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How exercises help US communities meet the challenge of climate change: The FEMA National Exercise Division’s innovative exercise tools and resources

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ABSTRACT

The US Federal Emergency Management Agency (FEMA) National Exercise Division (NED) leads the nation in validating the capabilities of the whole community in support of the National Preparedness System. In response to the increased threat of climate change, the NED has developed new resources to help communities increase preparedness for severe weather and natural disasters in the long term. This paper provides an overview of two such resources to help communities identify and prepare for climate-related events: the Long-Term Community Resilience Exercise Resource Guide (ERG) and the Climate Adaptation Exercise Series (CAES). These resources help communities develop and conduct exercises to increase their climate literacy, develop climate adaptation and mitigation plans, and leverage data on future climate conditions to inform decision-making. Exercises provide an opportunity for communities to build resilience by discussing and better understanding climate change and to plan for, adapt to, and mitigate the associated risks and hazards. The ERG provides guidance, tools and resources, and the CAES provides a consistent framework that FEMA regions can tailor to address unique, region-specific climate concerns. The results collected from these exercises, in turn, identify strengths to leverage and areas to improve, informing plans of action for a path forward for the next 20, 30 and 50 years.

Keywords: adaptation, climate change, exercise, preparedness, resilience

INTRODUCTION

Climate change is creating severe weather and natural disasters that, until recently, were unimaginable. The effects of natural and manmade disasters have become more frequent, far-reaching and widespread, impacting all levels of society. This reality makes climate adaptation planning a shared responsibility for everyone, not just the

government. The US Federal Emergency Management Agency (FEMA) National Exercise Division (NED) provides tools and resources to help communities imagine the unimaginable.

This paper uses the following key terms as defined by the United States Global Change Research Program (USCGRP):¹

- *Adaptation:* Adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects;
- *Climate change:* Changes in average weather conditions that persist over multiple decades or longer. Climate change encompasses both increases and decreases in temperature, as well as shifts in precipitation, changing risk of certain types of severe weather events, and changes to other features of the climate system;
- *Resilience:* A capability to anticipate, prepare for, respond to and recover from significant multi-hazard threats with minimum damage to social wellbeing, the economy and the environment.

FEMA and climate change

Extreme weather events related to climate change pose a profound threat. In 2022 alone, the USA had 85 federally declared disasters, most of which resulted from fires, severe storms and flooding. By comparison, the 1980s averaged 29 federally declared disasters per year.² To address the threat of climate change and continue to protect people before, during and after disasters, FEMA established a strategic goal³ to lead whole-of-community climate resilience.

The themes of climate change, climate resilience and climate adaptation are also included in the priorities of other federal agencies, state, local, tribal and territorial (SLTT) governments and private and



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nonprofit organisations, driving a need to collaborate on climate activities. FEMA is coordinating and collaborating with its regional and SLTT partners to improve community resilience and climate adaptation, increase climate literacy and showcase tools and resources.

Climate considerations in the FEMA and NED missions

FEMA's mission statement is 'Helping people before, during and after disasters'. Within that broad scope, the NED's mission is 'to ensure the nation assesses its readiness and validates its capabilities to prevent, protect against, respond to, recover from and mitigate all hazards through superior exercises conducted at all levels of government and throughout the whole community'.

These missions drive FEMA's commitment to advance climate adaptation and resilience to meet emerging threats. To equip US businesses and communities to adapt to climate change, the NED developed two exercise-related resources: the Long-Term Community Resilience Exercise Resource Guide (ERG) and the Climate Adaptation Exercise Series (CAES).

How exercises improve preparedness for climate change

An exercise is an event or activity, delivered through discussion or action, to develop, assess or validate plans, policies, procedures and capabilities that jurisdictions and organisations can use to achieve planned objectives. SLTT governments across the nation conduct exercises as part of their emergency preparedness activities to assess their readiness and capabilities to respond to a threat.

Through the Homeland Security Exercise and Evaluation Program (HSEEP), FEMA NED helps guide exercise and evaluation programmes and provides a

common approach to exercise program management, design and development, conduct, evaluation and improvement planning.⁴ The NED uses a whole-community approach to engage the private and nonprofit sectors, including businesses, academic organisations, faith-based and disability organisations, social and racial justice organisations and the general public, in conjunction with SLTT and federal governmental partners. SLTT jurisdictions can request that FEMA support their exercises. Private businesses and other entities participating in these exercises can increase their business preparedness, assess how risks affect their operations, and identify actions to reduce those risks.

Traditionally, exercises evaluate and validate emergency management plans for immediate disaster response and short-term recovery, or important capabilities, such as planning, public information and warning, operational coordination, operational communications and logistics and supply chain management.

Focusing exercises on climate adaptation supports planning for long-term climate risk and increases community resilience. Climate adaptation exercises use science-supported scenarios and modelling to visualise a future outside the direct experience of participants. They examine time horizons of 20, 30 and 50 years. Modelling demonstrates future conditions based on climate science from trusted sources, such as the Intergovernmental Panel on Climate Change, to explore the effect on communities if nothing is done to reduce the impact of climate change, as well as how the impacts change based on various planning factors and community investments.

Best exercise types for a climate focus

HSEEP defines two categories of exercises: discussion-based and operations-based.

Discussion-based exercises are ideal for introducing new climate-related concepts, plans and programmes to prompt community members to consider immediate actions to mitigate the future effects of a changing climate. Such exercises can be used in the early stages of planning to integrate climate adaptation and be revisited iteratively as plans mature and climate science changes. Table 1 describes four types of discussion-based exercises and explains how each is relevant to common climate themes. Planners must consider features of these four exercise types when

developing the exercise purpose statement, scope and objectives.

Where possible, communities should use a progressive approach to exercises. A progressive approach develops multiple connected exercises that build on one another. For example, a community could first hold a seminar that provides information about climate science, including projected future climate conditions and potential impacts, to establish a knowledge base among participants. The community could then hold a workshop to develop strategies to align climate goals among

Table 1: Discussion-based exercise types and features relevant to climate change

<i>Type</i>	<i>Description</i>	<i>Features</i>
Seminar	An optimal starting point to raise awareness of climate preparedness, adaptation and resilience	<ul style="list-style-type: none"> • Introduces participants to the best available climate change science, authorities, strategies, plans, policies, procedures, protocols, resources, concepts and ideas • Increases collaboration between climate change experts and other communities (eg emergency managers) • Helps entities develop or make changes to existing climate adaptation plans or procedures
Workshop	An effective format to engage the community to develop a resilience plan or to incorporate climate considerations into existing community-based plans	<ul style="list-style-type: none"> • Includes broad attendance from stakeholders to increase interaction and discussion • Provides a forum to achieve climate-resilient outcomes such as integrating community planning, developing long-range risk reduction strategies and identifying investment options • Focuses on building a product such as an action plan to guide future climate adaptation actions to incorporate into other community-based plans
Tabletop Exercise	Ideal to help the community validate the capabilities in its community resilience plan or identify existing plans that incorporate climate considerations	<ul style="list-style-type: none"> • Generates discussion of various issues using short and long-range scenarios • Enhances awareness, validates capabilities, rehearses concepts and assesses the systems for preventing, protecting from, mitigating, responding to and recovering from a defined event • Encourages in-depth discussions to collaboratively examine areas of concern and propose solutions
Game	An engaging iterative exercise environment that actively conveys climate risks and decision-making requirements, based on existing plans within a community	<ul style="list-style-type: none"> • Open, decision-based format that incorporates ‘what if’ questions in a hypothetical situation • Explores consequences of climate-related decisions and actions to reduce risk and identify critical decision points • Validates plans and procedures or evaluates resource requirements • Can use modelling to visualise the near, mid and long-term climate adaptation effects of varying decisions • Helps develop climate adaptation actions and plans by examining gaps and second and third-order consequences of decisions

community coalitions or identify public and/or private investment opportunities to implement climate adaptation initiatives.

Knowledgeable facilitators or presenters should lead exercises, keeping participants on track to achieve exercise objectives. Regardless of the type of discussion-based exercise, exercises help communities examine capabilities and, ultimately, accelerate community resilience.

THE LONG-TERM COMMUNITY RESILIENCE EXERCISE RESOURCE GUIDE

The ERG⁵ provides reliable methodologies, strategies, information and resources for emergency managers and climate adaptation planners to design and conduct discussion-based exercises focused on climate adaptation and resilience planning. The ERG helps communities identify impacts of current and predicted climate change, build coalitions among diverse sets of stakeholders and identify investments in critical preparedness and adaptation measures to reduce vulnerability in the long term.

History of the ERG

The ERG was initiated in 2014 through a partnership led by the White House National Security Council Staff and the NED, later joined by the White House Council on Environmental Quality, the Office of Science and Technology Policy and other federal departments and agencies. Together, they developed the first ERG and conducted the National Exercise Program Climate Adaptation, Preparedness and Resilience Exercise Series in five locations across the country: the National Capital Region; Houston, TX; Fort Collins, CO; Anchorage, AK; and Hampton Roads, VA. The series facilitated structured discussion on the present and future effects of climate change and

identified collaborative and sustainable approaches to climate resilience.

Following the 2014 series, the NED transformed the initiative to be more holistic, scalable and sustainable. The revised three-day base curriculum had modules on basic climate science concepts; preparedness and exercise planning and design tools; interactive group activities for participants to network and practise building exercises; and an early version of the ERG that summarised curriculum concepts, provided extensive links to external resources and included templates for exercise design.

In 2015, the NED conducted a training pilot in Miami, FL and an abridged version of the exercise at the Safe and Secure Counties Symposium for the National Association of Counties in Colorado Springs, CO. In 2016, the NED conducted a full Climate Adaptation, Preparedness and Resilience Exercise Training in Salt Lake City, UT. The 2018 version of the ERG reflected the outcomes of these pilot exercises and trainings.

The current downloadable version of the ERG, released in 2021, is updated to include the latest best practices relating to planning and conducting exercises for climate adaptation.

Using the ERG

The ERG provides dynamic sources of information that remain current as climate risks and associated strategies, research, technology and legal frameworks continue to evolve.⁶ The ERG provides everything a community needs to prepare for and execute an exercise:

- *Guidance and basic principles* to inform community exercises, including climate adaptation, hazard mitigation planning and building community resilience as they relate to current threats, hazards, future conditions and risks;

- *Tools and templates* for building exercises that include climate considerations and hazard mitigation practices, including exercise discussion themes;
- *Resources* identifying climate-related programmes, funding and training across all levels of government, nonprofit organisations, private sector entities and the academic community.

The guide explains how to incorporate hazard mitigation, climate preparedness, adaptation and resilience into exercise objectives and discussion questions, as well as explaining how to incorporate these themes into an existing exercise to raise awareness of the effects of current and future climate risks on existing hazards within the community. The ERG also outlines how to include climate considerations in a standalone exercise focused solely on climate adaptation.

Climate-related discussion topics

Successful discussion-based exercises use prompts to generate dialogue between participants throughout the exercise conduct. Aligned with exercise-specific objectives and organised thematically, discussion questions help exercise facilitators drive participant conversation to meet the objectives of the exercise and engage participant expertise.

The ERG highlights environmental, social and cultural, economic, security, equity and environmental justice discussion themes to help participants, stakeholders and communities better understand these complex concepts, explore interdependencies among community sectors and facilitate cooperation and coordination.

Climate-related considerations are relevant for any of multiple overarching focus areas:

- *Environmental*: Climate risks that affect the community's environment in the near, mid and long terms;
- *Social and cultural*: Climate-related social and cultural challenges facing the community in the near, mid and long-terms (eg public health, housing, employment, food supply, community traditions);
- *Economic*: Key economic challenges and opportunities related to climate threats, hazards and risks and planning for resilience facing the community in the near, mid and long terms (eg infrastructure, industry, energy, housing, public health and security);
- *Security*: Security assets most vulnerable to climate-related threats, hazards and risk in the near, mid and long terms (eg military facilities, energy infrastructure, supply lines);
- *Equity*: Socioeconomic disparities and historically marginalised or disadvantaged communities that may impact an individual's or household's ability to mitigate their climate footprint, adapt to climate change or respond to a disaster; and
- *Environmental justice*: Obstacles to advancing integration of climate resilience, sustainable practices, environmental justice and equity before, during and after disasters.

Incorporating risk levels

Risk assessments can help communities develop unique exercise objectives and scenarios. The ERG includes a section on incorporating climate change risk assessments into exercises. Through an exercise, participants can better understand threats facing their jurisdictions and assess the risk to their local community. Understanding risk builds and sustains preparedness and is essential to developing plans for adapting and mitigating the effects of climate change.

A baseline understanding of climate trends is the foundation for a community's risk assessment. Figure 1 shows high-level observed trends and future conditions identified by the National Climate

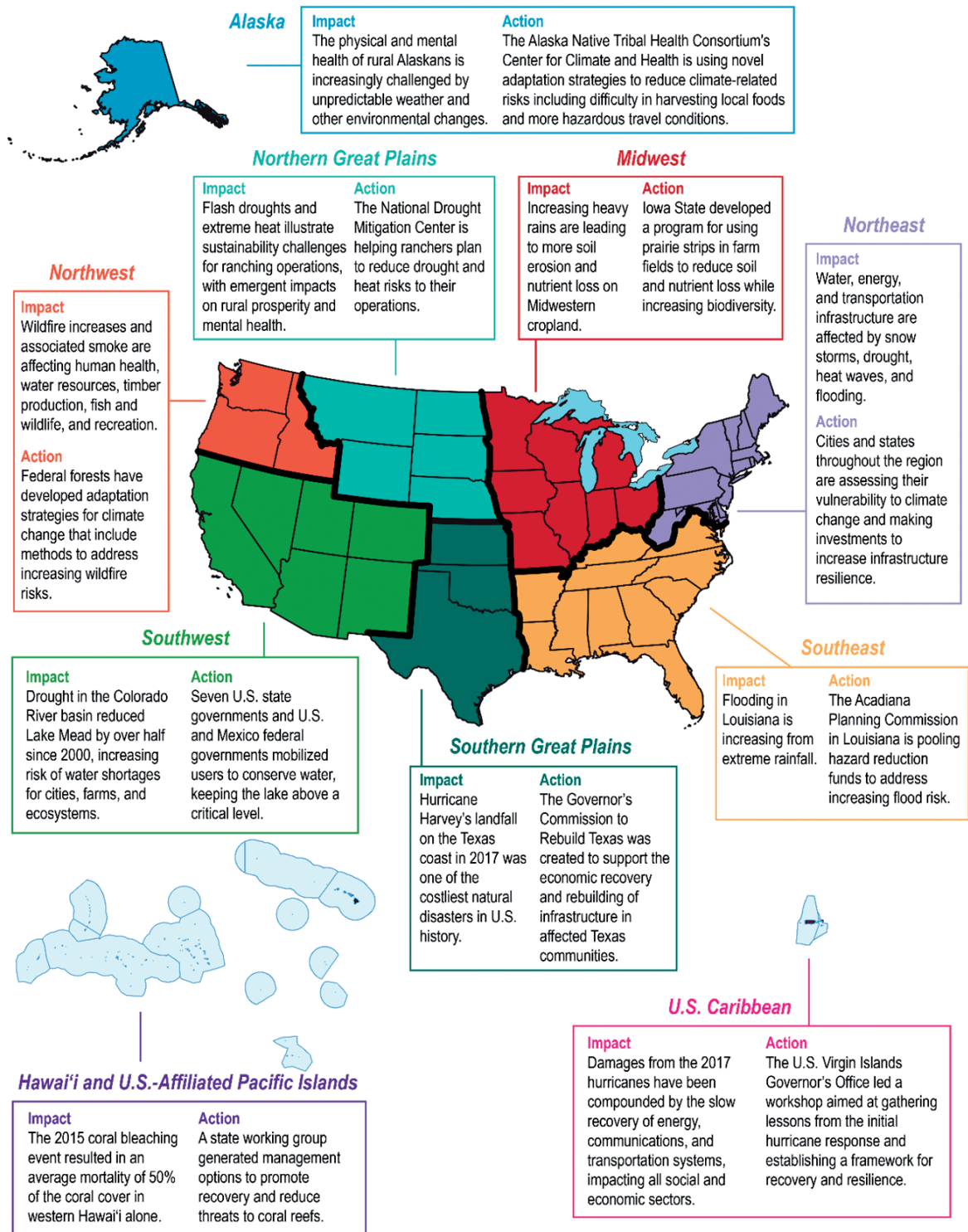


Figure 1 Americans respond to the impacts of climate change

Source: US Global Change Research Program (2018) 'Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States', Chapter 1, Figure 1.1 (static view), available at <https://nca2018.globalchange.gov/chapter/1/>

Assessment (NCA).⁷ Although every state has evidence of a changing climate, it manifests differently in every region.

The ERG's resources section details a number of climate science resources developed for and available to non-climate experts and the public such as the US Climate Resilience Toolkit. Many of these resources provide information on local climate risks and impacts decades into the future. Exercise planners can use this information to develop scenarios and objectives for their communities to encourage participants to assess and explore risks to the built environment, economy, community infrastructure and systems, residents and the natural environment. The results help communities develop adaptation strategies and priorities for building integrated, long-term solutions that mitigate climate risk.

Since the publication of the ERG and as climate science improves, additional climate tools continue to be developed and refined both by government and private sector entities that support local climate adaptation and hazard mitigation planning. Future revisions of the ERG will reference these tools.

THE CLIMATE ADAPTATION EXERCISE SERIES

As climate impacts vary across the USA, the NED developed the CAES to help FEMA regions and regional stakeholders integrate and prioritise region-specific climate considerations. CAES helps clearly convey that climate change means more than just bigger, more frequent storms. The scope of CAES addresses the ways climate change impacts the field of emergency management and beyond, affecting everything from migration patterns to food scarcity to public health challenges.

This exercise series:

- Examines historical and environmental factors that have led to disproportionate impacts of climate change on vulnerable populations and how to engage underrepresented groups in the climate conversation;
- Explores how local climate adaptation policies and plans align with national trends, guidance, policies and laws;
- Promotes US federal grant programmes, such as the Building Resilient Infrastructure and Communities Program;⁸
- Introduces participants to climate adaptation subject-matter experts;
- promotes dialogue on the economic benefits and cost savings of adaptation measures, factoring in long-term benefits against short term costs;
- Enhances the climate literacy of the emergency management community at all levels.

Possibly the most important goal of the CAES is to identify and bridge gaps and build networks between SLTT climate service providers and emergency managers. Without these relationships, no real climate adaptation can occur. The design, development and delivery of CAES in each region is achieved through partnerships using a stakeholder-centric approach.

The CAES approach

FEMA coordinates CAES activities through the ten FEMA regions to respond to region-specific concerns and engage at a more local level. This approach allows each regional engagement to highlight the ways in which climate change impacts the communities in that region, expanding the specific knowledge base for regional climate adaptation needs among emergency management personnel. Communities in the region can leverage shared data and resources to inform climate adaptation

strategies and investments that mitigate risk. Finally, regional and local climate adaptation leaders are able to build and strengthen relationships and use the outcomes of the regional seminars to develop their own exercises and climate adaptation strategies for their communities.

CAES common and tailored objectives

Figure 2 shows the how a region’s areas of focus narrow down from common series and seminar goals. The overarching aims of the entire series are to empower SLTT partners to:

- Collaborate with climate adaptation leaders;
- Increase climate literacy among emergency managers;
- Build climate-resilient communities; and
- Empower risk-informed decision making.

The seminars all have three common goals:

- Discuss current and future regional conditions and impacts with the SLTT community;
- Describe the roles of climate service providers and the emergency management field in developing climate adaptation roadmaps and how the SLTT community can use this information; and
- Discuss partnerships, resources, and local policy and planning guidance available to the SLTT community.

Building on these three shared goals, during the development of each regional seminar, planning teams work with the NED to identify regional priorities and focus areas.

Stakeholders drive the focus

Each region tailors the contents of each exercise based on its unique circumstances and areas of interest. Several federal partners assist in this effort, including the Environmental Protection Agency

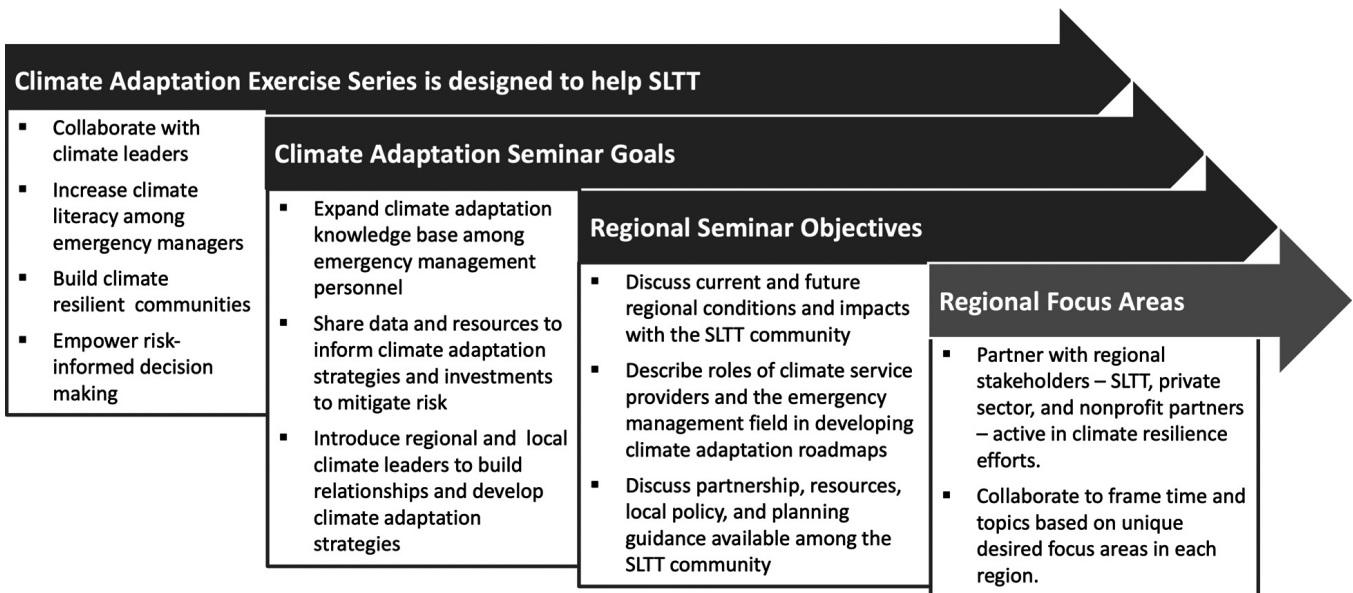


Figure 2 Process of developing regional seminars

Source: FEMA

(EPA), National Oceanographic and Atmospheric Administration (NOAA) and US Department of Agriculture (USDA). These partners provide expertise and present on key topics during each exercise. Examples of topics federal partners have covered include:

- *Context:* Climate Adaptation Overview (EPA);
- *Resources:* US Climate Resilience Toolkit (NOAA); and
- *Supporting data:* The National Risk Index (FEMA).

Other federal partners, like the Departments of Health and Human Services (HHS) and Housing and Urban Development (HUD), assist with other topics depending on the regional need.

In partnership with regional stakeholders, the NED engages SLTT, academic, private sector and nonprofit partners active in climate resilience to build a shared understanding of climate risks and impactful mitigation opportunities in climate adaptation. These regional stakeholders work with the NED to frame the time and topics based on unique desired focus areas.

Multiple formats and delivery mechanisms for seminars are available to accommodate travel and COVID-19 restrictions. In keeping with the traditional seminar structure, the CAES seminars are conducted in lecture format, with multiple presentations, subject-matter expert panels and/or case study discussions. An example one-day seminar session agenda could include:

- Explore potential hazards (NRI);
- Climate adaptation overview;
- Regional climate changes;
- Exploration of future risks;
- US climate resilience toolkit;
- Emergency management and future risks;

- Case studies of successful climate planning initiatives; and
- Case studies of adaptation project design and implementation.

Case study: FEMA Region 8 Climate Exercise Adaptation Seminar

FEMA Region 8 hosted the inaugural climate adaptation seminar as a virtual two-day event on 19th–20th April, 2022. Day one related climate science to participant experience, while day two explored what emergency managers are and are not seeing in community climate adaptation planning, and provided examples of planning, project design and implementation. Participation had a broad organisational reach, with more than 175 federal, tribal, state and local participants from:

- Nongovernmental and private sector organisations and academia from the six Region 8 states;
- Nine tribal nations;
- Partners from 13 other states outside the region.

Region 8 illustrated how planners can apply a set of standard goals and objectives while also differentiating the seminar to reflect the region's focus areas. Region 8 planning efforts also:

- Solidified key partners (NOAA, USDA and EPA) for future climate exercises; and
- Confirmed the need and value of including the following three sessions in each region's initial seminar:
 - Climate change and adaptation across the region;
 - The US Climate Resilience Toolkit; and
 - The National Risk Index.

Other regions have followed suit, building their climate adaptation seminars on Region 8's strong foundation.

CAES next steps

CAES began in early 2022 and will continue through 2024. Figure 3 depicts the overall progression. The planning and conduct of the regional seminars are well underway, as denoted by the stars. Following the conduct of each regional seminar, an after-action report or exercise summary documents the outcomes of the seminar. Each set of outcomes provides the foundation for the participating SLTT partners to begin planning their individual workshops or tabletop exercises. The CAES concludes with the National Level Exercise 2024.

BRINGING TOGETHER THE PAST AND PRESENT TO IMPROVE ALL FUTURES

The National Exercise Program Climate Adaptation, Preparedness and Resilience Exercise Series in 2014 laid the foundation for the work the NED is doing today; it identified key elements for the

whole community to focus on to improve preparedness and reduce the impacts of climate change. Many of the challenges identified in 2014 still exist and continued work is necessary.

Initial lessons observed

Exercises to date have identified a number of significant takeaways and best practices to help participating communities think about climate adaptation:

- *Synchronise disparate efforts:* A wide variety of coalitions, partnerships, associations and committees that addressed sustainability, resilience and preparedness existed but had limited integration or cohesion. Participants noted the need for a unified governance structure unique to a given locality, state or region to help localities plan and implement prioritised climate adaptation strategies;
- *Improve coordination among mitigation, response and recovery planners:* Leaders

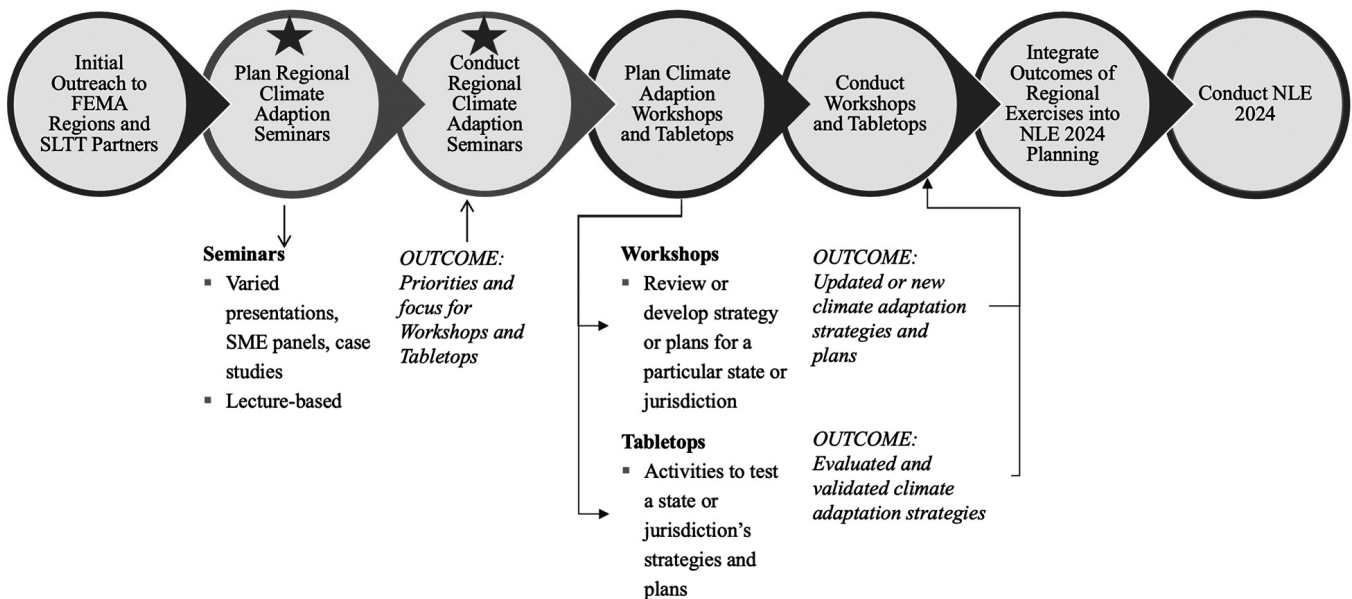


Figure 3 Timeline overview of the CAES

Source: FEMA

in mitigation, response and recovery should consider long-term vulnerabilities when making decisions about rebuilding and other investments to achieve resilience over the long term. Participants identified the need to better integrate mitigation activities;

- *Support at-risk populations:* Communities should identify populations that may be disproportionately affected by the changing climates and develop plans to support them;
- *Integrate social and economic sciences into the climate adaptation dialogue:* Participants noted the increasing need to integrate social and economic science into the climate science dialogue. Integrating these disciplines advances the field and helps connect physical climate science with the effects on society and the economy. Translating scientific information into human and social contexts supports better public messaging, information sharing and community engagement;
- *Develop resiliency standards:* Resiliency standards, such as those for siting or building critical infrastructure, can mitigate long-term adverse climate effects and enhance the resilience of critical infrastructure;
- *Determine second and third-order effects and critical infrastructure consequences:* Activities to better understand the second and third-order climate effects were identified, including:
 - Coordinate with critical utility providers to demonstrate interdependencies and identify areas that are most vulnerable to cascading effects;
 - Assess how changes to ecosystems could affect transportation, labour, public health, land use, water use and energy;
 - Build enhanced partnerships among agriculture, energy and urban

communities to address the interdependent challenges in sharing resources;

- Investigate potential human and behavioural health risks from consequences such as rising temperatures and relocation; and
- Develop tools to help communities identify and analyse these vulnerabilities.
- *Create incentives to advance activities that support resilience:* Local, state and federal governments can encourage investments in long-term vulnerability reduction by creating incentives to undertake such activities;
- *Develop strategic messaging to promote resilience:* Strategic messaging drives immediate action to reduce long-term vulnerability and encourage investments in large-scale resilience projects. Communities must communicate the business case and benefit of those investments in mitigating both short and long-term climate effects.

Ongoing efforts

Although exercise participants have identified climate adaptation planning needs, integrating these lessons into actions and solutions remains difficult. Table 2 summarises the common themes and key takeaways from the CAES seminars conducted to date.

Much remains to be done to increase the nation's resilience to climate change. Partnership building, coordination and support for at-risk populations are major areas for improvements that cannot be corrected overnight. These improvements can take decades to create.

The ERG and the CAES, along with a suite of other exercise tools and resources, are creating opportunities to improve preparedness across the USA by looking not just at historical risks and impacts, but by using exercises to envision

Table 2: CAES seminar themes and key takeaways to date

<i>Theme</i>	<i>Key takeaways</i>
Equity and vulnerability	<ul style="list-style-type: none"> • Include marginalised groups in emergency preparedness and climate resilience to address root causes, assess social determinants of health and overcome systemic barriers • Community-based organisations are essential to elevate community-level priorities that are often overlooked or unheard by higher levels of government • Collaboration and coordination of federal efforts can build overall trust with communities, and agencies should work together to establish who qualifies as an equitable or underserved community • Everyone, everywhere, is vulnerable to climate change, but not everyone is equally vulnerable • Although climate change does not target different areas and populations, the ripple effect of its consequences disproportionately impacts different communities and demographics • The common goal is for equal access to the decision-making processes, especially the communities who rely on federal agencies to support and meet community needs • Society and infrastructure will keep radically changing and investigate options that link potential actions to areas with the highest risk and populations with the most vulnerabilities within the region
Understanding climate change	<ul style="list-style-type: none"> • Climate underlies many of the today's extremes and hazards. Distinguishing climate variability from climate change is important • Risks associated with climate change are never static; therefore, responses from all levels (federal, state, local, tribal and territorial) cannot remain static either • Cultural resources are being lost, substantially altered or destroyed with increasing frequency in the face of energy, economic, residential, transportation, sanitation and public health developments, including climate change
Need for new tools and resources	<ul style="list-style-type: none"> • Climate change is accelerating the need for new mitigation tools and more frequent analysis • Communities should approach each infrastructure mitigation project by considering the project's lifespan and build to meet the changing (future) set of conditions • Natural systems protection includes restoring riparian buffers to store floodwater; protecting watersheds for filtration and potable water; and restoring wetlands • All decisions of a community, business or resident should consider risk reduction • Traditional risk assessments are not enough to rely on moving forward • Plan risk assessments or hazard mitigations from a perspective that incorporates more transformational change as opposed to what has been done in the past
Diversity of partnerships	<ul style="list-style-type: none"> • SLTT partners are key to developing or updating climate adaptation strategies • Training and partnering with other organisations to identify steps or strategies provides differing perspectives that would otherwise go unrecognised • Building a diverse team is essential to represent community values and keep equity central to all subsequent planning steps • We must expand our network and identify more non-traditional partners to continue to address the impacts of climate change

a future very different from the known past, evaluate options for action and plan accordingly. Future exercises will build upon the lessons observed, and the outputs will advance climate adaptation awareness, helping communities across the US improve climate preparedness.

IMPROVE YOUR PREPAREDNESS

The ERG and the CAES are just the beginning of the NED's resources for climate-related exercises.

FEMA's National Exercise Program (NEP) is the primary national-level mechanism for validating US preparedness,

including in the area of climate resilience and adaptation. The NEP has a four-year cycle, which includes multiple exercises by jurisdictions at varying levels and including the National Level Exercise (NLE). The NLE is the country's cornerstone exercise for validating preparedness to catastrophic incidents.

Each NEP cycle is begun and defined by overarching priorities, called Principal Exercise Priorities (PEPs). These identify the key capabilities that the cycle will validate. The collected results of the exercises aligned to these PEPs and the NLEs provide a comprehensive snapshot of national preparedness and identify strengths to leverage and areas to improve.

FEMA NED developed six PEPs for the 2023–2026 NEP cycle, by analysing preparedness data, lessons from past exercises and real-world incidents, strategy and policy documents, capability assessments from partners across the nation and input from subject-matter experts. One of these PEPs is dedicated to climate resilience and adaptation:

‘Strengthen whole-community capabilities to anticipate, prepare for and adapt to climate-related disruptions, challenges and risks, including understanding how climate change alters climate related risks and identifying ways to adjust systems to protect the whole community.’

CAES is the main exercise effort aligned to the climate resilience and adaptation PEP for the 2023–2026 NEP cycle. Exercises aligned to this PEP can examine a wide variety of issues, including protecting vulnerable coastal populations and ecosystems, building resilient water infrastructure and managing flood and fire risk, among many others.

Exercises aligned to this PEP must also examine at least two of the following five stipulated exercise objectives:

- Discuss roles and responsibilities for requesting resources for climate adaptation, including understanding processes and statutory authorities within the federal and state climate adaptation and resilience plans;
- Validate processes that increase the climate literacy of emergency managers, senior officials and SLTT and whole community partners to improve long-term climate resilience through a shared understanding of climate risks and impactful opportunities to adapt to the changing environment;
- Identify methods to strengthen existing processes, practices and structures to address future climate impacts as part of climate adaptation for the whole community;
- Identify improvements in existing processes, practices and structures to adapt to future climate impacts for vulnerable communities with limited capacity to prepare for and cope with extreme weather and climate-related threats; and
- Discuss the ability to provide actionable climate information and tools to decision makers.

NLE 2024 includes climate change as a national security threat and builds upon the CAES to improve the nation's collective preparedness to the ongoing impacts of climate change. NLE 2024 and additional exercises will be planned across the FEMA regions to support the whole community.

It takes a village to become prepared. If each villager participates, preparedness will be achieved more quickly, thus lessening climate impacts.⁹

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