Maine's Efforts to Address Climate Change

Conference on Climate Change
and Public Health
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Maine Department of Environmental Protection

Climate Change is Happening

- Since 1970, 0.45°F (0.25°C) average temperature increase per decade in northeastern US
- Surface temperature of Maine coastal waters increased almost 2°F (1.1°C)

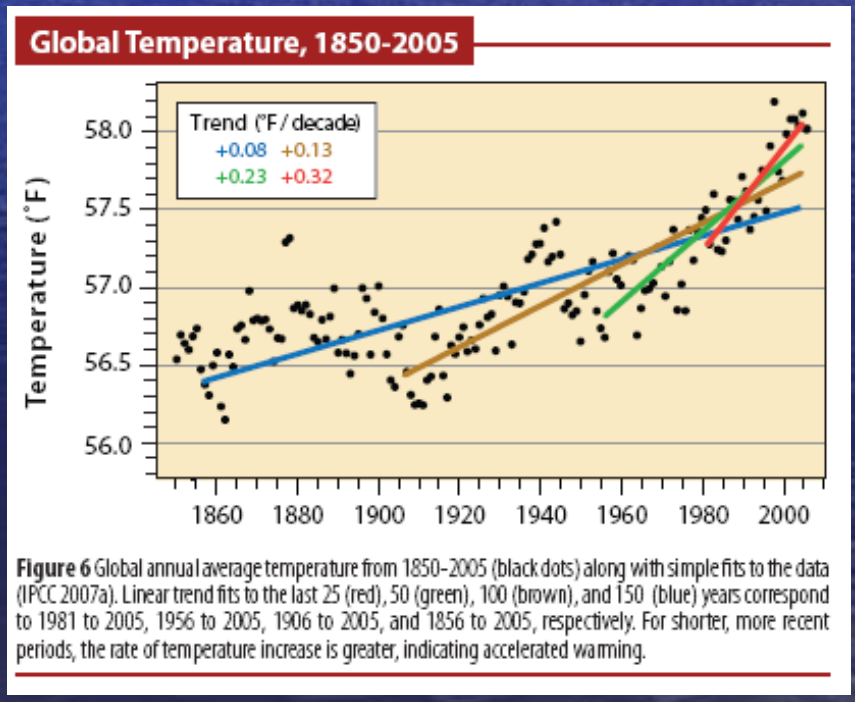


Figure 6 Global annual average temperature from 1850–2005 (black dots) along with simple fits to the data (IPCC 2007a). Linear trend fits to the last 25 (red), 50 (green), 100 (brown), and 150 (blue) years correspond to 1981 to 2005, 1956 to 2005, 1906 to 2005, and 1856 to 2005, respectively. For shorter, more recent periods, the rate of temperature increase is greater, indicating accelerated warming.

Climate Change is Happening

- New England—Growing Season
  - Increased 9 days since 1900
- New England—Bloom Dates
  - Lilacs, apples and grapes 4-8 days earlier from 1965-2001
- Maine—Maple Syrup
  - Tapping one month earlier than 1896

Maine Public Health Impacts

- Temperature-related Effects
- Storm and Precipitation Effects
- Overall Air Quality Effects
- Disease and Illness Effects
- Special Needs of Vulnerable Populations

Maine's Mitigation Efforts: *A Climate Action Plan for Maine 2004*

- Actions to meet statutory reduction goals: return to 1990 GHG emissions levels by 2010, 10% reduction by 2020, 75-80% reduction by 2050
- Focused primarily on energy production, consumption, and efficiency
- Also includes ways to sequester carbon in Maine's lands and forests
- Latest data (2008) and analysis indicate Maine will meet the 2010 goal exclusive of reductions associated with the economic downturn

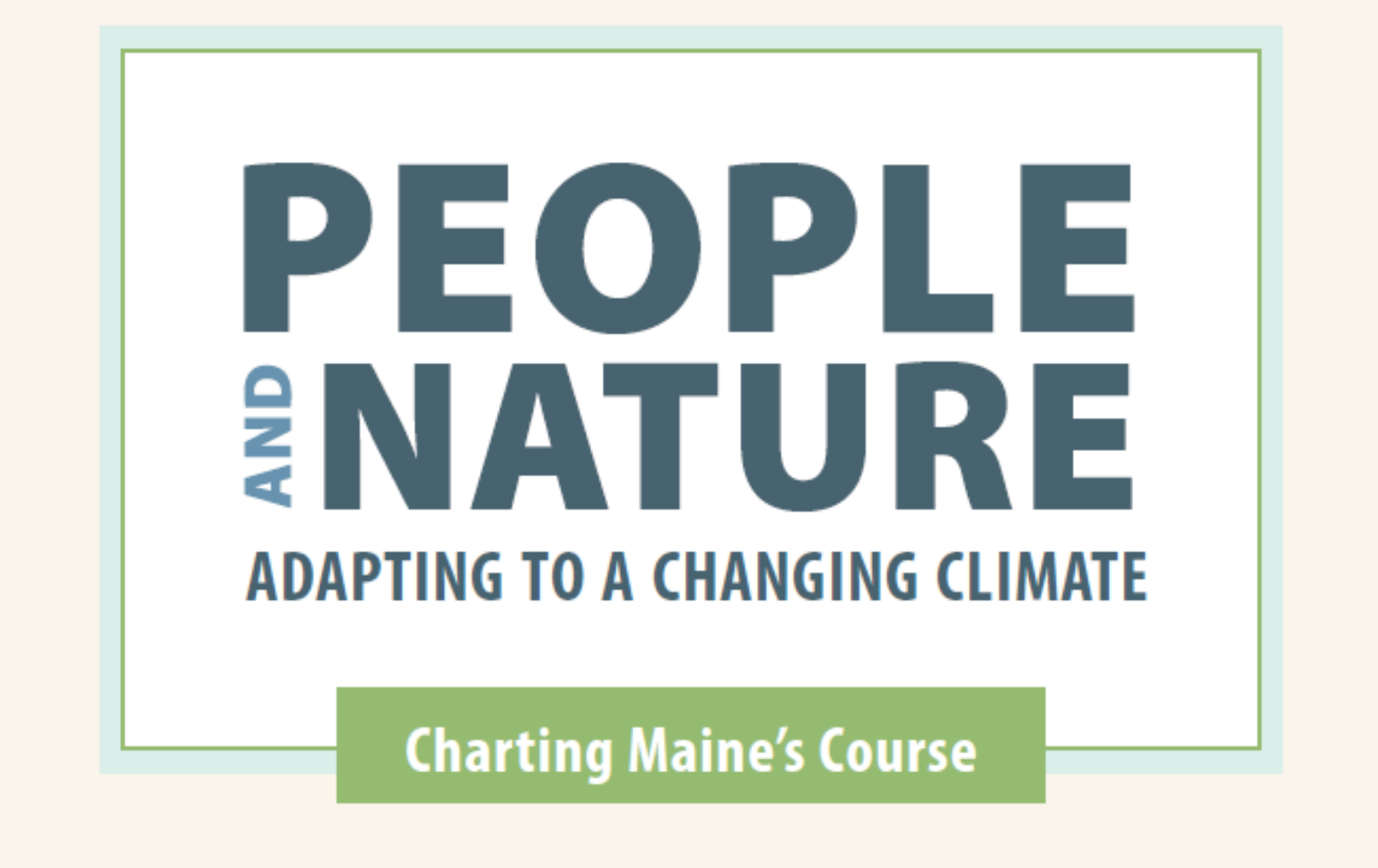
Public Health Implications of Emissions Reduction Efforts

- Reducing GHG emissions gives Maine cleaner air, lowers respiratory threats
- Land use planning to lower vehicle use promotes healthier living: biking, walking
- Urban tree planting reduces "heat island" effects, improves urban outdoor space
- Agricultural practices to save carbon enhance availability of healthy local foods

Maine's Adaptation Effort: *People and Nature Adapting to a Changing Climate*

- 2009 Legislative Resolve followed by recent report to the Legislature: an initial assessment and recommendations
- 100+ stakeholder process includes a working group on climate effects on the human and social environment, including a number of public health representatives
- Specific recommendations on public health
- A complete Adaptation Plan for Maine due by 2012

2010 Climate Adaptation Interim Report

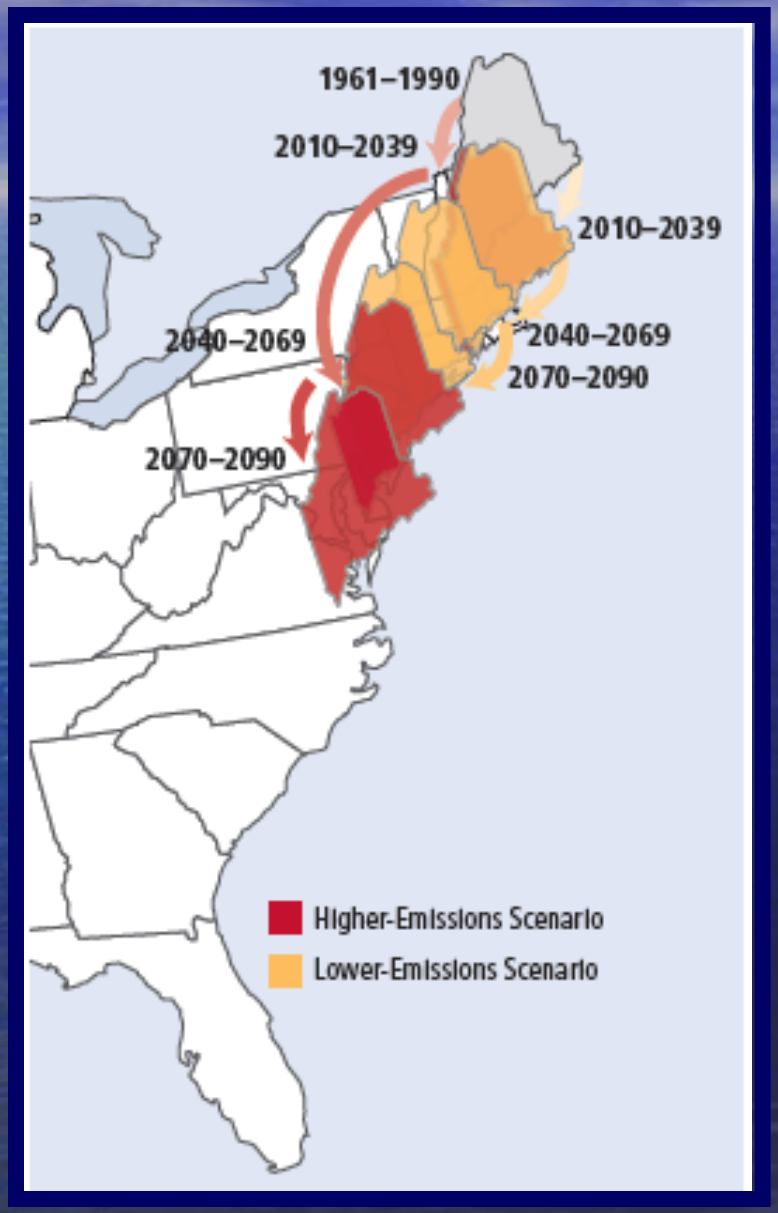


http://www.maine.gov/dep/oc/adapt/Report_final.pdf

Mitigation and Adaptation:
Not Always Hand-in-Hand

- Action in one area may produce un-intended consequences in the other
  - Increasing wood combustion as a non-fossil fuel energy source could increase toxics and particulates harmful to human health if done improperly
  - Weatherizing older homes to lower energy consumption can reduce air exchange and increase mold and related health problems

Maine/New Hampshire moving south from VCS



Adapting to Likely Temperature Changes

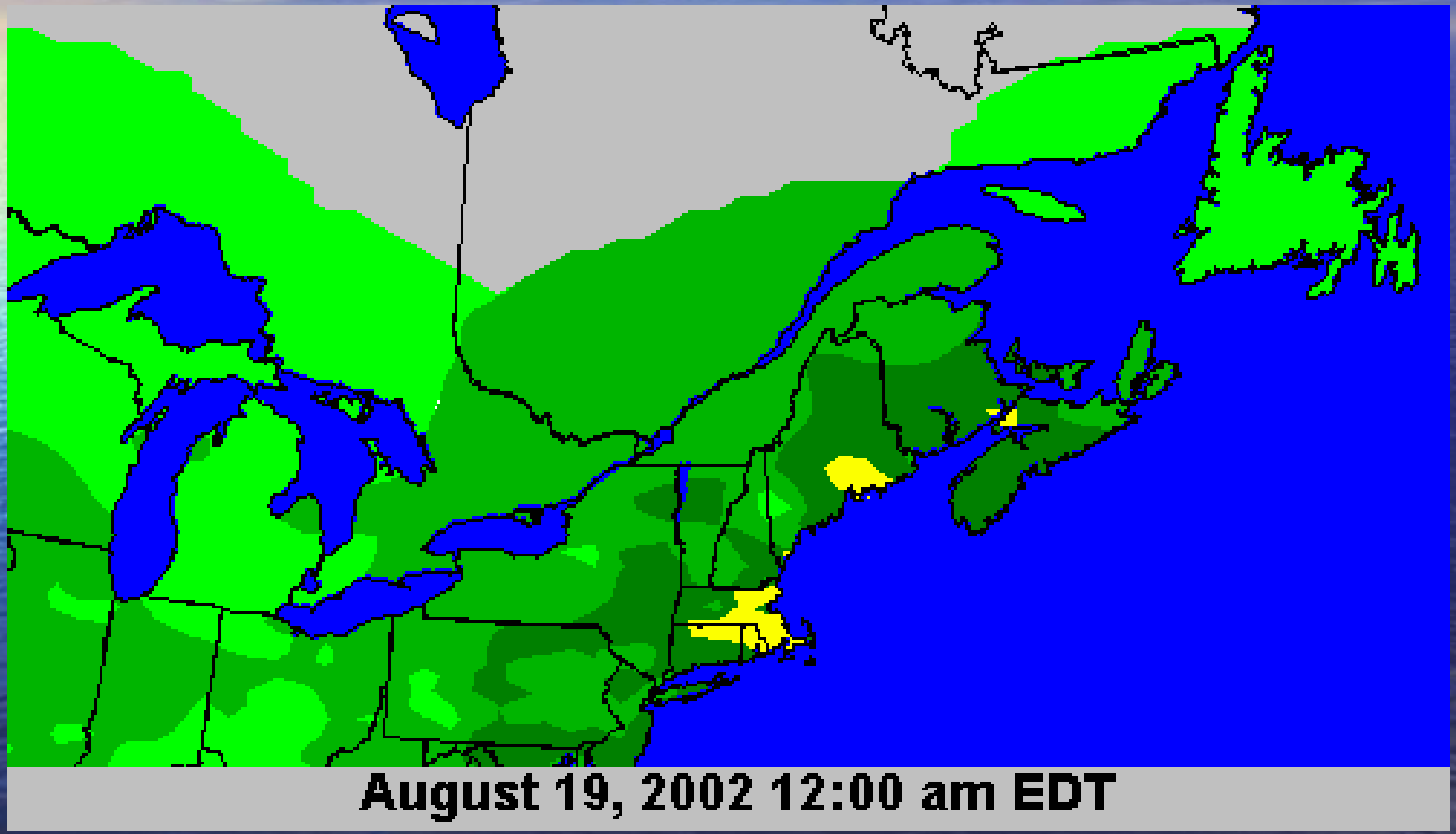
- Increases in the number and severity of summer heat events
- Increased prevalence of disease from previously cold-inhibited vectors
- Assessing schools and other public buildings for cooling and ventilation, particularly for warmer spring and fall conditions

Climate Change and Air Quality

- Heat events
- Ozone and ozone precursors transport
  - Nitrogen dioxide (NO_2) +volatile organic compounds (VOCs) + heat = Ozone (0_3)
- Regional haze
  - Haze in Northeastern U.S. primarily from sulfur dioxide (SO_2) emissions leading to formation of sulfate particulates
  - L.D. 1662 is part of regional Clean Air Act plan to resolve SO_2 – will save 581 deaths and $3,810,842,000 annually by 2018
- Wood burning

Transport of Ozone into Maine

Ozone Non Attainment Areas



Questions?