



FORGING NEW GROUND: IMPLEMENTING A CLIMATE RESILIENCE AGENDA ACROSS THE U.S. FEDERAL GOVERNMENT

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Author

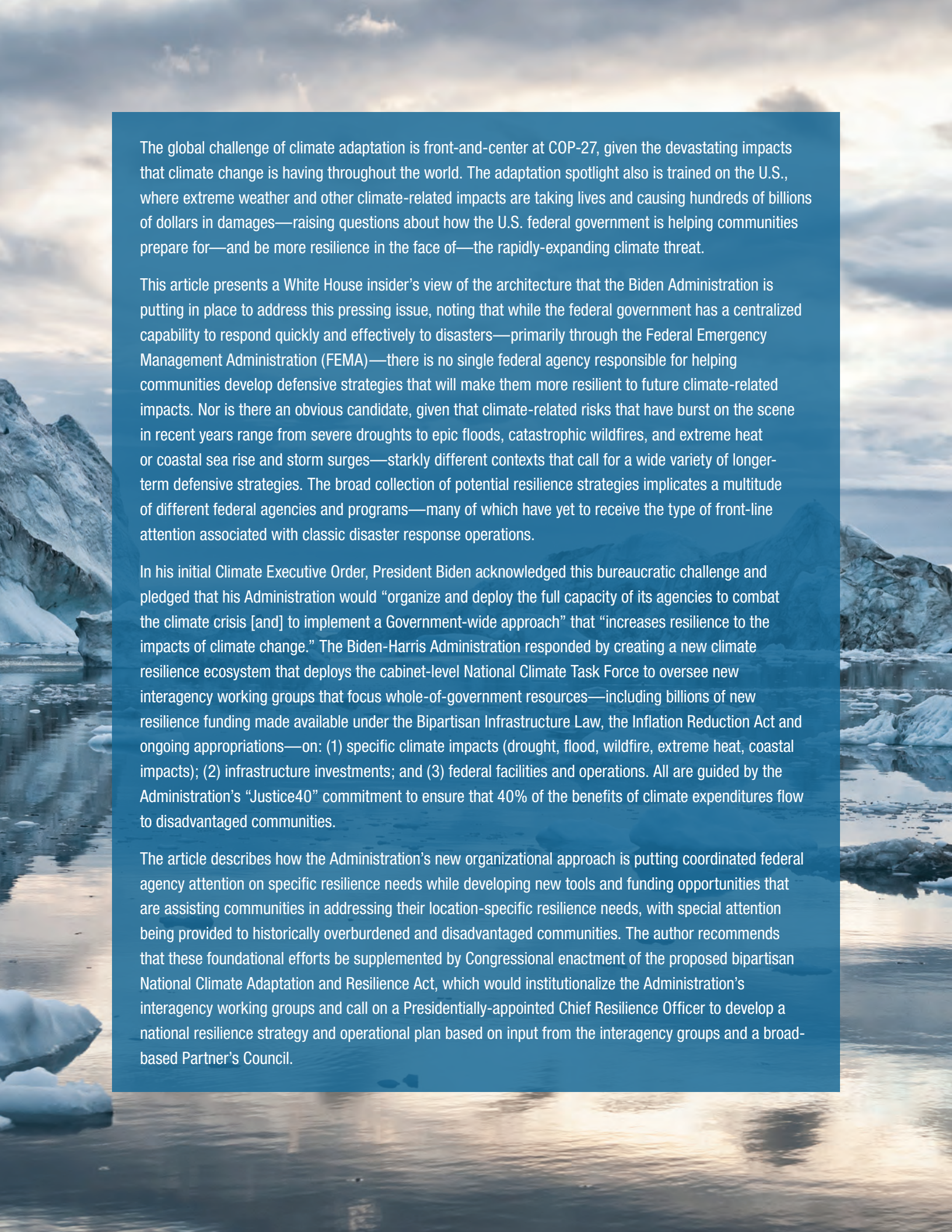
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The global challenge of climate adaptation is front-and-center at COP-27, given the devastating impacts that climate change is having throughout the world. The adaptation spotlight also is trained on the U.S., where extreme weather and other climate-related impacts are taking lives and causing hundreds of billions of dollars in damages—raising questions about how the U.S. federal government is helping communities prepare for—and be more resilience in the face of—the rapidly-expanding climate threat.

This article presents a White House insider’s view of the architecture that the Biden Administration is putting in place to address this pressing issue, noting that while the federal government has a centralized capability to respond quickly and effectively to disasters—primarily through the Federal Emergency Management Administration (FEMA)—there is no single federal agency responsible for helping communities develop defensive strategies that will make them more resilient to future climate-related impacts. Nor is there an obvious candidate, given that climate-related risks that have burst on the scene in recent years range from severe droughts to epic floods, catastrophic wildfires, and extreme heat or coastal sea rise and storm surges—starkly different contexts that call for a wide variety of longer-term defensive strategies. The broad collection of potential resilience strategies implicates a multitude of different federal agencies and programs—many of which have yet to receive the type of front-line attention associated with classic disaster response operations.

In his initial Climate Executive Order, President Biden acknowledged this bureaucratic challenge and pledged that his Administration would “organize and deploy the full capacity of its agencies to combat the climate crisis [and] to implement a Government-wide approach” that “increases resilience to the impacts of climate change.” The Biden-Harris Administration responded by creating a new climate resilience ecosystem that deploys the cabinet-level National Climate Task Force to oversee new interagency working groups that focus whole-of-government resources—including billions of new resilience funding made available under the Bipartisan Infrastructure Law, the Inflation Reduction Act and ongoing appropriations—on: (1) specific climate impacts (drought, flood, wildfire, extreme heat, coastal impacts); (2) infrastructure investments; and (3) federal facilities and operations. All are guided by the Administration’s “Justice40” commitment to ensure that 40% of the benefits of climate expenditures flow to disadvantaged communities.

The article describes how the Administration’s new organizational approach is putting coordinated federal agency attention on specific resilience needs while developing new tools and funding opportunities that are assisting communities in addressing their location-specific resilience needs, with special attention being provided to historically overburdened and disadvantaged communities. The author recommends that these foundational efforts be supplemented by Congressional enactment of the proposed bipartisan National Climate Adaptation and Resilience Act, which would institutionalize the Administration’s interagency working groups and call on a Presidentially-appointed Chief Resilience Officer to develop a national resilience strategy and operational plan based on input from the interagency groups and a broad-based Partner’s Council.

OVERVIEW

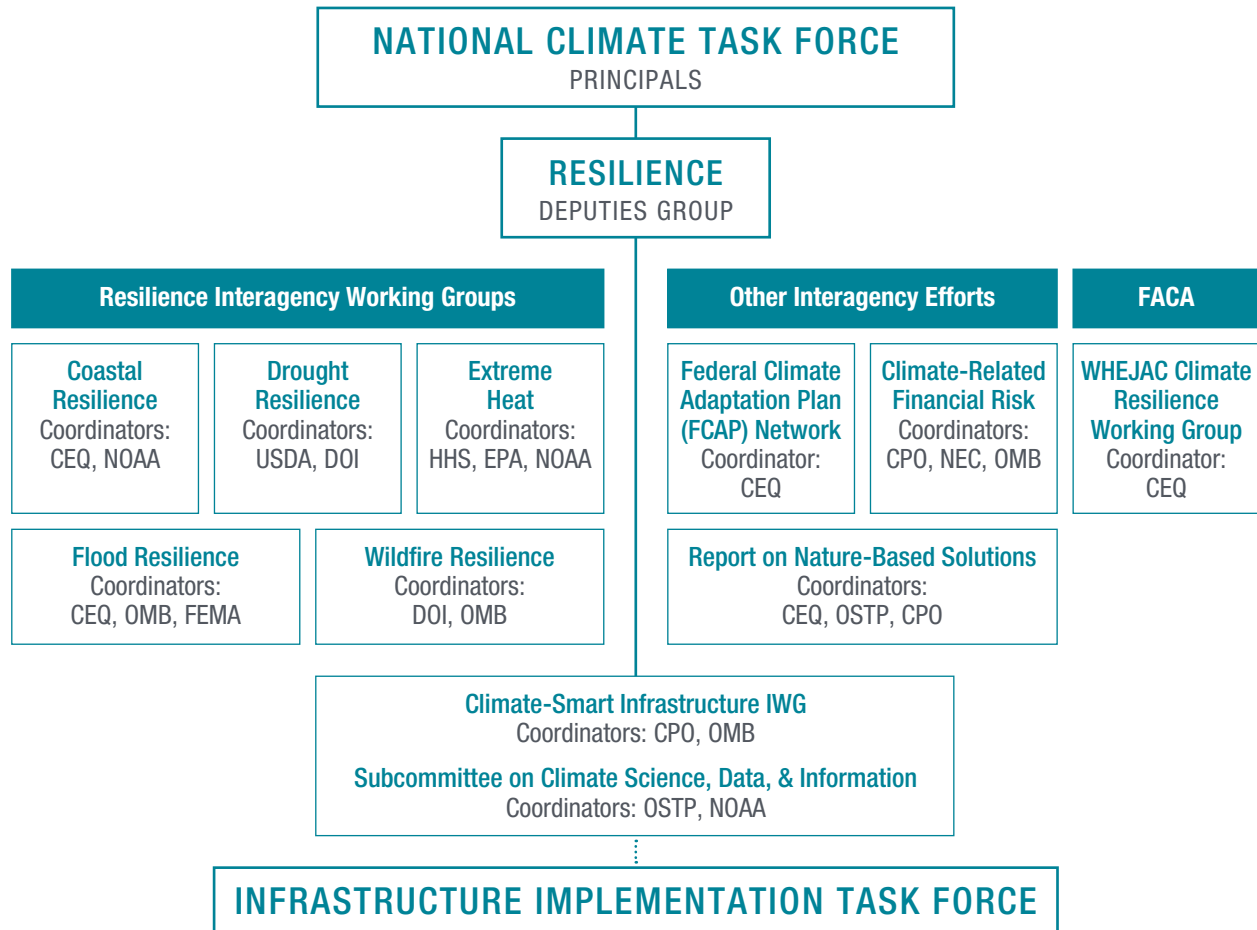
Since the 1980's, scientists have been warning that climate change will severely impact our planet in future years. That future, unfortunately, is already here. In the past [five years](#) alone, climate change has super-charged 98 billion-dollar extreme weather events, killing thousands of Americans and causing \$798 billion in damages—and that's not including the \$60 billion or more in damages that Hurricane Ian recently caused in Florida. Over a [five-week period this past summer](#), the U.S. suffered five “one-thousand-year” rain events. The Biden Administration's new [climate impact mapping web portal](#) provides a daily report on the tens of millions of Americans suffering from significant climate impacts, including extreme heat, wildfires, drought, or serious coastal or inland flooding.

Despite these grim statistics, extreme weather and other climate-infused disasters are still largely treated as the one-off aberrations that they used to be, rather than the “new normal” conditions that they have become. There are plenty of reasons for this. Climate pain is not evenly distributed; less powerful, disadvantaged communities tend to be hit hardest. Also, FEMA and the Red Cross typically are quite good at responding to sudden disasters like hurricanes or bad floods. (Not so much, by the way, for slower-moving disasters such as droughts or extreme heat that fall outside of their traditional mandates.) Until recently, many climate advocates eschewed “adaptation” efforts for fear of distracting from the hard work of reducing the greenhouse gas (GHG) emissions that are causing climate change. And, perhaps most importantly, like frogs in a pot of water that is slowly brought to a boil, we humans are slow to acknowledge and address increased risks—even the existential kind.

President Biden has not fallen into this trap. In delivering on his campaign promise to confront the climate crisis, he is putting a major emphasis on assisting communities in becoming more resilient in the face of geographically-diverse climate impacts—while also taking direct aim at reducing GHG emissions and accelerating our economy's transition to clean energy. In focusing a whole-of-government emphasis on improving resilience to specific climate impacts—each of which implicates different geographies and defensive strategies—the President is constructing a new climate resilience “ecosystem.” Prior Administrations had not established effective mechanisms to coordinate and champion cross-agency resilience efforts around the specific climate hazards that are posing the most severe near- and longer-term resilience challenges for communities: extreme heat; drought; flood; wildfires, and coastal impacts. Likewise, until this Administration, there was no coordinated effort—nor easy accessibility to necessary tools—to ensure that federally-funded and other infrastructure would be built with future, place-based climate risks in mind.

This architecture is now in place (see Figure 1) bolstered by historic funding of resilience needs through the President's budgets and passage of the Bipartisan Infrastructure Law—which, by itself, includes more than \$50 billion in resilience spending—and the Inflation Reduction Act, which adds several billion more. Through these actions, the Biden Administration has built a solid foundation for institutionalizing and, should the Congress acquiesce, codifying effective climate resilience activities at the federal level, as recommended in this review.

Figure 1.



Building Block #1 of the Biden Administration’s Climate Resilience Strategy Clear Presidential Direction

For any new government-wide initiative to be successful, the President must embrace it with strong, clear messaging. President Biden emphatically checked this box with the January 27, 2021 issuance of his Executive Order on “[Tackling the Climate Crisis at Home and Abroad](#).” In addition to addressing the obvious importance of reducing GHG emissions and accelerating the transition to a clean energy economy, the President explicitly identified a separate climate policy commitment to “organize and deploy the full capacity of its agencies to combat the climate crisis [and] to implement a Government-wide approach” that “*increases resilience to the impacts of climate change.*”

The President’s Climate Executive Order included several other references to prioritizing climate resilience. In particular, it emphasized the role that conservation and nature-based solutions can play in “increas[ing] resilience to wildfires and storms,” including “strengthening [the] resilience” of coastal communities by “protecting and restoring coastal ecosystems . . . to protect vulnerable coastlines, sequester carbon, and support biodiversity and fisheries.” (Section 214.) The Executive Order also explicitly called on the White House to take steps to ensure that federal infrastructure

investments consider the impacts of climate change (Section 213), and that the White House oversee the development of new “data and information products to improve adaptation and increase resilience.” (Section 211). Finally, the Climate Executive Order called on the federal government’s Chief Sustainability Officer to work with agencies to ensure that federal agencies’ own “facilities and operations . . . bolster adaptation and increase [climate] resilience.” (Section 211.)

The President also used his Climate Executive Order to set up new mechanisms to turn his commitment to increase resilience to the impacts of climate change into reality. In particular, the President established the White House’s Climate Policy Office (CPO) and explicitly charged it with deploying interagency working groups and working through the new cabinet-level National Climate Task Force to actuate the whole-of-government effort needed to address newly-prioritized climate resilience issues. (Sections 202 & 203.)

Building Block #2

Focusing the Whole-of-Government Effort on High-Priority Climate Hazards

The Biden Administration made a conscious decision to take a new structural approach to delivering resilience services to communities in need. As noted above, the Administration recognized, first, that because climate impacts cut across multiple federal agencies, a whole-of-government effort is needed to address resilience issues. However, rather than taking the traditional approach of lumping all resilience issues together under a single White House-led task force of some type, the National Climate Task Force established individual interagency working groups that focus on five major climate risks that communities are grappling with—flood, extreme heat, drought, wildfire, and coastal impacts. The National Climate Task Force tapped cabinet secretaries with strong equities to lead to each of interagency working groups, joined by other agencies that have complementary programs and funding.

By building a federal resilience policy ecosystem around the climate impacts that are of greatest concern to communities, the Biden administration is taking a cross-cutting, service-oriented approach to climate resilience. Agencies that have rarely—or, in some cases, never—worked together to devise longer-term strategies to address the dangers of extreme heat or debilitating drought are now pooling funding and deploying expertise to help communities address those needs.

The Extreme Heat Interagency Working Group (IWG) illustrates how the new resilience policy ecosystem works. Prior to its formation, the federal government had not consolidated agency expertise and tools to address [climate change’s biggest killer: extreme heat](#). Co-led by the Department of Health & Human Services, the National Oceanographic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA), the Extreme Heat IWG is taking a wide range of actions to respond to intensifying heat waves and reduce associated health risks, especially for vulnerable groups and underserved communities. These efforts include using the [Low Income Home Energy Assistance Program \(LIHEAP\)](#) to reduce cooling costs and deliver air conditioners and electric heat pumps to homes; developing nationwide standards and enforcement programs to [protect workers](#) on the job; launching [Heat.gov](#) as a one-stop hub for accessible information and response tools; and supporting community-led [urban heat island mapping, outreach and communication strategies](#). Now, with the passage of the Inflation Reduction Act’s \$1.5 billion dollar infusion into [the U.S. Forest Service’s Urban and Community Forestry program](#), the Extreme Heat IWG will [bring both dollars and expertise on urban forestry to scores of overheated cities as part of a coordinated cooling](#) and pollution-fighting climate resilience strategy.

Likewise, until the **Wildfire Resilience IWG** was formed, there was no high-level cross-agency group dedicated to addressing resilience to wildfire risks including, for example, coordinating how and where to best deploy prescribed fire, mechanical thinning and other hazardous fuels reduction activities. (In contrast, the Departments of the Interior and Agriculture have successfully forged a combined federal response to active wildfires through the National Interagency Fire Center.) Now, with the assistance of the Wildfire Resilience IWG, [DOI and USDA have produced complementary long-term roadmaps](#) that govern their wildfire mitigation strategies, and [they are working together](#) to jointly map and report out their progress on an on-going basis. The timing is propitious, given the major infusion of more than \$10 billion in wildfire mitigation funding in the Bipartisan Infrastructure Law and the Inflation Reduction Act. Also, as a key illustration of the IWG's focus on helping communities access federal support, the Wildfire Resilience IWG accompanied the Forest Service's new \$1 billion funding opportunity under the BIL's new [Community Wildfire Defense Grant Program](#) with a web-available review of additional (and, in the case of FEMA, underutilized) wildfire mitigation federal [grant and cost-share programs](#).

Similar stories of strong inter-agency coordination to address community needs shoot through other interagency working groups in the new federal resilience ecosystem. For example, the **Coastal Resilience Interagency Working Group's** web site details Bipartisan Infrastructure Law [funding opportunities](#) across five federal agencies for communities seeking to address coastal resilience needs. The IWG also has compiled a [compendium of nature-based resources and guidance](#) for coastal communities, states, tribes and territories. (A new report on deploying nature-based solutions as a resilience strategy was just released at COP27, per President Biden's [Executive Order](#) to Strengthen Forests, Boost Wildfire Resilience and Combat Global Deforestation.) And a Coastal Resilience IWG "Community-Driven Relocation Subcommittee," co-led by leaders from FEMA and the Interior Department's Bureau of Indian Affairs, is taking on the challenging task of working with communities that are being forced by climate change to move—literally or figuratively—to higher ground.

For its part, the **Drought Resilience IWG** is working closely [in collaboration with state and local officials](#) to address the long-term drought situation that is impacting many American communities—particularly in the west. The infusion of more than \$15 billion in BIL and Inflation Reduction Act funding to stretch water supplies puts a premium on this inter-agency coordination, particularly when coupled with new drought-related commitments that leadership at the [Army Corps of Engineers](#) and the [Federal Emergency Management Administration](#) are taking on with and through the IWG, in partnership with states, tribes and communities. And on the flip side of the drought challenge, the **Flood Resilience Interagency Working Group** is working to protect communities against avoidable catastrophic flood losses and by ensuring compliance with the protective [Federal Flood Risk Management Standard](#) that President Biden restored in the first year of his Presidency.

Building Block #3

Building Climate-Smart Infrastructure that is Resilient to Climate Change

States and communities can face tens of millions—and even billions—in rebuilding costs when climate-infused extreme weather damages or destroys infrastructure that was not built to withstand such a pounding. Because climate scientists project that climate impacts will become even more severe in the decades to come, it is vitally important that new roads, bridges, ports, buildings and other infrastructure be designed with current *and future* climate impacts in mind to protect communities and their residents.

Until the Biden Administration prioritized resilience planning, however, federal, state, tribal and local decision-makers had no easily-accessible tools to obtain a snapshot of current climate-related stresses in their regions, much less a forward projection of foreseeable climate impacts based on the best-available science. To address these overarching concerns about infrastructure, the National Climate Task Force formed a White House **Climate-Smart Infrastructure (CSI) Interagency Working Group**. With technical guidance provided by the White House's Office of Science and Technology Policy, NOAA and the USGS, the CSI IWG oversaw development a new web-based geospatial portal—dubbed the “**Climate Mapping for Resilience and Adaptation**”—or “CaMeRA”—portal to help plug these major gaps. The portal's Assessment Tool is particularly noteworthy. It provides down-scaled climate hazard reports on heat, drought, and flooding at the census tract level, including projections of future impacts under both low and high-emissions scenarios, based on climate models used in the U.S. National Climate Assessment. This interactive application [helps local resilience planners and other users](#) understand how future temperature, precipitation, and flooding conditions may impact their community in the near-term and out to the mid- and late-century.

In addition to creating these powerful new tools, the Climate-Smart Infrastructure IWG, which is co-led by the White House Climate Policy Office and the Office of Management and Budget, has identified best practices to assist federal agencies to design infrastructure programs and balance tradeoffs, provide technical assistance, advance best-available science and data, and develop funding opportunities that support climate change adaptation, emissions mitigation (including by encouraging the use of low-carbon materials and nature-based solutions to reduce projects' carbon footprints), and equity.

In a closely-related strategy to broadly improve the resilience of infrastructure in the face of climate impacts, the National Climate Task Force launched the [National Initiative to Advance Building Codes](#) earlier this year to encourage state, local, Tribal, and territorial governments adopt the latest, current building codes and standards. Modern building codes and standards provide a range of smart design and construction methods that save lives, [reduce property damage](#), and [lower utility bills](#)—for example, by ensuring that roofs can withstand hurricane winds, that construction materials are resistant to flood damage, and that insulation keeps heating and cooling costs low. Every dollar invested in building code adoption provides [eleven times more](#) in savings by reducing damage and helping communities recover more quickly. In addition, modernized energy codes can save households an average of [\\$162 dollars each](#) year on utility bills, which is especially significant in reducing energy burden for low-income households. Unfortunately, nearly [two out of every three communities](#) in the U.S. have not adopted the latest building codes and, as a result, are vulnerable to climate impacts and higher energy costs.

Through the National Initiative to Advance Building Codes, the Biden Administration is ensuring that federally-supported housing and other building projects follow modern building codes and standards to the greatest extent feasible, while creating good-quality jobs and advancing Administration efforts to boost affordable housing supply. In particular, FEMA is helping to organize the National Initiative's government-wide, systematic evaluation of how funding and other tools can be used to incentivize communities to adopt current building codes and standards, modeled on its own ground-breaking [Building Codes Strategy](#). Other major funding agencies are pitching in, as illustrated by the Department of Housing and Urban Development's [Resilient Building Codes Toolkit](#), which helps HUD grantees mitigate their disaster risk to future hazards by implementing modern building codes. And Congress recently provided additional resources to aid the effort by providing [substantial support](#) to the Energy Department to encourage the adoption of updated building energy codes.

Building Block #4

Ensuring that Federal Facilities & Operations are Resilient to Climate Change

As noted above, President Biden's Climate Executive Order charged the federal government's Chief Resilience Officer with overseeing the preparation of agency "facilities and operations" plans to bolster adaptation and increase resilience to the impacts of climate change. Operating through the Federal Climate Adaptation Plan (FCAP) Network (*see* Figure 1), more than 20 major federal agencies prepared [initial climate adaptation plans](#) last year.

The White House recently announced the availability of updated [progress reports](#). They tell a remarkable story of how the federal government—with a footprint of over 300,000 buildings and the responsibility for delivering critical goods and services to millions of Americans—is adopting climate resilience strategies across the board to minimize disruptions, create safer working conditions, strengthen supply chains, save taxpayer money, and sustain its mission.

Among the most remarkable stories is how the Department of Defense (DOD) has forthrightly acknowledged climate as a threat to its mission, and is actively engaged in climate resilience planning and investments. A quick perusal of the [Army's](#) and the [Navy's](#) climate strategy documents reveals the breadth and depth of DOD's commitment to increasing the military's resilience to climate threats. Examples noted in a recent [White House fact sheet](#) included DOD's recently expanded application of its [DOD Climate Assessment Tool](#)—a precursor to the climate assessment tool that is now broadly available for civilian use under the CMRA portal—from 157 to over 1,900 DOD facilities. DOD also is building [microgrid capabilities](#) at critical installations and standing up the Federal Consortium for Advanced Batteries to enhance the services' resilience to climate-related energy vulnerabilities.

Building Block #5

Climate Resilience as an Environmental Justice Issue

President Biden's Climate Executive Order has emphasized that securing environmental justice and spurring economic opportunity for historically marginalized and overburdened communities will be a driving force in Administration's climate agenda. His Executive Order established a White House Environmental Justice Interagency Council and a White House Environmental Justice Advisory Council (WHEJAC) to oversee and help inform this effort. (See E.O. 14008, Sections 220, 221.) As a corollary, Section 223 the Executive Order institutionalized the Administration's "Justice40" initiative—an initiative that seeks to deliver 40 percent of the overall benefits of climate-related spending to flow to disadvantaged

communities. Lest there be any ambiguity, early [White House guidance](#) explicitly called out climate resilience as an area covered by Justice40.

Pursuant to the President's direction, the new federal climate resilience ecosystem is guided by environmental justice principles in everything that it does. The WEJAC's Climate Resilience Working Group (see Figure 1) provides a forum for frank discussions on climate resilience issues from leading EJ representatives. Major climate resilience funders like [FEMA](#) and [HUD](#) are prioritizing funding requests that will benefit disadvantaged communities. The Climate-Smart Infrastructure Interagency Work Group is facilitating the provision of technical assistance and best practices and approaches for supporting historically underserved and marginalized communities in infrastructure project design, construction, and operation. This includes methods for qualitatively and quantitatively estimating the environmental justice benefits of projects, specifically how projects will sustainably benefit historically underserved and marginalized communities over the full project lifecycle and avoid maladaptation. Strong leadership and accountability will be required to achieve this new and critically-important goal.

POTENTIAL NEXT STEPS

While the Biden-Harris Administration has put strong building blocks in place, the climate resilience challenge faced by communities around the country is monumental, and more must be done. It is important, in particular, to institutionalize the new interagency working groups that are organized around the climate impacts for which communities are seeking help. Congressional codification of the Administration's climate resilience interagency working groups may be the best way to ensure institutionalization of this new and growing resilience muscle—which is exactly what Senators Coons and Murkowski have proposed in their bipartisan [“National Climate Adaptation and Resilience Strategy Act.”](#)

The Coons/Murkowski bill also calls for the President to appoint a Chief Resilience Officer (CRO) in the Executive Office of the President. This also makes good sense. The tricky question is how to best empower a Chief Resilience Officer so she or he can be most effective. In my judgment, that question turns on where in the White House the CRO sits, and whether the CRO has a strong bench to assist in the work.

As for where the CRO should sit in the White House, it is notable that the Climate Policy Office, as the White House lead on climate matters and as staff for the National Climate Task Force, has been the leader in establishing the new federal resilience ecosystem under the President's Climate Executive Order. Also relevant is the National Security Council, which is the President's White House lead in responding to disasters and which also tracks the federal government's “all hazards” resilience capabilities—which can cover everything from cyber and terrorist threats to climate-related threats. Finally, the Council for Environmental Quality traditionally includes environmental resilience issues in its portfolio, and CEQ is home for the federal government's Chief Sustainability Officer, who oversees sustainability and resilience efforts that apply to the federal government's own operations and facilities.

My personal view is that to be effective, a Chief Resilience Officer needs to operate seamlessly in both the White House Climate Office and the National Security Council, with support from CEQ. It is particularly important that the CRO be fully engaged with the climate policy staffs in the cabinet agencies through the National Climate Task Force since agency climate policy leads—more than the agencies' disaster specialists—will have the most relevant programmatic oversight of the agencies' climate resilience strategies.

Just as important as where the CRO sits is how the function would be staffed. I recommend that a centralized climate resilience secretariat be located in a single agency to provide centralized support and coordination for resilience interagency working groups, report writing, and other staff work. FEMA is the logical agency to take on this task as a complement its high-profile response work, given that it has a broad resilience mandate and substantial funding and authority in the area. Importantly, however, a FEMA support function would not substitute for cabinet agencies' climate resilience staffing insofar as virtually all major federal agencies have substantial programs and expertise that they must deploy as part of the whole-of-government's combined climate resilience effort.

The Coons/Murkowski bipartisan climate resilience legislation also would form a Partner's Council on Climate Resilience and Adaptation that would include non-federal partners who are engaged in addressing climate resilience issues from different perspectives, including state, local, tribal and territorial government, non-profits, companies, and colleges and universities. It is important to formalize outreach to a number of these constituencies, several of whom are on the front lines of dealing with climate impacts.

Finally, as the Coons/Murkowski bill recommends, it would make good sense for a Chief Resilience Officer to work with and through the interagency working groups to develop an overall National Adaptation and Resilience Strategy framework and operational plan. The building blocks for such a strategy document are now in place and, with an active two years of whole-of-government climate resilience work to draw upon, now would be a propitious time for the Administration to take stock of the progress that it has made and focus on how to institutionalize and continue to build on the solid foundation that it has set in this important area.



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