

America's climate choices: Adapting to the impacts of climate changeLaurie Geller[†]; Thomas Wilbanks[†] National Academy of Sciences, USALeading author: lgeller@nas.edu

At the request of Congress, the National Academy of Sciences convened a series of coordinated activities to provide advice on actions and strategies that the nation can take to respond to climate change. As part of this suite of activities, this study assessed how the nation can begin to adapt to the impacts of climate change. Much of the nation's experience to date in managing and protecting its people, resources, and infrastructure is based on the historic record of climate variability during a period of relatively stable climate. Adaptation to climate change calls for a new paradigm - one that considers a range of possible future climate conditions and associated impacts. The Adapting to the Impacts of Climate Change report calls for action at all levels of government, NGOs, and the private sector to assess vulnerabilities to the impacts of climate change and identify options for adaptation. Current adaptation efforts are hampered by a lack of solid information about the benefits, costs, and effectiveness of various adaptation options, by uncertainty about future climate change impacts at a scale necessary for decision-making, and by a lack of coordination. The report outlines a risk management framework that can be applied to assess vulnerabilities, compare and evaluate potential adaptation options, recognizing that decision makers across the country are likely to pursue a diverse set of adaptation measures. A major research effort is needed to improve knowledge about current and future vulnerabilities, explore new adaptation options, and better inform adaptation decisions. Therefore, the report also emphasizes the need to continually re-assess adaptation decisions as the experience and knowledge regarding effective adaptation evolves. A national adaptation strategy is needed in which the federal government would support and enhance adaptation activities undertaken by state, local, tribal, and private entities; identify and modify policies that might provide incentives for maladaptive behavior; bolster scientific research regarding adaptation; and encourage adaptation on a global scale through national programs with international components.