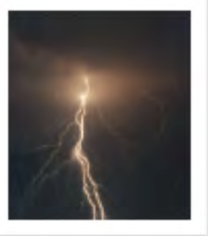
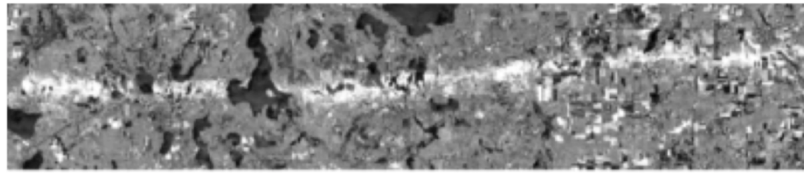


Opportunity in Disaster



Rebuilding Better
Communities



my disastrous journey

Siren tornado

Flood 2012

Lightening strike

Sink hole

Colorado flood



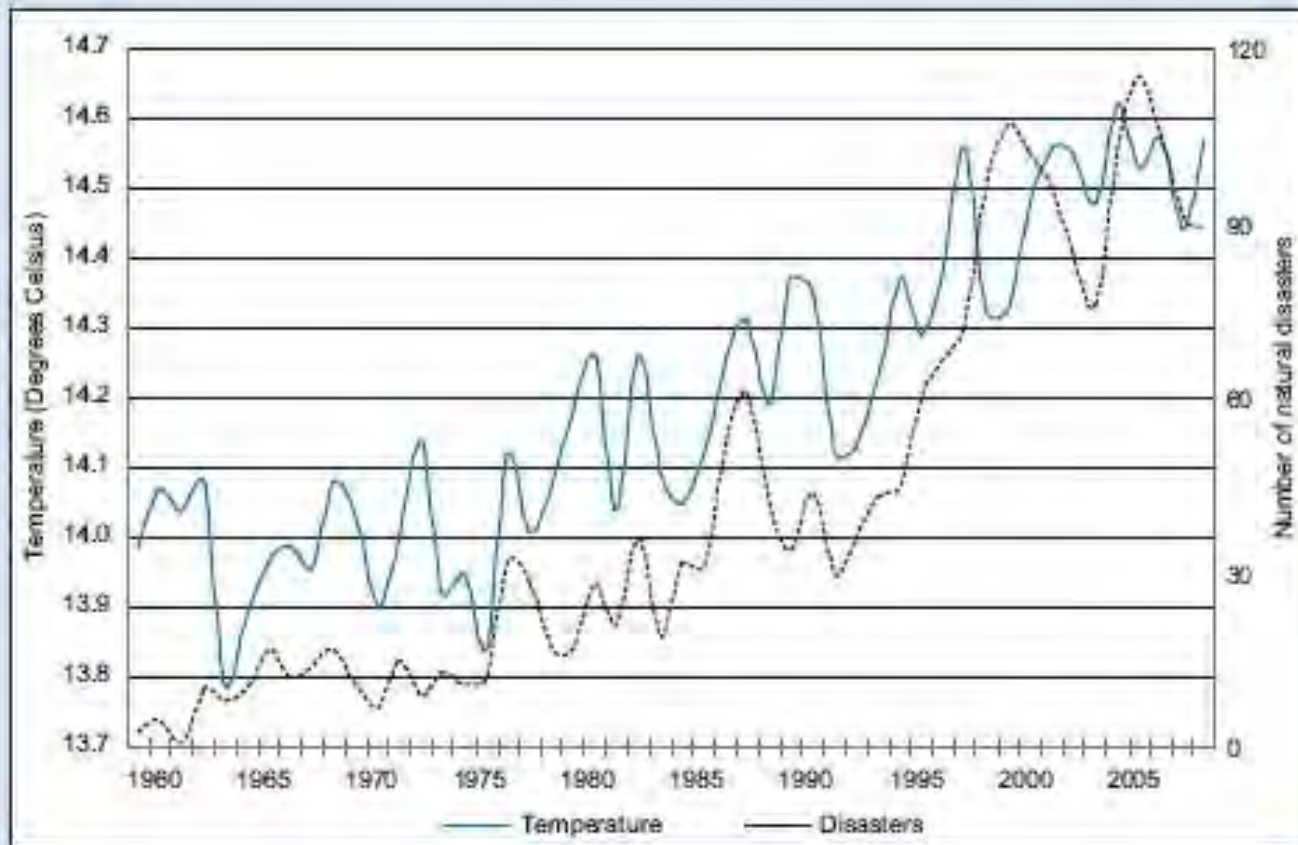
ecolibrum3



Climate Change

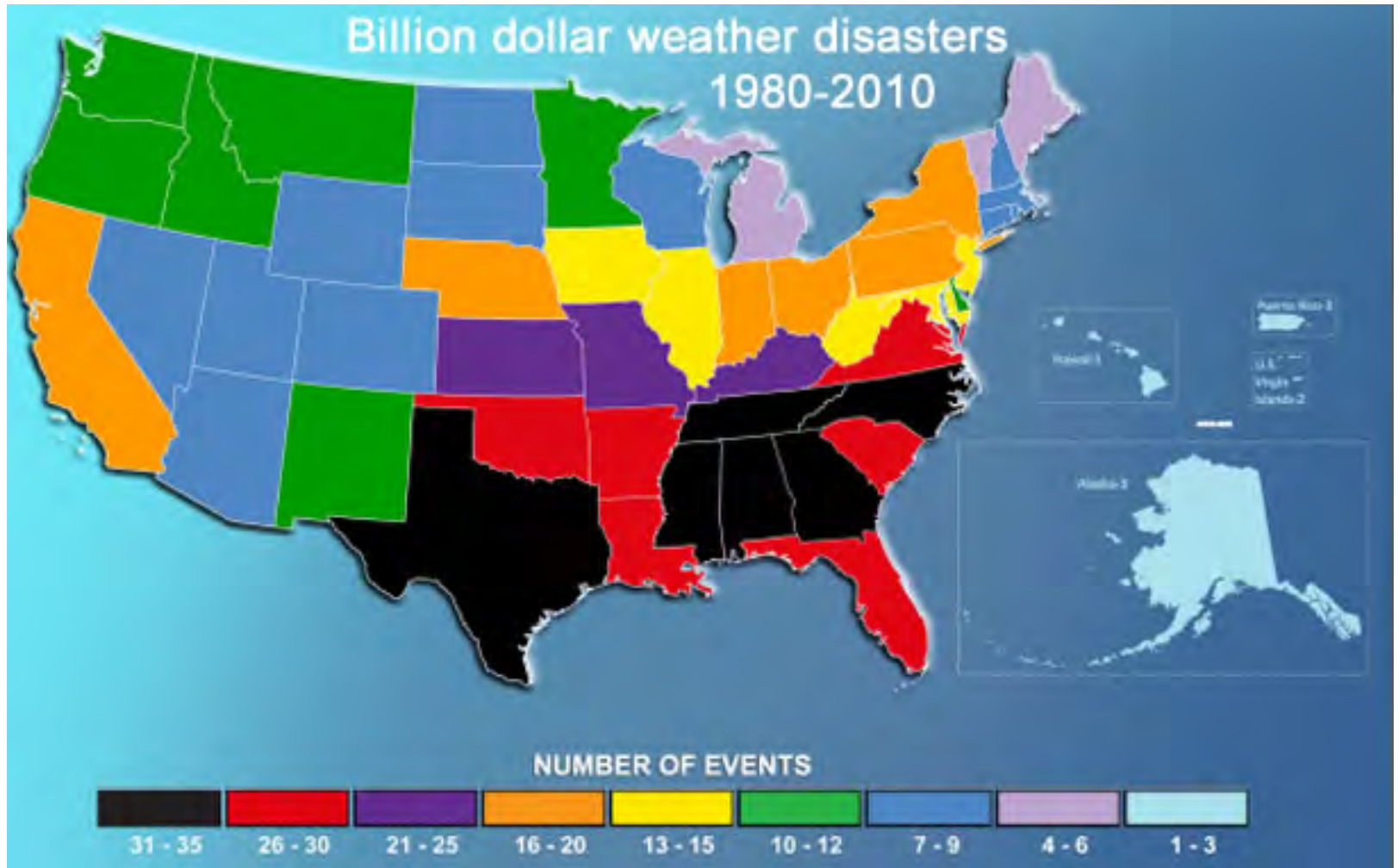
A historical perspective of disasters...

World temperature and natural disasters in LDCs, 1960–2009



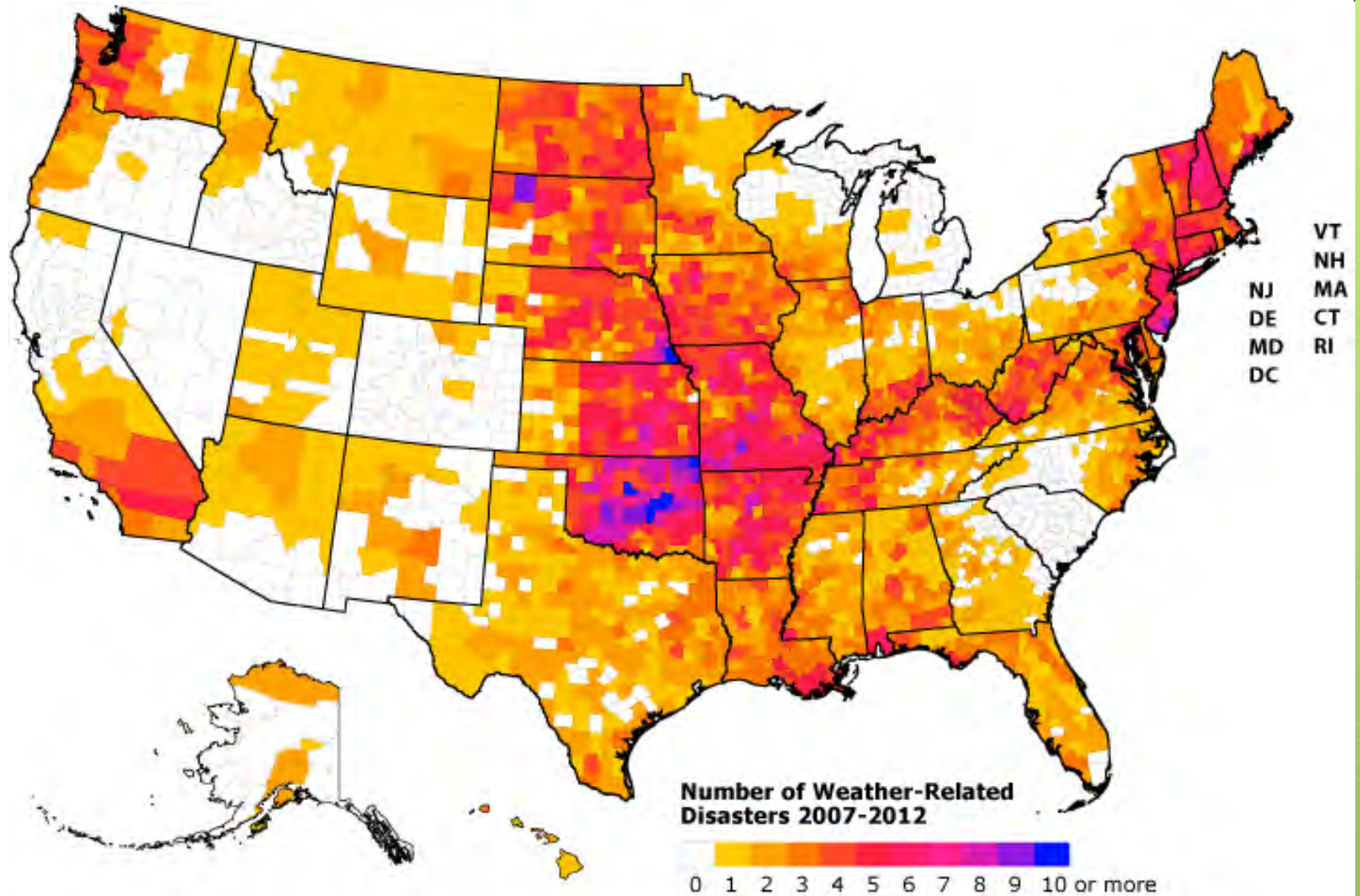
Source: Goddard Institute for Space Studies (GISS), *NASA GISS Surface Temperature Analysis (GISTEMP)* (<http://data.giss.nasa.gov/gistemp/>); and UNCTAD secretariat estimates, based on EM-DAT: The OFDA/CRED International Disaster database (www.emdat.net), Université catholique de Louvain, Louvain-La-Neuve.

Note: Sample comprised of 47 LDCs.



Opportunity in Disaster

Rebuilding Better Communities









In the Path of the Storm

Global Warming, Extreme Weather and the Impacts of Weather-Related Disasters in the United States from 2007 to 2012



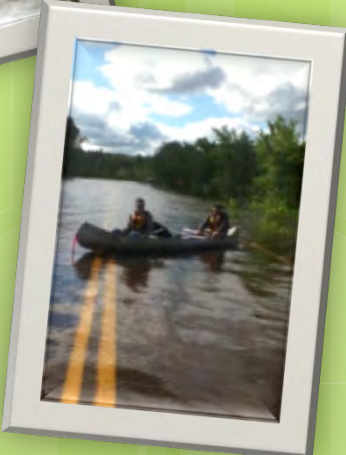
4 out of **5** Americans live in a county that had a declared disaster in the past 5 years.

Nearly **half** of Americans live in a county that has had a flood.

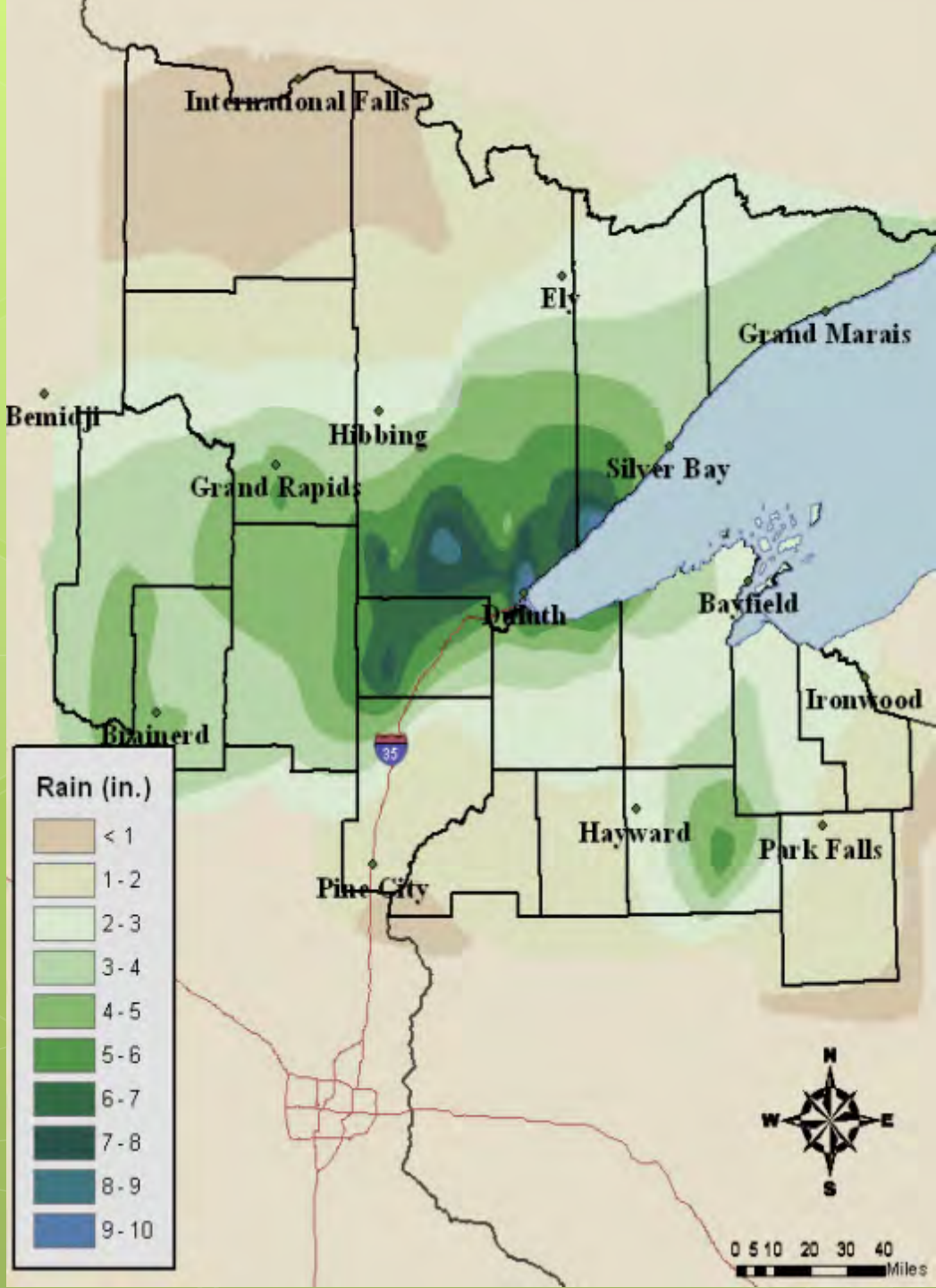


Close to Home

The Flood of 2012...



June 19-20,
2012



June 2012 - By the Numbers

- 10+ inches of rain in 24 hours on already saturated soils
- 3,145 homes with reportable damage
- 1,961 homes with >10% damage
- 72 homes completely destroyed
- 2 states, 7 counties, 1 tribal band
- \$29 million in household grants & loans
- 0 FEMA Individual Assistance

Tornado

Flood

Traumatic

Limited
geography

High rate of
insurance

Debilitating

Hidden

Large
geography

Low rate of
insurance



Opportunity in Disaster

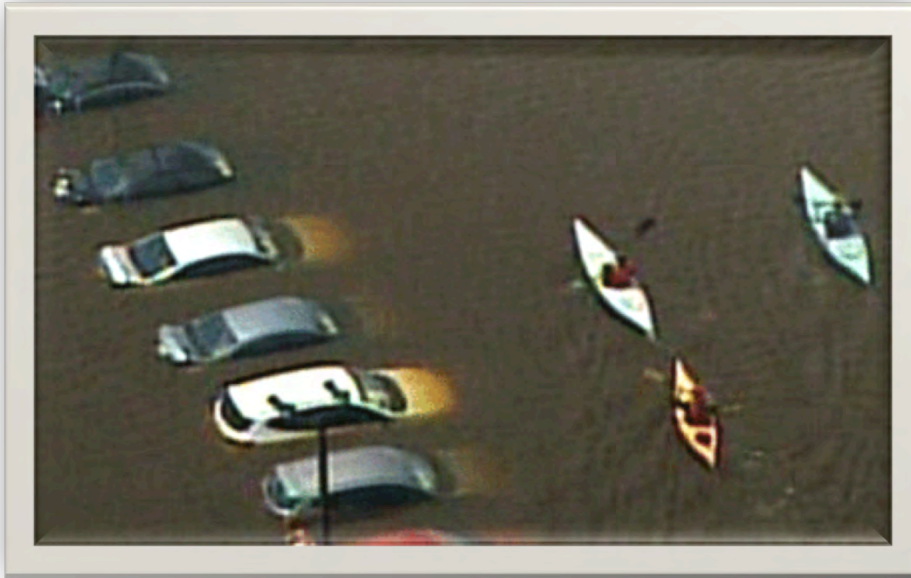
Rebuilding Better Communities



Phase of Disaster

- Response (immediate safety)
- Relief (temporary housing/food sanitation)
- Recovery (rebuilding)





Safe, Sanitary, & Secure

First steps to recovery...

Initial Reporting

- Utilize 911 for emergencies
- Follow local guidelines for additional reporting
- Watch for updated information and reporting requirements

Stay Safe and Healthy

- Recognize potential hazards including:
 - Stress
 - Structural Damage
 - Mold
 - Asbestos
 - Electrical hazards
- Gas leaks
- Carbon monoxide
- Contaminated water, food, surfaces, wells
- Septic system failure
- Fuel oil contamination
- Escaped zoo animals

Opportunity in Disaster

Rebuilding Better Communities



Mold Prevention

Throw Out

- Carpet & Pad
- Linoleum or laminate flooring
- Subfloor/underlayment (pressed wood, plywood, OSB)
- Drywall, OSB, pressed-wood paneling on walls or ceilings
- Insulation
- Upholstered or particle board furniture
- Ceiling tiles
- Wall paper, inexpensive wall coverings
- Paper materials
- Non-metal ductwork
- Anything that soaked up water

Keep and Clean

- Flooring (stone, tile, vinyl, concrete, wood, rubber)
- Subfloor/underlayment (concrete or solid wood)
- Walls (concrete, brick, solid wood, lathe and plaster)
- Furniture (wood, metal, plastic, glass)
- Laminated furniture if undamaged
- Foam insulation
- Unlined, uninsulated metal ductwork

Other Considerations

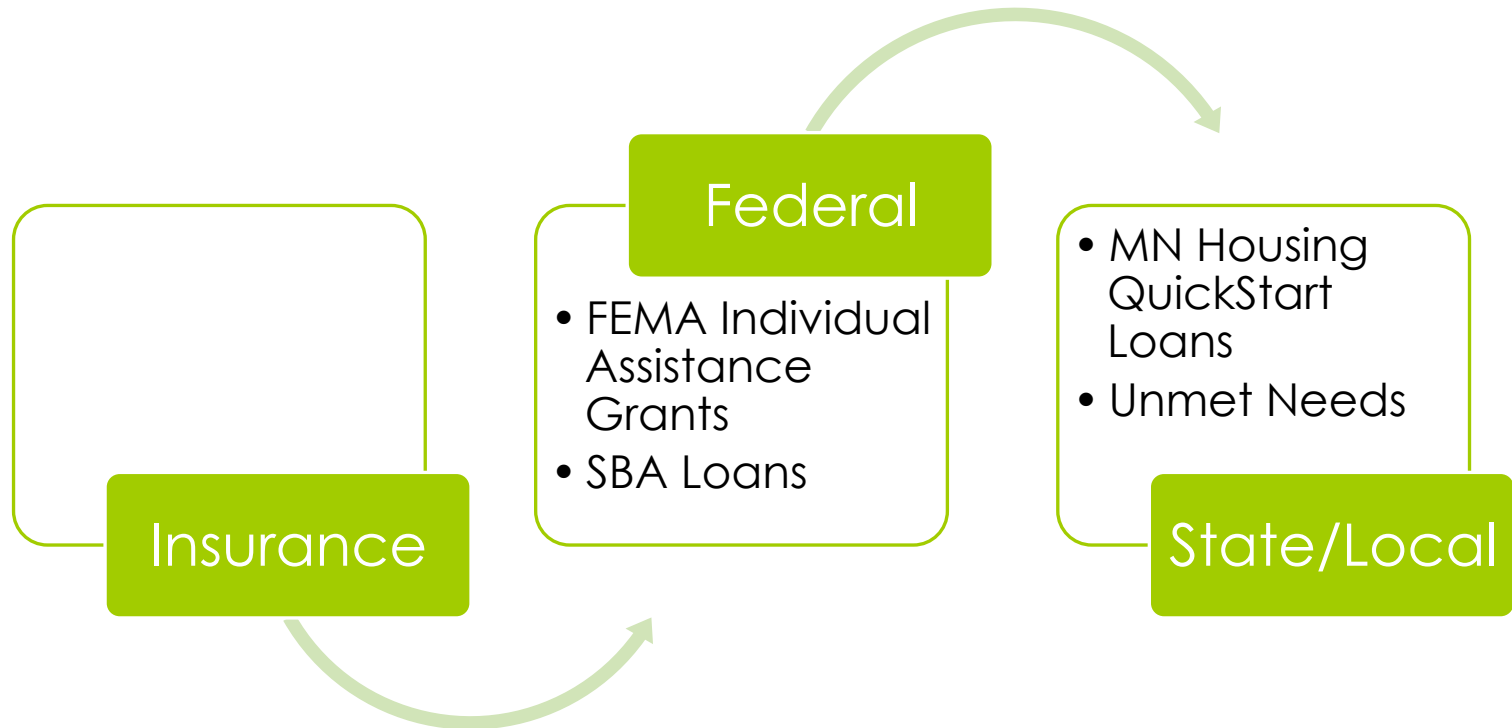
- Create an inventory of the damage to your building, property, equipment, inventory, and/or crops.
- Keep receipts for cleanup and restoration expenses including labor, materials, equipment rental, motel bills, etc.
- Contact your insurance agent, even if you don't have flood coverage. Get a **denial** letter.



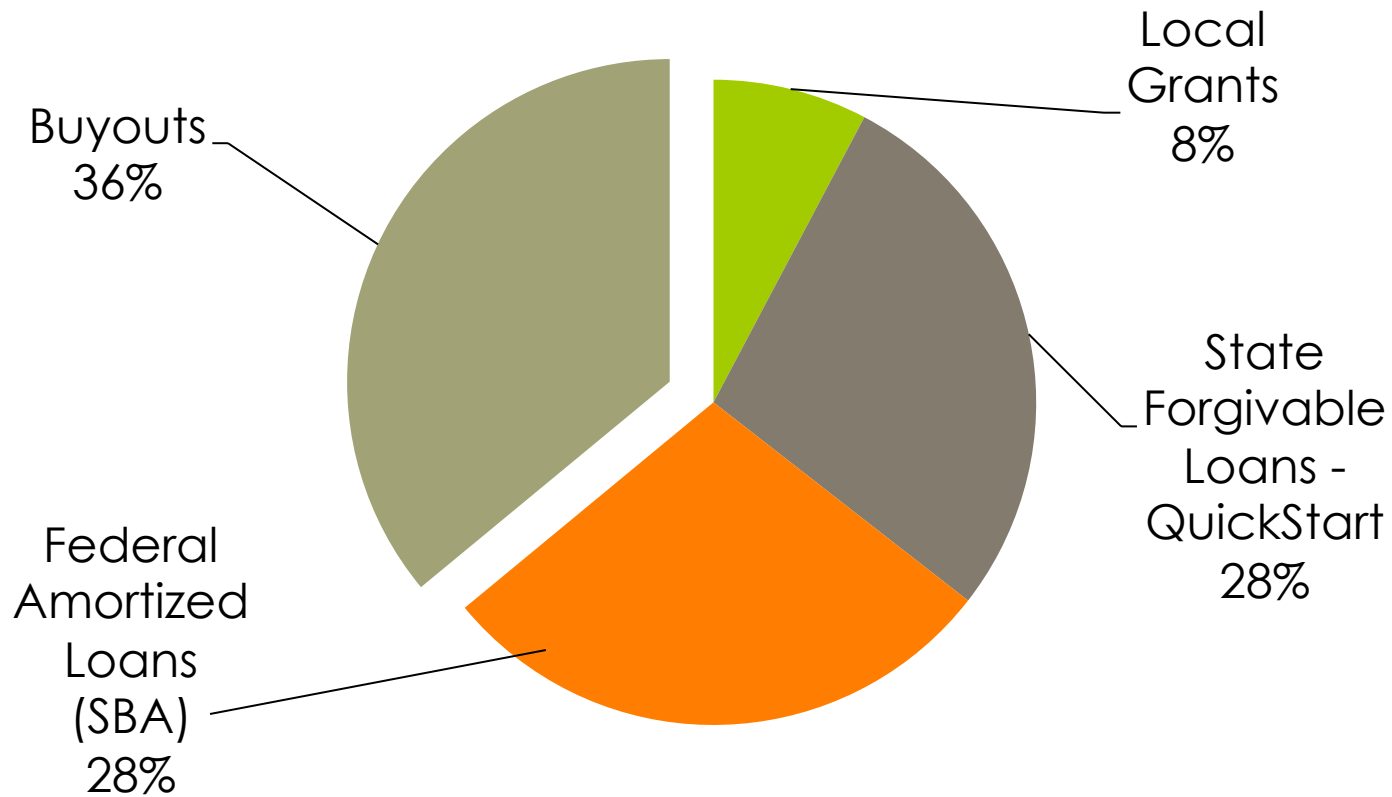
Rebuilding

1-3 year process...

Disaster Assistance



Disaster Assistance - \$29 M



Recovery Challenges

- Emergency Needs
 - Electricity
 - Heat
 - Hot Water
- Compromised equipment
- Short-term decisions with long-term impact

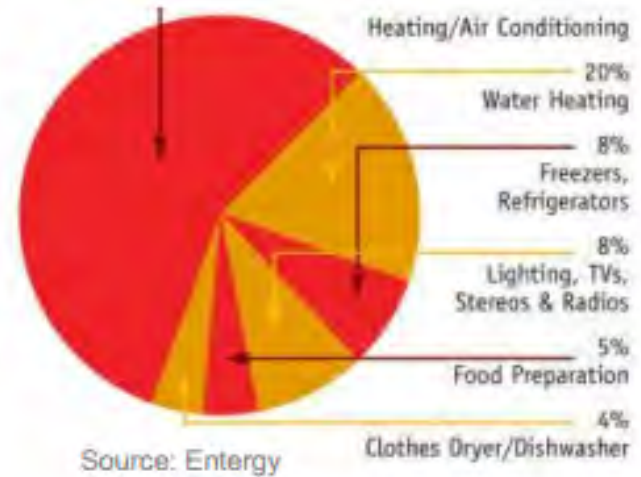
Emergency Needs

- Ordean Foundation
 - \$500,000 investment
 - First case management in region (August)
 - Bridge loans and grants
 - Energy efficient recovery
 - Conversion from fuel oil to natural gas
 - Energy audits for all participants
 - Duluth Energy Efficiency Standards
 - 112 low-income households in St. Louis County
- Change to MN QuickStart program

[2009]

**GUIDE FOR ENERGY
EFFICIENT, RAPID
REBUILDING OF SINGLE
FAMILY HOMES**

By Keith Canfield and
Tammy Agard



[NOLA100 was an intense, 100 day rebuilding effort that renovated over 40 New Orleans housing units from June to October, 2008. The information contained in this outline is intended to provide those seeking to undertake similar projects with knowledge gleaned and lessons learned from that experience.]

Compromised Equipment

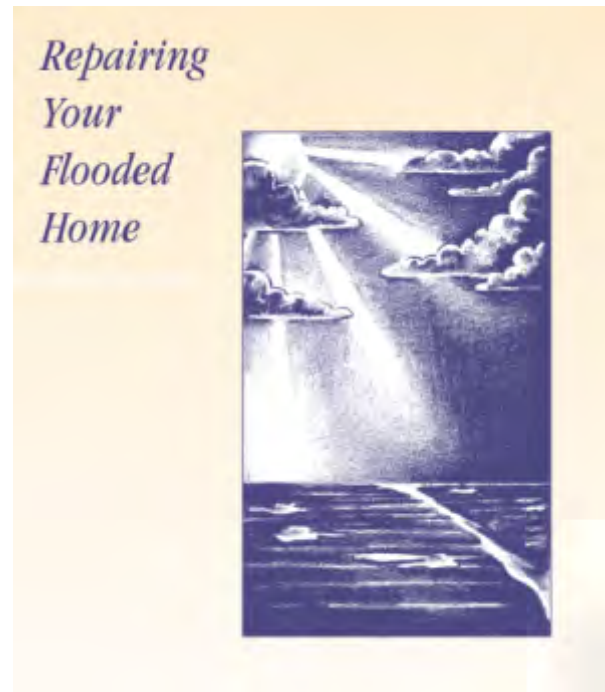
- Furnaces
 - At minimum have checked- future reliability issues probable replacement recommended
- Water Heater
 - Replace
- Ductwork
 - Insulation should be replaced
 - Solid ductwork should be disinfected

Leveraging Resources

- Disaster Assistance
 - Working with a case manager
- Utility rebates
- Tax credits
- Stabilizing post-disaster finances with lower energy costs
 - \$608
 - \$1,062 (some up to \$3,000)

Types of Floodproofing

- Elevation
- Relocation
- Floodwalls
- Dry floodproofing
- Wet floodproofing



Contractor Challenges

- Building permits
- Extra rules and regulations
- Dealing with very stressed customers
- Compassion fatigue
- Delays in payment
- Too much work, not enough time

Resources

- *Creating a Healthy Home: a field guide for clean-up of flooded homes* (http://www.nchh.org/Portals/0/Contents/FloodCleanupGuide_screen_.pdf)
- *Rebuilding Your Flooded Home* (http://www.redcross.org/images/MEDIA_CustomProductCatalog/m4540081_repairingFloodedHome.pdf)
- *Recovery After Disaster: the family financial toolkit* (<http://www1.extension.umn.edu/family/tough-times/disaster-recovery/family-financial-toolkit/docs/financial-toolkit-all.pdf>)

Resiliency...



Questions?



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