

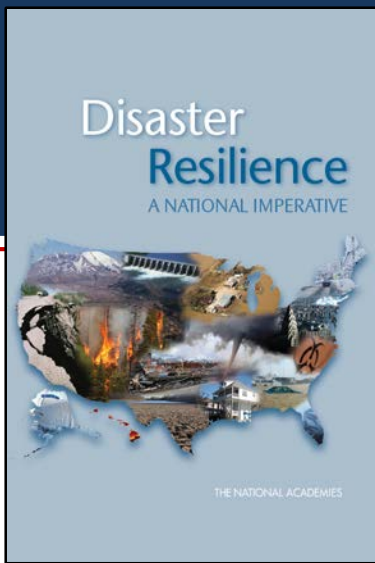
THE RESILIENCE PROGRAM

AT THE NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE

Lauren Alexander Augustine, Ph.D.

Briefing to the SDR

July 7, 2016



The ability to **prepare** and **plan for**,
absorb, recover from, or more
successfully **adapt** to actual or potential
adverse events.

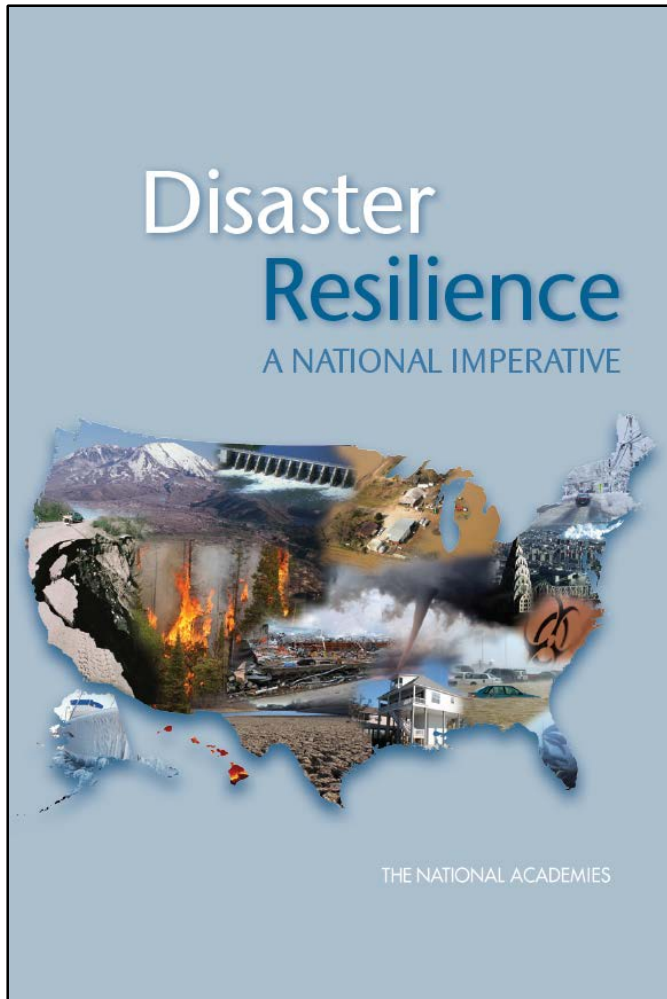
A man with short dark hair and glasses, wearing a dark pinstriped suit, white shirt, and a striped tie, is speaking at a press conference. He is gesturing with both hands raised. In the foreground, several microphones are visible, including one with a 'WCD' logo. A woman with blonde hair is partially visible in the background. A dark blue speech bubble with white text is overlaid on the left side of the image.

What does
Resilience
mean to me?
Here in my
community?

Program Area #1

RESILIENT AMERICA

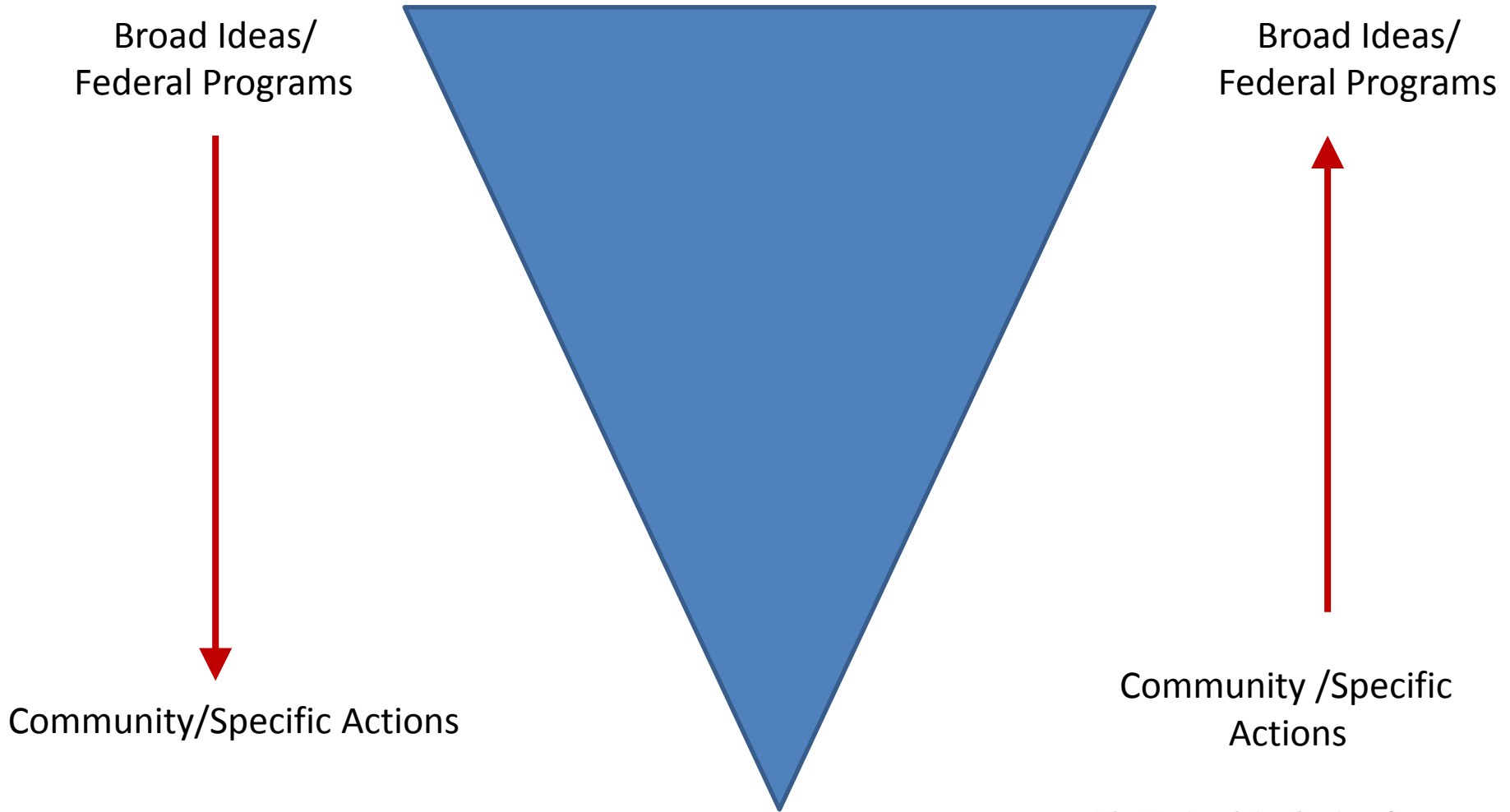
DISASTER RESILIENCE: A NATIONAL IMPERATIVE



Four major recommendations

- Manage and communicate risk
- Measure resilience in communities
- Build community partnerships and coalitions
- Share information and data to build resilient communities

RESILIENT AMERICA GOAL



FOUR WORKSTREAMS

1. Community Pilot Program
2. Workshops, Expert Meetings, and Activities
3. Measures and Metrics of Resilience
4. Economic Supply Chain Resilience

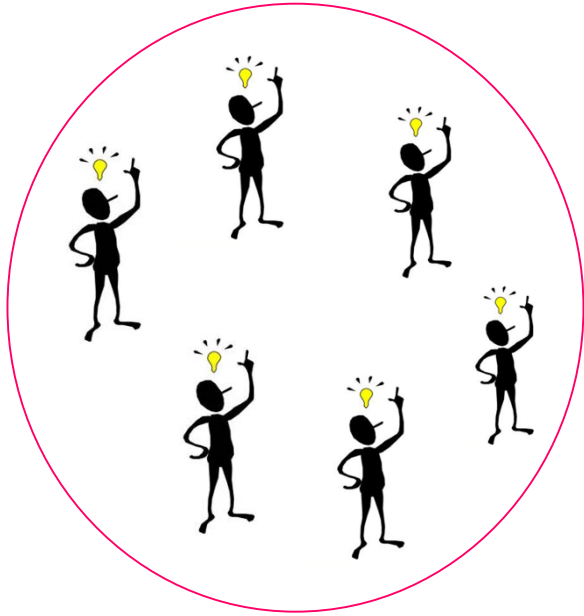
WHO IS INVOLVED?

- **Experts**: social scientists, engineers, risk managers, private sector business operators, academics, public sector decision makers, federal agencies, and more
- **Community members**, businesses, decision makers
- **Diverse stakeholders**: Private sector, public sector, NGOs, academia, individuals
- Some of our **partners** and **collaborators**: FEMA, NOAA, MACF, Zurich Foundation, USGS, DHS, NACo, NADO, Fraunhofer, Munich Re, WEF....

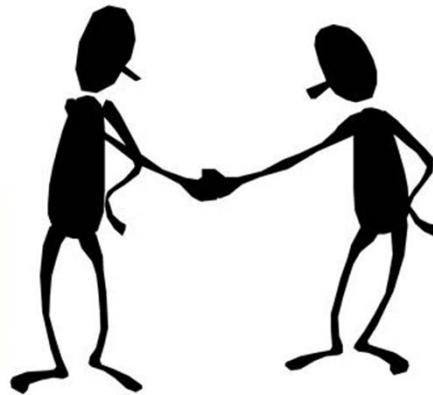
PURPOSE?

- Costs of natural disasters and other disruptions are **rising**
- Greater **networks** and connections → more opportunities for **widespread impacts**
- Federal or **top-down** programs to build resilience get **mixed results**
- Bottom-up approaches are **needed, but hard** to implement alone
- Communities want to **protect** their quality life, their property, and their people.

MULTI-STAKEHOLDER COLLABORATION



Convene



Collaborate

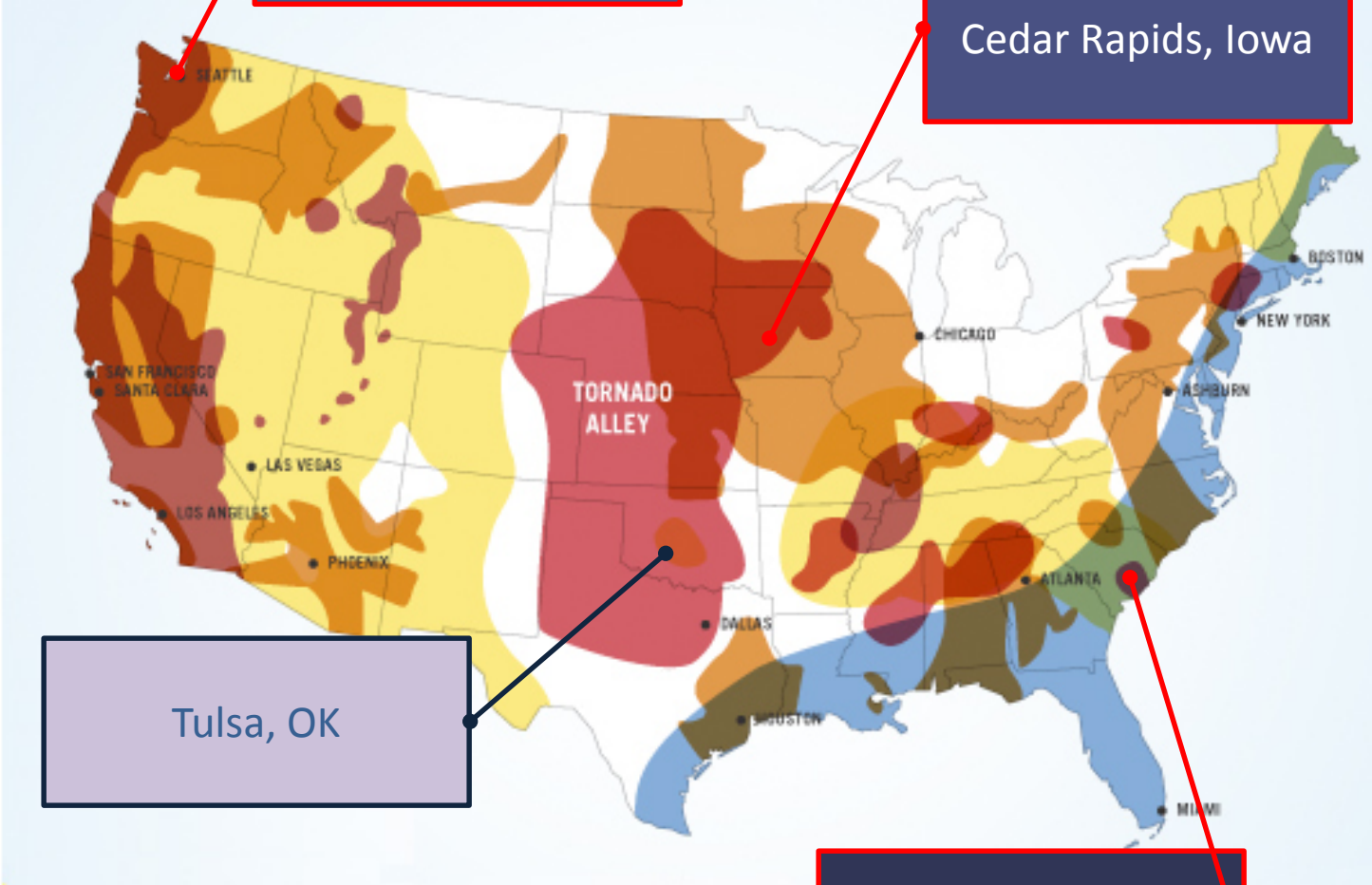
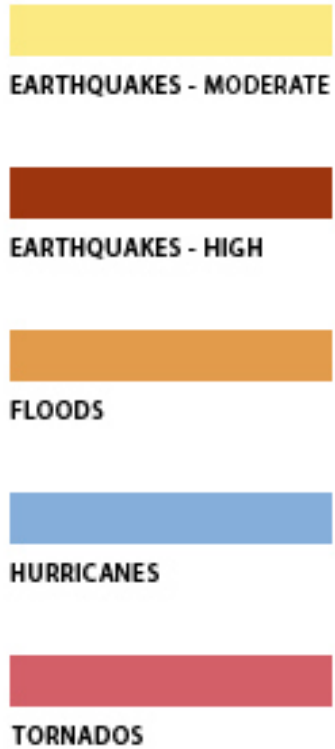


Impact

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Seattle, Washington

Cedar Rapids, Iowa



Tulsa, OK

Charleston, SC

What are the community's **priorities**?
How do those **priorities** frame **resilience**?
How can we **identify** the priorities?
What **actions** support those priorities?

PILOT WORK NOW

Cedar Rapids: Integrating Resilience into Comprehensive Planning Efforts

Charleston: Building Flood Resilience

Seattle: Transportation Resilience in the face of Climate Change

Tulsa: Resilient Economic Supply Chains

WHAT HAVE WE LEARNED SO FAR?



PRELIMINARY OBSERVATIONS

- Local government is a **critical partner** (highly motivated)
- Lots of enthusiasm and momentum **right now** for resilience
- Communities do not want to talk about natural disasters; they want to talk about **economic resilience** and their **vulnerable populations**
- Need a **catalyst** to bring different people together and facilitate the conversation
- The **process** may be more important than the product
- Synthesizing/integrating/connecting function is an important element of our work
- Share. Share. **Share!**

ROBUST ELEMENTS OF RESILIENCE

- Communicating and understanding risk
- Working across diverse groups of stakeholders
- Sharing resilience experiences and best practices
- Decision making under conditions of uncertainty
- Figuring out to chart progress of (measure) resilience

To-Do LIST

- Capitalize on **current** momentum
- Synthesize, assess, and analyze the current resilience projects going on (HUD, 100RCC, NIST, etc.)
- Build broader **coalitions** and **partnerships** around resilience
- Mainline and **mainstream** resilience into every day decision-making
- Make the **business case** for resilience



KEY THEMES FOR RESILIENCE

- **Measure**--Figure out way/s to measure resilience
- **Communicate**—new ways to talk about risk and resilience in ways that people can understand and take action
- **Connect**—long-term change and impact with short-term decision making

State of Resilience Leadership Forum and Community Workshop

STATE OF RESILIENCE

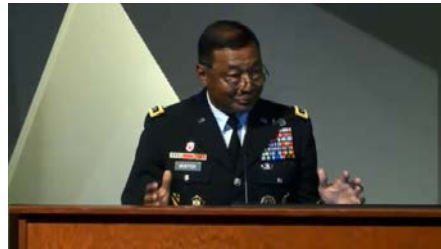
SOR: LEADERSHIP FORUM (DAY 1)

- Moderated by Andrea Seabrook
- Craig Fugate
- Michael Berkowitz
- Three Mayors from resilient places in the US
- TNC
- Microsoft
- Kaiser Permanente
- General Thomas Bostick, USACE (ret.)

SOR: COMMUNITY WORKSHOP (DAY 2)

- More than a dozen communities from across the country participated
- Exchange of ideas, approaches, and solutions
- Solutions based
- Focused on key resilience areas: **diversity** in resilience and **economic** resilience
- Next generation challenges for resilience

STATE OF RESILIENCE AT NAS



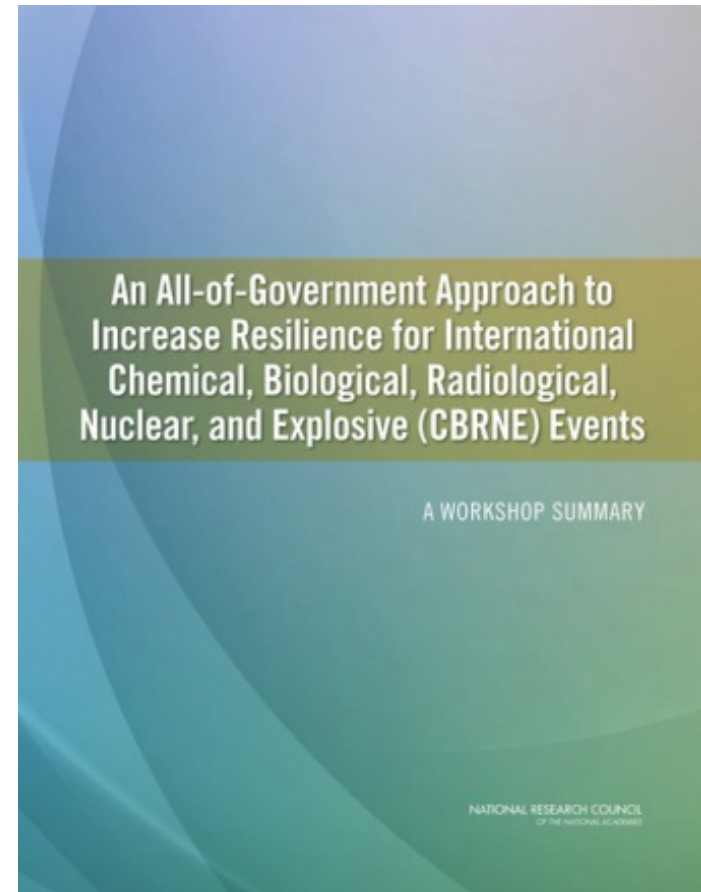
Program Area #2

CBRN RESILIENCE

ONCE UPON A TIME IN 2013...

There was a Workshop
at the NAS...

An All-of Government
Approach to Increase
Resilient for
International CBRN
Events (2014)



International Resilience to CBRN Events

- Project between US and Japan, inclusive of other nations
- 2-3 Year project
- Culminate in a “serious game” or Tabletop Exercise in late 2017
- In Tokyo

- Improve **coordination**
- Improve **communication**
- Improve **integration**

...of resources, assistance, and response among partner, peer, and ally nations during times of a CBRN event

- Held one planning meeting (April)
- Interested USG agencies and personnel attended
- Funding from NIST, Dow Chemical, and NATO; discussions with State and DHS are almost in contracting stages
- 2nd planning meeting is next week in Boulder
- Session at Boulder Annual Hazards Conference on Monday
- Joint planning meeting planned for the Fall in Tokyo

Stay tuned...

THREE KEY THEMES FOR RESILIENCE

- **Measure**--Figure out way/s to measure resilience
- **Communicate**—new ways to talk about risk and resilience in ways that people can understand and take action
- **Connect**—long-term change and impact with short-term decision making

Thank you! laugustine@nas.edu

[HTTP://RESILIENTAMERICA.NAS.EDU](http://RESILIENTAMERICA.NAS.EDU)