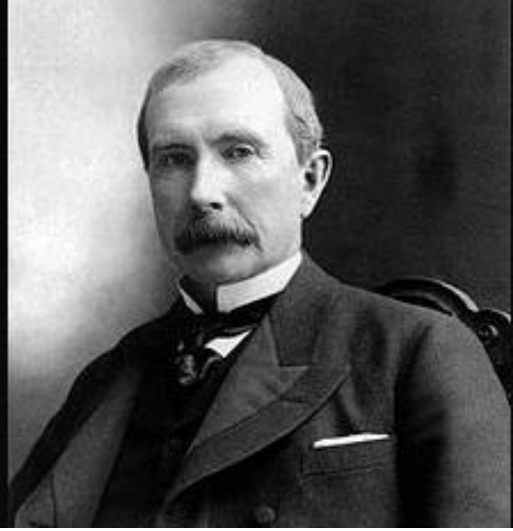
Rockefeller Foundation:
Supporting Resiliency

I always tried to turn every disaster into an opportunity.

(John D. Rockefeller)



While climate change will affect all of us, it will affect every aspect of life for poor people in particular — the type of food they eat, where they live, the water they drink, and even their jobs. Climate change must be integrated into poverty-reduction work, urban planning and development, public health, and agriculture — all sectors where the Rockefeller Foundation has experience, expertise, and networks.

Judith Rodin
Rockefeller Foundation President

THE ROCKEFELLER FOUNDATION

Investing Over a Half-Billion Dollars to Build Resiliency

September 2005	**RF commits $3 million for housing & economic redevelopment after Hurricane Katrina.**
March 2007	**RF funds New Orleans' citywide strategic recovery and rebuilding plan.**
August 2007	**RF launched the *Building Climate Change Resilience Initiative*, a five-year, $70 million commitment to build the resilience of communities most likely to be affected by climate change and to make sure that planning includes the most vulnerable citizens.**
July 2013	**HUD introduces *Rebuild By Design* for Sandy states; RF provides applicant support.**
October 2013	**RF funds *Structures of Coastal Resilience;* university partners work with the Army Corps of Engineers' North Atlantic Division to provide designs for hurricane protection and climate adaptation that employ structural, nonstructural, and natural and nature-based features. Sites: Jamaica Bay, NY; Providence, RI; Atlantic City, NJ; & Norfolk, VA.**
December 2013	**First round of the *100 Resilient Cities* grantees announced. Norfolk is selected.**
September 2014	**HUD's NDRC, with applicant support from RF, is announced; deadline in October 2015.**

REBUILD BY DESIGN

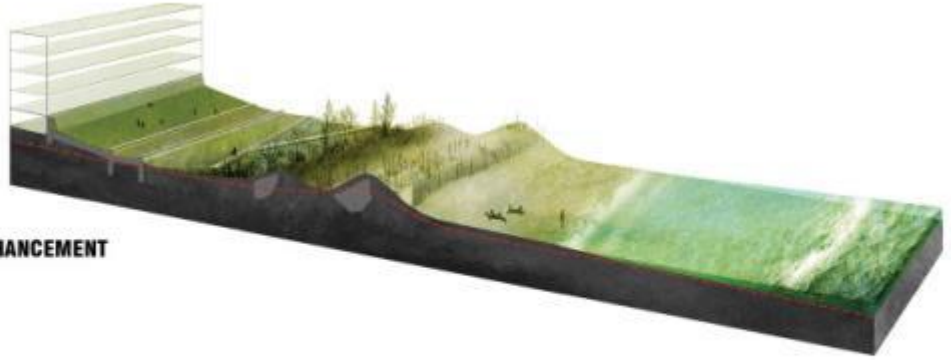
- **Rebuild by Design** was a HUD competition held in respond to Hurricane Sandy's devastation in the coastal northeast US in October 2012.
- Initiated by the HUD and the Presidential Hurricane Sandy Rebuilding Task Force, **Rebuild by Design** connected the world's most talented researchers and designers with the Sandy-affected area's active businesses, policymakers, and local groups to better understand how to redevelop their communities in environmentally- and economically-healthier ways and to be better prepared.

- The Rockefeller Foundation is the lead funder for **Rebuild by Design**, and provided support for the analysis and design process. Rockefeller's work on **Rebuild by Design** built upon their commitment to promote urban resilience, including the recent launch of 100 Resilient Cities.

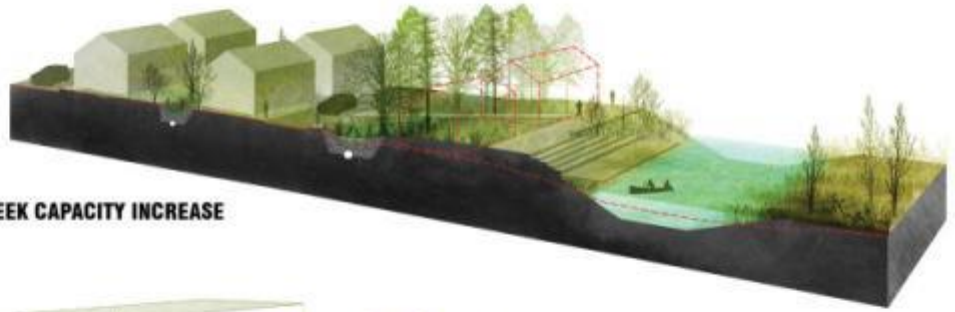
Rebuild By Design involved SMEs on the environment, climate change, resiliency and

design, provided information and education, and was intentional in seeking input from *all* citizens.

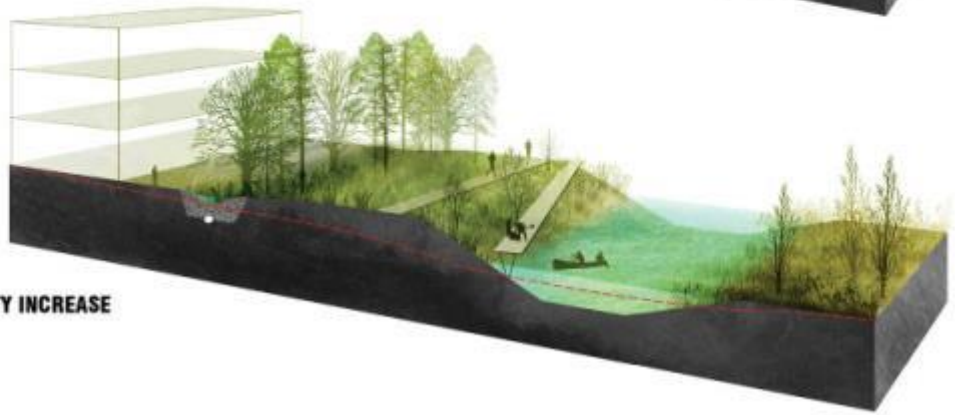
RESILIENCE STRATEGIES



LIFTS FOR NEW DEVELOPMENT + BEACH ENHANCEMENT



BUY OUT + LEVEE + WATER STORAGE + CREEK CAPACITY INCREASE



LEVEE + WATER STORAGE + CREEK CAPACITY INCREASE

REBUILD BY DESIGN

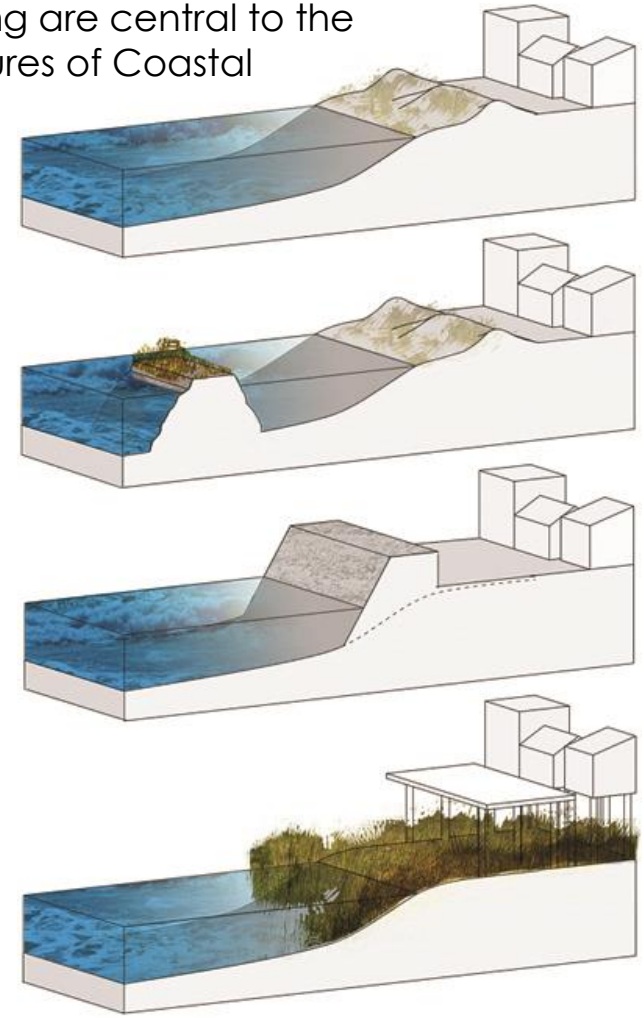
The 1-square mile of **Hunts Point** peninsula is the intersection of the local and the regional in rebuilding by design. What's at risk in Hunts Point is the hub of the food supply for 22 million people, a $5 billion annual economy, over 20,000 direct jobs, and livelihoods of people in the poorest U.S. Congressional District.

THE ROCKEFELLER FOUNDATION

SCR
Structures of Coastal Resilience

Princeton University,
Harvard University, City College of
New York, and University of Pennsylvania

The three principles of attenuation, protection, and planning are central to the design approach and methodology that define the Structures of Coastal Resilience project. The implications for flood resistant design are clear and can be summarized in three principles:



Attenuation and dissipation of wave energy offshore to reduce the demands on barriers and levees or wetlands where they exist or to building and structures where they do not;

Protection with both flood structures and building code requirements knowing that some flooding will inevitably occur;

Planning for controlled flooding through urban and landscape flood plain management and design.

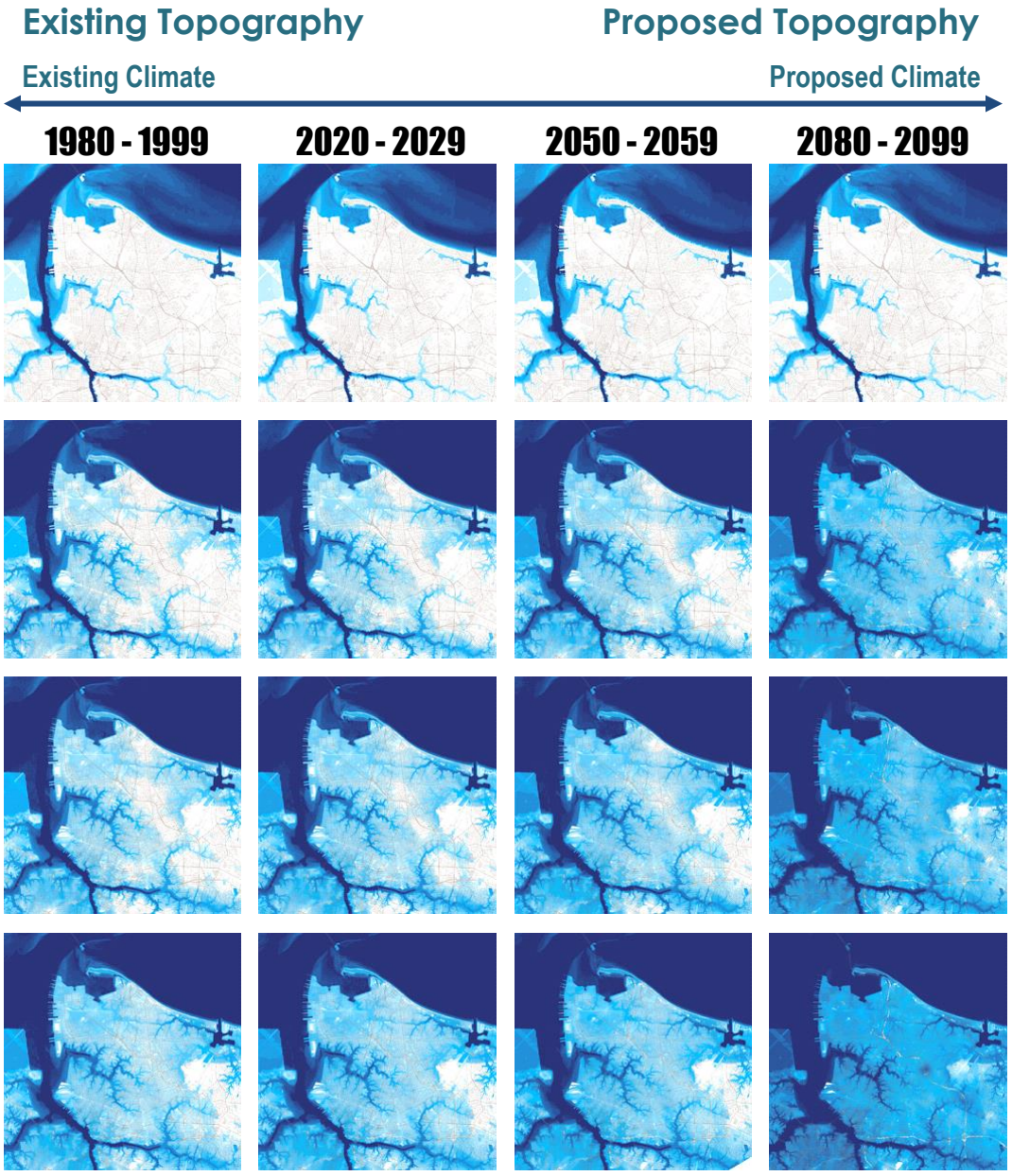
SCR
Structures of Coastal Resilience

Norfolk, VA Map Matrix

The matrices show mapped visualizations of predicted flooding from surge for observed climate conditions (1980-1999) and future scenarios in the periods 2020-2029, 2050-2059, and 2080-2099.

For each time period, probabilistic flooding is shown for the 1-year, 100-year, 500-year and 2500-year storm events.

These storm events respectively correspond to a 100, 40, 10 and 2 percent probability of exceedance in a fifty-year time period. The flood levels shown include surge, tide, and sea level rise distributions, statistically combined.



Norfolk, VA was selected in the first 100RC competition.

- **First group of 32 cities – announced December 2013**
- **Second group of 32 cities – announced December 2014**

The last 100 Resilient Cities Challenge will open to applicants late in 2015.

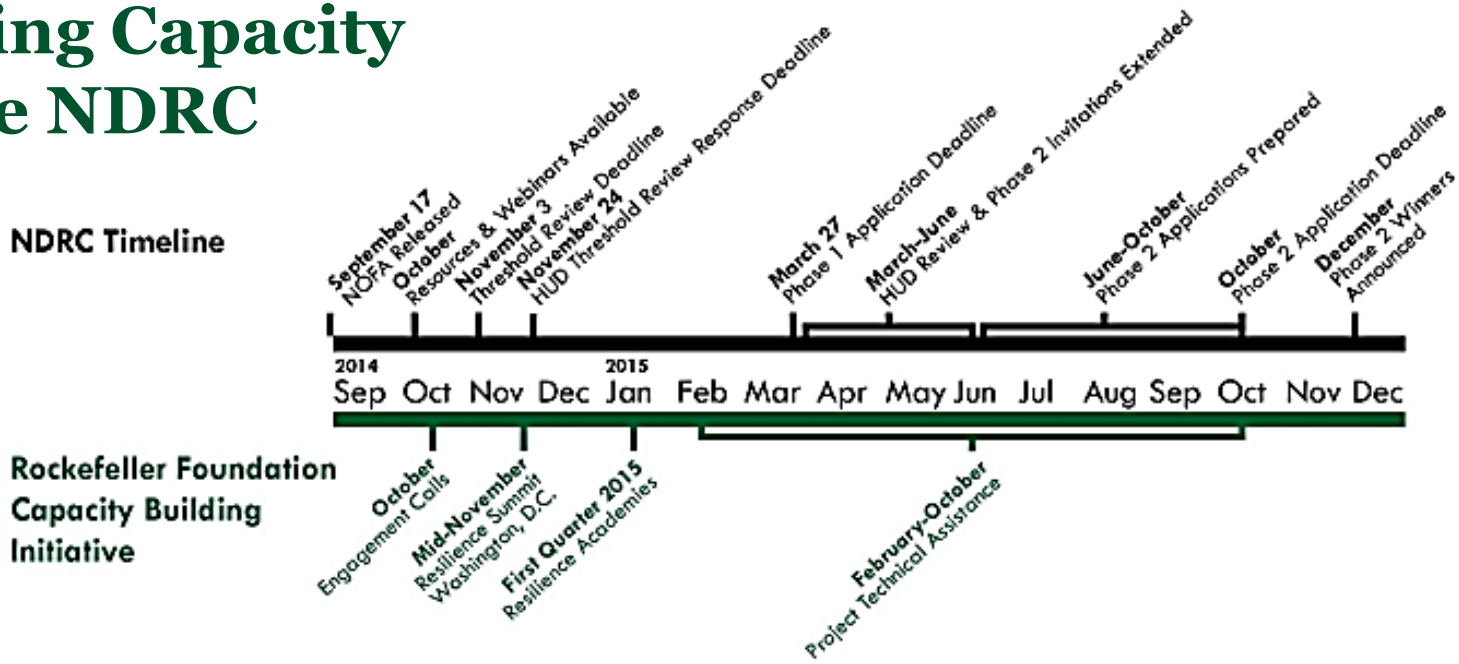
PIONEERED BY THE
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES

Cities in the 100RC Network are provided with these resources:

1. Grant funding to hire a Chief Resilience Officer, who will lead the city's resilience efforts, bringing in stakeholders from across silos of government and sectors of society;
2. Technical support to develop a holistic resilience strategy that reflects each city's distinct needs;
3. Access to an innovative platform of services to support strategy development and implementation. Platform partners come from the private, public, and nonprofit sectors, and will offer tools in areas such as innovative finance, technology, infrastructure, land use, and community and social resilience;
4. Membership in the 100 Resilient Cities Network to share knowledge and practices with other member cities.

Rockefeller Foundation: Building Capacity for the NDRC



- The Rockefeller Foundation brings its expertise and lessons learned through "Rebuild by Design" to the NDRC, to encourage innovative design proposals that address vulnerabilities and build resilience.
- As part of the competition, The Rockefeller Foundation has hosted a series of regional "resilience academies" to help communities develop individualized, data-driven, and community-led proposals.

Norfolk's experiences as a 100 Resilient Cities *grantee gave Virginia a head start.*

The City's Chief Resilience Officer, Christine Morris, was familiar with the Rockefeller Foundation's paradigm and drafted a NDRC 'Approach' in keeping with it.

A six-member NDRC grant team from Virginia attended the Resilience Academy (sponsored by Rockefeller Foundation) and received very positive feedback.

Virginia's Approach

THRIVE: Resilience In Virginia

Unite The Region

- Create an alliance of local governments
- Build public/private outreach, connectivity and consensus
- Focus on common challenges and opportunities

Create Coastal Resilience

- Leverage existing studies and projects
- Incorporate physical, social, economic effects
- Build a Coastal Resilience Lab/Accelerator

Strengthen Vulnerable Neighborhoods

- Emphasize known vulnerable populations
- Align with HUD's Livability Principles
- Create micro - neighborhood preparedness plans

Improve Economic Vitality

- Concentrate expertise, resources, innovation
- Focus on: Maritime, Storm, Flood, & Rising Water Resilience
- Build businesses and a labor force to manage water

Build Water Management Solutions

- Generate cross-discipline impacts
- Reduce emergency response burdens
- Measure improvement quantitatively

Questions?