

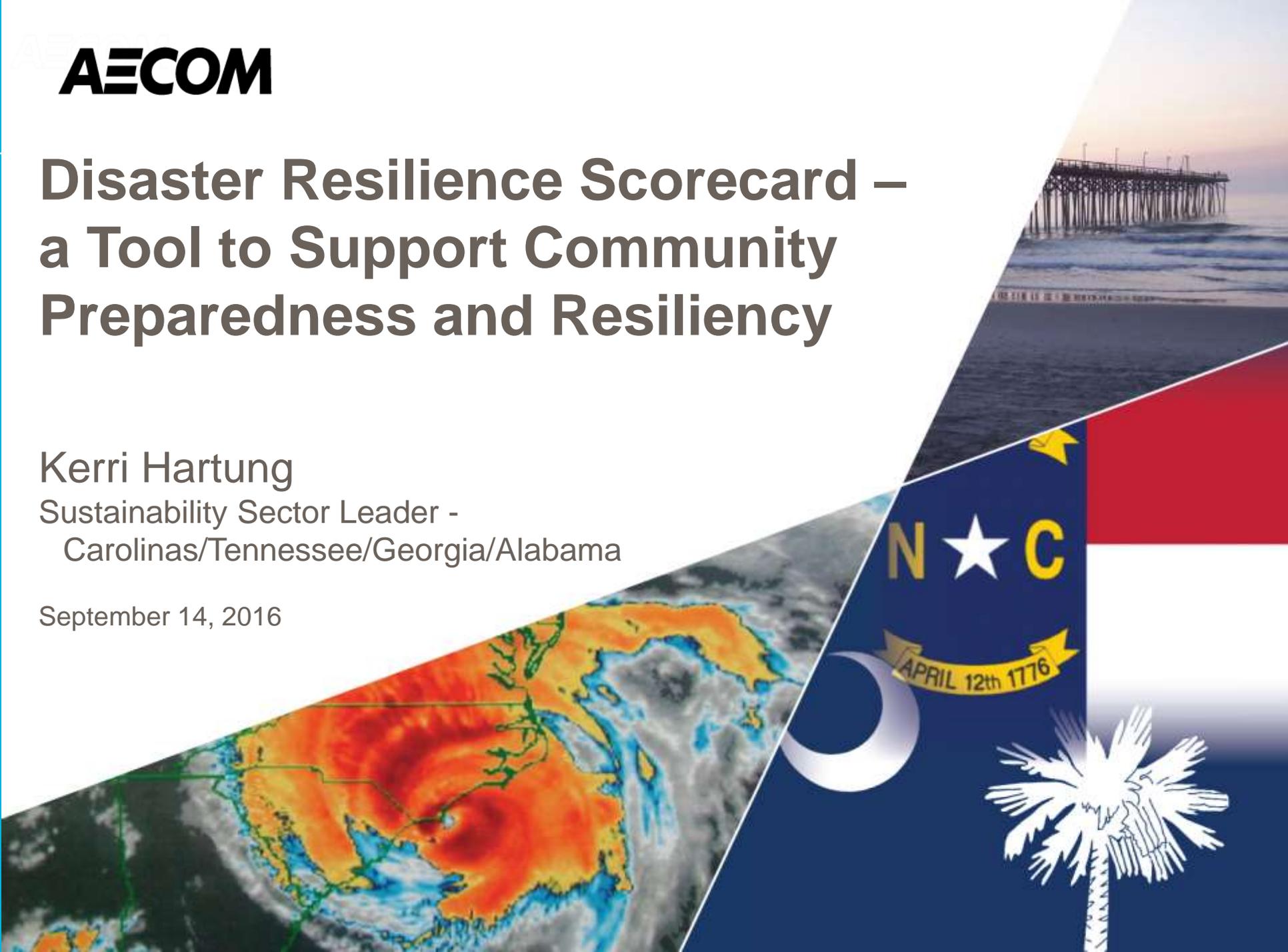


Disaster Resilience Scorecard – a Tool to Support Community Preparedness and Resiliency

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Overview

- What is resilience?
- Highlights of disaster impacts and driving forces
- Disaster resilience is an iterative process
- The UNISDR Disaster Resilience Scorecard for Cities
- Case studies
- Conclusions
- Questions/comments

What is **Resilience**?

- The **ability** of human settlements and organizations **to withstand, recover quickly** from **and continue to prosper** in the context of increasing impacts of natural and man made hazards or disasters
- What triggers the need for resiliency?
 - Chronic stresses such as those from climate change
 - Acute shocks from natural and man-made disasters

Disasters Affect People and Assets Globally



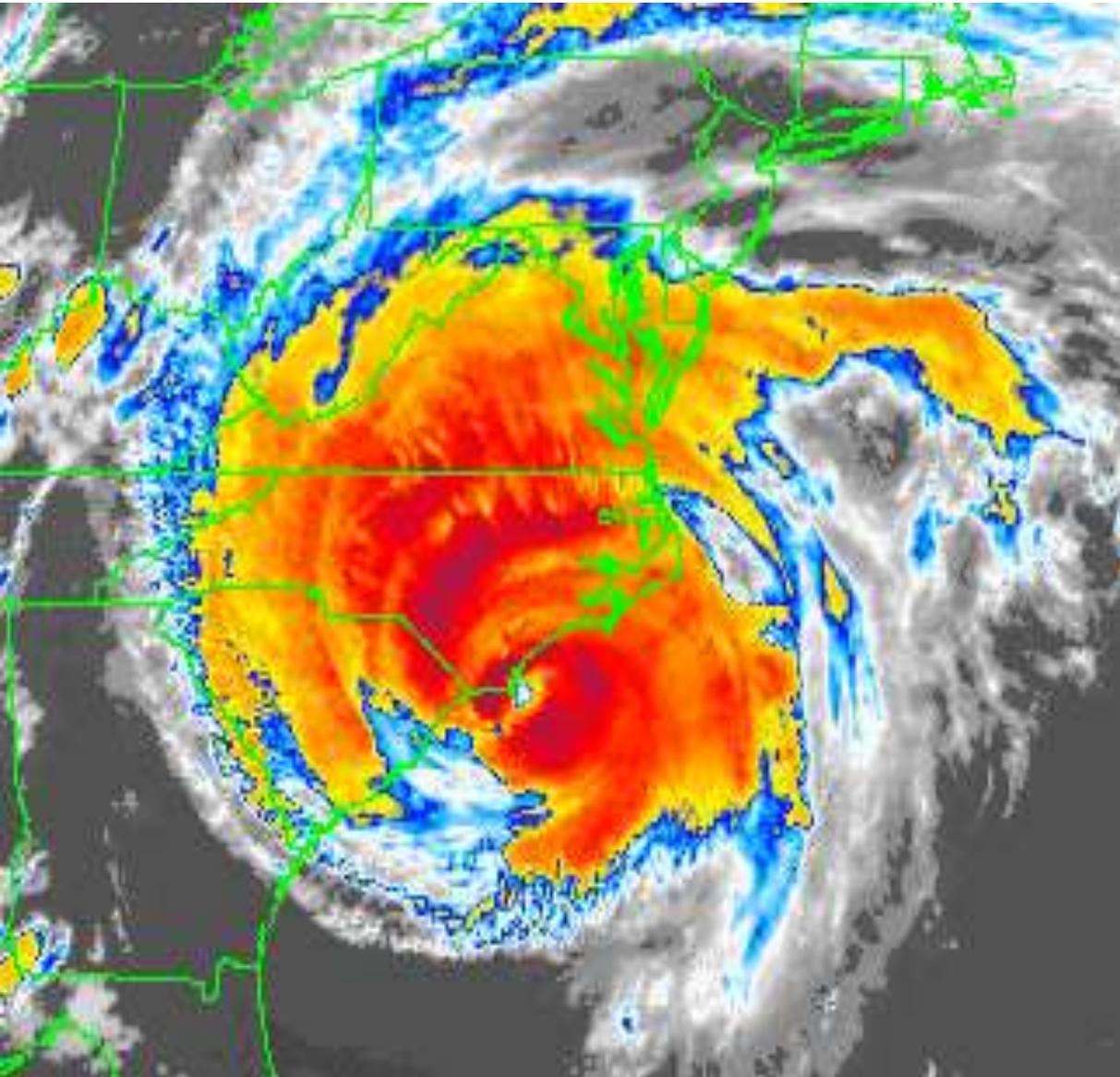
There were \$1.4 trillion damages 2005-2014

1.7 billion people were affected

700,000 people were killed

87% of losses were climate related in 2014

Closer to Home



In North Carolina, Hurricane Fran in 1996 resulted in

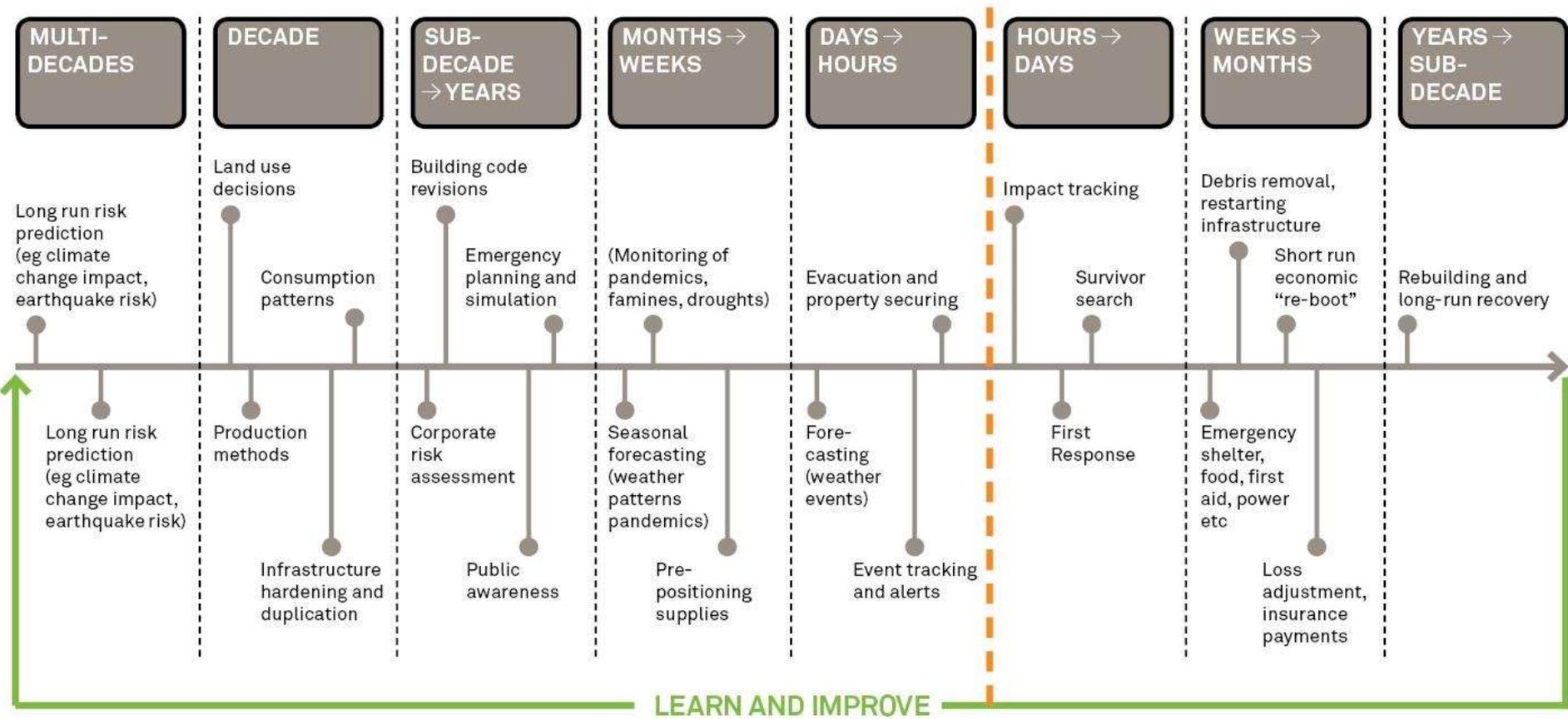
- 37 deaths
- \$2.3 billion in damages to homes and businesses
- \$1.1 billion in damages/costs related to public property
- Over \$700 million in agricultural damage

Driving Forces

- Urbanization increases capital losses
 - 50% of world population lives in metro areas
 - 70%+ projected to live in metro areas by 2050
- Frequency of extreme weather events are increasing
 - 980 natural disasters in 2014, up four times from 1985
 - US Government has spent \$1 trillion on recovery actions since 1983
- Annual financial losses from shock events are skyrocketing
 - Capital losses \$250 billion+ per year
 - 70% of losses are uninsured



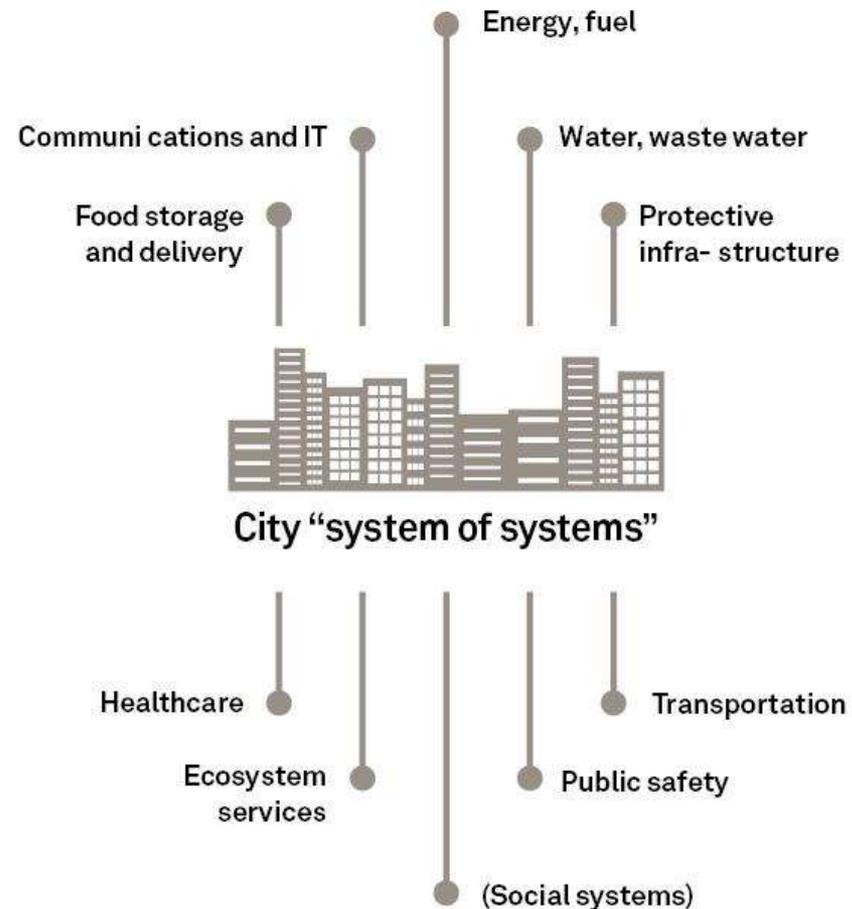
Disaster resilience is a process, spanning multiple activities and time-scales



Disaster resilience has to address the “system of systems” that makes up a city

For example

- Multiple connections and interactions
 - Causal
 - Resources, data
- Ignoring the connections, missing key impacts or key interdependencies, can result in “failure chains”
- **Because each system may have different owners and stakeholders (including in the private sector), resilience is a multi-organizational endeavor**



If we could measure disaster resilience across all the systems and timescales involved...



The city could

- Identify exposures and vulnerabilities
- Track awareness
- Set priorities
- Justify financial and other investments
- Track progress
- Integrate the contributions of multiple stakeholders
- Model impacts and decisions



The community could

- Understand the risks
- Understand their role

If we could measure disaster resilience across all the systems and timescales involved...



Private sector companies could

- Assess operational risks, including supply chain
- Understand where to engage for business continuity support
- Potentially, reduce insurance and capital costs and expand operations



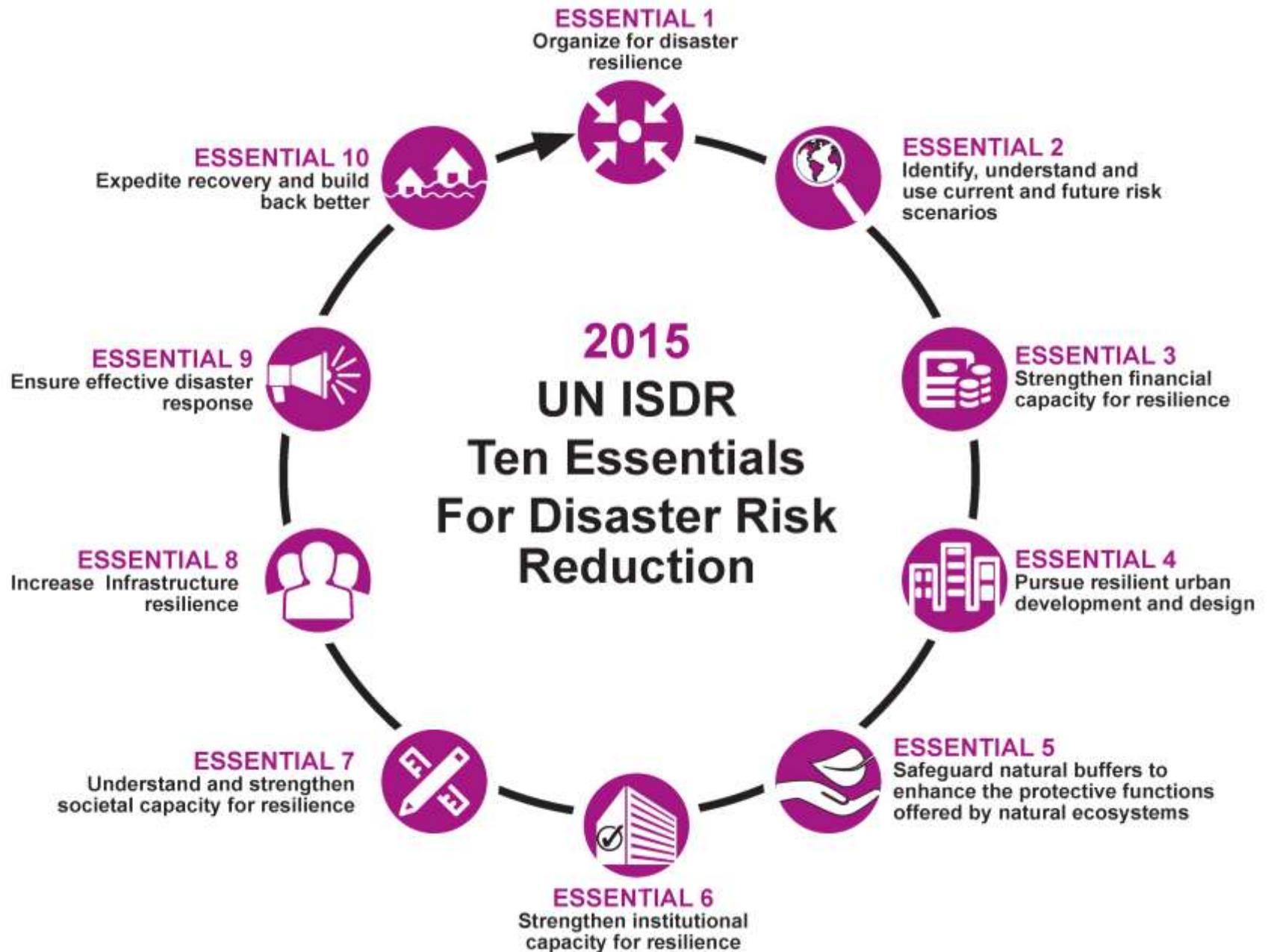
Government could

- Optimize and improve resilience regionally and nationally
- Leverage community and private sector know-how

The Disaster Resilience Scorecard Background

- Based on UNISDR’s “Ten Essentials” of disaster risk reduction
- Focuses on city/metropolitan areas
- Encourages private sector involvement when possible
- Informs participants and evolves into an actionable resilience plan, identifying
 - Strengths
 - Vulnerabilities
 - Interdependencies





How Does It Work?

- Individual assessments define preparedness
 - By definition, a “counsel of perfection”
 - 81 measurements for scoring with 0 to 5 rating
 - Not a tool to compare City “A” to City “B”
 - Set a baseline and then periodically re-evaluate
 - Engage local Private Sector when possible

– **The scorecard is free for anyone to use**

<http://www.unisdr.org/campaign/resilientcities/home/toolkitblkitem/?id=4>

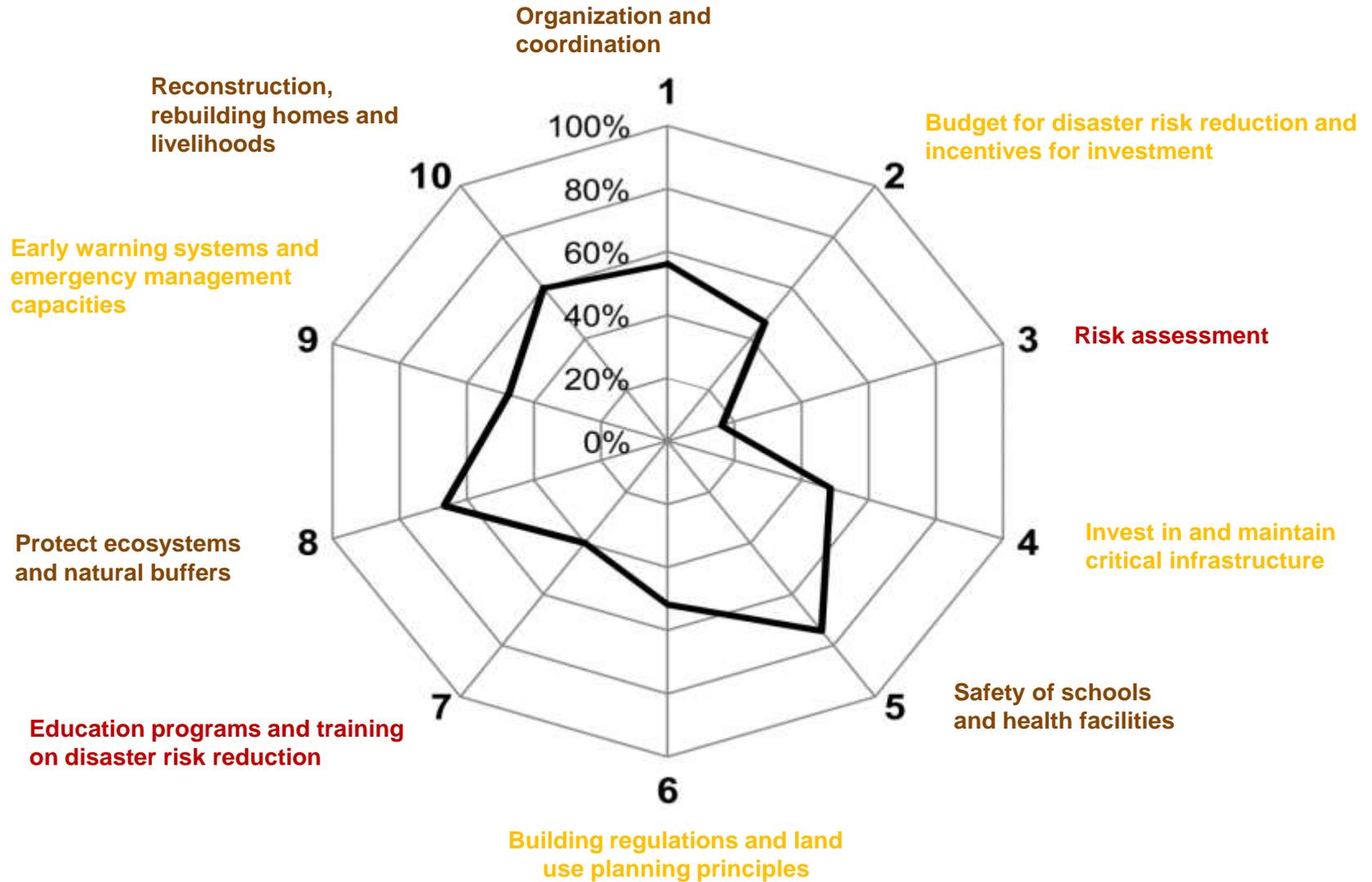
– Several Pilot Demonstrations completed

Extract from the Scorecard – Essential 1

Subject/Issue	Item measured	Indicative Measurement	Indicative Measurement Scale	Comments
1.1 Organization and coordination	1.1.1 Co-ordination of all relevant pre-event planning and preparation activities exists for the city's area, with clarity of roles and accountability across all relevant organizations.	<p>Presence of organizational chart documenting structure and role definitions at each relevant agency to achieve a single overall point of co-ordination.</p> <p>Structure agreed and preferably signed off by all participants via MOU or similar.</p>	<p>5 – Single point of coordination exists with agreed roles and responsibilities.</p> <p>4 – Single point exists but with some minor exceptions.</p> <p>3 – Single point exists in principle, but with some major omissions, or lack of agreement on some major areas.</p> <p>2 – Initial steps taken to create a single point of coordination.</p> <p>1 – No single point but plans exist to create one.</p> <p>0 – No single point and no plans to create one.</p>	<p>The single point of co-ordination may be a person, or a group or committee (with sub-groups or committees as appropriate). It will coordinate the relevant (see below) activities of:</p> <ul style="list-style-type: none"> - The city government and, if separate, highways, police, armed forces/civil defense, water, energy, or any other relevant city organizations); - Other tiers of government (eg state, ward-level) or neighboring municipalities); - Private sectors organizations with relevant roles – for example, utilities, phone companies, healthcare, logistics companies, fuel depots, property companies, and so on. <p>Some cities may have different organizational arrangements for different types of disaster. However, these need at least to work through the same coordination point (person or committee) to ensure consistency in response arrangements; and also to enable management of simultaneous disasters as applicable.</p> <p>The test of relevance is whether the organization or activity must contribute in any way to preparing for the event scenarios covered below in Essential 2.</p>
	1.1.2 Coordination of all relevant event response activities in the city's area, with clarity of roles and	<p>Presence of organizational chart documenting structure and role definitions at each relevant</p>	<p>5 – Single point of coordination exists with agreed roles and responsibilities.</p>	<p>As above – the single point may be a person or a group.</p>

There are 81 measurements in the entire scorecard

Example - Scoring



Case Studies in Applying the Scorecard

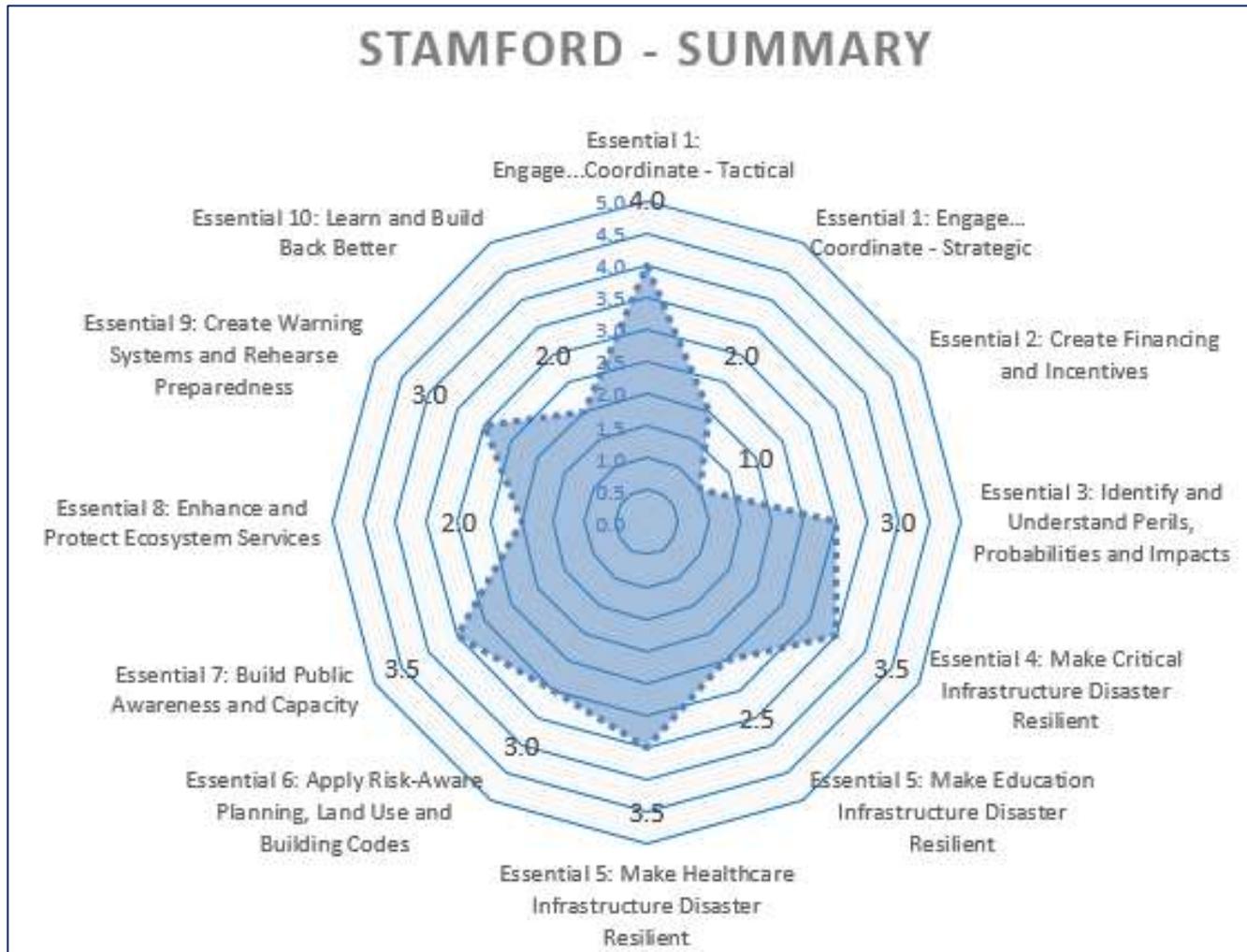
1. One-day/two-day workshops
2. Hazard Mitigation Planning integration
3. Detailed assessments
4. Scorecard Sector Adaptation



One-Day Workshop – Stamford, CT

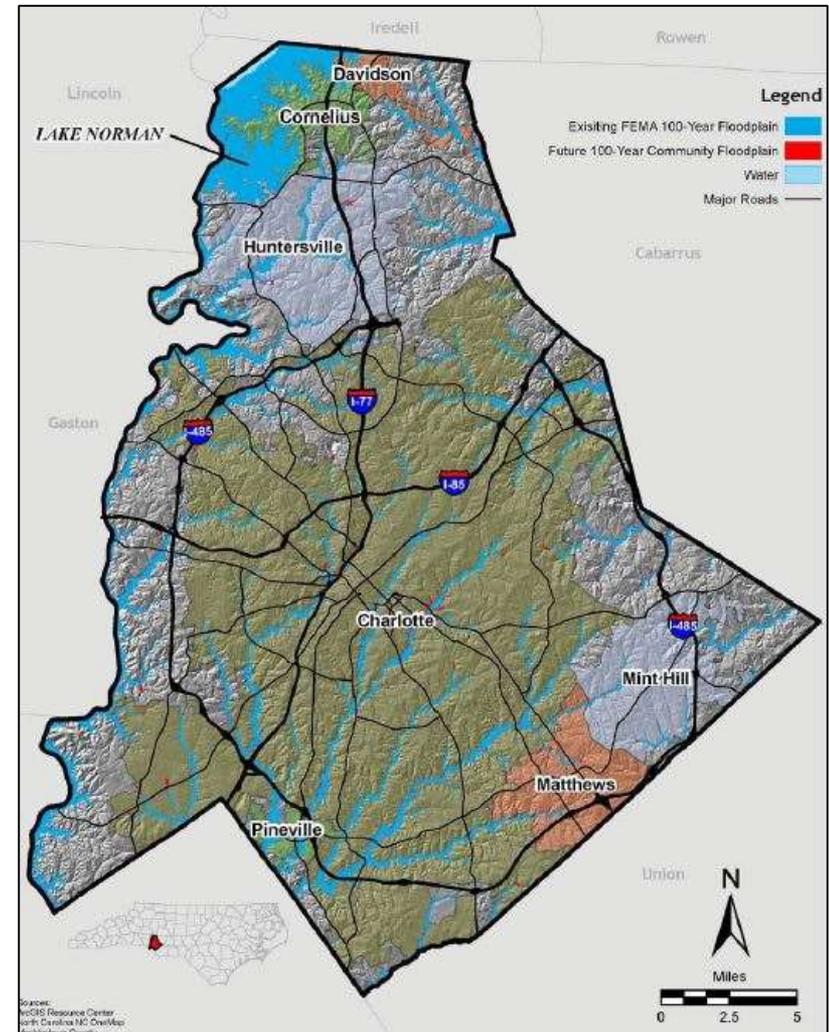
- One-day workshop – initiated by the Mayor at the request of Stamford 2030, a local business/civic group
- Used the Scorecard Ten Essentials and their assessments as discussion prompts
- Scored each Essential only, based on group consensus
- Provided initial identification of areas warranting further investigation and coordination
- Summary report completed in March 2015
- Likely to followed by a detailed assessment performed by university post-grad students

UNISDR Disaster Resilience Scorecard Preliminary Review – Stamford, CT



Integration with HMP – City of Charlotte/ Mecklenburg County, NC

- Integrating HMP update and scorecard
- Focusing on all indicators for seven communities
- Identifying areas warranting further investigation
- Communicating value in aligning the processes



Scorecard Ten Essentials and HMP

Ten Essentials	Component in HMP		
1: Engage, Share Understanding and Coordinate	<ul style="list-style-type: none"> • Capability assessment • Public involvement 	<ul style="list-style-type: none"> • Mitigation action plan 	<ul style="list-style-type: none"> • Plan review, approval, adoption
2: Create Financing and Incentives	<ul style="list-style-type: none"> • Capability assessment • Mitigation strategy 	<ul style="list-style-type: none"> • Mitigation action plan 	
3: Identify and Understand Perils, Probabilities and Impacts	<ul style="list-style-type: none"> • Community profile • Risk assessment 	<ul style="list-style-type: none"> • Public engagement • Planning process 	<ul style="list-style-type: none"> • Mitigation strategy • Mitigation action plan
4: Make Critical Infrastructure Disaster Resilient	<ul style="list-style-type: none"> • Capability assessment 	<ul style="list-style-type: none"> • Mitigation action plan 	<ul style="list-style-type: none"> • Mitigation strategy
5: Make Education and Healthcare Infrastructure Disaster Resilient	<ul style="list-style-type: none"> • Community profile 	<ul style="list-style-type: none"> • Risk assessment 	
6: Apply Risk-Aware Planning, Land-Use and Building Codes	<ul style="list-style-type: none"> • Planning process 	<ul style="list-style-type: none"> • Community profile 	<ul style="list-style-type: none"> • Mitigation strategy
7: Build Public Awareness and Capacity	<ul style="list-style-type: none"> • Community profile 	<ul style="list-style-type: none"> • Public engagement 	
8: Enhance and Protect Ecosystem Services	<ul style="list-style-type: none"> • Risk assessment • Planning 	<ul style="list-style-type: none"> • Capability assessment • Mitigation strategy 	<ul style="list-style-type: none"> • Mitigation action plan
9: Create Warning Systems and Rehearse Preparedness	<ul style="list-style-type: none"> • Capability assessment • Public engagement 	<ul style="list-style-type: none"> • Mitigation strategy 	<ul style="list-style-type: none"> • Mitigation action plan
10: Learn and Build Back Better	<ul style="list-style-type: none"> • Capability assessment • Public engagement 	<ul style="list-style-type: none"> • Community profile 	<ul style="list-style-type: none"> • Public education

Sector Focus – Disaster Resilience Survey of Small Businesses, New Orleans, LA

- Tailored scorecard applied to businesses on six historic corridors
- Measured preparedness and resilience of individual businesses and at the Corridor level
- Provided training and enhanced communications and collaboration between City and businesses



New Orleans Preliminary Results

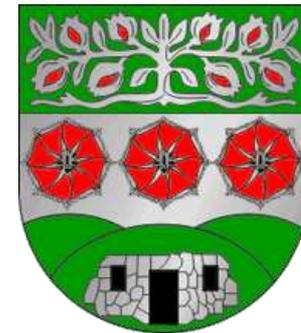
- Preparedness is still low and vulnerability remains high
- Some “champions” exist that can help mentor others
- High desire and need for disaster risk reduction awareness
- Recommendations at multiple levels (individual business, Corridor and City)



New Orleans

Detailed Assessments

- Scorecard application in five European cities (UK, Sweden, Portugal) and Townsville, Australia
- Interviews, questionnaires, documentary review, some site visits – will take several weeks to execute
- Will result in a disaster resilience blueprint with scores that will allow for specific process tracking



Conclusions

Manage, Mitigate, Adapt and Engage

- Changing times and conditions require reassessment
- Disaster resilience requires continual improvement and “staying ahead”
- Communication and engagement are critical – public and private
- The UNISDR Disaster Resilience Scorecard is one tool that can assist cities with holistically identifying gaps and setting priorities





Thank You!

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