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Building A Weather-Ready Nation for ALL

Midway through the second decade of the 21st century, American society—and the world—face stark environmental, economic, security, health, and political challenges. Climate change is widely acknowledged as a crucial—maybe even existential—threat to humans, other species, and the natural systems on which all life depends. And the climate crisis is accompanied by other urgent imperatives: the need to preserve a habitable planet while ensuring equal opportunity for all. Yet today, there is a vast gap between the scope of these challenges and our nation's efforts to address them. The challenges of climate adaptation and resilience building are now an everyday reality for decision makers across the country. As climate impacts accelerate and population grows in vulnerable areas, disasters are more frequent and devastating. Supercharged storms (like Hurricanes Sandy, Harvey, Irma, and Maria), catastrophic wildfires, and deadly heatwaves affect growing numbers of Americans—in rural areas, small towns, and large cities. Over the past five years, Americans experienced at least 10 major disasters per year, each generating more than \$1 billion in damages—double the average number of such events from 1980–2016. In the US and around the world, it is the least fortunate who bear the greatest social, economic, health, and environmental costs from such disasters.

Today's disasters and disruptions reflect relatively modest climatic changes. The warming and impacts experienced so far have mostly stayed below the thresholds of tolerance for human and natural systems. But current emissions trends point to warming of at least 9°F (5°C) above pre-industrial levels by 2100, a scenario that “must be avoided,” according to the WorldBank. The impacts of such warming would dwarf anything Americans, and the world, have yet experienced.

From the challenges associated with emerging impacts, and from those still to come, the message is clear: now is the time to fast-track climate mitigation efforts to preserve a livable future. And, given the scale of change already set in motion, it is time to accelerate and scale up adaptation while blazing transformative paths to an equitable, resilient future. These trends and necessities frame and shape our

study, analysis, and recommendations. Building A Weather-Ready Nation for ALL is about ensuring that vulnerable and underserved populations are protected against extreme weather conditions.

Vulnerable populations are the least resilient, suffer the greatest damage, are not adequately prepared, and the time to recovery is extended. For these neighborhoods, preparation for severe weather is often less than adequate combined with little or no knowledge of weather warnings. Severe and extreme weather, due in part to climate change, can occur without warning and can have devastating effects. These severe weather patterns are expected to occur on an increased magnitude and scale. These effects are felt at a greater extent and long after the disaster event occurs particularly in vulnerable communities. These communities are often the least informed about preparedness and its importance.

It is important that we make all communities as resilient as possible through education; providing and creating “hubs of resilience” in these communities such as churches, schools, and community centers when disaster strikes. Weather-Ready Nation (WRN) can help provide the necessary educational tools, resources and instructional guidance on critical aspects of emergency preparedness. Further, WRN can ensure participation of community and neighborhood leadership in these important matters in local drills and exercises and community forums on severe weather. Moreover, WRN can ensure the distribution of warning systems such as weather radios, cell phone apps, and other relevant materials.

Building a Weather-Ready Nation is not an easy task, but we have taken on the challenge in earnest. We have created a large-scale collaborative of stakeholders to meet in regional forums to make recommendations on adaptation and mitigation strategy; building robust weather and climate monitoring stations and earth science laboratories; creating school based K–12 educational programs; coordinating drills and exercises with FEMA (America's PrepareAthon) and local organizations; participating in city-scale planning for resiliency and climate action planning with a broad set of stakeholders; convening community based forums and meetings that included severe weather preparation; conducting tours with elected officials and neighborhood and community leaders at the National Weather Service and The Weather Channel; participating in forums at the White House on severe weather and climate change and applicable policy.

Our biggest challenge, particularly in vulnerable and lower income communities is to create a sense of urgency and priority. These communities are already vulnerable due to stress that includes education, economics, job creation, high costs of energy, and transportation needs. However, the effects of climate change and resulting severe weather and the need for preparedness is not readily understood. A “Weather-Ready Nation For ALL” movement needs to be designed, developed, and deployed to provide a guiding vision through an equity lens to help remedy and mitigate this situation. This may require a more deliberate deployment of resources and planning as well for these communities. Specific training and educational programming may need to be developed to reach and educate these communities. For example, community vulnerability assessments; anchor institutions of resiliency; and meaningful engagement of community populations in policy making and action planning.