



Maryland Climate Change Commission Scientific and Technical Working Group *First Meeting*



Don Boesch
August 7, 2007





Commission on Climate Change

- **Established by April 20 Executive Order by Governor O'Malley.**
- **22 members, including state agency heads and 6 members of General Assembly; chaired by Secretary of the Environment Shari Wilson.**
- **Advise Governor and General Assembly on matters related to climate change.**
- **Develop a Plan of Action to address the drivers and causes of climate change, to prepare for the likely consequences and impacts of climate change to Maryland, and to establish firm benchmarks and timetables for implementing the Plan of Action.**
- **Supported by 3 Working Groups:**
 - **Scientific and Technical Working Group**
 - **Greenhouse Gas and Carbon Mitigation Working Group**
 - **Adaptation and Response Working Group**

<http://www.mde.state.md.us/air/mccc/>





Commission on Climate Change

Milestones

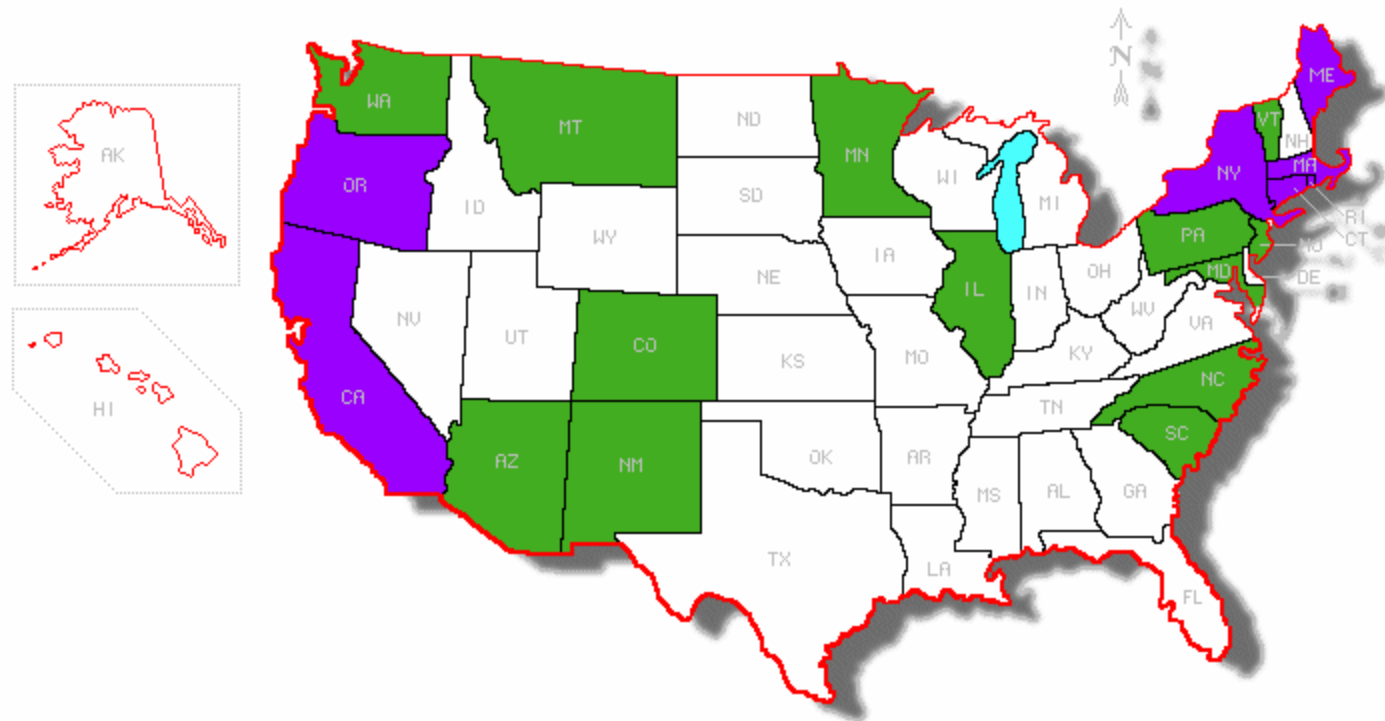
- **Within 60 days the Commission convened and Working Group members appointed.**
- **Within 90 days Working Groups meet and establish individual work plans.**
- **Within one year present to the Governor and General Assembly the Plan of Action, including:**
 - **Comprehensive Climate Change Impact Assessment**
 - **Comprehensive Greenhouse Gas and Carbon Footprint Reduction Strategy**
 - **Comprehensive Strategy for Reducing Maryland's Climate Change Vulnerability**
- **Report to the Governor and General Assembly on or before November 1 an update on the development of the Plan of Action, implementation timetables and benchmarks, and preliminary recommendations, including draft legislation.**



Plans - Recent & Underway

- - Post-2000 Plan
- - Recent & Underway

~20 States

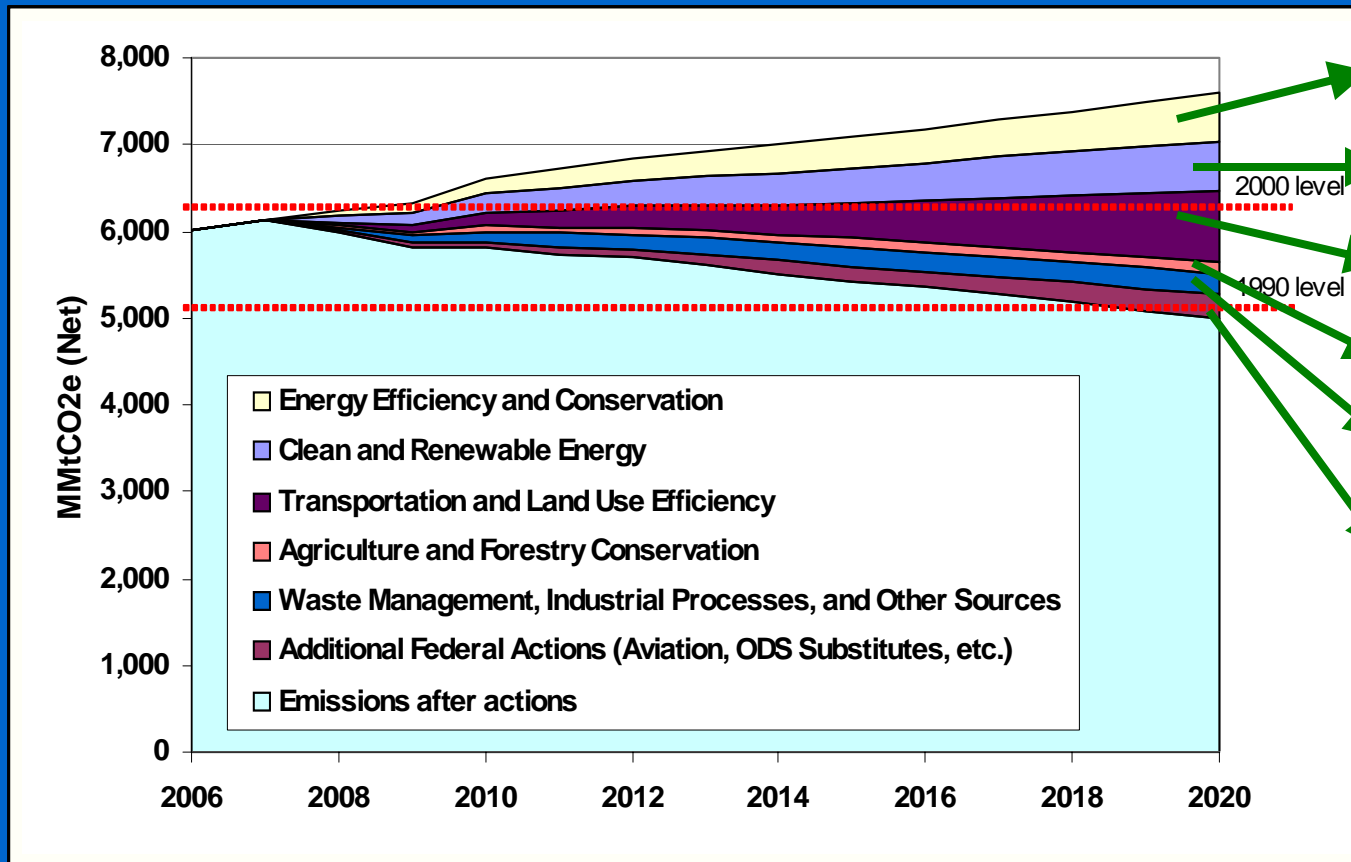


Source: Center for Climate Strategies

6-17-07

State	1990-2020 GHG Forecast	State Goals Source: Center for Climate Strategies	Climate Plan Coverage
Arizona	149%	2000 levels by 2020; 50% below by 2040	106%
California	41%	- E.O.: 2000 level by 2010; 10% below by 2020; 80% by 2050 - AB-32: 1990 levels by 2020	100%
Colorado	?	?	TBD
Connecticut	32%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Massachusetts	?	1990 level by 2010; 10% below by 2020; 75% by 2050	?
Maine	34%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Minnesota	?	- Next Generation Energy Act: 15% below 2005 levels by 2015; 30% by 2025; 80% by 2050	TBD
North Carolina	113%	?	TBD
NEG/ECP	?	1990 level by 2010; 10% below by 2020; 75-85% ultimately	TBD
New Jersey	?	- E.O.: 1990 level by 2020; 80% below 2006 levels by 2050	?
New Mexico	48-64%	2000 level by 2012; 10% below by 2020; 75% by 2050	133%
New York	24%	5% below 1990 by 2010	?
Oregon	38%	1990 level by 2010; 10% below by 2020; 75% by 2100	85%
Puget Sound	37%	1990 level by 2010; 10% below by 2020; 75% by 2100	100%
Rhode Island	35%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Vermont	29-56%	25% below 1990 levels by 2012; 50% below 1990 by 2028; 75% by 2050	?
Washington	?	- E.O.: 1990 levels by 2020; 25% below 1990 by 2035; 50% below 1990 by 2050	?

Leadership States' "Wedges"



% of Gap	Sample Cost
~24%	-\$10 to -\$30
~24-30%	\$7 to \$21
~20-36%	-\$32 to -\$36
~6-9%	-\$1 to -\$5
~11-18%	?
~6-18%	?

Conclusion:
Closing the gap is quite doable

Source: Center for Climate Strategies



S & T Working Group Charge

Develop a *Comprehensive Climate Change Impact Assessment*:

- **Advise the Commission, as well as other working groups, on the scientific and technical aspects of climate change;**
- **Inventory Maryland's greenhouse gas emission sources and sinks**
- **Calculate Maryland's "carbon footprint" to measure the impact of human activities on the environment based on the State's greenhouse gas production;**
- **Investigate climate change dynamics, including current and future climate models and forecasts; and**
- **Evaluate the likely consequences of climate change to Maryland's agricultural industry, forestry resources, freshwater supply, aquatic and terrestrial ecosystems, and human health**

Provisional website <http://www.umces.edu/president/STWG/>





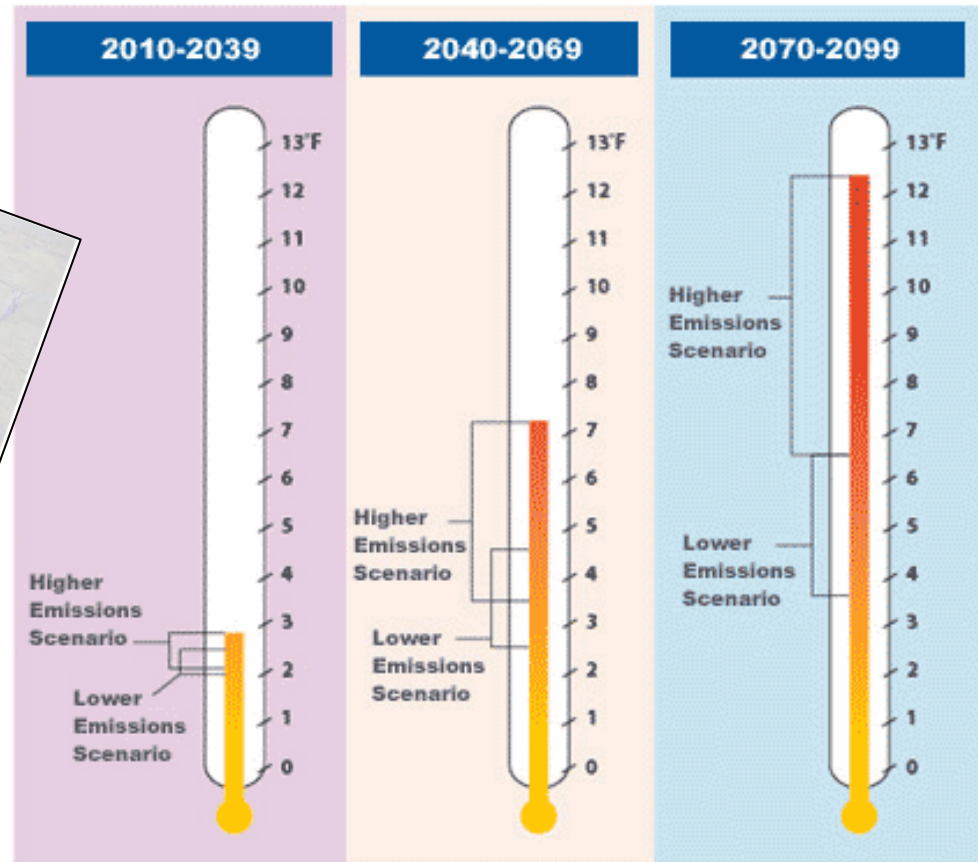
Roles

- **Chaired by USM (Don Boesch), MDE (Bob Summers) and DNR (Frank Dawson)**
- **Working Group members include scientists from Maryland's universities, federal agencies, and non-governmental organizations**
- **Prepare *Comprehensive Climate Change Impact Assessment***
- **The Center for Climate Strategies will inventory and forecast greenhouse gas emissions and sinks; STWG will review and advise**
- **Advise other WGs on scientific and technical aspects of climate change**





Climate Change Impacts



Increase in mean annual temperature compared to 1961-90

**Northeast Climate
Impacts Assessment**

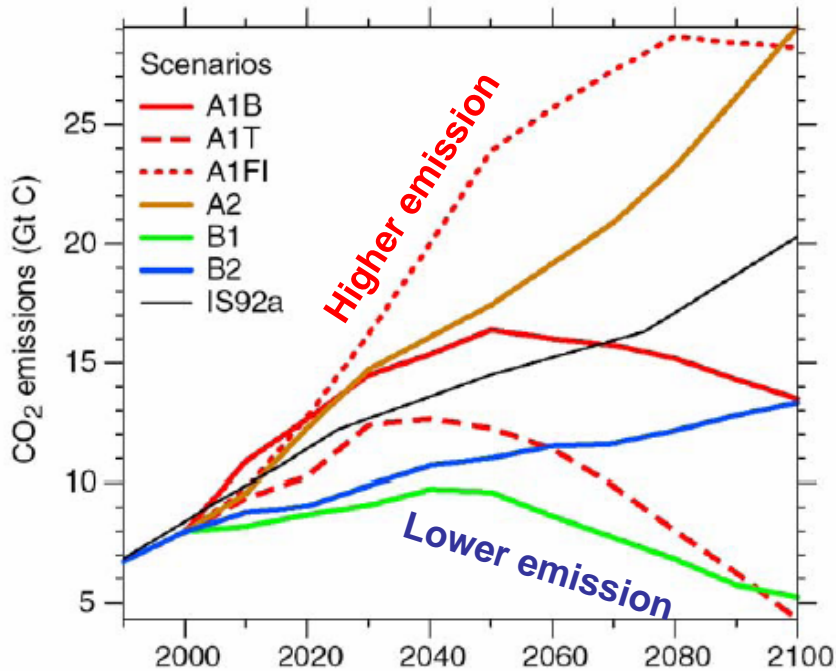
www.northeastclimateimpacts.org/



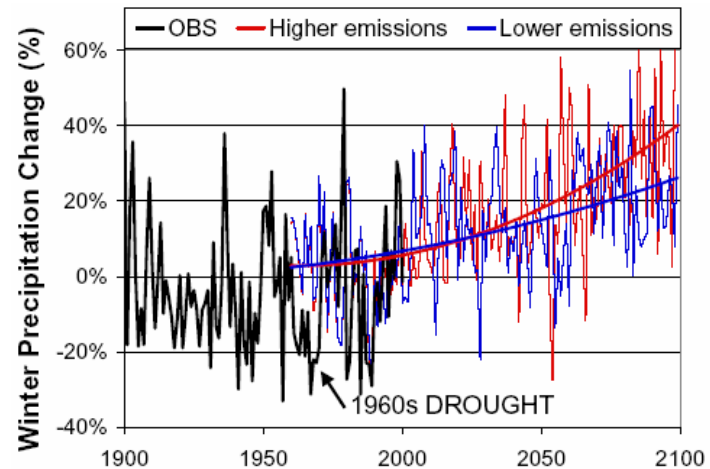
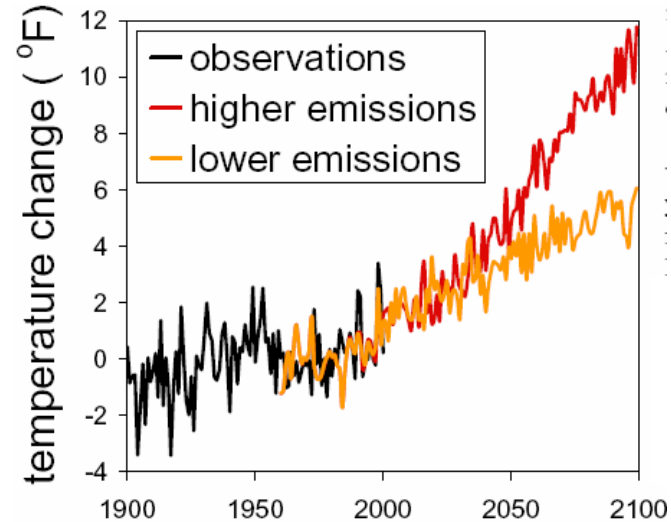
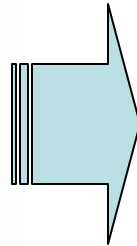


Employ Downscaled Models

Emission Scenarios

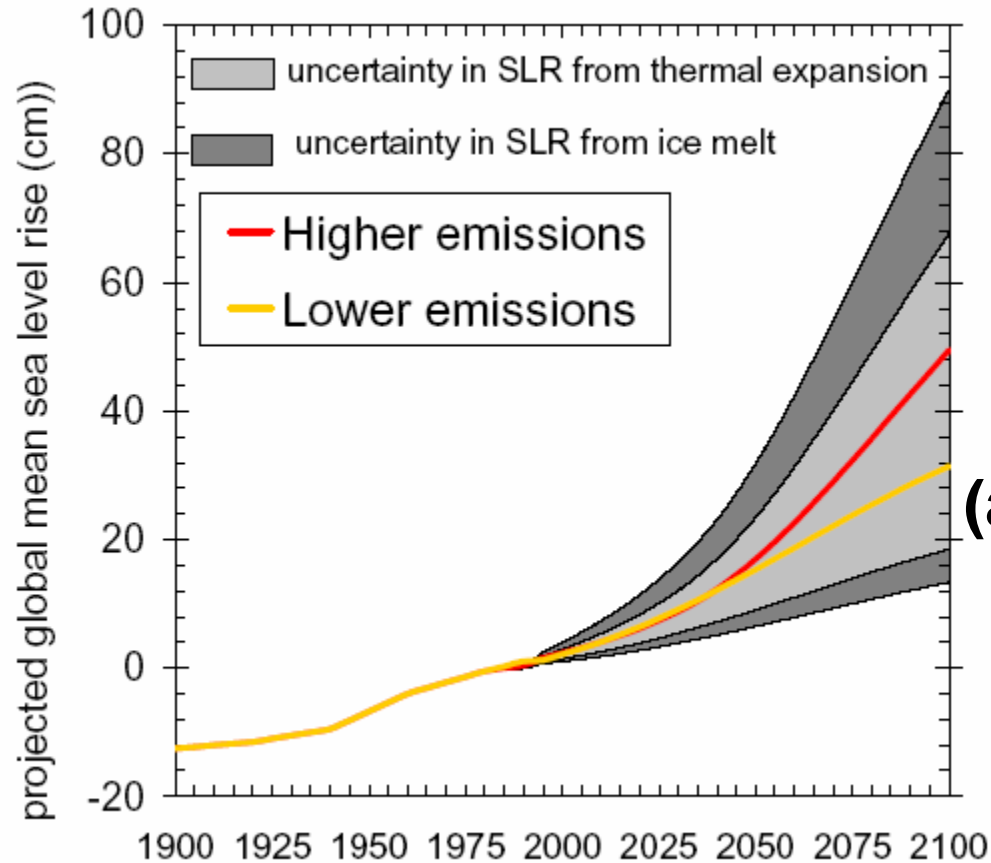


www.northeastclimateimpacts.org/





Sea-level Rise Projections



**Will need to estimate
Relative Sea-level Rise
(adjusted for subsidence)**

www.northeastclimateimpacts.org/





Working Group Principles

- **Involve other experts as needed**
- **Candid debate with appropriate transparency**
- **Integration of findings: minimize redundancy, maximize consistency**
- **Use IPCC protocol for communicating likelihood and confidence**
- **Peer review**
- **Effective, scientifically sound, public communication**



Working Group Process

- **Judicious use of meetings**
- **Web-based information sharing and communication**
- **Small teams (2-3) responsible for analysis and drafting on specific topics**
- **Active liaison with other Working Groups and CCS**
- **Preliminary report in November, 2007**
- **Draft final report in early Spring with simultaneous Commission and peer review**
- **Additional shorter communications media**





Vision for Report

- **Executive Summary**
- **Introduction to Climate Change**
- **Data, Models and Assessment**
- **Recent and Future Climate Changes in Maryland**
- **Consequences**
 - Coastal zone
 - Terrestrial and aquatic ecosystems
 - Water resources
 - Agriculture, forestry, fisheries
 - Human health
- **Implications for Mitigation and Adaptation**

