

## 1           **Climate Change and the American People**

2       Climate change, once considered an issue for a distant future, has moved firmly into the present.  
3       This report of the National Climate Assessment and Development Advisory Committee  
4       concludes that the evidence for a changing climate has strengthened considerably since the last  
5       National Climate Assessment report, written in 2009. Many more impacts of human-caused  
6       climate change have now been observed. Corn producers in Iowa, oyster growers in Washington  
7       State, and maple syrup producers in Vermont have observed changes in their local climate that  
8       are outside of their experience. So, too, have coastal planners from Florida to Maine, water  
9       managers in the arid Southwest and parts of the Southeast, and Native Americans on tribal lands  
10      across the nation.

11      Americans are noticing changes all around them. Summers are longer and hotter, and periods of  
12      extreme heat last longer than any living American has ever experienced. Winters are generally  
13      shorter and warmer. Rain comes in heavier downpours, though in many regions there are longer  
14      dry spells in between.

15      Other changes are even more dramatic. Residents of some coastal cities see their streets flood  
16      more regularly during storms and high tides. Inland cities near large rivers also experience more  
17      flooding, especially in the Midwest and Northeast. Hotter and drier weather and earlier snow  
18      melt mean that wildfires in the West start earlier in the year, last later into the fall, threaten more  
19      homes, cause more evacuations, and burn more acreage. In Alaska, the summer sea ice that once  
20      protected the coasts has receded, and fall storms now cause more erosion and damage that is  
21      severe enough that some communities are already facing relocation.

22      Scientists studying climate change confirm that these observations are consistent with Earth's  
23      climatic trends. Long-term, independent records from weather stations, satellites, ocean buoys,  
24      tide gauges, and many other data sources all confirm the fact that our nation, like the rest of the  
25      world, is warming, precipitation patterns are changing, sea level is rising, and some types of  
26      extreme weather events are increasing. These and other observed climatic changes are having  
27      wide-ranging impacts in every region of our country and most sectors of our economy. Some of  
28      these changes can be beneficial, such as longer growing seasons in many regions and a longer  
29      shipping season on the Great Lakes. But many more have already proven to be detrimental,  
30      largely because society and its infrastructure were designed for the climate of the past, not for the  
31      rapidly changing climate of the present or the future.

32      This National Climate Assessment collects, integrates, and assesses observations and research  
33      from around the country, helping to show what is actually happening and what it means for  
34      peoples' lives, livelihoods, and future. This report includes analyses of impacts on seven selected  
35      sectors: human health, water, energy, transportation, agriculture, forests, and ecosystems and  
36      biodiversity. This report additionally focuses on the interactions among several sectors at the  
37      national level. It also assesses key impacts on the regions of the U.S.: Northeast, Southeast and  
38      Caribbean, Midwest, Great Plains, Southwest, Northwest, Alaska and the Arctic, Hawai‘i and the  
39      Pacific Islands; as well as coastal areas, oceans, and marine resources. Finally, this report is the  
40      first to explicitly assess the current state of adaptation, mitigation, and decision support activities.

1 Climate change presents a major challenge for society. This report and the sustained assessment  
2 process that is being developed represent steps forward in advancing our understanding of that  
3 challenge and its far-reaching implications for our nation and the world.

4 The National Climate Assessment and Development Advisory Committee

5 Jerry Melillo, Chair

6 Terese Neu Richmond, Vice Chair

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