 4% Hispanic or Latino, 31% White
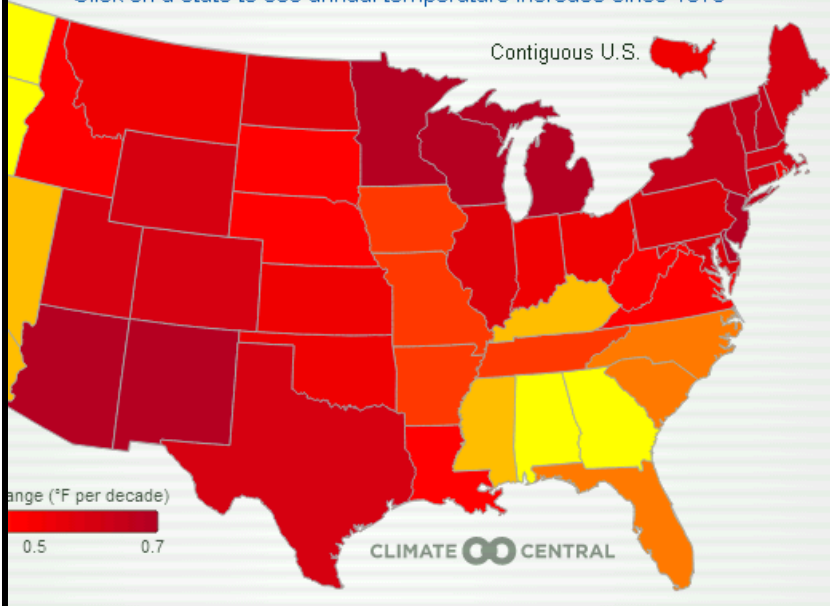
Baltimore, MD   3.08 +/- 0.15 mm/yr

Percentage Change in Very Heavy Precipitation

me States Warming at Twice Global Rate

Quick Review of Hazards

Coastal Storms	**more severe**
Floods	**more extensive**
Severe Thunderstorms	**more severe**
Wind	**increase intensity**
Winter Storms	**less snow, more flooding**
Extreme Heat/Drought	**more severe and intense**
Sea Level Rise	**increased threat**
Air Quality	**lower quality and increase risk**

Baltimore's Unique Approach

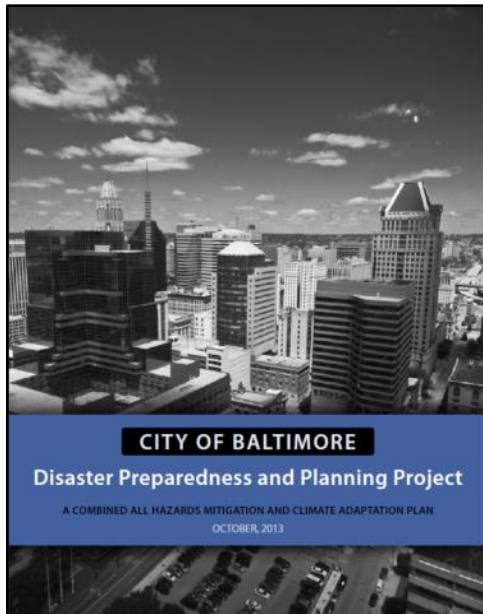## All Hazard Mitigation Plan
(Current and Historical Hazards)

$$+ \quad\quad\quad = \quad \underline{\text{Resilience}}$$

Climate Adaptation Plan
(Adapt to new and predicted climate conditions)

Structure

Infrastructure

- Energy
- Liquid Gas
- Communication
- Transportation
- **Waterfront**
- Wastewater
- **Stormwater**
- Solid Waste
- Policy

Buildings

- City Codes
- Structural
- Non-Structural

Natural Systems

- **Urban Parks & Forests**
- **Water Supply and Management**

Public Services

- Emergency Preparedness & Response
- **Health**
- Education & Outreach
- Food System

City Initiatives

Using Green Infrastructure as part of a comprehensive strategy for rebuilding Baltimore

- Provides economic, environmental, and social benefits

- Capacity to support the missions and goals of multiple agencies by addressing issues including stormwater management, health issues, and economic development.

Vacants to Values

Vacants to Values

- Demolish 4,000 vacant, blighted buildings over the next ten years, and create new green spaces in their place

- Cleaning up and redeveloping these properties can help raise property values, create community amenities, increase local tax revenue, and attract new residents and businesses

Power in Dirt

- Helps residents and businesses adopt city-owned vacant lots for urban greening and gardening

- Revitalizes communities and reduces the impacts of poverty.

- Since started in 2011, over 1100 lots have been adopted, totaling 49 acres. Nine of these acres are growing food.

- Communities with adopted lots have seen a 35 percent overall reduction in service requests to clean up trash.

Growing Green

Effort focused on re-using vacant land to green neighborhoods, reduce stormwater runoff, grow food, and create community spaces that mitigate the negative impacts of vacant properties
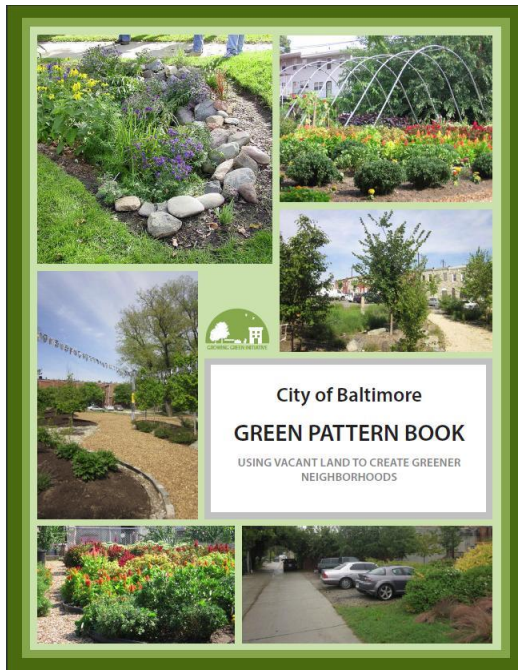
Growing Green Competition

Bridgeview Greenlawn Community
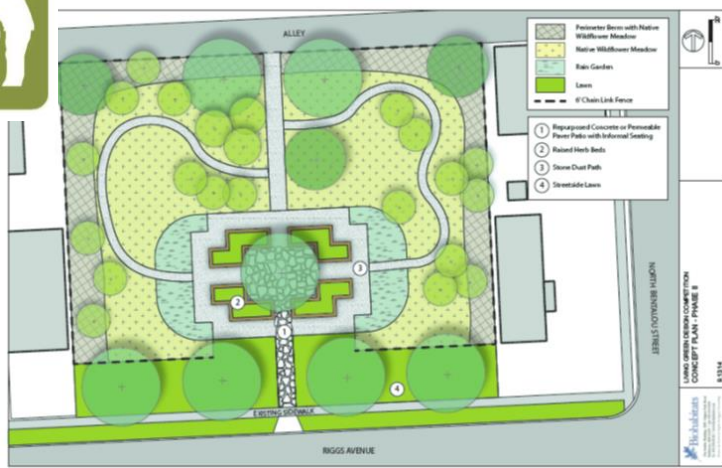
Real Food Farm's Flower Factory

SITE PLAN (WITHOUT TREES)

32nd and Harford Road Gateway Garden

Civic Work's Green Parking Lot

Whole Block Approach

Energy

- Cool Roofs
- Weatherization
- Energy Education

Greening

- Trees and Vegetation
- Green Roofs & Solar
- Stormwater
- Heat sensors

Inlet Seal

Floating Intake

Calmed Inlet

Submersible Pump

Below Ground Tank
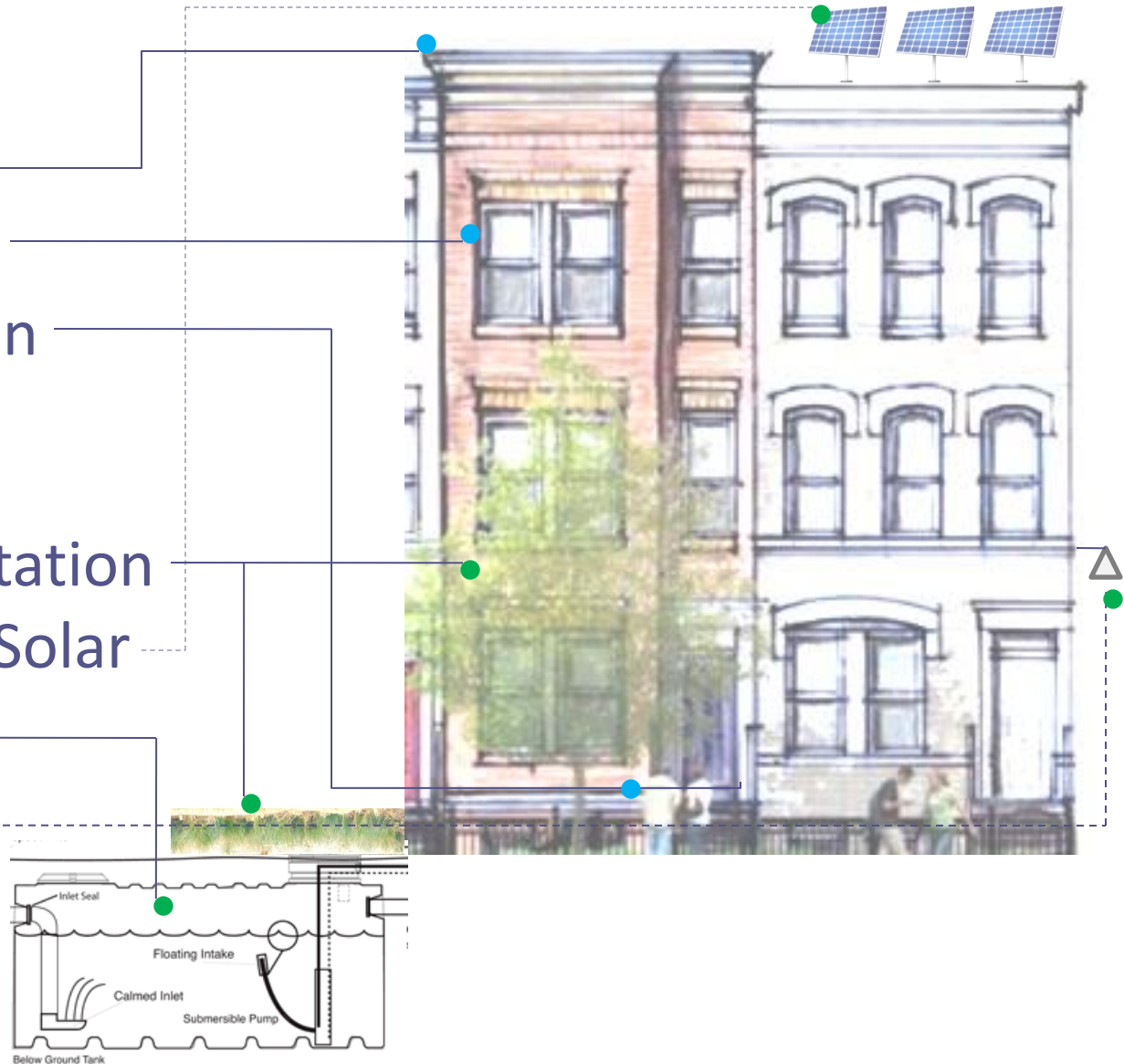
Urban Heat Island Sensors

- Track changes in surface temperatures

- Block by block actual and real-feel temperatures

- Show that trees and greening properly placed around buildings can significantly reduce heat
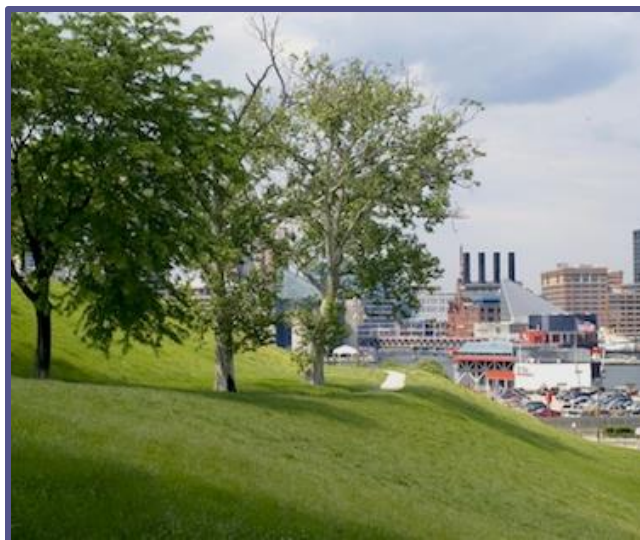
Tree Database/Spatial Analysis Tool

- Climate Conditions now and predicted

- Plan for new species and hardiness zones

- Maintenance, soil and planting requirements

- Overlay areas at risk of specific climate threats, soils, demographic information, water/salt water, and pest information

Tree Canopy

TreeBaltimore

- Goal of 40% tree canopy cover by 2030

- Partner with individual homeowners as well as communities, schools, and businesses

- Over half of the environmental values are provided by seven species (based on tree structure and abundance): red maple, linden, Norway maple, London plane, green ash, sugar & silver maple

TreeKeepers

- Several levels and types of classes that teach citizens to care for their trees and environment

Weed Warriors

- Removal of invasive species by trained environmental stewards

Resiliency & Restoration

- Stream Restoration

- Stormwater Capture Systems

- Impervious Surface Removal

- Erosion Control

- DAMS

- Wastewater Treatment Plants

- Blue Alley Projects

- Replace and upgrade pipes

Urban Agriculture

- Soil Safety Policy and Guidance Document
- Two new farm leases and multiple other sites under consideration
- Assessing underused parkland for flower farming
- Using funds for soil testing to support new farm sites
- Bill to reduce tax burden on urban farms

Equity

- Prioritize neighborhoods with highest vulnerability to impacts from climate change

- Provide job training and green job opportunities

- Improve water and air quality (health)

- Economic benefit- lower electricity costs

Thank you!

Kristin Baja

Climate and Resilience Planner

Kristin.Baja@baltimorecity.gov