

Forewords to *Climate Change Adaptation in New York City: Building a Risk Management Response*



Cities are at the forefront of the battle against climate change. We are the source of approximately 80% of global greenhouse gas emissions. And as the climate changes, densely populated urban areas—particularly coastal cities—will disproportionately feel the impacts. Those of us in local government recognize the importance of national and international leadership on climate change. But we are not waiting for others to act first.

Under *PlaNYC*, New York City's comprehensive sustainability plan, most of our efforts have focused on reducing our greenhouse gas emissions. Initiatives including the *Greener, Greater Buildings Plan*, which will increase energy efficiency of existing buildings, and retrofitting ferries to use cleaner fuel, will help us meet our goal of reducing the city's emissions by 30% by 2030.

These actions alone, however, will not stop climate change. We already face climate risks today, including heat waves, blackouts, flooding, and coastal storms. With climate change these risks will only increase. To ensure that New York City is resilient to existing and future climate risks, we must take further action.

Through a generous contribution from the Rockefeller Foundation, I convened the New York City Panel on Climate Change (NPCC), which gathered the leading climate change scientists, academics, and insurance, risk management and legal experts. These experts helped develop a framework and tools to assist the City create a risk-based response to climate change that is grounded in state-of-the-art science information. In February 2009, the NPCC released the most detailed climate risk information for any major city in the world; this volume of the *Annals of the New York Academy of Sciences* presents the NPCC's full findings. The NPCC climate change projections put numbers to what we already know: climate change is real and could have serious consequences for New York if we do not take action. I appreciate the hard work of the members of the New York City Panel on Climate Change.

Through *PlaNYC*, the City will build on their work as we craft strategies to improve the city's resilience to climate. Building climate resilience can take many forms, including increasing our understanding of climate risks and vulnerabilities, hardening facilities and assets to prevent impacts, educating vulnerable populations about risks, and ensuring that we can quickly resume operations after weather events occur. In the coming months, the New York City Climate Change Adaptation Task Force, another *PlaNYC* initiative, will release a plan detailing how Task Force members will prepare the city's critical infrastructure for warmer temperatures, changing precipitation patterns, and rising sea levels.

Planning for climate change today is less expensive than rebuilding an entire network after a catastrophe. We simply can't wait to plan for the effects of climate change. The NPCC and Rockefeller Foundation's contributions to the City's climate resilience efforts will help ensure that we create a greener, greater New York for future generations.

MICHAEL R. BLOOMBERG
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COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

In 2008, Mayor Bloomberg established the New York City Panel on Climate Change (NPCC), with the mandate to provide New York City with the most up-to-date and comprehensive scientific, technical, and socioeconomic information about climate change and its impacts on the city and environs. *Climate Change Adaptation in New York City: Building a Risk Management Response* is the first report of the NPCC. The report will help New York City develop, adopt, and implement policies to adapt the city's critical infrastructure to the changing climate.

This NPCC report outlines a powerful and novel framework for deploying sophisticated tools of risk management to address the city's climate adaptation challenges, and details with rigor and insight the critical challenges that climate change poses to New York City's energy, transportation, water, and communications systems. The report also presents a coordinated set of climate projections prepared by the NPCC to be used by the many public agencies and private-sector organizations that manage critical infrastructure in the region as they develop adaptation strategies, and it describes how legal and regulatory tools can support adaptation policies. The challenges facing the insurance industry and the use of insurance to reduce climate risks are also described at length. A final section sets forth the indicators and monitoring activities needed to inform Flexible Adaptation Pathways as the City and region move forward.

The NPCC report is the product of the committed scientists and experts in the New York City region who served as authors, led by Co-chairs Cynthia Rosenzweig and William Solecki. The dedicated Science and Policy Team at the Columbia Earth Institute and the CUNY Institute for Sustainable Cities organized the process that has resulted in the production of this landmark report.

It is becoming recognized throughout the world that cities have a crucial role to play in responding to climate change. The NPCC 2010 Report puts climate change adaptation in New York City in the broader national and international contexts and helps establish New York City as a thought and policy leader in this urgent endeavor. *Climate Change Adaptation in New York City* will be widely read around the world, both for its specific insights and also as a roadmap for other cities in preparing plans for climate change adaptation.

The work of the NPCC is a pioneering activity for which all New Yorkers, and all others around the world who will benefit, should be most grateful. The Rockefeller Foundation also merits our gratitude for the generous support it has provided to this endeavor.

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Climate change will have a profound impact on New York City and its residents as it alters environmental baselines on which the urban infrastructure was built. Despite this, both the City and its stakeholders have a wide range of tools and resources with which to respond to the problem. Key insights in the following report derive from the highly integrated connections between science and public policy as they relate to climate change. The New York City Panel on Climate Change, for example, comprises a number of scientists and other technical experts capable of considering the issues at hand with a view to understanding the potential impacts of climate change and options for adaptation.

The City University of New York is well placed to contribute to the multifaceted complex questions of climate change and how the city will be affected. This requires a multidisciplinary approach that can draw from the deep resources of the colleges that make up our institution. In addition, the New York City Panel on Climate Change had ongoing, continuous, and fruitful communication with the Mayor's Office of Long Term Planning and Sustainability, and the New York City Climate Change Adaptation Task Force.

The collaborations brought forward in this document embody the culmination of a first step in a science–policy linkage that will be required to effectively address climate change in New York City. In addition, these collaborations show how great universities in a great city can link together to make a positive difference in the lives of its citizens.

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