

Scope Summary for a Regional Climate Change Adaptation Strategy

Overview

MAPC, the Tellus Institute, and project partners will build on previous regional and state efforts, and existing best practices, to develop recommendations for local, regional, and state action. National models will be investigated to help determine planning goals and implementation strategies. The resulting Regional Climate Change Adaptation Strategy (RCCAS) will comprise a specific set of policies and measures to reduce vulnerability to future hazards (e.g., more frequent and intense storms, increased temperatures) and impacts (e.g., inundation from rising sea levels) associated with future changes in the regional climate. The RCCAS will consider multiple scenarios of sea-level rise in coastal towns, as well as varying precipitation patterns in inland communities. Development of the Strategy will build upon lessons learned from the *South Shore Coastal Hazards Adaptation Study*, and similar work that MAPC staff has completed in the past, to develop a Regional Climate Change Adaptation Strategy (RCCAS) that includes the following elements:

- Development of a regional advisory group,
- Identification of partners for monitoring and surveillance of climate impacts,
- Completion of a regional vulnerability assessment,
- Development of regional adaptation goals and policies, and
- Preparation of implementation steps -guidance tools and best practices to reduce vulnerabilities.

Work Plan

TASK 1 Advisory Committee/Public Outreach

- Establish Advisory Committee:* MAPC with support from Tellus Institute will establish an Advisory Committee for the project. As a first step, the advisory committee will be drawn from the existing Consortium Caucuses through a request for a participant from each Caucus. In addition, the advisory committee will include experts in the field of climate change adaptation and key stakeholders in the region. These experts and stakeholders will provide perspectives on climate change projections (e.g., sea level rise, changes in weather patterns, etc.), the state of the practice regarding adaptation, findings from other successful national and international efforts, and the unique circumstances of the Metro Boston region related to climate adaptation. This project will include up to 3 meetings of the Advisory Committee, which will be scheduled to correspond with the initiation of the project, a review of the vulnerability assessment and consideration of the goals, policies and implementation strategies.
- Survey of Municipalities:* MAPC will conduct an online survey of the cities and towns in each MAPC Subregion to get a perspective on how climate change adaptation is currently being addressed at the municipal level. The survey will include a limited number of questions concerning understanding climate change and its potential impacts, but the majority of the survey will focus on collecting information about adaptation strategies that are being advanced. The survey will collect information relevant to the categories under the Regional Vulnerabilities Assessment.

- c. *Regional Outreach through Subregions*: MAPC will coordinate with the eight subregions to share information and gather input regarding the Regional Climate Change Adaptation Strategy. It is anticipated that there will be two presentations for each subregion during the project period. The first presentation will be used to share information about climate adaptation and solicit input on vulnerabilities at the sub-regional level. The second presentation will focus on goals, policies and implementation strategies and a discussion of these proposed items with subregional representatives and other interested stakeholders.
- d. *Vulnerable Populations*: As defined in the Massachusetts Climate Change Adaptation Report, these populations are “those who are more susceptible to the effects of climate change, and for whom adaptive change will be more difficult, whether by virtue of economic status, social capacity and resources, health, age, or geography...” The project will use demographic, economic, and other community characteristics to identify vulnerable populations or areas for targeted outreach as a special focus of the outreach effort.
- e. *Communication and Outreach*: The RCCAS will evaluate varying climate change scenarios, primarily sea-level rise, and based on best available data will attempt to indicate the timeframe and likelihood of these changes in order to best engage the general public. MAPC will ensure that there are a number of public engagement opportunities throughout the project, to explain scenarios and vulnerabilities.. Presentation materials will provide “granular” data on local impacts, based on availability of existing data. MAPC will be sure to translate data into laymen’s terminology that is realistic, yet positive, in order not to overwhelm the audience. It will be important to communicate sensitively with the general public to present a hopeful message for adaptation options. MAPC will coordinate with the city of Boston’s Climate Action Plan, and with The Boston Harbor Association to inquire about successes and lessons learned from their Sea-Level Rise Forum and Community Meetings in Boston in 2010. In addition to the above public outreach materials, MAPC will develop information posted on websites and social media. In addition to stakeholders identified during the Advisory Committee establishment, efforts will also be made to include local community leaders, environmental nonprofit entities, the development and business community, academic institutions, non-profit and community-based organizations, and advocates for special needs populations.

Deliverables:

- (1) Meeting summaries
- (2) Advisory Committee development and member list
- (3) Survey results
- (4) Presentation materials

Lead: MAPC

Timing: Months 1-12

TASK 2. Regional Vulnerability Assessment

The project team, led by Tellus, will review key existing studies on the range of climate change related vulnerabilities facing the Metro Boston region. We will also draw on work from outside the region that provides new insights or approaches for organizing the assessment. An interim report will synthesize existing information in a policy-relevant format to help Consortium members and other stakeholders understand regional vulnerabilities.

- a. *Identify Climate Change Anticipated Threats:*
 - i. Data Collection
 - ii. Baseline Threats Overview: The following are among the threats to be investigated:
 - Coastal vulnerabilities: inundation from sea level rise and increased storm surges from changes in storm intensity, frequency, and sea level rise; and
 - Inland/coastal threats: changes in precipitation patterns, storm intensity and frequency, and temperature change.

- b. *Vulnerabilities Specific to the MAPC Region:* The synthesis of vulnerability information culled in the previous above will be considered in light of specific conditions in the Boston Metro region and yield summary of threats:
 - iii. Built Environment
 - iv. Key Infrastructure
 - v. Natural Resources and Habitat
 - vi. Human Health and Welfare
 - vii. Local Economy and Government

- c. *Focus on Regional Equity Relative to Vulnerabilities:* The vulnerability assessment will highlight those aspects with equity considerations where certain populations are at greater risk to acute and/or longer-term impacts, so that the goals and policies identified in the adaptation strategy (Task 3, below) can address those most vulnerable. Impacts to sensitive populations will also be identified such as elders and heat, increased asthma rates and hospitalizations, and availability of stable shelter for homeless populations.

Deliverables:

- (1) Policy recommendations based on synthesized information.
- (2) Summary report on the key vulnerabilities facing the Boston Metro region.

Lead: Tellus Institute

Timing: Months 1-4

TASK 3. Development of Regional Plan Adaptation Goals & Objectives

The RCCAS will mirror the structure of the MetroFuture Plan. Under Task 3, Tellus will lead the team to identify and develop RCCAS goals designed to enhance regional resilience as well as objectives that link to quantitative and qualitative benchmarks in order to solidify these goals. Established goals and objectives will serve as a basis for the development of specific strategies (Task 4) and will inform the Consortium's ongoing MetroFuture implementation efforts.

A three-step process will be followed to develop goals and objectives:

1. Synthesize feedback collected during Task 1 to ensure that stated goals and objectives of municipalities, nonprofit organizations, community leaders, institutions and other involved stakeholders are included;
2. Review adaptation goals and strategies included in the Center for Climate Change Strategies Adaptation Guidebook, applicable existing goals in MetroFuture, and elsewhere, for best practices and models appropriate to the Region; and
3. Identify goals and objectives related directly to specific vulnerabilities of the metropolitan area for the region to achieve by 2030.

Deliverables:

- (1) A set of high-level climate adaptation goals

- (2) List of accompanying objectives.

Lead: Tellus Institute

Timing: Months 5-8

TASK 4. Develop Implementation Strategies and Steps to Reduce Vulnerability

Working with Tellus, MAPC will develop adaptation strategies and steps designed to implement the identified goals and objectives. The purpose of this Task is to develop an action plan for MAPC and others to follow in pursuit of the goals.

- a. *Implementation Steps/Measures*: Utilizing identified vulnerabilities and regional climate change adaptation goals and objectives, MAPC will provide an inventory of recommended climate change adaptation strategies and steps that can be employed immediately to reduce impacts. Measures will be identified that are relevant for both coastal and inland communities and applicable to the different. Considerations will include capital intensity, risk reduction potential, flexibility, and equity, as well as local, state, and regional policies. It is anticipated that many recommended measures will consider three major categories of adaptation:
 - Protection – the use of measures to *shield* land uses and populations from climate change impacts.
 - Accommodate – the use of measures that *adjust* to climate change impacts while maintaining existing land uses.
 - Retreat – the use of measures that accept climate change impacts and *move land uses* farther inward.
- b. *State and Federal Policies*: There may be planning, policy or regulatory initiatives at both the state and federal level that may require change in order for local municipalities to adapt to climate changes. Regulations/laws that we anticipate a need to review include, but are not limited to, federal and state wetlands legislation and the State Building Code.
- c. *Stakeholder Engagement*: Outreach to key stakeholders is critical to understanding vulnerabilities and selecting appropriate strategies. In addition, broader political support will be needed for many implementation strategies proposed, particularly regulatory in nature.
- d. *Tools for Resource Support*: This section of the Strategy will provide guidance on using existing resources (technical assistance programs and funding) and identify possibilities for new resources to support adaptation strategies.
- e. *Case Studies*: Case studies will be included as successful implementation examples, drawing from the U.S. as well as from MA and the MAPC Region.

Deliverables:

- (1) Draft Regional Climate Adaptation Strategy Summary to be circulated to MAPC and the project Advisory Committee for review and comment before it is finalized.
- (2) Draft adaptation sub-strategies (25-40 maximum). Inventory of recommended climate change adaptation steps/measures; best management practices.
- (3) List of funding sources that could be re-purposed or re-directed to support adaptation strategies.
- (4) National and regional case studies.

Lead: MAPC

Timing: Months 8-11