Resilient Future

Voices of North Americans on Policy and Action

Reflections of participants of the
Joint Public Advisory Committee Workshop
Resilient Communities in North America
New Orleans, Louisiana, USA
July 9-10, 2012

Event hosted by:
Commission for Environmental Cooperation
www.cec.org

Collaborative process and document designed by:
The Moment
www.TheMoment.is

Commission for Environmental Cooperation

The Commission for Environmental Cooperation facilitates collaboration and public participation to foster conservation, protection and enhancement of the North American environment for the benefit of present and future generations, in the context of increasing economic, trade, and social links among Canada, Mexico, and the United States.

Joint Public Advisory Committee (JPAC)

The Joint Public Advisory Committee (JPAC) composed of fifteen citizens (five from each country) advises the Council on any matter within the scope of the North American Agreement on Environmental Cooperation, and serves as a source of information for the CEC Secretariat.

JPAC's vision is to promote continental cooperation in ecosystem protection and sustainable economic development, and to ensure active public participation and transparency in the actions of the Commission.

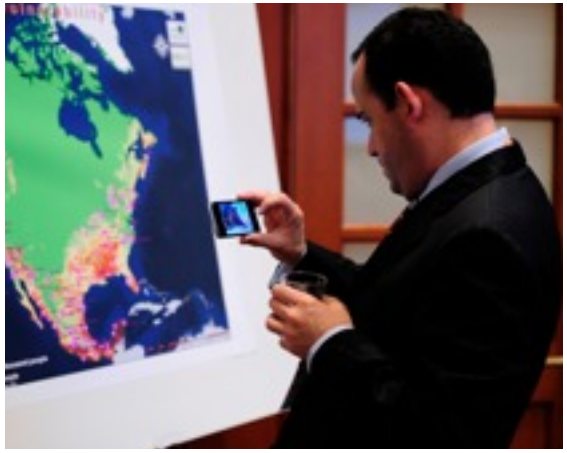
As a group of volunteer citizens, JPAC sees itself a microcosm of the public: independent individuals who contribute diverse but rich institutional experience and cultural perspectives.

A note on this document

This is a working document that reflects the diverse views and opinions of the participants at the JPAC Workshop on Resilient Communities in North America in New Orleans, Louisiana. It does not reflect advice or recommendations of the JPAC. The JPAC may consider information in this document as it develops future advice to the CEC Council.

On July 9 and 10, 2012, 80 people from across North America gathered in New Orleans, Louisiana, USA to understand and discuss how to make their communities more resilient in the face of unprecedented economic, cultural and environmental change.

Participants were from diverse regions across the continent and represented a broad spectrum of personal and professional backgrounds.



The JPAC workshop "Resilient Communities in North America" was a highly participatory facilitated process that combined small group work with keynote presentations, panel discussions, and a New Orleans field trip. Participants completed a series of collaborative activities that created the content for this document in real time.

Participants had the opportunity to learn from each other before using the knowledge and insights to identify key areas in which to make suggestions for future action.

This document was prepared on July 10, 2012 for presentation on July 11, 2012 and reflects the diverse voices of workshop participants.

Water

Introduction

What is resilience and why does it matter?

1

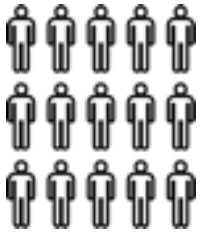
Resilience is the capacity of a community's economic, social, political and physical infrastructure systems to absorb shocks and stresses and still retain their basic function and structure.

— Source: Craig Applegath, www.resilientcity.org

Drivers of Shocks and Stresses

Factors that create the need for increased community resilience

Climate Change



Population

Energy Supply

Environmental Degradation

Regional Resource Conflicts

Social-Political Factors

— Source: Craig Applegath, www.resilientcity.org

Characteristics of Resilience

Flexibility

Redundancy

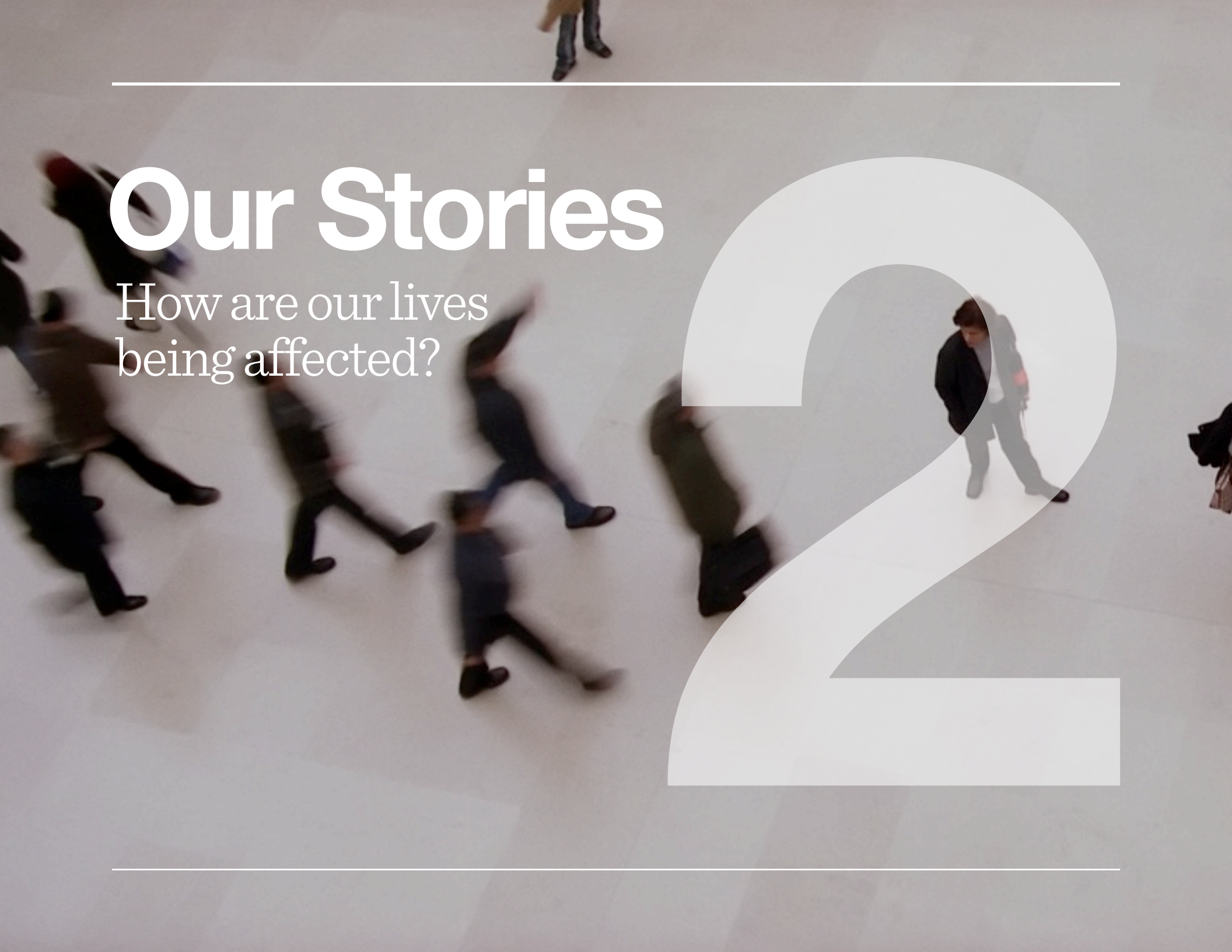
Diversity

Decoupling (self-sufficiency)

Decentralization

Environmental Integration

— Source: Craig Applegath, www.resilientcity.org



Our Stories

How are our lives being affected?

2

Velma White

Shreveport, Louisiana, USA

"I live in a community that surrounds the fenceline of a refinery. There are 17,000-21,000 people within a mile of the refinery. I have lived there for 37 years. When I moved there, refinery workers (mostly white) lived there, but they moved out. It no mostly a low-income, minority community.

About 20 years ago, my daughter started suffering from kidney disease. Kidney disease, cancer and asthma rates are abnormally high in our community. I am convinced my daughter's illness and the high disease rate are due to being next to the refinery."

Elizabeth English

New Orleans, LA, USA

"I discovered the use of amphibious housing in the Netherlands and rural Louisiana, so why not New Orleans too? I created the BuoyantFoundation Project. I discovered that regulatory obstacles (FEMA, NFIP) prevented application of amphibious housing in NOLA, so I moved the focus of my research to northern Canadian Aboriginal communities, Bangladesh and Nicaragua...and they (we) are working on this application for vulnerable low income communities in other parts of the world."

Jon Yazer

Toronto, Ontario, Canada

"Project Neutral is a new NGO supporting urban Toronto neighborhoods aspiring to be Canada's first carbon neutral communities. The project is benchmarking neighborhood emissions, providing data to residents to make informed choices, offering workshops with leaders in sustainability for residents and driving innovative ideas for reducing emissions at a community scale."

Oscar Contreras

San Mateo Almomola, Mexico

"We experienced them "live", since the work we have done in indigenous rural communities close to the sites where the Monarch butterfly reproduce allowed us to identify the main triggers of environmental damage, especially in San Mateo Almomoloa, State of Mexico, where the "Piedra Herrada" Monarch butterfly sanctuary is located. They are, among others:

- Illegal felling
- Lack of social organization
- Lack of territorial organization
- Marginalization and poverty
- Lack of culture on conservation and environmental impact (butterfly migration)
- Human migration (within the country and especially to the U.S.)"

F. Lozano

Mazatlan, Sinaloa, Mexico

"In 1969 I was working as a resident physician in a hospital in Mazatlan, Sinaloa, Mexico. We suffered the impact of a hurricane during 4 hours. The hospital was only 100 m from the sea shore. It was flooded. The water level was raised 1 meter.

No power for more than 12 hours. No capacity to take care of patients requiring hospital care.

Hospital premises were full of mud. Medications, under 1 m of water, were destroyed. But, mainly, none of the 30 patients that were hospitalized left, and it became very difficult to take care of them. And we could not move them to other hospitals nearby because they were all in the same conditions."

Jose & Mariela

Sierra Juarez, Oaxaca, Mexico

"We live in a small community of coffee growers in Sierra Juarez in Oaxaca. On August 23, 2010 tropical storm (Mathew) caused intense rain, which devastated the region. Our house collapsed, it was built on the side of the mountain there was a landslide. Our community was isolated and food and services were scarce for 2 months. Finally, the government provided assistance and we rebuilt our house, but in the same place.

In June of this year 2012 hurricane Carlota caused rains and houses collapsed; now we have to rebuild roads, houses, crops, etc."

Doña Lucy

Mahahual, Quintana Roo, Mexico

"Lucy lives in Mahuahual, sixteen years ago she arrived with her husband with a fisherman group who came from Veracruz. The place was beautiful with amazing parrots crossing the sky. Her husband passed away, and she raised her kids alone. Her clients were tourists from the ships, she had a restaurant.

When Hurricane Dean came in 2007, they were not prepared. Municipal authorities told them to leave the place. They came back when they could. They had no house, no restaurant, no belongings. They had to rebuild everything outside Mahuahual. But Lucy, cannot come back because she does not have family or a house in another place."

Bernardo Bichara

Monterrey, Mexico

“Crime and socio-political conflicts have stressed and shocked Monterrey and many other cities in Mexico. This reality has instilled resilience in the society of Monterrey and has started, with success, to take steps and measures to offset and change this reality.

One example is the use of social networks especially Twitter to empower with information to the citizens so he is able to have preventive and corrective information to bring change in conduct and perception to rebuild social fiber and make people safer. This is the first step to social change that reverts the status quo.

Lianne Dalziel

Christchurch, New Zealand

"Christchurch experienced its first earthquake on Sept 4 2010 but it was the 6.3 magnitude earthquake on Feb 22 2011 that saw 185 lives lost and many homes and commercial buildings damaged beyond repair. Different communities within the affected areas have revitalized existing neighborhood groups, or have organized new community groups.

As a group we are totally committed to the principles of empowerment (very important after a disempowering event) and community engagement in decision making. We believe people are entitled to complete transparency and accountability at every level of decision making when the decisions impact on their future."

Challenges

What shocks and stresses are creating the need for increased resilience?

2

North American communities are increasingly exposed to environmental shocks and stresses from climate change, migration, natural disasters and other factors. These impacts vary depending on geography, but the risks to our communities unite the peoples across the continent.

Large Urban Areas

- Environmental degradation within/caused by: extreme weather events, urban heat island effect, natural disasters, climate change, energy security, water supply and consumption
- Hurricanes, causing flooding
- Droughts - associated cost of bringing in water from outside
- Run-off carrying urban contaminants and sewage into bodies of water
- 2 billion new people on the planet need to be accommodated, housed and employed
- Environmental injustice - unfair exposure to environmental risk; difficulty being heard and triggering effective responses
- Lack of affordable housing, homelessness
- Lack of planning, sprawl, poor zoning
- Aging infrastructure
- Food security issues, food deserts
- Wealth disparity
- Disconnection from source of supply, (e.g. food)

Small Urban Areas

- Migration of populations
- New emerging communities
- Boom towns caused by mining and natural resource exploitation
- Wealth and income disparity

Agricultural and Remote Areas

- Shifting weather patterns negatively impacting traditional farming, forestry and fishing practices
- Migration of youth to urban areas
- Negative impacts of flooding
- Loss of farmland due to urban sprawl
- Inability of farmers to adapt to changing market trends due to lack of agricultural diversity
- Loss of soil fertility due to industrialized farming techniques, loss of food species due to monocultures
- Dependence on seeds with patents and chemical herbicides, resulting in financial insecurity

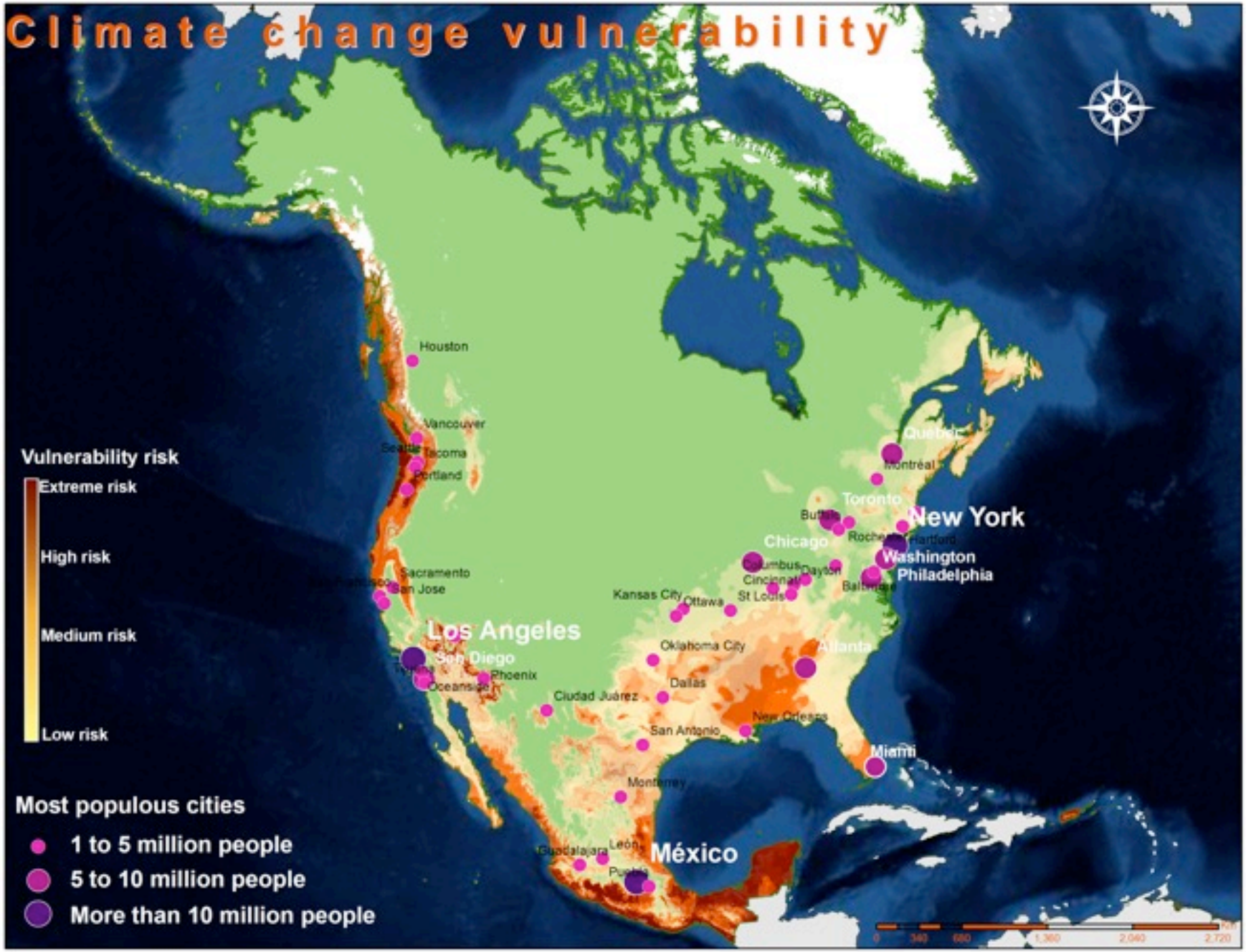
Natural Ecosystems

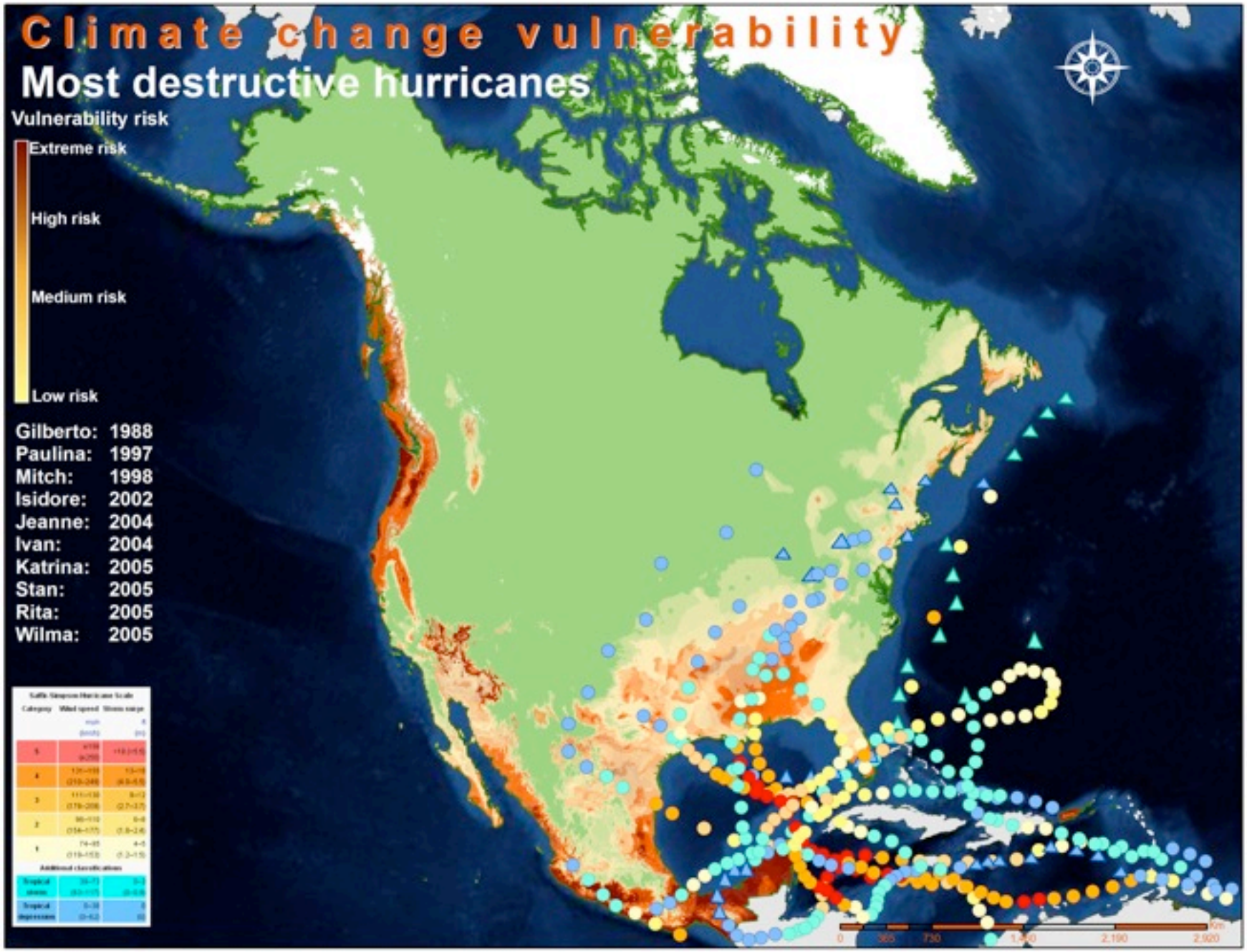
- Urban sprawl encroaching on natural ecosystems, thus taking away natural protection from shocks (e.g. wetlands, dunes, forest, etc.)
- Infrastructure alteration destroys natural ecosystems (e.g. land loss from sea level rise and man made construction)
- Pollution and overuse of natural resources
- Isolation or siloing of cities vs rural areas...we can't view them in isolation
- Loss of natural ecosystems from extreme natural disasters

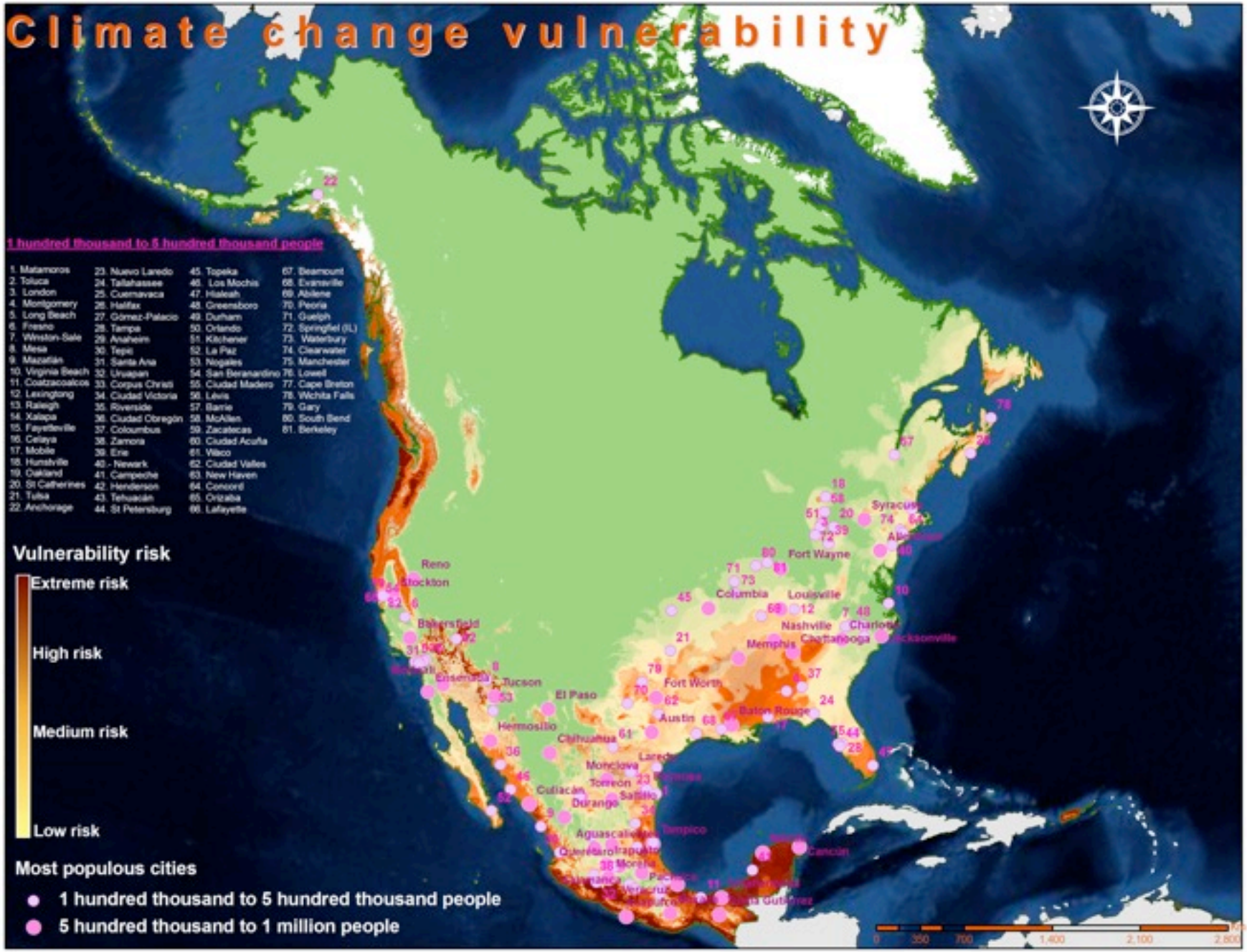
Forced Transitional Populations

Relocated due to: disasters, toxic waste areas, expropriation

- cultural annihilation
- communities not included in planning
- racism, classism
- unequal capital investment
- commoditization of ecosystem services
- different and unequal impact of risks
- factory/economic development - squeezing communities
- traditional peoples forced from nomadic lifestyle to a contradictory modern way of life


Climate change vulnerability
Vulnerability risk
Extreme risk
High risk
Medium risk
Low risk
Most populous cities
1 to 5 million people
5 to 10 million people
More than 10 million people
Houston
Vancouver
Seattle
Tacoma
Portland
Sacramento
San Jose
Los Angeles
San Diego
Phoenix
Oceanside
Ciudad Juárez
Dallas
San Antonio
Monterrey
Guadalajara
León
México
Kansas City
Ottawa
Oklahoma City
St Louis
Chicago
Columbus
Cincinnati
Dayton
Buffalo
Rochester
Hartford
Toronto
Montréal
Québec
New York
Washington
Philadelphia
Baltimore
Atlanta
New Orleans
Miami


Climate change vulnerability
Most destructive hurricanes
Vulnerability risk
Extreme risk
High risk
Medium risk
Low risk
Gilberto: 1988
Paulina: 1997
Mitch: 1998
Isidore: 2002
Jeanne: 2004
Ivan: 2004
Katrina: 2005
Stan: 2005
Rita: 2005
Wilma: 2005
0
365
730
1,460
2,190
2,920
Km


Climate change vulnerability
1 hundred thousand to 5 hundred thousand people
1. Matamoros
2. Toluca
3. London
4. Montgomery
5. Long Beach
6. Fresno
7. Winston-Sale
8. Mesa
9. Mazatlán
10. Virginia Beach
11. Coatzacoalcos
12. Lexingtong
13. Raleigh
14. Xalapa
15. Fayetteville
16. Celaya
17. Mobile
18. Hunstville
19. Oakland
20. St Catherines
21. Tulsa
22. Anchorage
23. Nuevo Laredo
24. Tallahassee
25. Cuernavaca
26. Halifax
27. Gómez-Palacio
28. Tampa
29. Anaheim
30. Tepic
31. Santa Ana
32. Uruapan
33. Corpus Christi
34. Ciudad Victoria
35. Riverside
36. Ciudad Obregón
37. Coloumbus
38. Zamora
39. Erie
40.- Newark
41. Campeche
42. Henderson
43. Tehuacán
44. St Petersburg
45. Topeka
46. Los Mochis
47. Hialeah
48. Greensboro
49. Durham
50. Orlando
51. Kitchener
52. La Paz
53. Nogales
54. San Beranardino
55. Ciudad Madero
56. Lévis
57. Barrie
58. McAllen
59. Zacatecas
60. Ciudad Acuña
61. Waco
62. Ciudad Valles
63. New Haven
64. Concord
65. Orizaba
66. Lafayette
67. Beamount
68. Evansville
69. Abilene
70. Peoria
71. Guelph
72. Springfiel (IL)
73. Waterbury
74. Clearwater
75. Manchester
76. Lowell
77. Cape Breton
78. Wichita Falls
79. Gary
80. South Bend
81. Berkeley
Vulnerability risk
Extreme risk
High risk
Medium risk
Low risk
Most populous cities
1 hundred thousand to 5 hundred thousand people
5 hundred thousand to 1 million people
Reno
Stockton
Bakersfield
Tucson
El Paso
Fort Worth
Austin
Hermosillo
Chihuahua
Monclova
Torreón
Culiacán
Durango
Saltillo
Aguascalientes
Querétaro
Tampico
Cancun
Fort Wayne
Columbia
Louisville
Nashville
Charlotte
Chattanooga
Memphis
Jacksonville
Syracuse
Baton Rouge
0
350
700
1,400
2,100
2,800

Issues

4

Water
Food
Energy
Sustainable Economy
Habitation, Buildings and Infrastructure
Most Vulnerable Communities
Cultural Diversity
Knowledge Exchange
Humans as Part of Natural Ecosystems

Workshop participants defined and explored nine themes related to community resilience. These themes were analyzed in terms of the challenges they present to communities, the evidence of their importance and the characteristics of more resilient systems.

Water
Challenges

- Contamination of water affects public health, freshwater supply
- Water scarcity and human-caused droughts and desertification
- Floods and disturbance of hydrological regimes
- Population explosion
- Collapse of water infrastructure
- Climate change, extreme weather patterns, increased droughts and floods

Water
Evidence

- State of Louisiana 2012 coastal master plan
- National Water Statistics Handbook (Mexico)
- Water Risk
- Colorado River (U.S. and Mexico)
- Recent research on water scarce city and health impacts

Water
Characteristics of a Resilient System

- Redundancy - multiple lines of defines and no longer rely on single line of defines systems such as levees and floodgates.
- Watershed-wide strategies (not local only)
- Environmental integration as policy
- Public engagement, awareness and education, sharing information
- Legal framework and institutional structure

Food
Challenges

- Resource availability/price (oil and water)
- Intellectual property rights (patents on seeds)
- Growth of nonfood agriculture (bio fuels)
- Population growth, less arable form
- Climate change
- Resource exhaustion (non-availability of oil and water)

Food
Evidence

- Decline of honey bees worldwide
- Global food crisis/riots
- Agriculture uses 72% of human freshwater use
- Agriculture accounts >95% human land use
- Agriculture uses greater than 55% of biologically productive land
- Toronto Daily Food Bank has tons of food justice stuff

Food
Characteristics of a Resilient System

- Efficient production (H2O, land & energy)
- Decentralized network (local)
- Adaptable to environmental change
- Ecologically sustainable
- Protects traditional ecological knowledge (TEK)
- Political, social, economic stability

Energy
Challenges

- Conventional grid
- Reliance on fossil fuels and far distance resources
- Environmental degradation health impacts
- Climate change will cause less water availability
- More fossil fuels: Tar sands, shale gas

Energy
Evidence

- Rising rates of multiple chemical sensitivity cancers, asthma.
  Dr Claudia Miller, Nicholas Ashford, Dr. Samuel Epstein, WHO
- GHG concentration
- Food shortage related with pollution or ecosystem degradation
- Increase necessity of electricity

Energy
Characteristics of a Resilient System

- Diversity with appropriate technology
- Decentralized governance
- Local Sources
- Service vs. demand
- Price stability including externalities
- Equality in accessibility

Sustainable Economy
Challenges

- Environmental impacts from trade (reference to NAFTA practices)

Sustainable Economy
Characteristics of a Resilient System

- Increased participation and opportunity
- Real cost accounting/limits to growth/carrying capacity
- Diverse economy
- Culture of creating new businesses/entrepreneurship
- Actively mitigate against climate change

Habitation, Buildings and Infrastructure
Challenges

- Climate change, extreme weather, aging infrastructure, lack of investment
- Consumption and growth - economic shocks.
- Stresses on ecosystems because of increased habitation and resource processing will reduce ability of ecosystems to continue to provide natural services, e.g. pollination
- Scarcity and increased costs of energy and natural resources.

Habitation, Buildings and Infrastructure
Evidence

- Re: increasing frequency of weather events, World Watch Institute graph
- Population growth overall (2 billion in 25 years, 3.5 billion by 2050)

Habitation, Buildings and Infrastructure
Characteristics of a Resilient System

- Ecosystem health
- Integrated with local environmental bioclimatic conditions
- Awareness of political realities - funding, authorities, balance of power
- Redundancy of key infrastructure systems
- Integration of economical, ecological, engineering, cultural, social infrastructure
- Buildings and all infrastructure account for realities of increased intensity and frequency of extreme weather events
- Reduce environmental footprint per capita - e.g. increase density

Most Vulnerable Communities
Challenges

- Poor health, PTSD
- Poor urban planning
- Financial insecurity
- Cumulative impact of disasters, pollutions, chemical discrimination affects physical/mental health
- Cumulative impact of weather, climate change, natural disasters, environmental injustice, pollution
- Changing economy, globalization, financial insecurity, increased unemployment

Most Vulnerable Communities
Evidence

- www.dscej.org (Dr. Wright)
- Research by Robert Bullard/Dr. Wright/Eric Klinenberg/Lori Peek
- Irwin Redlener - National Center for Disaster Preparedness (multiple articles and resources)
- Social vulnerability index
- understandingkatrina.ssrc.org
- Bucket Brigade
- Heart manual www.toronto.ca/housing/pdf/heat-registry-guide.pdf

Most Vulnerable Communities
Characteristics of a Resilient System

- Equitable funding available to people/communities in need
- Healthy prepared, proactive and positive
- Access to local resources, education/knowledge of the problem/laws/ issues
- Non-profit communities partnership with all residents, government
- Local knowledge is crucial as well as social participation and local leadership
- We are prepared for the worse and can return quickly
- Participation of the community in decision making process

Cultural Diversity
Challenges

- Changing environments creating environmental disasters that threaten communities
- Government structures and processes often remove community leaders' power

Knowledge Exchange
Challenges

- Resources for information dissemination are limited
- Counter information by polluters, government, etc.
- Inability to get information to the people who need it most.
- Social networks shift how information is shared. Gets info out.
- Growing disconnection between generations means this knowledge is lost
- Overcoming powerful stakeholders to diversity the narrative

Knowledge Exchange
Characteristics of a Resilient System

- Language barriers for native/immigrant communities
- Meaning - semantic differences can lead to misunderstanding
- Giving attention to local narratives that counter corporate/industrial narratives
- Social networking provides new opportunities
- Manipulation of information/controlling the history that is shared with next generation.
- Information control/access
- Dissemination requires funding

Humans as Part of Natural Ecosystems
Challenges

- Planetary boundaries (climate, biodiversity, water, land/soil, stresses, toxic pollution, oceans, stratosphere, nutrients, etc.)
- Population stresses: high eco-footprints, carrying capacity, migration to coasts
- Overconsumption (material and energy)
- Loss of traditional knowledge and connection to place
- Cascade of negative impacts

Humans as Part of Natural Ecosystems
Evidence

- Ecological footprint list
- Water world watch website
- Social metabolism metrics (material and energy throughput)
- Arctic biodiversity assessment
- Real cost accounting
- IPCC reports
- Planetary boundaries research
- Heinz Center
- Millenium ecosystem assessment
- North American outlook 2025
- Arctic Council studies/assessments

Humans as Part of Natural Ecosystems
Characteristics of a Resilient System

- Holistic/integrated: humans are integral parts of ecosystems
- Redundant
- Enhances/maintains resilience of other systems
- Diverse
- Healthy people in synergy with healthy ecosystems
- Living within ecological means

Actions

What can governments, communities and individuals do to enhance resilience?

5

In each of the issue areas explored, workshop participants identified key actions that governments, communities and individuals can take to make communities more resilient.

Governments

WATER

- Equitable distribution of education and information
- Coordination of policies, agencies and actions
- Planning with an eco-regional approach that crosses national boundaries
- Benefit-cost analysis that includes all costs (e.g. pollution)
- Support research for innovative solutions

FOOD

- Support/enhance existing government agencies monitoring food safety laws
- Disaster response (prediction, readiness to respond, reconstruction of food network)
- Encourage innovation in agricultural technology (grants & subsidies)
- Reconfigure subsidies to enhance local decentralized production
- Balance rights between local producers & intellectual property holders
- Respect, protect and promote different forms of food production (e.g. wild foods)

ENERGY

- Update transmission infrastructure for renewables
- Create a carbon tax/low carbon subsidy
- Prioritize the development of a decentralized generation and transmission system
- Long-term planning/funding for multi-modal transit and rising energy prices

Governments continued

SUSTAINABLE ECONOMY

- Value ecosystem services
- Incentivize responsibility
- Shift from quantitative economic growth to qualitative sustainable development model
- Encourage certifications such as LEED

HABITATION, BUILDINGS & INFRASTRUCTURE

- Stronger coordination between government departments, (e.g. transit and land use)
- Integrate a broad definition of resilience into existing policies, programs and projects
- Develop scenarios to test resilience and develop mitigation strategies
- National infrastructure planning tied to provincial/state implementation strategy
- Make changes to municipal building codes to increase building fabric resilience

MOST VULNERABLE COMMUNITIES

- Long-term equitable urban planning and development
- Close existing toxic facilities that are located near people
- Improve financial standing of the whole community - i.e. local hiring
- Improve democratic process through accountability, transparency
- Base decision-making on community needs, wants and values
- Support community capacity and build awareness of resilience

Governments continued

CULTURAL DIVERSITY

- Recognize and respect diversity
- Integrate local and traditional knowledge into education
- Support language retention, ceremonies, histories
- Stop paternalism and provide support for self-empowerment

KNOWLEDGE EXCHANGE

- Facilitate and fund knowledge sharing
- Create/provide institutional platforms to facilitate knowledge sharing
- Decentralization to allow communities to have some control and ownership of knowledge transfer
- Promote transparency
- Foster multi-stakeholder dialogues
- Recognize value of all types of knowledge, including indigenous and local knowledge
- Provide information that is usable to all interested parties

HUMANS AS PART OF NATURAL ECOSYSTEMS

- Create a system for collecting and using information to ensure resilience that includes citizen science
- Upward harmonization of environmental protection standards in North America
- Assess impacts that reduce resilience to prevent loss, invest to enhance resilience or adapt, hold accountable those who cause loss
- Incentivize stakeholders and risk-holders to enhance resilience
- Take a systems approach that considers full life cycles and insists on resilience over growth

Communities

WATER

- Develop strong plans for community hazard mitigation
- Encourage participation and empowerment of stakeholders
- Enforcement mechanisms: pollution regulation, building codes
- Distribute information

FOOD

- Promote urban/rural agriculture and wild foods
- Promote production/processing coops
- Promote farmers/hunters markets
- Promote community farms/ gardens
- Change business contracts/ municipal policies to reduce food waste
- Farm to table programs (e.g. gleaning, grow a row, food box)

ENERGY

- Look to non-traditional financing for energy and retrofit projects, including public-private partnerships
- Educate youth on the benefits of being a resilient community
- Community-owned energy projects; district energy
- Assist communities to phase out the oldest and dirtiest energy sources
- City planning for energy efficiency: building code, density, land-use
- Invest in waste to energy systems

Communities continued

SUSTAINABLE ECONOMY

- Cradle to cradle stewardship
- Form alliances around environmental issues/resources
- Promote circular economy and regional added value

HABITATION, BUILDINGS & INFRASTRUCTURE

- Make a big tent: neighborhood organizations, NGOs, religious institutions
- Carry out environmental performance studies to identify opportunities from a lifecycle perspective
- Private philanthropy and multilateral donors develop funding mechanisms that promote the development of projects that support resilience
- Ensure coordinated efforts between NGOs, business and citizen groups to develop projects and programs

MOST VULNERABLE COMMUNITIES

- Ensure involvement of grassroots in community decision making
- Bring diverse people together to create alternatives and solutions as a whole
- Representatives of marginalized communities on committees, boards of directors, leadership
- Community groups need to increase awareness of the issues and build capacity
- Develop local currency, barter/ exchange programs
- Corporations pay their full tax load and develop social responsibility programs

Communities continued

CULTURAL DIVERSITY

- Program public space for community celebrations that support community diversity
- Support farmers markets and local craft makers to provide access to local producers

KNOWLEDGE EXCHANGE

- Build new opportunities for sharing knowledge within the community as well as with similar communities, governments and the scientific community
- Be willing to interact with government and scientists and handle conflicting information
- Foster multi-stakeholder dialogues
- Recognize value of all types of knowledge

HUMANS AS PART OF NATURAL ECOSYSTEMS

- Rely on trained informed people to help ensure resilience
- Use local (bio-regional) approaches and seek to be as self-sufficient as possible
- Start ecological (systems-based) education early, including traditional knowledge
- Protect most vulnerable members first (people or other life)
- Respect local knowledge (e.g. fishing folk, indigenous people)
- Shift to waste as resource

Individuals

WATER

- Become informed
- Take public actions: participate in planning activities, volunteer
- Take private actions: conserve water, recycle, make lifecycle changes, implement flood mitigation strategies for homes

FOOD

- Vote with your fork: vote for important food policies
- Create safe haven for pollinators (e.g. bees, birds, etc)
- Rediscover Traditional Ecological Knowledge (TEK) and traditional food practices
- Grow your own food and compost
- Knowledge and interest = awareness

ENERGY

- Lifestyle changes to build personal resiliency: grow food, buy a small house, weatherize home, choose where you live
- Become informed and active, participate in local government
- Look for options for density (e.g. co-housing)
- Opt-in to renewable energy schemes when possible

Individuals continued

SUSTAINABLE ECONOMY

- Reconsider consumption needs
- Digitize
- Individual participation in political process
- Mentorship, volunteerism, local entrepreneurship

HABITATION, BUILDINGS & INFRASTRUCTURE

- Look for opportunities to upgrade and retrofit for efficiency
- Develop and individual definition of resilience and develop a plan
- Reduce consumption of water, energy and resources through lifestyle choices
- Continuously get information about new sustainable options and embrace these options/products behaviors in their lives

MOST VULNERABLE COMMUNITIES

- Believe that they are experts of their own lives and that change can be created. Positive attitude.
- Be aware/knowledgeable of rights and laws in order to be prepared and involved. Become a life-long learner. Join a group/committee.
- Engage in systemic and continuous capacity-building of yourself, your neighbours and your communities
- Reconnect yourself and your family to the environment/nature. Be aware.
- Educate! Educar! Eduquez!

Individuals continued

CULTURAL DIVERSITY

- Support local markets, arts and makers
- Participate, support multiculturalism

KNOWLEDGE EXCHANGE

- Share and disseminate knowledge using social networks and other means
- Be willing to work together with stakeholder groups and other individuals to generate constructive dialogue
- Be open minded to the views of others

HUMANS AS PART OF NATURAL ECOSYSTEMS

- Confront values systems
- Spread the word and help make science accessible
- Know and understand your ecological footprint, and act on it
- Help build capacity for resilience in your community
- Get involved in decision-making and help open doors for citizen scientists and others to participate
- Use traditional and local knowledge to define baseline for resilience

Conclusion

What's next?

6

With so many important issues and ideas, the challenge is to create sustained action. The workshop participants feel they now belong to a North American community of communities who share common challenges and who can develop and share their strategies for resilience.

You are invited to join this movement.

Tanya Gulliver
@TanyaMGulliver
Follow
Participant: before region was Louisiana, Mississippi, Alabama, Florida and Texas. Now I know it's 3 countries with similar problems #CEC12
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Details about the workshop including presentations and media for download are available at:

www.cec.org/council2012

www.facebook.com/CECconnect

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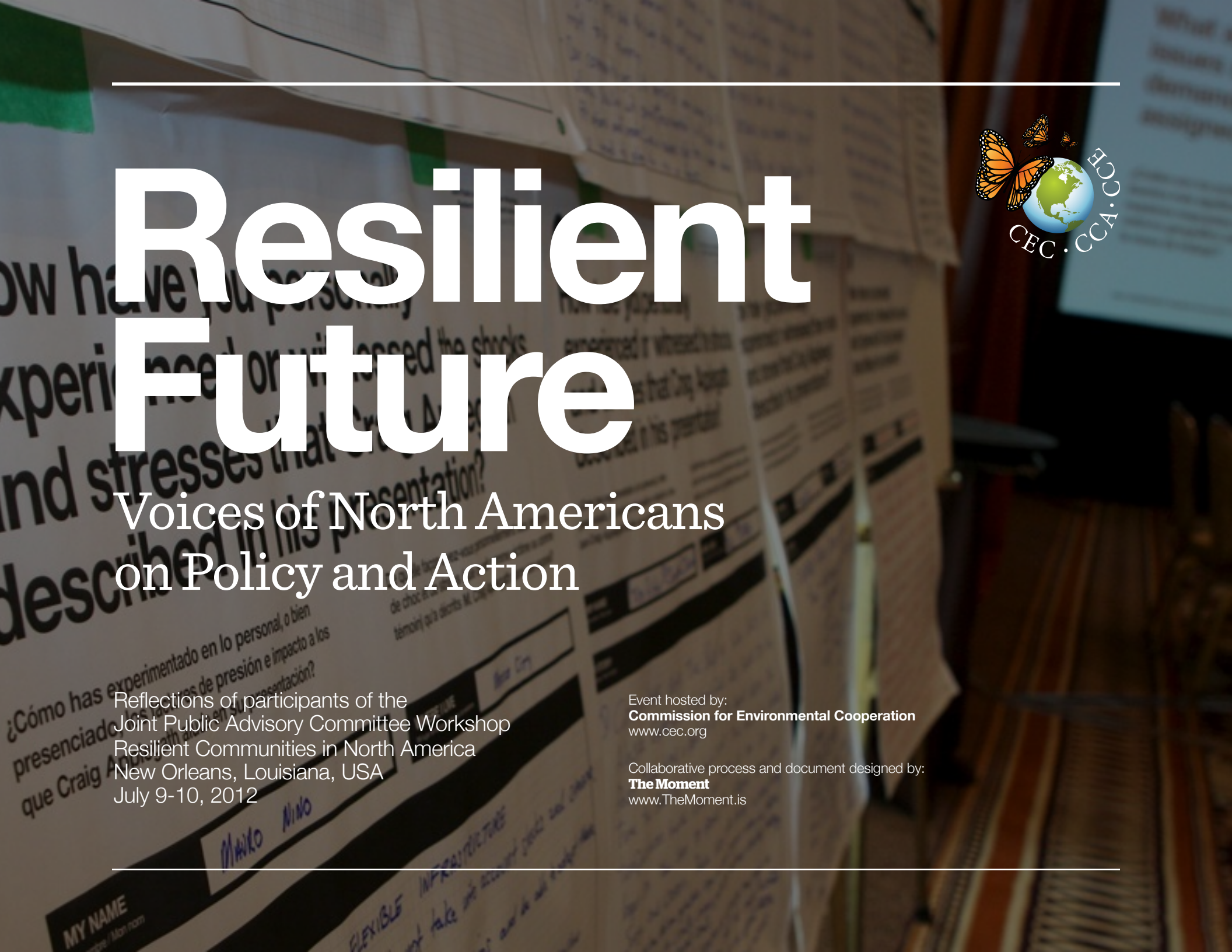

Resilient Future

Voices of North Americans on Policy and Action

Reflections of participants of the
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New Orleans, Louisiana, USA
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