

# APPENDIX 4

## *Mitigation Strategy*

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Mitigation Actions and Activities In Development Matrix .....pg. 2-6



**A.4a: Mitigation Actions and Activities In Development Matrix**

MITIGATION ACTIONS AND ACTIVITIES IN DEVELOPMENT MATRIX									
Date	Project Type	Hazard	Title	Description of Activity	Submitted by (Agency or Organization) /Partner Agencies	Est. Cost (General dollar amount)	Potential Funding Source (grants, budget, etc.)	Estimated Timeframe	Current Status
				and related costs of climate change.					
12/4/2013	Outreach	Climate Change	Development of educational curricula related to climate change adaptation	Education and outreach at all levels are critical to the success of climate change adaptation efforts. Climate science should be incorporated in education curricula to bring the most current, science-based information to tomorrow's leaders. Targeted outreach to affected communities will also be necessary.	NYSERDA/ Education, Colleges and Universities, school districts	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential outreach activity related to climate change
12/4/2013	Research and modeling	Climate Change	Climate change impacts on buildings and structures	Model the impacts of climate change on structures to inform the design, operation, and renovation of buildings.	NYSERDA/ OGS, building construction trades	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential research and modeling topic related to climate change
12/4/2013	Research and risk assessment	Climate Change	Standardized reporting system for climate-related impacts	(1) Develop a state-wide standardized reporting system for climate-related impacts. (2) Scoping for development and implementation of an internet-based reporting system for the state to catalog extreme weather impacts (flooding, heat, drought, storms) at the local and regional level. Use of reporting forms would be triggered in any instance in which a county or local government requested state assistance in response to an extreme weather event. The system could be used to	NYSERDA/DHSES, DEC, DOH, DOT	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential research and risk assessment topic related to climate change



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12/4/2013	Research	Climate Change	Literature search and modeling to identify the likelihood and scale of future coastal events	The existing information regarding the distribution of coastal storm impacts over the landscape is poor. This storm information should be improved through literature searches to help describe the location and scale of impacts from historic events, as well as modeling to help describe the likelihood and scale of future events.	NYSERDA	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Mapping	Climate Change	Map Update - tidal and freshwater wetlands	Update existing maps to demonstrate the tidal and freshwater wetlands. The existing tidal wetlands maps are 36 years old and need to be updated.	NYSERDA/DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential mapping topic related to climate change
12/4/2013	Mapping	Climate Change	Mapping critical habitats and natural and human-made shoreline protective features	Map the location and status of critical habitats, natural (barrier islands, wetlands, etc.) and human-made shoreline protective features, infrastructure and critical facilities, and vulnerable communities in high-risk coastal areas.	NYSERDA/DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential mapping topic related to climate change
12/4/2013	Research	Climate Change	Economic impact assessment of sea level rise	An assessment to quantify the economic impact of sea level rise and its effects on storm surge would be very valuable in order to prioritize adaptation actions to respond and quantify the cost of various responses.	NYSERDA	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change

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12/4/2013	Research	Climate Change	Ecosystem buffer widths for various species and other riparian protection	Additional research is needed on minimum buffer widths for various species and for other riparian protection benefits. For example, a minimum of 30 - 50 feet is recommended for typical water quality buffers, but this would be insufficient for most species of wildlife to use as a dispersal corridor. Recommendations on planting and promotion of riparian buffers should be condensed into specific conservation practices detailing species to be planted, arrangement, and managing requirements. Information is also needed on how to better market the value of buffers to local communities and landowners for voluntary measures.	NYSERDA	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Enhance alternative communication technologies to address adaptation to consequences related to climate change	Develop and expand alternative communication technologies to increase redundancy and/or reliability, including free-space optics (which transmits data with light rather than physical connections), power line communications (which transmits data over electric power lines), and satellite phones.	NYSERDA	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change



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12/4/2013	Research	Climate Change	Increase resilience of energy infrastructure to hazards and consequences related to climate change	Develop effective protocols and procedures or a software tool for considering climate change-related risks in decisions to locate, design, and build energy infrastructure, both to maintain the reliability of existing systems and to meet the future energy needs.	NYSERDA/Energy providers	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Approaches to address public health needs resulting from power outages	Assess approaches for addressing urgent public health needs of all New Yorker's resulting from power outages associated with severe weather events.	NYSERDA/DOH	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Climate change impacts on transportation routes	Develop a methodology for identifying specific climate change impacts on transportation routes.	NYSERDA/DOT	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	River flooding projections related to climate change	Develop river flooding projections for regionalized changes in rainfall and storm intensities and stream flows.	NYSERDA/DEC/NOAA	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Data collection standards related to climate change	Develop data collection standards for informed risk analysis, asset management, and decision making.	NYSERDA/DEC / DHSES	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Project future water availability, use and ecosystem requirements	Conduct research to better characterize and project future water availability, human use, and ecosystem requirements in a changing climate.	NYSERDA/DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Mapping	Climate Change	Mapping of riparian corridors	Additional mapping of riparian corridors may be needed, depending on the	NYSERDA/DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential

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				approach taken to regulate and protect these resources. Mapping may include a corridor zoning approach with distinct uses or regulated activities within delineated riparian corridor zones.					mapping topic related to climate change
12/4/2013	Research	Climate Change	Guidelines for riparian corridors, buffers and floodplains	Develop guidelines or best practices for the riparian corridors, buffers, and floodplains.	NYSERDA/DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Outreach	Climate Change	Comprehensive outreach program related to climate change and its impact on policy development and implementation	Expand climate change education and outreach initiatives for students, landowners, and local governments. Include sound scientific information on the potential impacts of climate change on natural areas and ecosystem services. Statewide assessments regarding the extent of climate education initiatives, and landowner and community technical assistance programs across NYS must be conducted prior to policy implementation in order to maximize potential success.	NYSERDA/ local governments, universities and colleges, school districts, general public	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential outreach activity related to climate change
12/4/2013	Outreach	Climate Change	Comprehensive outreach program related to Public Health impacts from climate change	Raise the awareness of policy makers, State and local government officials, community leaders, businesses, institutions, health-care providers, and the general public about the public health significance	NYSERDA/ DOH	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential outreach activity related to climate change



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				assess the magnitude and frequency of impacts across the state so that resources can be directed to reduce long term vulnerability in areas of greatest need. DOS has a draft version set up for coastal storm damage that could be revised for all extreme weather impacts. The system should not affect provision of emergency services following a natural disaster. (3) Develop tools and methods for analyzing vulnerability and evaluating adaptation options.					
12/4/2013	Research	Climate Change	Standards for critical infrastructure	Design guidelines, specifications, and standards for new and updated critical infrastructure. Investigate the design standards used in other areas of the country to withstand exposure to extreme weather and elevated water levels and temperatures to understand options for how design standards could be improved for infrastructure in NYS in response to a changing climate.	NYSERDA/ OGS, building construction trades	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change
12/4/2013	Research	Climate Change	Progress assessment tool(s) for adaptation to climate change	Develop a framework for describing, monitoring, assessing, and reporting progress on adaptation efforts within the state. An assessment of adaptation efforts by local governments, State agencies, and federal	NYSERDA/ DHSES, DEC	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as potential research topic related to climate change



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				programs should be started to collect baseline information. This will help identify gaps in information, research, or tools needed for decision making and will help better prioritize next steps. Adaptation information should be shared and efforts coordinated among all levels of government.					
12/4/2013	Research and Vulnerability assessment	Climate Change	Assessment of vulnerable populations, areas and industries in relation to climate change impacts and adaptation policies	Certain groups will be disproportionately affected by climate change; it is necessary to identify these groups and ensure their participation throughout the adaptation planning processes. Climate change risks, vulnerabilities, and capacities to adapt are uneven across regions, sectors, households, individuals, and social groups. Equity concerns emerge because climate change impacts and adaptation policies can worsen existing inequalities and can also create new patterns of inequities. The impacts of climate change adaptation policies on different populations, areas and industries must be considered and addressed.	NYSERDA/ DHSES, DEC, DOH, regional planning organizations, Empire State Development Authority	unknown	unknown	unknown	Presented to Interagency Adaptation Work Group on 8/14/13 as a potential research and vulnerability assessment activity related to climate change

