

FOR IMMEDIATE RELEASE

May 6, 2014

FACT SHEET: What Climate Change Means for Texas and the Great Plains



Today, the Obama Administration released the third U.S. National Climate Assessment – the most comprehensive scientific assessment ever generated of climate change and its impacts across every region of America and major sectors of the U.S. economy. The findings in this National Climate Assessment underscore the need for urgent action to combat the threats from climate change, protect American citizens and communities today, and build a sustainable future for our kids and grandkids.

The National Climate Assessment is a key deliverable of President Obama’s Climate Action Plan to cut carbon pollution, prepare America’s communities for climate-change impacts, and lead international efforts to address this global challenge. Importantly, the plan acknowledges that even as we act to reduce the greenhouse-gas pollution that is driving climate change, we must also empower the Nation’s states, communities, businesses, and decision makers with the information they need prepare for climate impacts already underway.

The Obama Administration has already taken a number of steps to deliver on that commitment to states, regions, and communities across America. In the past year alone, these efforts have included: establishing a Task Force of State, Local, and Tribal Leaders on Climate Preparedness and Resilience to advise the Administration on how the Federal Government can respond to the needs of communities nationwide that are dealing with the impacts of climate change; launching a Climate Data Initiative to bring together extensive open government data with strong commitments from the private and philanthropic sectors to develop planning and resilience tools for communities; and establishing seven new “climate hubs” across the country to help farmers and ranchers adapt their operations to a changing climate.

TEXAS is part of the National Climate Assessment’s U.S. Great Plains Region. The regional phenomena identified by the Assessment may not occur in every state that is part of a particular region. According to the third U.S. National Climate Assessment Highlights report:

“The Great Plains is a diverse region where climate is woven into the fabric of life. Daily, monthly, and yearly variations in the weather can be dramatic and challenging. The region experiences multiple climate and weather hazards, including floods, droughts, severe storms, tornadoes, hurricanes, and winter storms. In much of the Great Plains, too little precipitation falls to replace that needed by humans, plants, and animals. These variable conditions already stress communities and cause billions of dollars in damage. Climate change will add to both stress and costs.

The people of the Great Plains historically have adapted to this challenging climate. Although projections suggest more frequent and more intense droughts, heavy downpours, and heat

waves, people can reduce vulnerabilities through the use of new technologies, community-driven policies, and the judicious use of resources. Efforts to reduce greenhouse gas emissions and adapt to climate change can be locally driven, cost effective, and beneficial for local economies and ecosystem services.” (NCA Highlights, p. 76)

Regional Findings of the Third U.S. National Climate Assessment: GREAT PLAINS

- “Rising temperatures are leading to increased demand for water and energy. In parts of the region, this will constrain development, stress natural resources, and increase competition for water among communities, agriculture, energy production, and ecological needs.
- Changes to crop growth cycles due to warming winters and alterations in the timing and magnitude of rainfall events have already been observed; as these trends continue, they will require new agriculture and livestock management practices.
- Landscape fragmentation is increasing, for example, in the context of energy development activities in the northern Great Plains. A highly fragmented landscape will hinder adaptation of species when climate change alters habitat composition and timing of plant development cycles.
- Communities that are already the most vulnerable to weather and climate extremes will be stressed even further by more frequent extreme events occurring within an already highly variable climate system.
- The magnitude of expected changes will exceed those experienced in the last century. Existing adaptation and planning efforts are inadequate to respond to these projected impacts.” (NCA Ch. 19: Great Plains)

Selected Findings and Information from the Third U.S. National Climate Assessment Relevant to TEXAS

- **Agriculture:** In 2011, “many locations in Texas and Oklahoma experienced more than 100 days over 100°F, with both states setting new high temperature records. Rates of water loss were double the long-term average, depleting water resources and contributing to more than \$10 billion in direct losses to agriculture alone. In the Southern Plains, projected declines in precipitation in the south and greater evaporation everywhere due to higher temperatures will increase irrigation demand and exacerbate current stresses on agricultural productivity.” (NCA Highlights, p. 77; NCA Ch. 19: Great Plains)
- **Water:** “Diminishing water supplies and rapid population growth are critical issues in Texas. Because reservoirs are limited and have high evaporation rates, San Antonio has turned to the Edwards Aquifer as a major source of groundwater storage. Nineteen water districts joined to form a Regional Water Alliance for sustainable water development through 2060. The alliance creates a competitive market for buying and selling water rights and simplifies transfer of water rights.” (NCA Ch. 19: Great Plains)
- **Coasts:** “Texas’ Gulf Coast averages about three tropical storms or hurricanes every four years, generating coastal storm surge and sometimes bringing heavy rainfall and damaging

winds hundreds of miles inland. The expected rise in sea level will result in the potential for greater damage from storm surge along the Gulf Coast of Texas. According to a recent study co-sponsored by a regional utility, coastal areas in Alabama, Mississippi, Louisiana, and Texas already face losses that annually average \$14 billion from hurricane winds, land subsidence, and sea level rise." (NCA Ch. 17: Southeast; NCA Ch. 19: Great Plains)

- **Urban:** "Urban heat islands, combined with an aging population and increased urbanization, are projected to increase the vulnerability of urban populations to heat-related health impacts in the future. Urban planning strategies designed to reduce the urban heat island effect, such as green/cool roofs, increased green space, parkland and urban canopy, could reduce indoor temperatures, improve indoor air quality." (NCA Ch. 9: Human Health)
- **Ecosystems:** "Observed climate-induced changes have been linked to changing timing of flowering, increases in wildfire activity and pest outbreaks, shifts in species distributions, declines in the abundance of native species, and the spread of invasive species." (NCA Ch. 19: Great Plains)
- **Forests:** "Firewise Communities USA is a nationwide program of the National Fire Protection Association and is co-sponsored by USDA Forest Service, the U.S. Department of the Interior, and the National Association of State Foresters. The Texas Forest Service works closely with communities to help them to reach Firewise Community status and offers a variety of awareness, educational, informational, and capacity-building efforts, such as Texas Wildscapes, a program that assists in choosing less fire-friendly plants." (NCA Ch. 28: Adaptation)
- **Tribes:** "Tribal members have reported the decline or disappearance of culturally important animal species, changes in the timing of cultural ceremonies due to earlier onset of spring, and the inability to locate certain types of ceremonial wild plants." (NCA Ch. 19: Great Plains)

Examples of Efforts Underway in TEXAS to Address Climate Change

In **TEXAS**, many efforts are already underway to mitigate and respond to the impacts of climate change, including:

Preparing Communities for the Consequences of Climate Change:

Many important preparedness, resilience, and adaptation efforts are already being led by local, state, and regional entities across the country. Mechanisms being used by local governments to prepare for climate change include: land-use planning; provisions to protect infrastructure and ecosystems; regulations related to the design and construction of buildings, road, and bridges; and preparation for emergency response and recovery. These local adaptation planning and actions are unfolding in municipalities of different sizes, and regional agencies and regional aggregations of governments are also taking actions. And States have also become important actors in efforts related to climate change.

- Mayor Annise Parker (Houston, TX) serves on the President's State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience. Under Mayor Parker's leadership, Houston has become the largest municipal purchaser of renewable energy in the nation, and has been regularly featured on the EPA's top 10 list of cities with the most Energy Star-certified buildings as an example of demonstrated leadership in sustainable infrastructure.

Cutting Carbon Pollution in TEXAS:

In 2012, power plants and major industrial facilities in Texas emitted more than 390 million metric tons of carbon pollution – that's equal to the yearly pollution from more than 80 million cars. Through the Climate Action Plan and state initiatives, there are many efforts already underway to mitigate and respond to the impacts of climate change in Texas, including:

- ***Investing in Clean Energy:*** Since President Obama took office, the U.S. increased solar-electricity generation by more than ten-fold and tripled electricity production from wind power. In Texas, renewable energy generation from wind, solar, and geothermal sources increased more than 140 percent. Since 2009, the Administration has supported tens of thousands of renewable energy projects throughout the country, including 683 in Texas, generating enough energy to power more than 680,000 homes and helping Texas meet its own goal of generating 10,000 MW of its electricity from renewable energy sources by 2025.
- ***Improving Efficiency:*** Using less energy to power our homes, businesses and vehicles is critical to building a clean and secure energy future. President Obama has made essential investments in research and development for energy efficiency advances, and set new standards to make the things we use every day – from cars to microwaves – more efficient.
 - President Obama established the toughest fuel economy standards for passenger vehicles in U.S. history. These standards will double the fuel efficiency of our cars and trucks by 2025, saving the average driver more than \$8,000 over the lifetime of a 2025 vehicle and cutting carbon pollution.
 - Since October 2009, the Department of Energy and the Department of Housing and Urban Development have jointly completed energy upgrades nearly two million homes across the country, saving many families more than \$400 on their heating and cooling bills in the first year alone.
 - As part of the President's Better Buildings Challenge, Houston, El Paso and Fort Worth committed to reducing energy intensity 20 percent by 2020 in a combined 38.2 million square feet of buildings. The Houston Independent School District committed a reduction of 30 percent by 2015 in 24 million square feet of schools.

For more information about the third U.S. National Climate Assessment, please visit www.globalchange.gov or contact engagement@usgcrp.gov.