



## Maryland Supplements Long Term Water Supply Planning Requirements with “Message on Climate Change”

### Overview

In order to ensure the long-term sustainability of the State’s water supplies to meet competing needs over the next fifty years, the Maryland Department of Environment’s (MDE) Water Supply Program oversees several planning requirements that comprehensively evaluate, plan for, and manage the State’s water resources. This planning framework, however, was developed before risks posed to drinking water supplies were well understood. The Water Supply Program recently supplemented existing planning requirements with a “Message from the Water Supply Program” to drinking water systems addressing climate change impacts and recommended drinking water utility adaptation practices.

### Background

Maryland’s [Climate Action Plan](#), includes two climate change adaptation strategies that are currently being used to guide state-level adaptation planning efforts. The first strategy addresses the impacts associated with sea level rise and coastal storms. The second ([Phase II](#)) [Strategy for Reducing Maryland’s Vulnerability to Climate Change](#) identifies vulnerabilities and makes key recommendations for climate change adaptation measures in six program areas, including water resources management. Although Maryland is rich in water resources, some areas of the State do not have water supplies that are sufficient to support the multitude of human and environmental uses of this

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critical resource. In May 2006, House Bill 1141 regarding Land Use – Local Government Planning was signed into law as Article 66B of the Annotated Code of Maryland. This law was developed in response to recommendations outlined in [Water for Maryland’s Future: What We Must Do Today: Final Report](#) of the Advisory Committee on the Management and Protection of the State’s Water Resources. A primary goal of Article 66B is to ensure the long-term sustainability of local water supplies by requiring that local jurisdictions evaluate demand and water availability before making land use decisions.

**Water Resource Element of Local Comprehensive Plans:** Article 66B requires all local jurisdictions, including both counties and municipalities, to include a Water Resource Element (WRE) in their Comprehensive Plans. The WRE helps counties and municipalities to fully integrate future land use planning with water supply capacity, source water protection, stormwater management, and the need for future water and wastewater infrastructure improvements. To help counties and municipalities prepare the WRE, staff from the Maryland Department of Planning (MDP) and the MDE developed a models and guidelines document entitled, “The Water Resources Element: Planning for Water Supply and Wastewater and Stormwater Management,” and conducted workshops in a variety of locations around the State.

**Water and Sewerage (W&S) Plans:** Another important planning tool is the county W&S Plan, which is required to be updated every three years. The W&S



Maryland newspaper headlines from Hurricane Irene in 2011.

plan lays out a county's plan for meeting capacity, including sources, treatment infrastructure, and storage and distribution systems. The W&S plan must include plans for meeting both water and wastewater needs, and MDE staff review the plans to ensure consistency. In 2015, the Maryland Commission on Climate Change was strengthened by legislation with requirements to maintain a comprehensive action plan, with 5-year benchmarks, to achieve science-based reductions in Maryland's greenhouse gas emissions. The Commission is chaired by Ben Grumbles, Secretary of the Maryland Department of the Environment.

## Climate Change Message to Maryland Drinking Water Utilities

The MDE supplemented these planning requirements with a "[\*Message from the Water Supply Program\*](#)" to drinking water systems addressing climate change impacts and recommended adaptation practices. The Message states:

*"This brochure was produced by the Maryland Department of Environment's Water Supply Program to assist water utilities to better plan for impacts from climate change. Any water system will be better prepared through an ongoing process of assessing its vulnerabilities and developing and implementing adaptation measures to lessen expected impacts. Many of the recommended measures are "no-regrets" options – measures that strengthen the system's resilience and provide benefits under both current conditions and potential climate change conditions. We encourage utilities to use this brochure as a starting point to evaluate their systems' vulnerability and develop and implement plans to meet this important challenge."*

The Message brochure provides a helpful chart that describes climate change conditions and potential impacts on drinking water systems. For example, in the case of the climate change condition of "increased flooding," the Message identifies drinking water system impacts of:

- Infrastructure damage
- Increased contamination from waste sites (e.g., animal waste)

- Increased turbidity – higher treatment levels and costs
- Increased potential of wells flooding – bacteriological contamination

Guidance on how utilities can determine their climate change vulnerabilities is also provided in the document, including several suggested steps to determine adaptation options:

- Evaluate current operating conditions in light of expected climate change impacts;
- Integrate anticipated conditions under climate change into planning; and
- Collaborate with other local utilities and/or regional planning agencies as a way to share knowledge and resources.

The Message also provides specific suggestions for actions by local drinking water utilities to adapt to changes in water quality and water availability, as well as protect water infrastructure. Finally, the Message provides case studies of climate change adaptation actions by water utilities.