

Communities Preparing for Climate Change: Examples from the Hudson Valley



NYSDEC
Hudson River Estuary Program



What is the Hudson River Estuary Program?

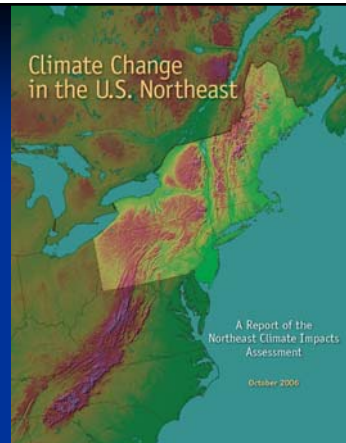
- Created 1987
- Ecosystem approach to conserve Estuary watershed
- 12 goals
- Working with partners (federal, state, local) in 15 counties



Hudson Valley Climate Conference

- Present latest scientific findings on existing and potential impacts of climate change.
- Provide local leaders with insights that may help them plan for and manage these impacts.

Climate Change in the U.S. Northeast



Observed Changes

- Warming evident:
 - Northeast annual avg. temp up 1.8°F since 1970
 - In New York winter temperatures almost 5°F warmer than 30 years ago.
- Projected future changes more dramatic

Observed and Predicted Changes in Hudson Valley

- More precipitation
- More rain in winter
- Increasing extreme storms (heavy rain in a short period of time)



Walkkill River in New Paltz
March, 2005

Observed and Predicted Changes in Hudson Valley

- Summers warmer, with drier soils and periodic drought
- Summer low streamflow period will be longer



Plattekill, T. New Paltz and Gardiner, Summer 2005

What can we do?

- Get water back into the ground
- Prevent runoff from paved surfaces
- Conserve forests and wetlands, which absorb water
- Flexible strategies to manage water supplies

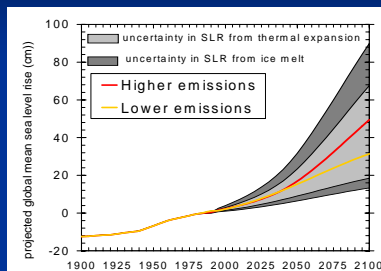


Ecosystem services of a freshwater wetland/floodplain \$10,979/acre

Costanza et al., Nature, 5/15/97

Observed and Predicted Changes in Hudson Valley

- Rising ocean temperatures
 - Sea level rise
- Lower emissions:
4-21 inches
- Higher emissions:
8-33 inches



Estimates don't include potential for additional increases due to more rapid melting of major polar ice sheets.



Kingston Waterfront Flooding
April 16, 2005

What can we do?

- Understand risks to infrastructure
- Adapt to increasing water levels and power outages
- Move development away from shorelines and floodplains
- Preserve wetland habitat along shorelines
- Allow wetlands to migrate inland



Croton Harmon Parking Lot, January, 2006, Predicted by COFLOWS

How can we adapt to changing conditions?

- ID potential impacts (e.g. increased risk of flooding)
- Plan for flexibility
- Develop emergency management teams, improve emergency communication
- Move or protect development, infrastructure in flood prone areas
- Get water into the ground – conserve wetlands, forests, reduce paved surfaces

How are governments reducing GHG emissions?

- Greenhouse gas inventory and reduction plan
- New York City
Greenburgh
Westchester
Red Hook



Save money!

How are governments reducing GHG emissions?

- Westchester County Global Warming Task Force
- Subcommittees in the Education, Government and Business sectors.
- Evaluate energy, waste/recycling, transportation, and sustainable land use.

How are governments reducing GHG emissions?

- Energy efficiency codes for new buildings
- Solar power
- Fuel efficient fleet vehicles
- Solid waste, recycling, public transportation, local education programs



Greenburgh Town Hall

Hudson Valley Stakeholder Committee

- Over 30 participants represent a diverse array of interests
- Developing a regional strategy to address climate in the Hudson Valley
- Developing consistent information to take to a wide variety of audiences

Actions you can take

- Turn off lights, computers, and appliances
- Replace incandescent bulbs with compact fluorescents
- Walk, bike or carpool
- Buy Energy Star appliances
- Purchase a hybrid vehicle
- Purchase carbon offsets or buy green power
- Support renewable energy

Conference Website

Climate Change in New York's Hudson Valley,
December 4, 2006.
www.dec.state.ny.us/website/udson/hvcc.html



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