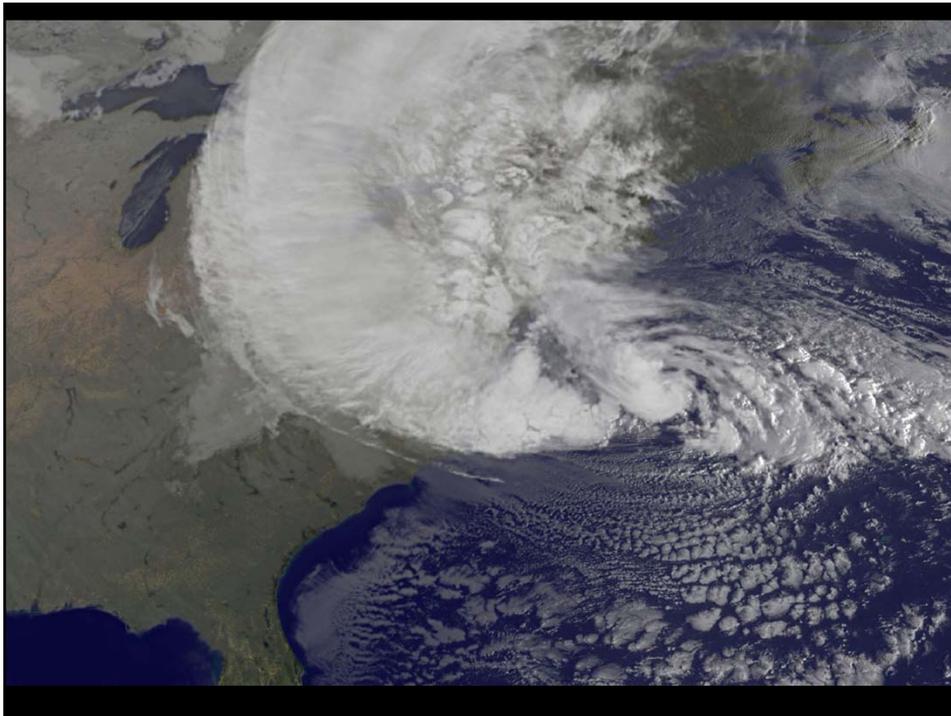
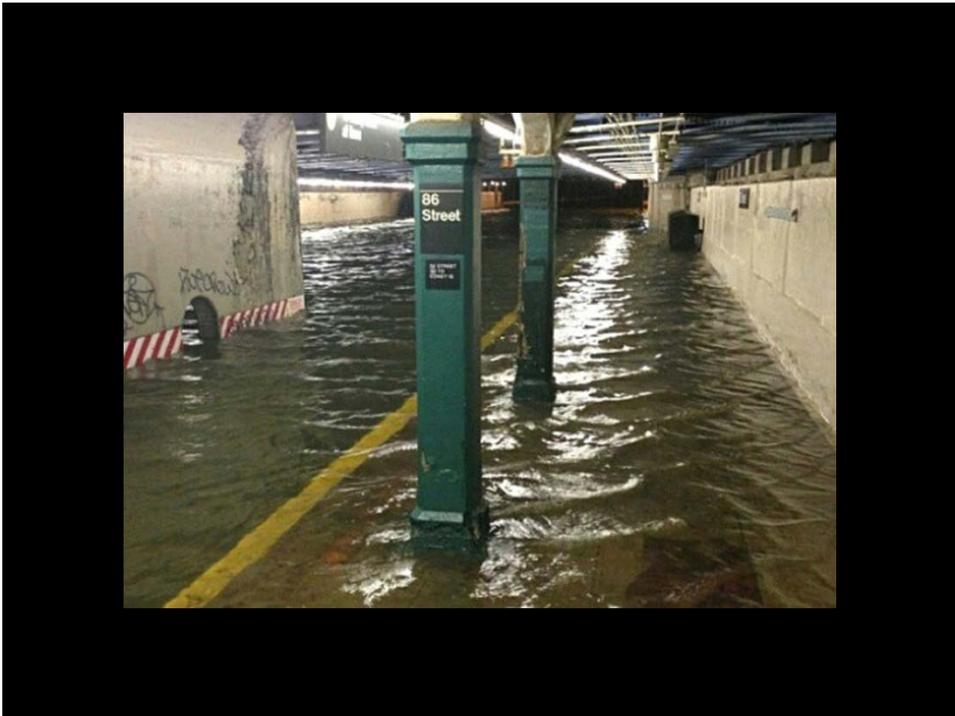




Corn plants damaged by extreme heat and drought conditions stand in a field in Carmi, Ill.





**National preparedness should be a central pillar of climate change policy**

Even with the best efforts towards reducing greenhouse-gas emissions, the climate will continue to change for decades. A primary goal of a national climate strategy should be to help the Nation prepare for impacts from climate change in ways that decrease the damage from extreme weather and other climate-related phenomena (i.e., increase robustness) and speed recovery from damage that nonetheless occurs (i.e., increase resilience). Recent disasters involving extreme weather events (including Hurricane Sandy, extreme drought, rampant wildfires) have underscored the Nation's vulnerability and the urgent need for preparedness.

**A national climate preparedness strategy should include:**

- (i) mechanisms to create, annually update, and communicate national climate preparedness plans, including regional assessments, planning and actions;
- (ii) mechanisms to create, annually update, and communicate to citizens extreme-event indices that capture leading indicators of climate change on an international, national and regional basis;
- (iii) plans for infrastructure modernization that incorporate the impact of future climate change;
- (iv) maintenance and improvement of the Nation's capabilities in weather forecasting and climate-change prediction, to help those in harm's way to take actions to protect themselves in both the short- and long-term; and
- (v) changes to Federal policies on disaster relief and insurance, to ensure that economic incentives are aligned with long-term safety and security, and that financial capital, when invested following a disaster, is used not just to rebuild, but to rebuild better.

As the Nation continues to address the challenges of preparing for the impacts of climate change, we cannot lose sight of the overarching importance of mitigating the pace and ultimate magnitude of the changes in climate that will occur. Without very substantial mitigation, which must occur worldwide, adaptation efforts will ultimately be overwhelmed and will be extremely costly.

Over the past four years, emissions reductions have come primarily from a reduction in oil consumption (now 18.7 million barrels per day, down from 20.7 in 2007) and a switch from coal to natural gas in the electricity sector. A primary pathway for reducing CO<sub>2</sub> emissions in the short term will be a continued shift from coal to natural gas and renewables in the electricity sector and from the new CAFÉ standards in the transportation sector. Emissions reductions in the residential, commercial and industrial sectors over the next decade will come from improvements in energy efficiency, and in the longer-term from electrification.

The cost of electricity from renewable sources has been dropping, but still exceeds the cost of electricity from coal or gas, particularly with low natural gas prices. However, renewables face a complex and uneven playing field, created by regulatory hurdles and market failures that inhibit their development and deployment.

The Federal Government has an opportunity to remove regulatory barriers and correct market failures to accelerate investment and development of renewable technologies, even aside from any specific tax subsidy. There are also key opportunities to correct market failures for the deployment of energy efficiency investments that will also reduce greenhouse gas emissions.

Some technologies are far from being economically competitive today, but are very likely to be very important contributors to a low-carbon energy system several decades from now.. As we work to lower greenhouse gas emissions in the next decade, it is critical that we continue to invest in research and development on such advanced energy technologies to make it possible that they become competitive in the years ahead.

Needed is a balance between investments that will lower emissions in the near term and investments that may have only a small effect on emissions over the next few years but will be critical to achieving success in the long run. such as advanced nuclear power, carbon capture and storage, advanced biofuels, and electric and fuel-cell cars.