



Resilience and Climate Change Adaptation

FEMA is committed to promoting resilience as expressed in: the Presidential Policy Directive PPD-8: *National Preparedness*; FEMA’s *Climate Change Adaptation Policy Statement* (Administrator Policy 2011-OPPA-01); and FEMA’s *2014–2018 Strategic Plan*. Resilience refers to the ability to adapt to changing conditions and rapidly recover from disruptions due to emergencies. The concept of resilience is closely related to the concept of hazard mitigation, which is reducing or eliminating potential losses by breaking the cycle of damage, reconstruction, and repeated damage. Examples of mitigation measures are: community-wide risk reduction projects; efforts to improve the resilience of critical infrastructure and key resource lifelines; reducing vulnerabilities from natural hazards, climate change, or acts of terrorism; and initiatives that reduce future risks after a disaster has occurred.

Consistent with the President’s Task Force on Climate Preparedness and Resilience, FEMA is supporting efforts to streamline the Hazard Mitigation Assistance (HMA) programs so they can better respond to the needs of communities nationwide as they address the impacts of climate change. FEMA, through its HMA programs, has:

- Developed and encouraged the adoption of resilience standards in the siting and design of buildings and infrastructure
- Modernized and highlighted the importance of hazard mitigation

How Hazard Mitigation Assistance (HMA) Programs Support Community Resilience

Through its HMA programs FEMA provides an average of \$700 million annually in Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance, and Pre-Disaster Mitigation grants so communities can undertake hazard mitigation measures. Through these grants FEMA supports the development of resilient communities that will be better prepared for the impacts of climate change in the future by developing hazard mitigation plans and implementing hazard mitigation projects. FEMA also encourages communities, through the use of Sections 404 and 406 of the Robert T. Stafford Act, Title 42 of the United States Code Parts 5170c and 5121, to incorporate comprehensive mitigation measures into their projects when reconstructing damaged public facilities.

Furthermore, FEMA has taken an active role in supporting community-based resilience efforts by establishing policies and guidance that promote mitigation projects that will protect critical infrastructure and other public resources. As such, FEMA has issued several policies to help communities mitigate the adverse effects of climate change on the built environment. FEMA policies encourage communities to:

- Use building codes and standards (the American Society of Civil Engineers / Structural Engineering Institute [ASCE/SEI] 24-14, *Flood Resistant Design and Construction*) wherever possible
- Maintain the natural and beneficial functions of floodplains
- Invest in more resilient infrastructure
- Engage in mitigation planning to develop mitigation strategies that foster community resilience and smart growth

FEMA is encouraging communities to become more resilient and to incorporate climate change considerations in their project scoping and development. One way in which FEMA is supporting resilience and climate change is through the inclusion of environmental considerations in the Benefit-Cost Analysis (BCA) Tool for certain mitigation activities. For example, FEMA has:

- Incorporated sea level rise into the HMA BCA Tool
- Developed economic values to use in the HMA BCA tool for green open space and riparian areas
 - The economic value for green open space is \$7,853 per acre per year and the economic value of riparian areas is \$37,493 per acre per year
- Published a new HMA Job Aid, *Cost Effectiveness Determination for Residential Hurricane Wind Retrofit Measures Funded by FEMA*
- Allowed communities to use HMGP grants to fund the additional 5 percent set-aside amount to address impacts from all hazards. This includes the development and use of disaster-resistant building codes, an important step in promoting community resilience. In the past the 5 percent funding could only be used to address impacts from tornadoes and high winds.
- Developed a website: <http://www.fema.gov/climate-change> that provides information about climate change and links to related tools and documents. This page is intended for anyone interested in learning more about FEMA resources and other federal government resources available to support climate change preparedness and resilience.

Together the above-mentioned policies and actions provide significant opportunities for states, territories, federally-recognized tribes, and local communities to reduce or eliminate potential losses from climate change. FEMA supports this by encouraging hazard mitigation planning and by funding hazard mitigation projects.