

TRB January 13, 2013

Reducing Risks and Costs of Climate Change – Preparedness and Adaptation in the Face of Increasingly Severe Weather



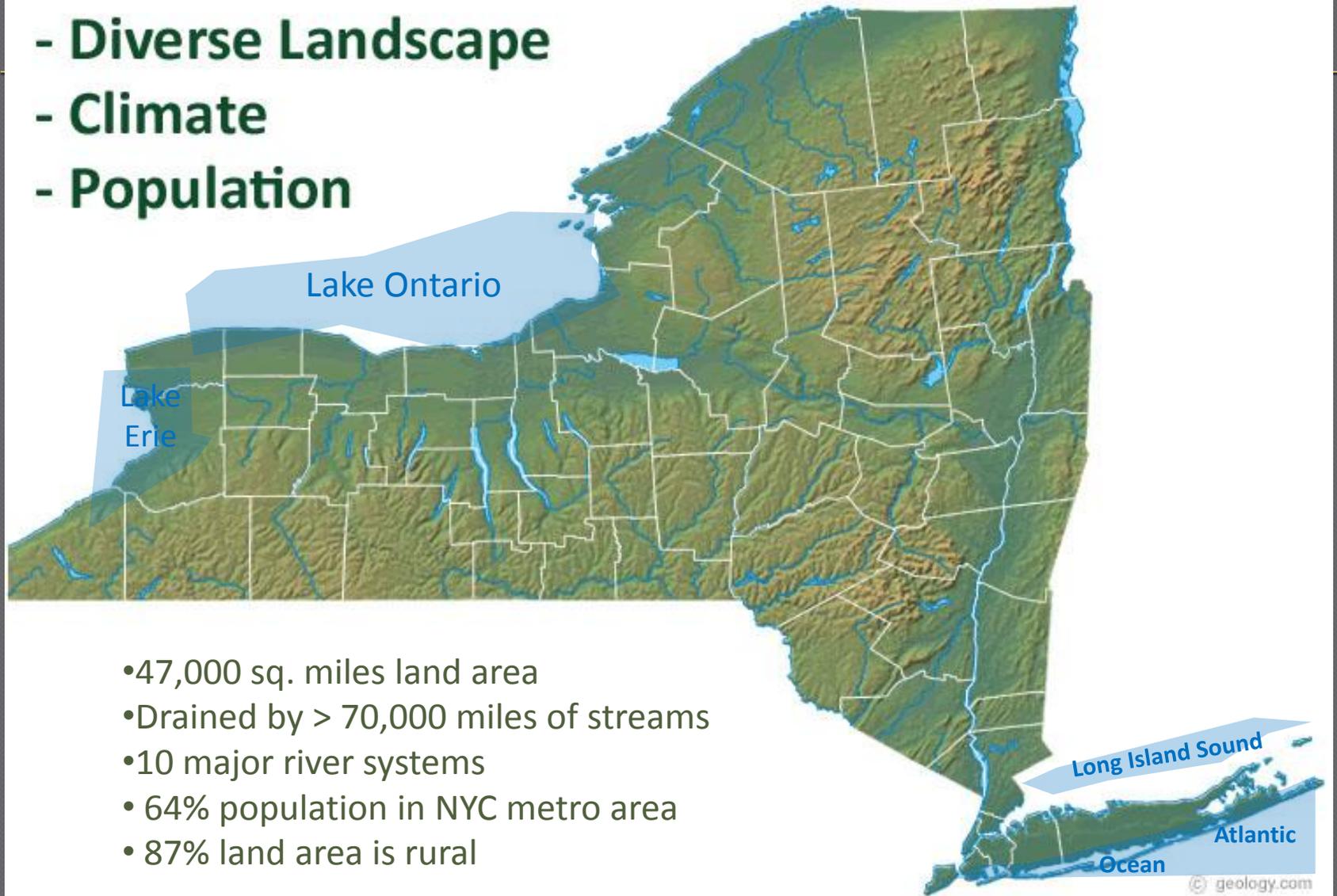
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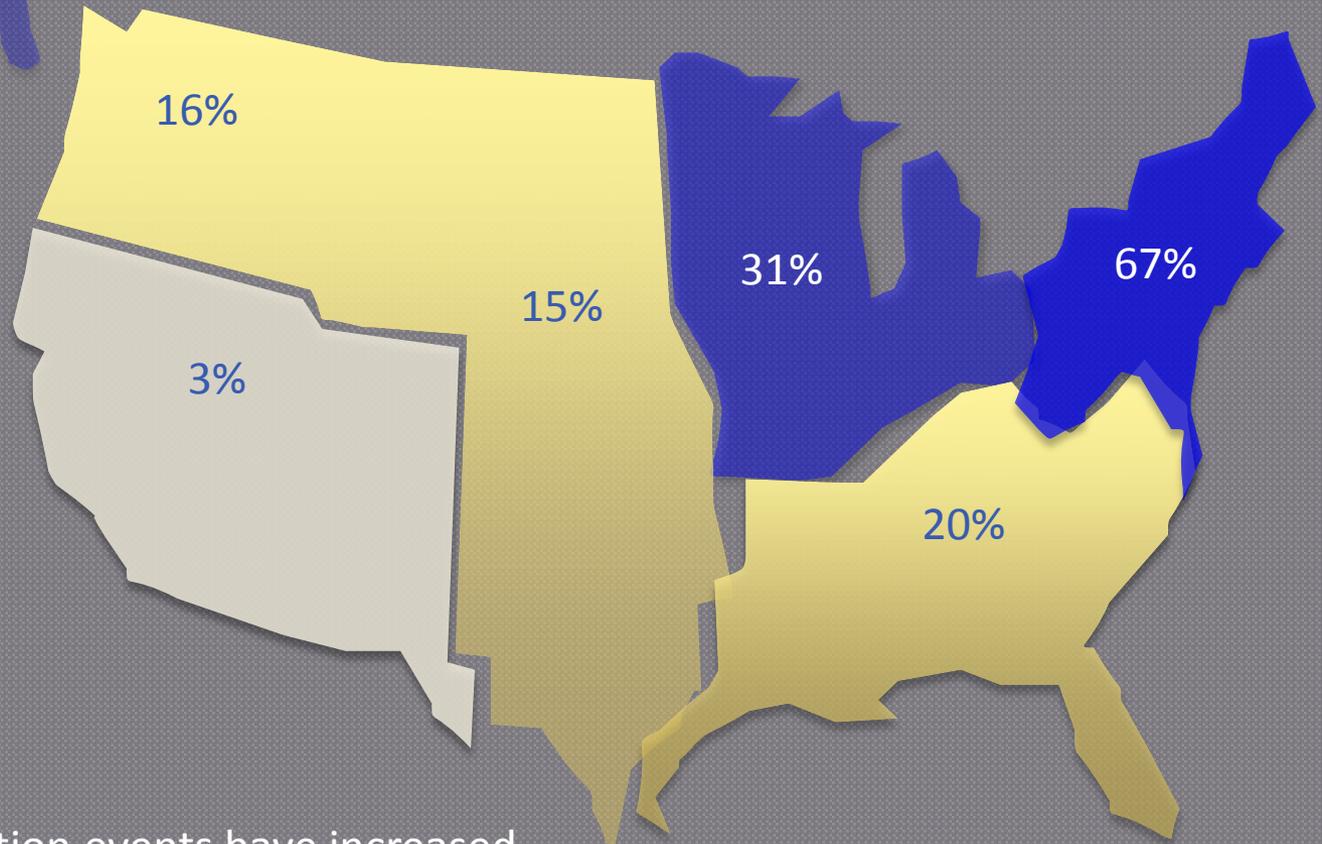
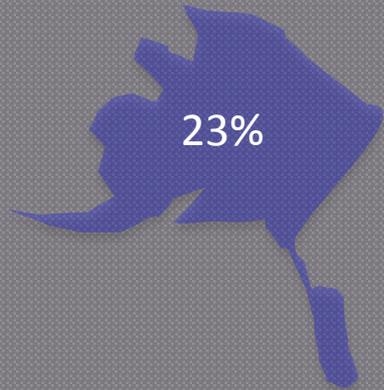


NYS Geography and Demographic

- **Diverse Landscape**
- **Climate**
- **Population**



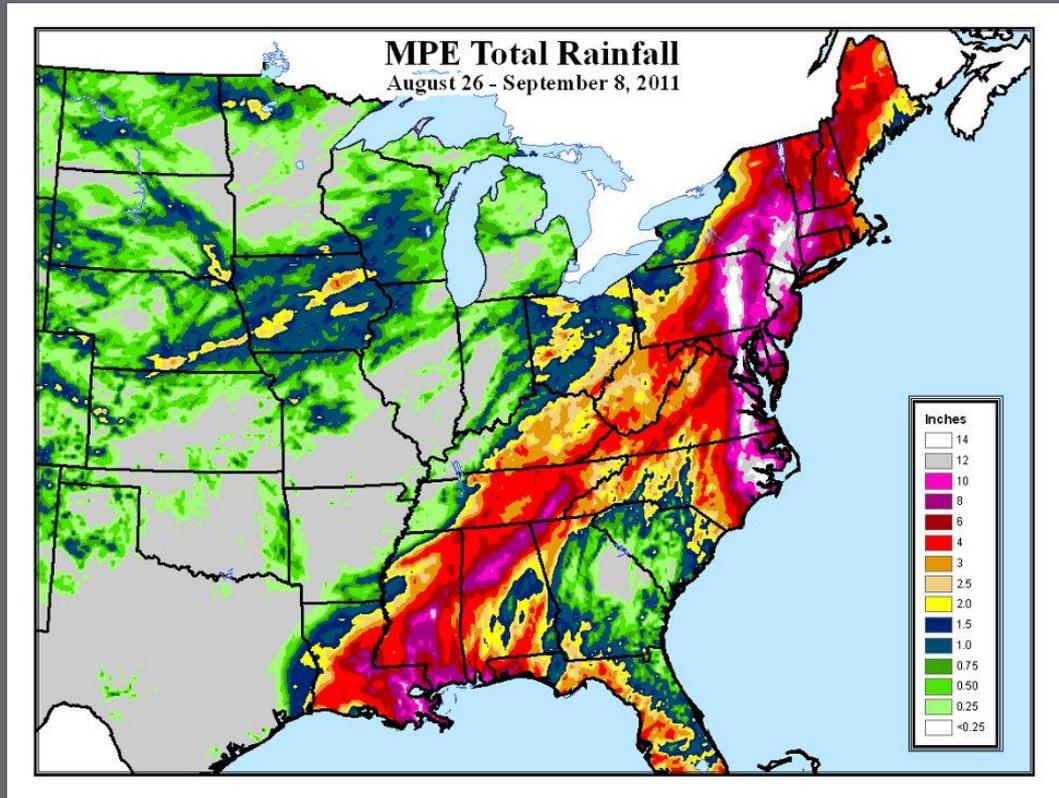
- 47,000 sq. miles land area
- Drained by > 70,000 miles of streams
- 10 major river systems
- 64% population in NYC metro area
- 87% land area is rural



Northeast:
Very heavy precipitation events have increased by 67% (1958-2007) with longer periods of dryness in between events.

Recent Extreme Weather

- Superstorm Sandy (2012)
- October Snow Storm (2011)
- Hurricane Irene and TS Lee (2011)
- February Snow Storm (2011)
- Buffalo Floods (2009)
- December Ice Storm (2008)
- Delaware County Floods (2007)
- Binghamton Mud Slide (2006)

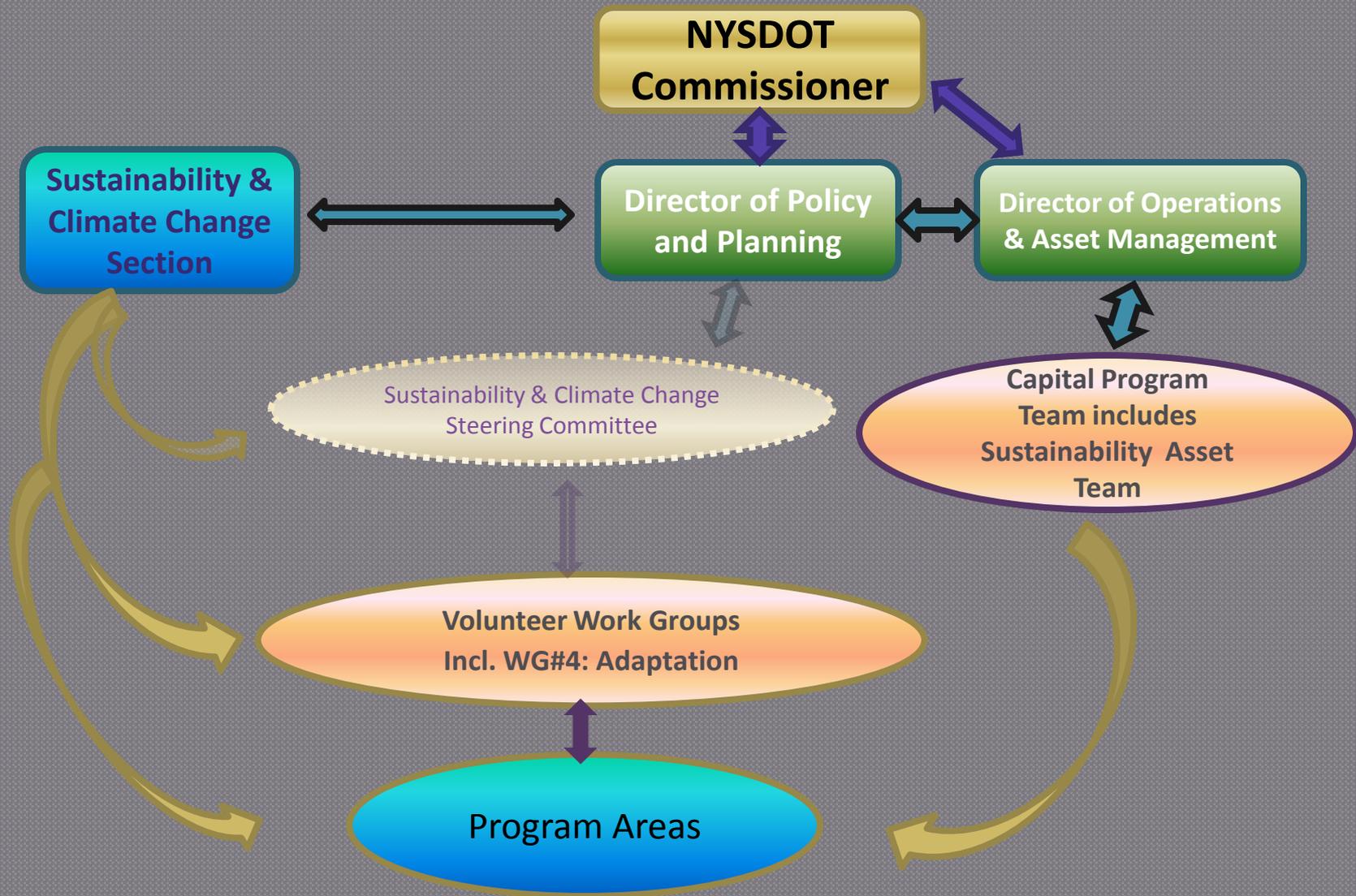


Adaptation Cost Benefits

- Storms Cost:
 - Irene/Lee (2011) >\$1B (NY)
 - Sandy (2012) >\$60B (NY, NJ)
- ClimAID Estimates Transportation
 - Year 2050:
 - Climate Hazards No CC: \$1.5B
 - Annual Cost of CC Impacts Without Adaptation: \$0.13B
 - Annual Cost of Adaptation: \$0.29B
 - Benefit of Adaptation: \$1.16B



NYSDOT's Organizational Approach



NYS ADAPTATION EFFORTS / RESOURCES

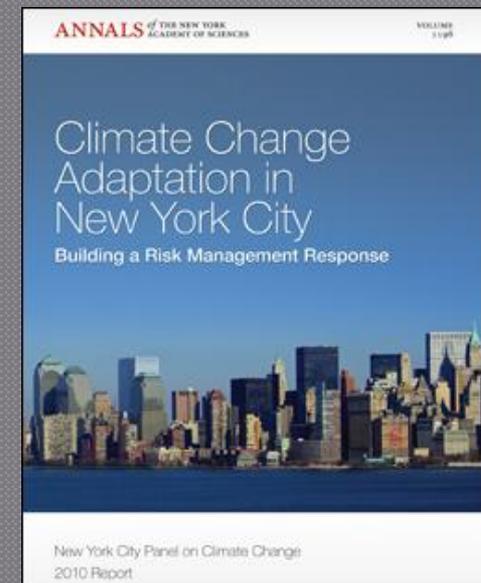
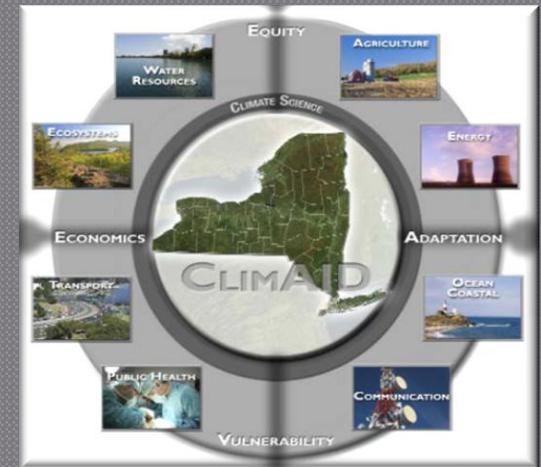
Statewide:

- NYS Sea Level Rise Task Force (2008)
- NYSERDA's ClimAID Project
- NYS Climate Action Council (2009)
- NYS Climate Smart Communities (2009)
- NYS 2100 Commission (2012)
- NYS Respond Commission (2012)
- NYS Prepare Commission (2012)

Interagency Adaptation Work Group

Local/Regional Examples:

- New York City's PlaNYC
- Hudson Valley Climate Action Network



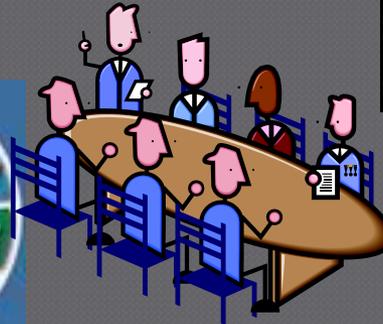
NY Governor's Initiatives



Research Efforts

- NYSERDA
- NYSDOT
- NYSDEC
- NYC
- AGENCIES
- ORGANIZATIONS
- INDIVIDUALS

NYS
Department
of State



- Propose a NYS Climate Change Clearing House



EMERGENCY
MANAGEMENT

NEW YORK STATE DIVISION OF HOMELAND SECURITY AND EMERGENCY SERVICES



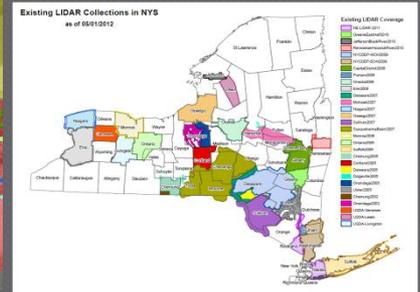
NYSDOS, NYSDOT



Pre- and Post-Sandy Contours

— 10 ft pre
— 13 ft pre

— 10 ft post
— 13 ft post



Slide by Ron Frederiks, NYSDOT

Needs

- ◉ State Endorsed Climate Change Projections
- ◉ Research
- ◉ Design Criteria
- ◉ Vulnerability Assessments
- ◉ Coordinated Planning Efforts
- ◉ Mapping
- ◉ Expertise
- ◉ Flexible Approaches
- ◉ Long-term Transportation Strategies
- ◉ Community Awareness



GHG Mitigation

- Preservation & Strategic Investment
- Personal Mobility at Local/Regional Level
- Long Distance Passenger Travel
- Freight
- Vehicle Technology & Alternative Fuels
- Smart Growth

511NY
GET CONNECTED TO GO



Thank you!



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