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Introduction to the Regions

2 From the Rocky Mountains to the Shenandoah Valley, the Great Lakes to the Gulf of Mexico,

3 our country's landscapes and communities vary dramatically. But amidst our geographical and

4 economic diversity, we share many common attributes and challenges. One common challenge

5 facing every U.S. region is a new and dynamic set of realities resulting from our changing

6 climate.

7 The evidence appears across the nation, and impacts are visible in every state. Some of the most

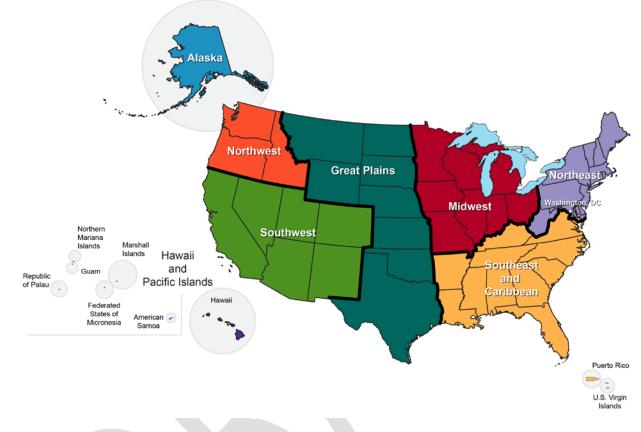
- 8 dramatic changes are in Alaska, where average temperatures have increased more than twice as
- 9 fast as the rest of the country. The rapid decline of Arctic sea ice cover in the last decade is
- 10 reshaping that region. In the Southwest, a combination of increased temperatures and reductions
- 11 in annual precipitation are already affecting forests and diminishing water supplies. Meanwhile,
- 12 that region's population continues to grow at double-digit rates, increasing the stress on water
- supplies. In various regions, evidence of climate change is apparent in ecosystem changes, such as species moving northward, increases in invasive species and insect outbreaks, and changes in
- 14 as species moving northward, increases in invasive species and insect outbreaks, and changes in 15 the length of the growing season. In many cities, impacts to the urban environment are closely
- 16 linked to the changing climate, with increased flooding, greater incidence of heat waves, and

17 diminished air quality. Along our 94,000 miles of coastlines, increasing sea levels and associated

- 18 threats to coastal areas and infrastructure are becoming a common experience.
- 19 In some regions, evidence of current climate change impacts is more obvious than in others. For
- 20 all U.S. regions, warming in the future is projected to be very large compared to historical
- 21 variations. Precipitation patterns will be altered as well, with some regions becoming drier and
- some wetter. The exact location of some of these future changes is not easy to pinpoint, because
- 23 the continental U.S. straddles a transition zone between projected drier conditions in the sub-
- tropics (south) and wetter conditions at higher latitudes (north). As a result, projected
- 25 precipitation changes in the northernmost states (which will get wetter) and southernmost states
- 26 (which will get drier) are more certain than those for the central areas of the country. Even
- though these overall precipitation projections are less certain than the temperature projections,
- there is a high level of certainty that the heaviest precipitation events will increase everywhere,
- and by large amounts. There is also high certainty that extended dry spells will increase in
- 30 length.
- 31 Regional differences in climate change impacts provide opportunities as well as challenges. A
- 32 changing climate requires alterations in historical agricultural practices, which, if properly
- 33 anticipated, can have some benefits. Warmer winters mean reductions in heating costs for those
- in the northern portions of the country. Well-designed adaptation and mitigation actions that take
- 35 advantage of regional conditions can significantly enhance the nation's resilience in the face of
- 36 multiple challenges, which include many factors in addition to climate change.
- 37 The regions defined in this report intentionally follow state lines (see Figure 1 and Table 1), but
- 38 landscape features such as forests and mountain ranges do not follow these artificial boundaries.
- 39 The array of distinct landscapes within each region required difficult choices of emphasis for the
- 40 authors. The chapters that follow provide a summary of changes and impacts that are observed
- 41 and anticipated in each of the eight regions of the U.S., as well as on Oceans and Coasts.

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- 1 For more information about the regional climate histories and projections¹ and sea level rise
- 2 scenarios² developed for the National Climate Assessment, and used throughout this report, see
- 3 Ch. 2: Our Changing Climate and Appendix 5: Scenarios.



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5 Figure 1: Map of NCA Regions.

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1 Table 1: List of states and territories included in each region.

Region	States and Territories
Northeast	Connecticut, Delaware, District of Columbia,
	Maine, Maryland, Massachusetts, New
	Hampshire, New York, Pennsylvania, Rhode
	Island, Vermont, West Virginia
Southeast and Caribbean	Alabama, Arkansas, Florida, Georgia,
	Kentucky, Louisiana, Mississippi, North
	Carolina, Puerto Rico, Tennessee, South
	Carolina, U.S. Virgin Islands, Virginia
Midwest	Illinois, Indiana, Iowa, Michigan, Minnesota,
	Missouri, Ohio, Wisconsin
Great Plains	Kansas, Montana, Nebraska, North Dakota,
	Oklahoma, South Dakota, Texas, Wyoming
Northwest	Idaho, Oregon, Washington
Southwest	Arizona, California, Colorado, Nevada, New
	Mexico, Utah
Alaska	Alaska and surrounding waters
Hawaii and U.S. Affiliated Pacific Islands	Commonwealth of the Northern Mariana
	Islands, Federated States of Micronesia,
	Hawai'i, Republic of the Marshall Islands,
	Republic of Palau, Territory of American
	Samoa, Territory of Guam

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