

Climate Change Adaptation Strategies in New York City and New York State

Gabe Cowles¹, Megan O'Grady^{2,3}, Cynthia Rozenzweig^{2,3}

¹ Earth Institute Intern Columbia University
² NASA Goddard Institute for Space Studies
³ Columbia Center for Climate Systems Research



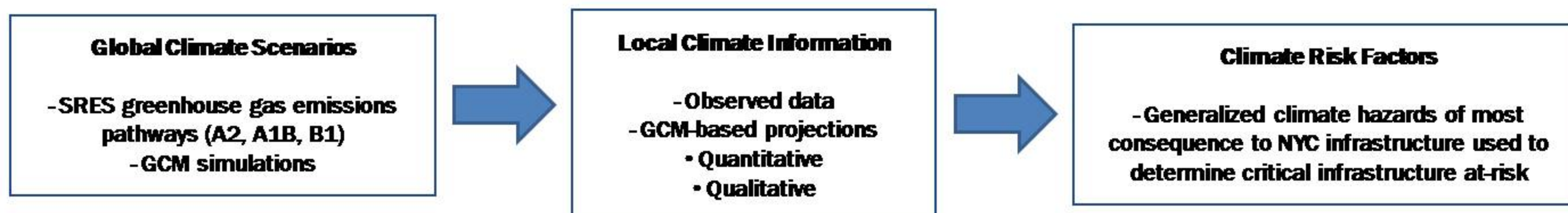
PlaNYC NPCC: New York City Panel on Climate Change

Introduction: What is the NPCC?

To respond to climate change and accomplish the goals outlined in PlaNYC, the City's comprehensive plan to create a greener, more sustainable city, Mayor Michael Bloomberg, in partnership with the Rockefeller Foundation, convened the New York City Panel on Climate Change (NPCC) in August 2008. The NPCC, which consists of leading climate change and impacts scientists, academics, and private sector practitioners, was charged with advising the Mayor and the New York City Climate Change Adaptation Task Force (the "Task Force") on issues related to climate change and adaptation as it relates to infrastructure.

Methods: What does the NPCC provide?

The NPCC is creating three workbooks to guide Task Force members through the process of identifying climate risks to their critical infrastructure, creating adaptation plans, and considering the regulatory environment as it pertains to climate change adaptation. **The Climate Risk Information (CRI) workbook** provides a summary of climate data and projections for New York City and identifies potential risks to the City's critical infrastructure posed by climate change. **The Adaptation Assessment Checklist (AAC)** guides stakeholder consideration of the climate information presented in the CRI in their risk-management and planning processes. **The Climate Protection Levels (CPL) report** evaluates some of the policies, rules and regulations that govern infrastructure to determine how they could be affected by climate change.

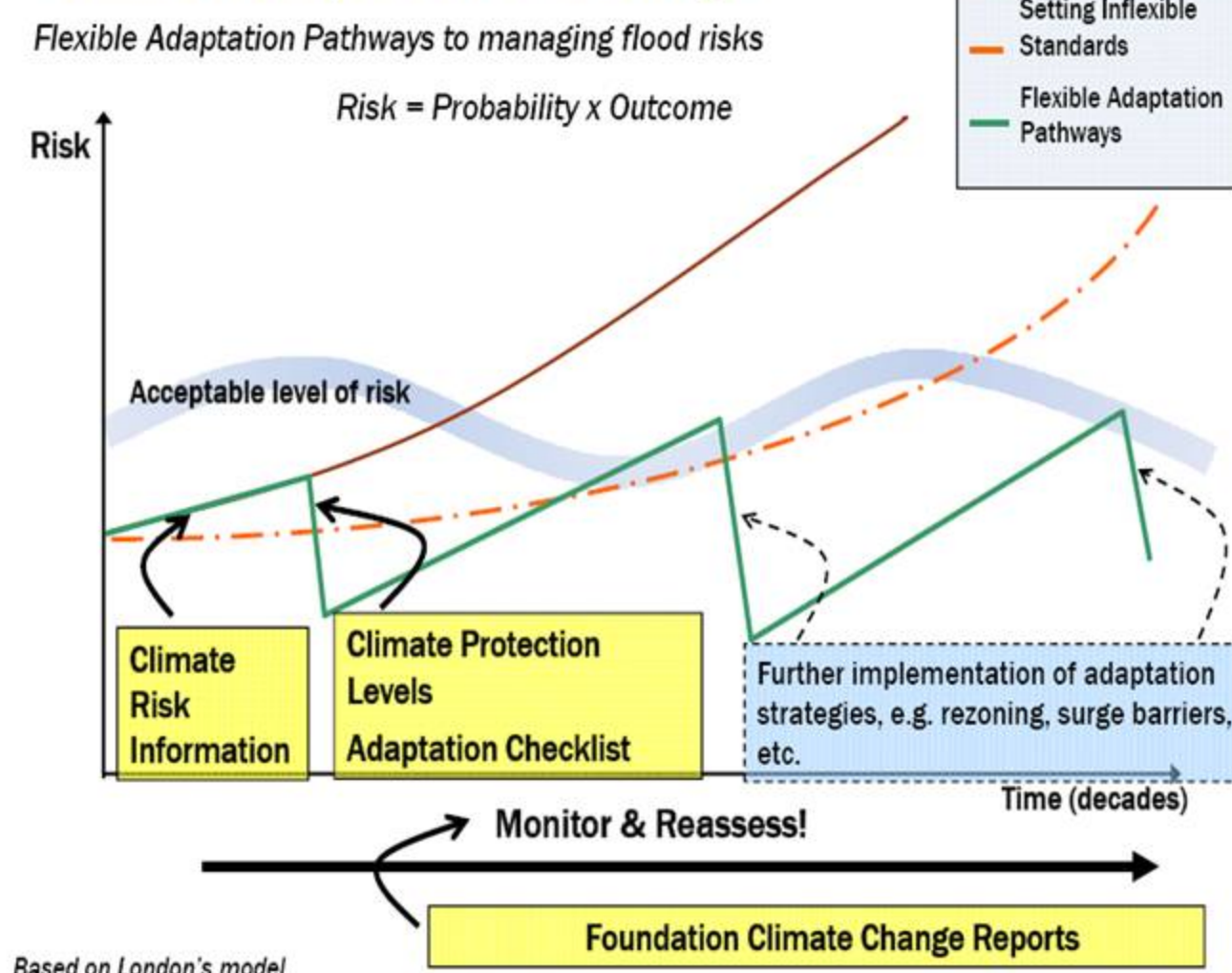


Results: Climate Risk Information

Through analysis of existing climate change research, such as the Intergovernmental Panel on Climate Change's Fourth Assessment Report, areas considered to be at-risk from climate change are identified and a framework for creating adaptation policies is developed. The goal is for this framework to be applicable in other urban settings where climate change poses serious risks.

	Baseline 1971-2000	2020s	2050s	2080s
Air temperature Central range ²	55°F	+ 1.5 to 3°F	+ 3 to 5°F	+ 4 to 7.5°F
Precipitation Central range ²	46.5 in	+ 0 to 5%	+ 0 to 10%	+ 5 to 10%
Sea level rise² Central range ²	NA	+ 2 to 5 in	+ 7 to 12 in	+ 12 to 23 in
Rapid Ice-Melt Sea Level Rise⁴	NA	~ 5 to 10 in	~ 19 to 29 in	~ 41 to 55 in

Flexible Adaptation Pathways



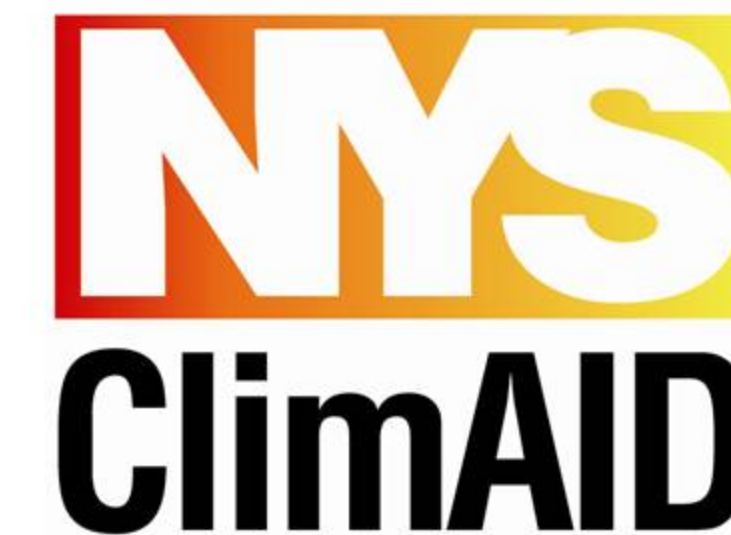
About the Rockefeller Foundation

The Rockefeller Foundation was established in 1913 by John D. Rockefeller, Sr., to "promote the well-being" of humanity by addressing the root causes of serious problems. The Foundation supports work around the world to expand opportunities for poor or vulnerable people and to help ensure that globalization's benefits are more widely shared. With assets of nearly \$4 billion, it is one of the few institutions to conduct such work on climate change adaptation both within the United States and internationally.

ClimAID: New York State's Climate Change Adaptation Assessment

Introduction: What is ClimAID?

The New York State ClimAID project seeks to identify areas in the State that are threatened by climate change and develop adaptation strategies to mitigate climate-related impacts. To achieve this goal, stakeholders representing various sectors have been assembled to produce a broad, comprehensive report that will classify at-risk regions and develop effective adaptation policy. This collaborative effort has brought together a variety of professionals from The Earth Institute at Columbia University, Cornell University, The City University of New York's Institute for Sustainable Cities and Rutgers University, just to name a few. This project is funded by the New York State Energy Research and Development Authority (NYSERDA).



Methods: How does ClimAID operate?

Stakeholder Identification

In collaboration with NYSERDA and the Project Advisory Committee, the ClimAID group will identify the sectors, sub-sectors, and public (state and local policy-makers), non-profit, and private stakeholders to be included in the subsequent Tasks. The sectors identified will provide a diverse set of conditions that will facilitate translation of this work to future assessments focused on other sectors and impacts.

Stakeholder Interaction Process



Case Studies

The use of case studies will help the ClimAID group identify and illustrate the links between the vulnerabilities, climate risks, and adaptation, and demonstrate specific monitoring needs. The case studies will target those areas that experience frequent climate impacts under current climate conditions, which will help identify useful adaptation strategies regardless of uncertainties in future climate projections.

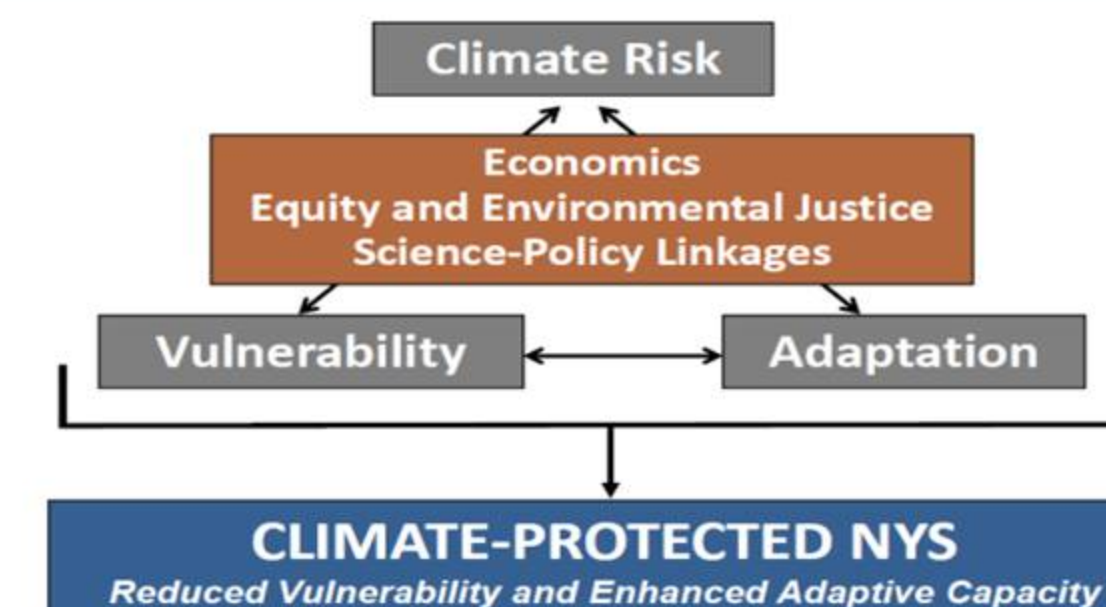
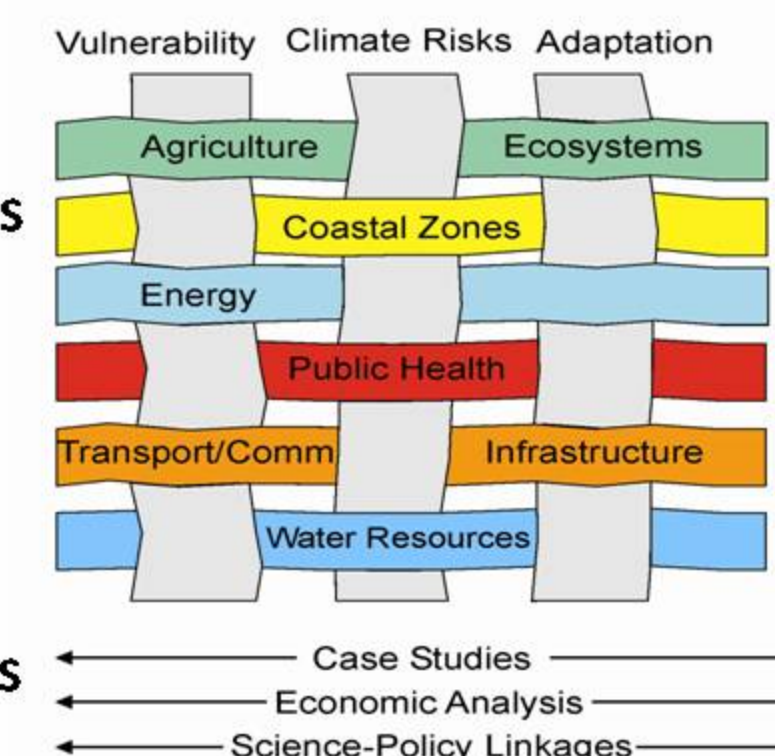
About NYSERDA

NYSERDA is a public benefit corporation that seeks to use innovation and technology to solve some of New York's most difficult energy and environmental problems in ways that improve the State's economy. NYSERDA's programs provide a vehicle for the State to work collaboratively with businesses, academia, industry, the federal government, environmental community, public interest groups, and energy market participants. (<http://www.nyserdera.org/About/default.asp>)



ClimAID Sectors:

- Agriculture
- Communications
- Coastal Zones
- Ecosystems
- Energy
- Public Health
- Transportation
- Water Resources



Results

During the term of the project, the ClimAID group will provide NYSERDA with quarterly progress reports describing the work performed during the reporting period. Such reports shall describe any difficulties encountered during the reporting. Ultimately, a final report will be created that compiles the final results from all sectors. The report will be divided into chapters for each sector and will describe vulnerabilities, present adaptation strategies and provide recommendations relevant to each sector. The ultimate goal is to provide a broad perspective on climate change risks as they pertain to New York State.