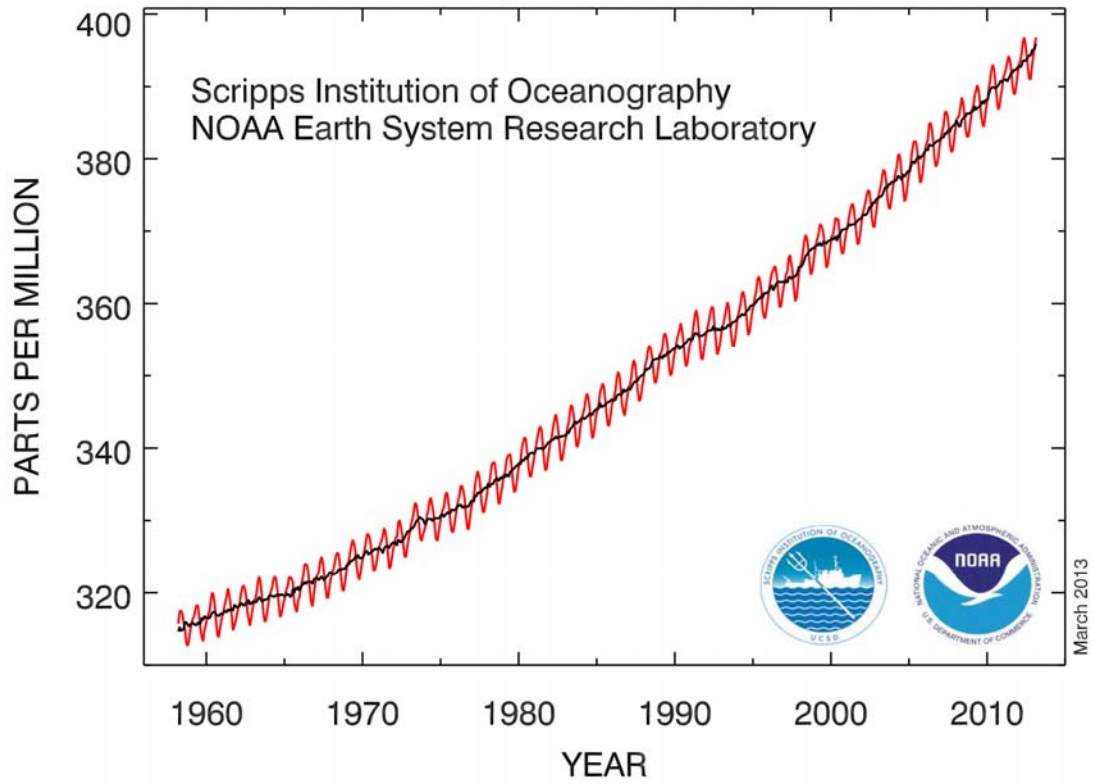
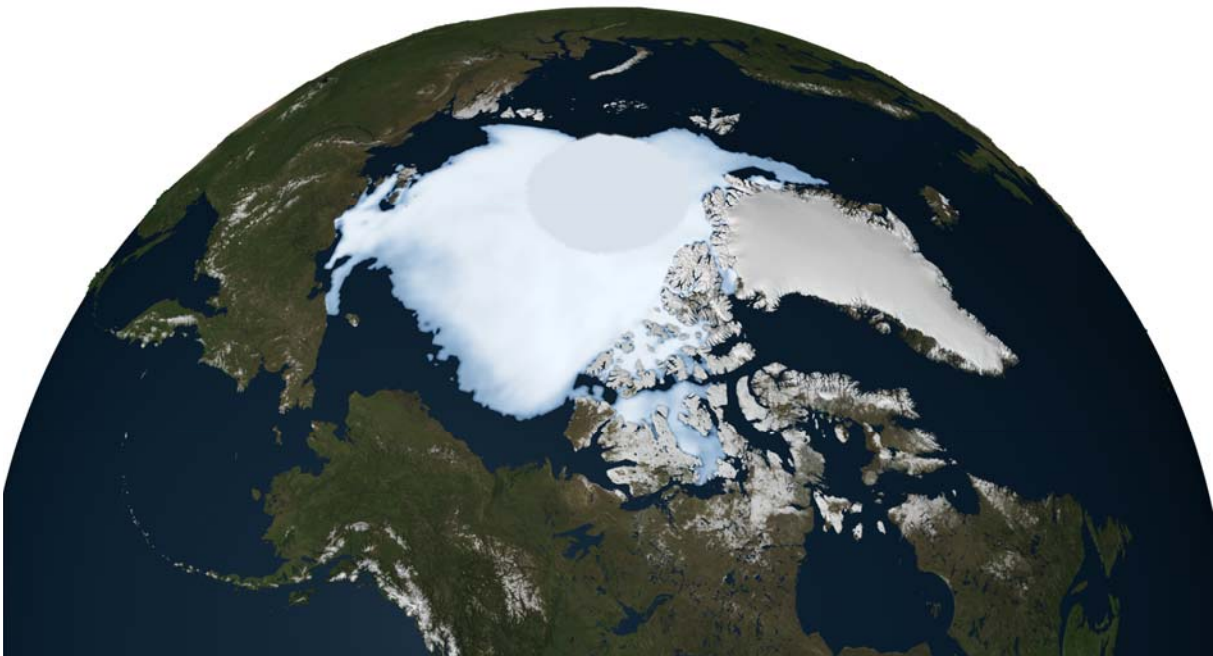


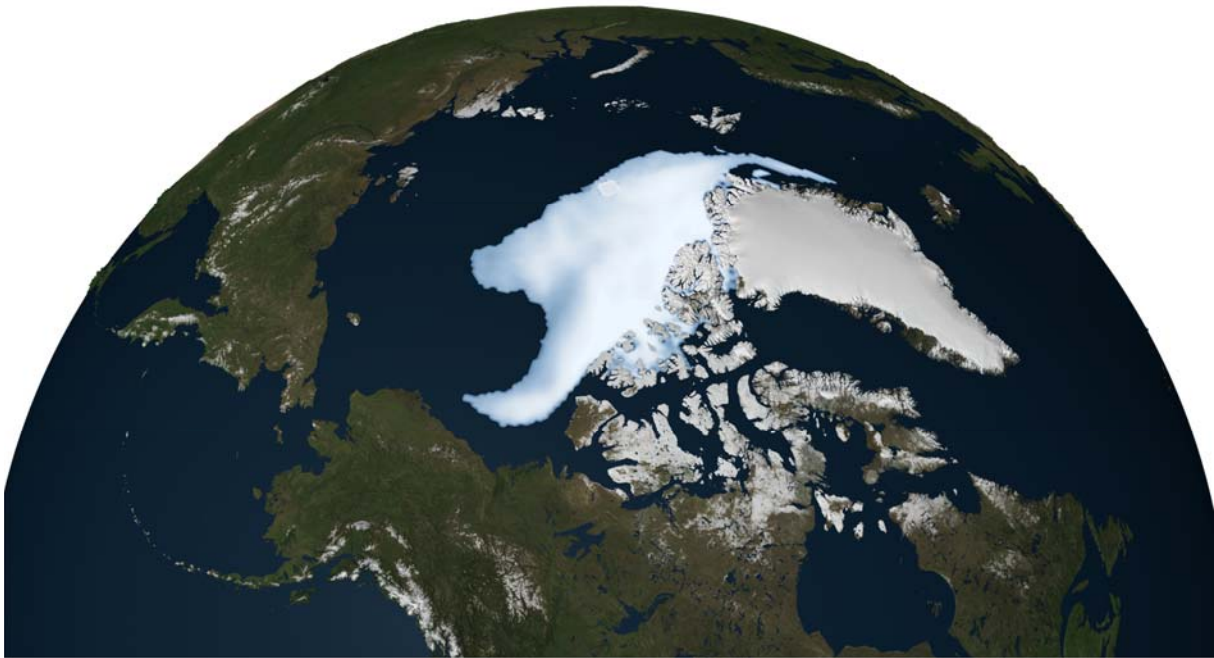
Atmospheric CO₂ at Mauna Loa Observatory



Minimum Arctic Sea Ice, 1980

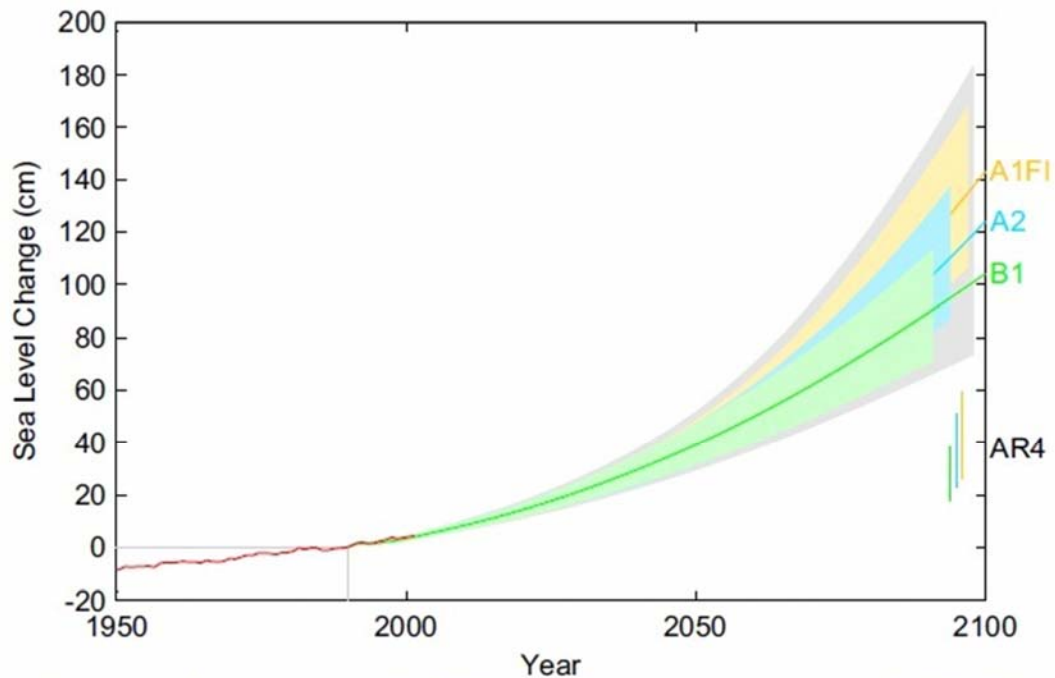


Minimum Arctic Sea Ice, 2012

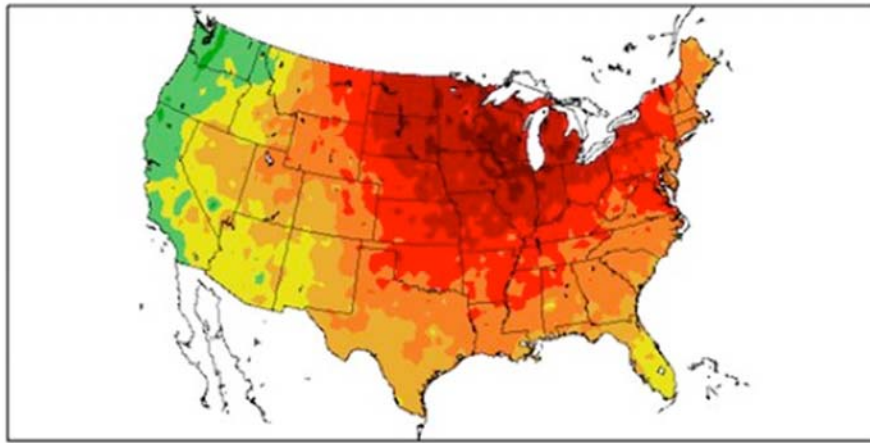


vermeer_rahmstorf_2009.pdf (application/pdf Object)

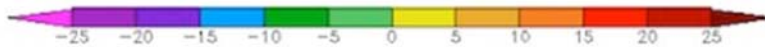
Global sea level linked to global temperature



http://www.pik-potsdam.de/~stefan/Publications/Journals/vermeer_rahmstorf_2009.pdf



Departure from normal temperature, March 12 to March 18, 2012 (degrees Farenheit)



Generated 3/19/2012 at HPRCC using provisional data.

Regional Climate C MNN

- In Rochester, Minnesota, the overnight low temperature on March 18 was 16.6°C (62°F), breaking the record high of 15.5°C (60°F).
- In Chicago, the temperature reached 80°F for the 8th time in 9 days and set its 9th record high in as many days.

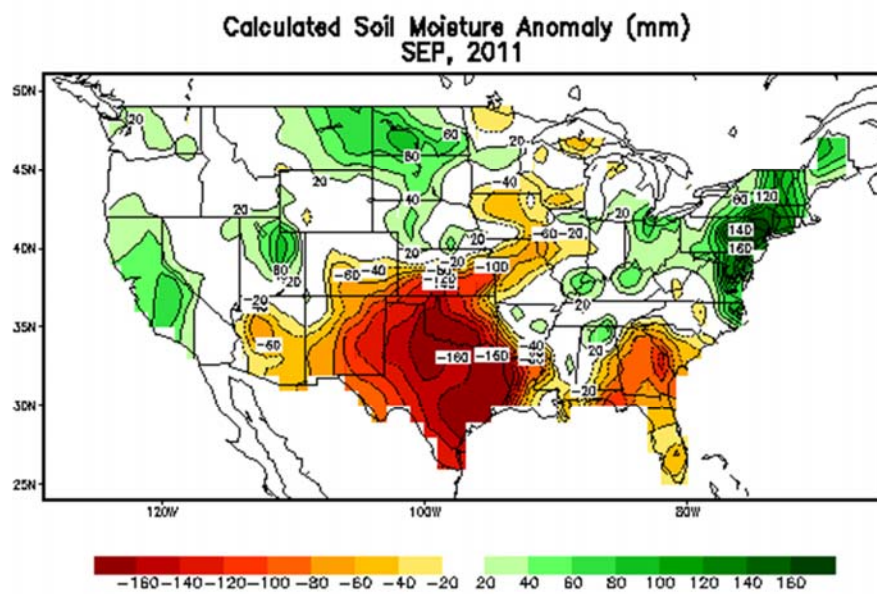
In St. John, New Brunswick, the temperature on March 22 reached 25.4°C (78°F), breaking the record for any temperature ever measured in April.



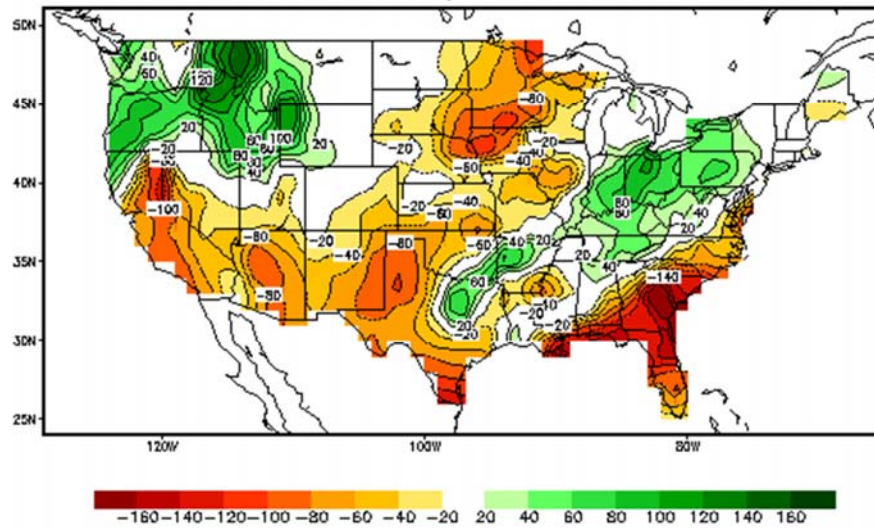




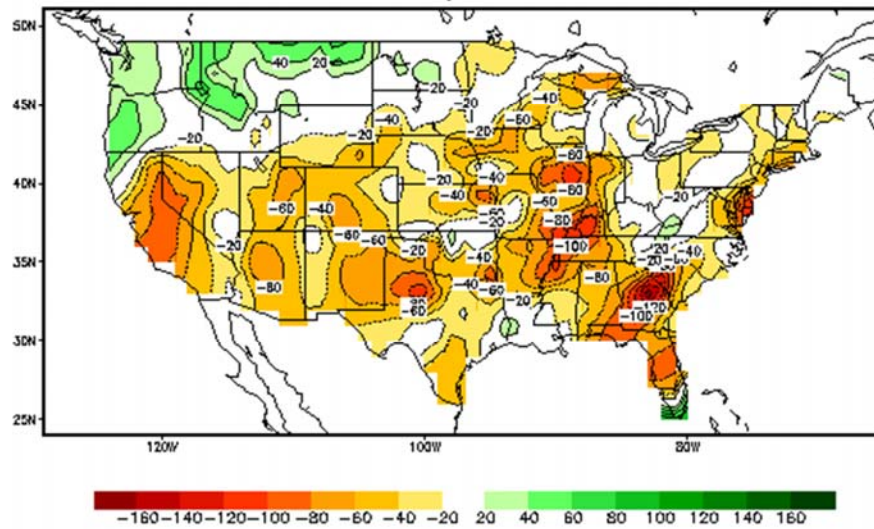
Corn plants damaged by extreme heat and drought conditions stand in a field in Carmi, Ill.



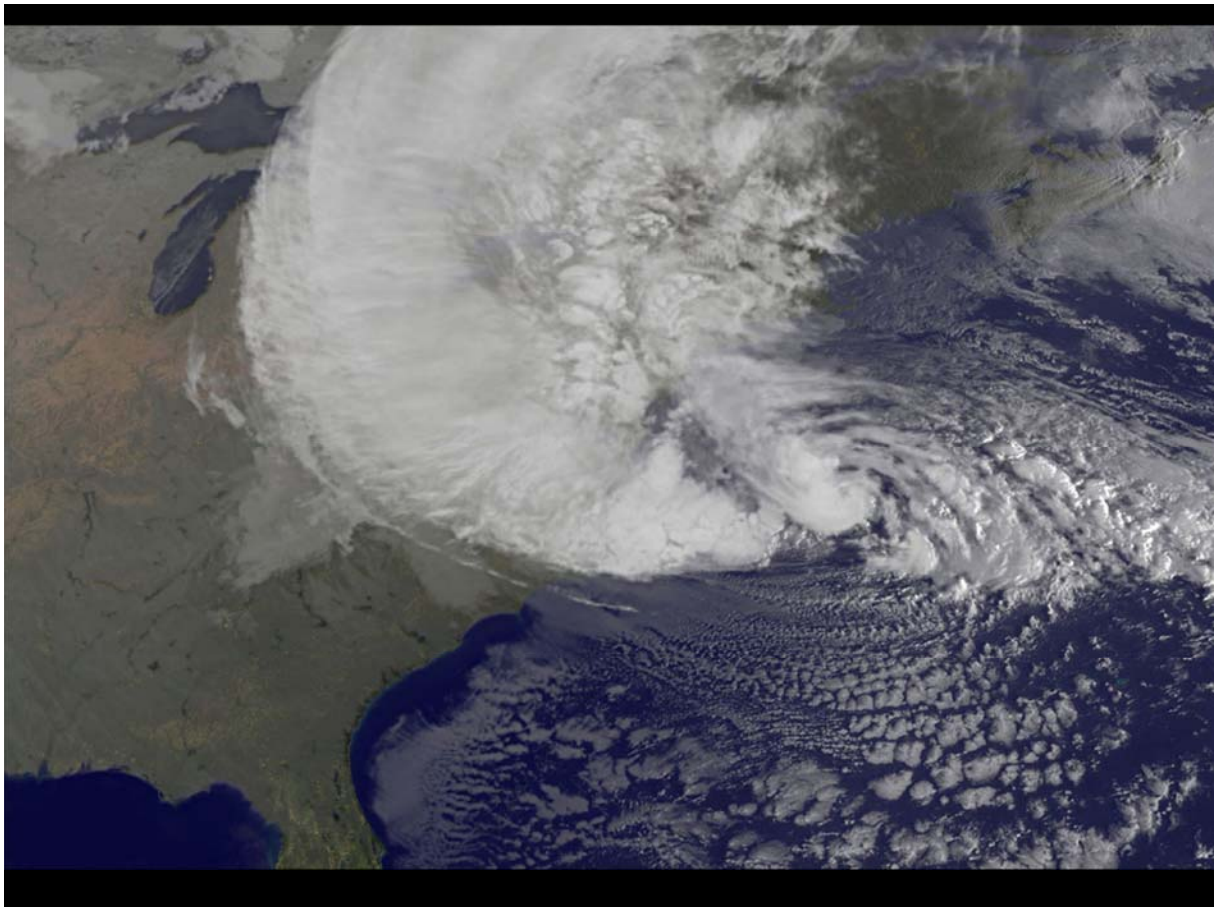
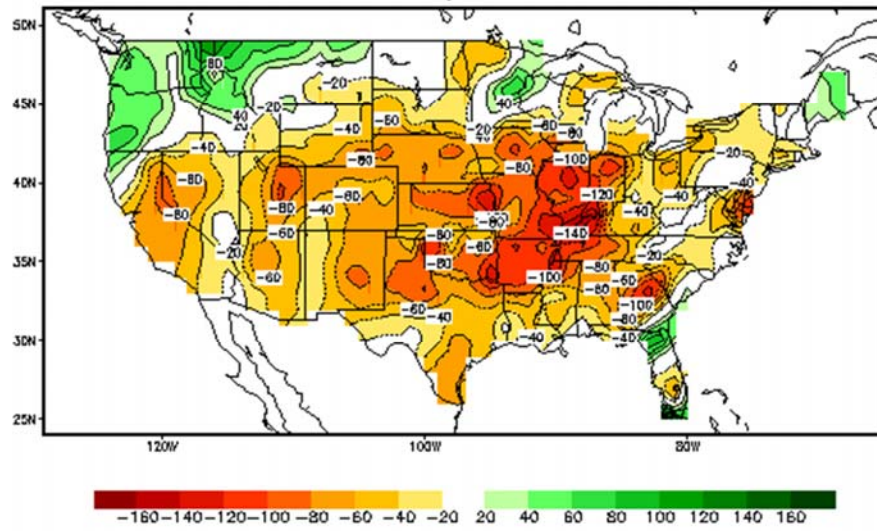
Calculated Soil Moisture Anomaly (mm)
MAR, 2012



Calculated Soil Moisture Anomaly (mm)
MAY, 2012

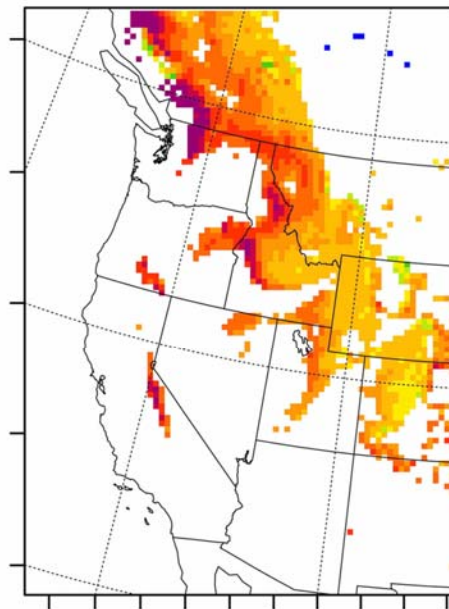


Calculated Soil Moisture Anomaly (mm)
JUN, 2012

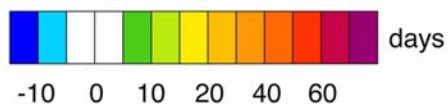




Snow-Dominated Runoff



Late 21st Century Change



National preparedness should be a central pillar of climate change policy

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 ways that speed recovery from damage that nonetheless occurs (i.e., increase resilience). Recent disasters involving extreme weather events (including Hurricane Sandy, extreme drought, and rampant wildfires) have underscored the Nation's vulnerability and the urgent need for preparedness.

Resilience (from Merriam-Webster)

re·sil·ience *noun* \ri-'zil-yən(t)s\

1: the capability of a strained body to recover its size and shape after deformation caused especially by compressive stress .

2: an ability to recover from or adjust easily to misfortune or change.

Robustness is "the ability of a [system] to resist change without adapting its initial stable configuration."



robust



resilient

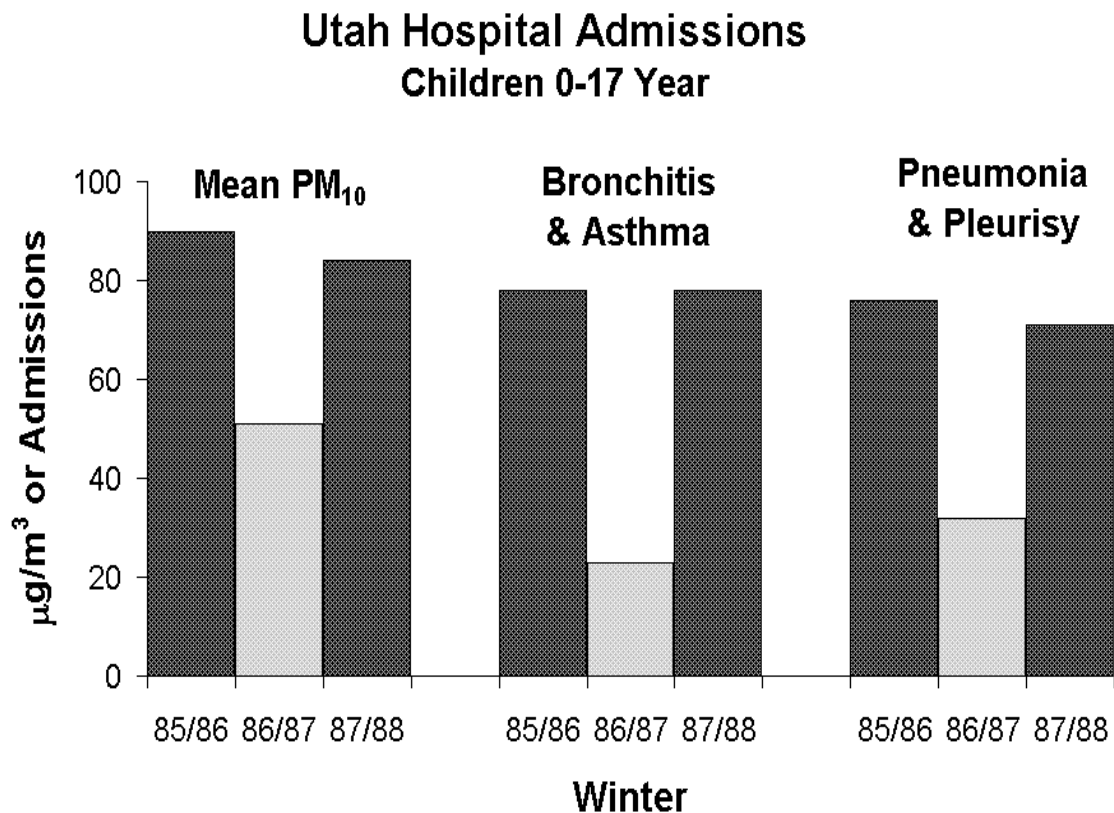
A national climate preparedness strategy should include:

- (A) mechanisms to create, regularly update, and communicate national climate preparedness plans, including regional assessments and sharing of best practices;
- (B) mechanisms to create, regularly update, and communicate to citizens indices of extreme events that capture these leading indicators of climate change on a global, national, and regional basis;
- (C) maintenance and improvement of the Nation's capabilities in weather forecasting and climate-change prediction, to help those in harm's way take actions to protect themselves in both the short- and long-term;
- (D) plans for infrastructure modernization that incorporate the impact of future climate change, and also serve to support the development of advanced infrastructure for the 21st century economy;
- (E) 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.

- **Create a National Commission on Climate Preparedness, charged with recommending an overall framework and blueprint for ongoing data collection, planning, and action.**
- **Designate Departments to serve as leads to oversee the annual creation of climate preparedness plans at home and abroad.**
- **Develop an infrastructure renewal plan that integrates climate preparedness and other benefits to the Nation's economy.**
- **Improve coordination and support for research efforts on climate change preparedness.**

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.

- Support continuing expansion of shale-gas production, ensuring that environmental impacts of production and transport do not curtail the potential of this approach.
- Continue implementation of Clean Air Act requirements on criteria pollutants (such as SO₂ and NO_x) and hazardous air pollutants (such as mercury), and also create new performance standards for CO₂ emissions from existing stationary sources, which would follow the performance standards for new plants released in March 2012.
- Accelerate efforts to reduce the regulatory obstacles to deployment of carbon capture and storage (CCS), and continue political support for the large CCS projects currently underway.



Pope, Amer J Public Health 1989; 79: 623

Level the playing field for clean energy and energy efficiency technologies, by removing regulatory obstacles, addressing market failures, adjusting tax policies, and providing time-limited subsidies for clean energy when appropriate

- **Level the playing field on access to capital through special tax benefits.**
- **Broaden the tax credit for wind to include all forms of renewable energy, replacing the annual renewal with a longer time horizon of 5 to 10 years.**
- **Eliminate market failures that prevent the adoption of technologies for energy efficiency.**

Take additional steps to establish American leadership on climate change internationally.

Climate change is a global problem that requires global action. There is an opportunity for the Administration to continue to shape the international discussion around climate change as efforts to reduce greenhouse gas emissions and enhance climate preparedness proceed at home. To complement ongoing efforts by the State Department, some opportunities worthy of consideration are:

- **Explore the possibility of a new North American climate agreement.**
- **Continue work towards increased cooperation with China on the climate challenge.**