

WHAT IS HAZARD MITIGATION?

Breaking the cycle of response and recovery by planning for hazards, increasing preparedness, and reducing the impact and long-term risk to people and property from future disasters.

OKLAHOMA HAZARDS

- Dam/levee failure
- Drought
- Earthquake
- Extreme heat
- Flooding
- Severe storms (hail, lightning, high winds, tornadoes)
- Wildfire
- Winter storms and extreme cold

COSTS OF WEATHER AND CLIMATE EVENTS IN OKLAHOMA

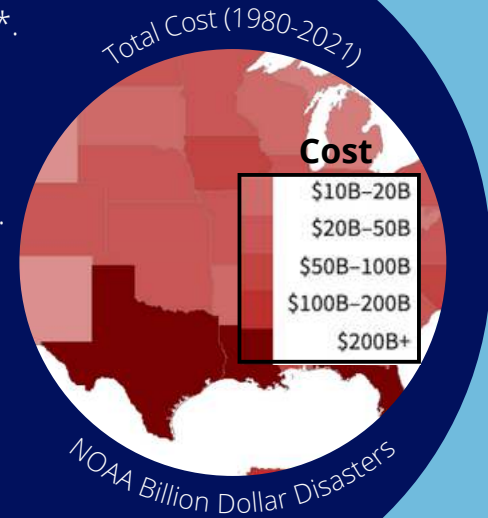
- Weather & climate disasters cost Oklahoma **\$20-50 billion** since 1980*.
 - Most damage occurred from severe storms, flooding, and drought.
- Severe storms are the most frequent billion-\$ disaster in Oklahoma*.

FUTURE ESTIMATES (includes Oklahoma, Kansas, Texas)**

- **\$500-800 million** in flood damages are projected between 2040-2059.
- An increase of **550 premature deaths (\$7 billion) per year** could occur from extreme heat by 2050.
- Impacts to roads and bridges are projected to cost up to **\$1.3 billion** per year.
- Up to **260 million** labor hours (**\$13 billion**) lost per year.
- An extra **\$700 million** in electricity demand and supply costs per year.

*NOAA Billion Dollar Disasters

**EPA CIRAI Technical Report for the 4th National Climate Assessment; 2015 dollars



HAZARD MITIGATION PLANS (HMP) AND PLANNING

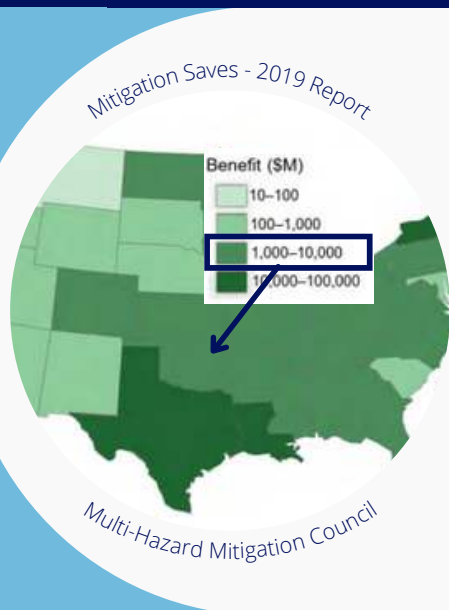
- Reduce vulnerability and impacts to natural disasters.
- Make your community eligible to apply for FEMA hazard mitigation funding once the plan is approved by FEMA and adopted by the community.
- Increase resilience by promoting safety measures and increasing a community's ability to adapt and quickly recover from events.
- Promote community vitality after a disaster.
- Lessen response and recovery after an event.
- Lead to safer communities that are less reliant on financial assistance for future events.



FEMA HAZARD MITIGATION GRANT PROGRAM (HMGP) PROJECT OPPORTUNITIES

- Acquire flood-prone structures to help owners relocate to safer areas.
- Protect homes & businesses with floodwater barriers (levees, flood walls).
- Retrofit infrastructure and utilities to decrease risk of freezing and bursting water pipes, and maintain delivery of natural gas and electricity.
- Construct tornado safe rooms for communities and individuals.
- Improve drainage systems to reduce flooding.
- Strengthen building codes to meet wind-resistant standards.
- Develop and adopt hazard mitigation plans, which are required for state, local, tribal, and territorial governments to obtain federal funding assistance for these projects and others.

HMGP grant opportunities are contingent on funding available through Presidentially Declared Disasters as part of the Stafford Act.



COST SAVINGS

*Mitigation Saves - 2019 Report

- **\$6 are saved for every \$1** the federal government spends on hazard mitigation*.
- Hazard mitigation leads to fewer casualties, injuries, PTSD, and property damage*.
- Oklahoma benefits up to **\$10 billion** from federal grants to mitigate for flood, wind, earthquake, or fire*.
- Adopting latest building codes can save **\$11 for every \$1** spent by protecting property and lives*.
- **\$6 are saved for every \$1** spent on adopting latest code requirements for river flooding*.
- Savings in federal and private insurance payouts, indirect damages, household expenditures, and business stimulus.

HAZARD MITIGATION SUCCESS IN OKLAHOMA

- **Tulsa:** Achieved Class 1 ranking of the National Flood Insurance Program's Community Rating System, reducing insurance rates by 45%.
- **Wagoner:** A flood mitigation grant project saved the city \$12,000 in pre-vs. post-mitigation loss.
- **Moore:** Enhanced building codes are mitigating high wind damage from tornadoes, saving \$3 for every \$1 spent.
- **Miami:** Removed more than 75 structures from the floodplain through a buyout program.
- **Beckham County:** Completed their HMP in order to obtain a grant for generators for rural water district facilities.
- **Little Axe Public Schools:** A bond was passed by the community to construct FEMA-certified safe rooms at their schools.
- **Guthrie:** After repetitive flooding, the city created a flood HMP with a rehabilitation and flood mitigation project. A grant provided economic development, historic preservation, tourism, and flood mitigation.



NEED HELP WITH YOUR PLAN? CONTACT OEM FOR ANY QUESTIONS.

For more information please contact:

Darrian Bertrand
dbertrand@ou.edu
Southern Climate Impacts Planning
Program



Michael D'Arcy
Michael.DArcy@oem.ok.gov
OK Department of Emergency
Management