



**Preparing Baltimore County for Resilience to Climate
Changes: A Report by the Baltimore County
Commission on Environmental Quality (CEQ)**

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EXECUTIVE SUMMARY

The main goal of this report is to advise Baltimore County's elected and appointed leaders as to important steps that should be taken as soon as possible in order to anticipate and respond to the complex challenges posed by ongoing and projected climate changes that will affect the health and safety of the residents of our county. These steps are based on a review of reliable sources of vetted information as well as the expertise provided by members of this Commission.

This report will focus on preparedness, adaptation, and resilience to the effects of climate changes in Baltimore County. In many instances, strategies to build a resilient community will also act to prevent or slow climate change. However, approaches to decrease contributions to climate change may be the focus of a future report.

BACKGROUND

In 2007, the Cool Cities and Sustainability Report by the CEQ advised that the County select and implement a course of action to reduce greenhouse gas emissions and promote sustainable practices for County operations, facilities, and citizens. After a review of then-current national and international programs, the recommendations included: (1) join the *International Council for Local Environmental Initiatives (ICLEI)* to receive technical assistance and other support services; (2) establish and implement a *comprehensive Sustainability Program* to address climate change and sustainability, *designate a Sustainability Director*, and *establish a public-private Sustainability Workgroup* to work with these; (3) include the core programs of *Sierra Club's Cool Cities* especially in actions to decrease reliance on fossil fuels; and (4) lead County employees and citizens to conserve energy, reduce emissions and decrease contributions to climate change. While steps were taken to address the fourth recommendation, the other items remain unfulfilled.

In view of rapid and accelerating changes in the climate affecting Baltimore County, and the observed effects on water quality, sewage management, agriculture, and other aspects of security and well-being, a new report in 2019 is clearly in order.

CURRENT REPORT ON RESILIENCE TO CLIMATE CHANGES

The impacts of the changing climate are serious and have already begun. The County must immediately address the effects of climate changes in order to protect our County's residents from disruptions that endanger the complex and interconnected systems that support our health, water, food, energy, and security.

Coordinated, effective procedures must be put into place to anticipate, prevent, and mitigate damage. These procedures must address the effects of extreme weather (including heavy rains as seen in 2018, and droughts, for example the extended drought of 2016–2017), sea level rise, and ultimately the ecological disruption of the systems that support the health and safety of our county-wide community.

STRATEGY TO IMPLEMENT IN 2019

These steps are the initial components of a strategy to become resilient to the effects of climate change. They will help the County's leaders identify important areas of vulnerability and approaches to decrease the risks to the County's residents. These first steps should be taken as soon as possible and at the latest before the end of 2019.

1. Join and participate in an established organization that can assist Baltimore County to develop and implement a climate resiliency plan. For example, the 2007 CEQ Report recommended joining *ICLEI* (Local Governments for Sustainability, founded in 1990 as the International Council for Local Environmental Initiatives). Over 1750 local and regional governments in over 124 countries are members, including Baltimore City, Montgomery County, College Park, Gaithersburg, Greenbelt, and Rockville. ICLEI can provide resources and opportunities for our leaders to interact with and form strategic alliances with others who must anticipate and respond to complex challenges of the effects of climate change (iclei.org/en/what_we_do.html). Other organizations to review and consider joining include the *Association of Climate Change Officers*, which has been coordinating with MD DNR and providing training in Maryland for local government on best practices for climate resiliency (climateofficers.org/). The *Institute for Sustainable Infrastructure* can aid to make certain all new designed infrastructure in the County (natural such as stream restoration, and hard structures such as pump stations, etc.) take into account climate impacts and vulnerability in design (sustainableinfrastructure.org/).

2. Acquire data on the anticipated changes in sea level, rainfall patterns, floodplain mapping, transportation and energy connections and infrastructure, and other pertinent environmental, geologic, and biologic aspects for the County. Accurate, accessible data are crucial to effective decisions about policy and action. Make these data easily available online both to the County administration and to the public.

These data should include information from the Maryland Commission on Climate Change update on the most recent sea-level rise projections for Maryland, and information from the Fourth National Climate Assessment (issued 11/2018).

mde.maryland.gov/programs/Air/ClimateChange/MCCC/Pages/index.aspx

nca2018.globalchange.gov/

3. Conduct a climate vulnerability assessment of infrastructure, for essential public services as well as existing and projected land use patterns. This assessment should include a review of vulnerabilities based on anticipated climate impacts to the built environment as well as natural resources (i.e. natural infrastructure - wetlands, coastal forests etc.) which contribute to the resiliency of critical services. This assessment should also provide an outline of a plan for adaptation of identified vulnerable infrastructure. A recent assessment in our region, *Planning for Coastal Resiliency in the Northern Chesapeake Bay* for Harford, Cecil and Kent Counties as well as Aberdeen Proving Grounds, may serve as an example.

www.harfordcountymd.gov/DocumentCenter/View/12977/Executive-Summary

www.harfordcountymd.gov/2686/JLUS---Susquehanna-Impact-and-Accretion-#addDocument

4. Greatly increase collaboration both within Baltimore County government and between County government and community-based professional organizations in pertinent fields and volunteer organizations with particular expertise. Partnerships with Maryland State Government (e.g., Maryland Commission on Climate) and other counties may contribute to the Baltimore County climate change vulnerability assessment. Require that directors and leaders of more than one Baltimore County department be present at the same meetings so they will be encouraged to communicate and solve problems jointly.

The previous four steps should address Baltimore County's main risk sectors. A comprehensive list of regional risk sectors can be lengthy. Due to the urgency of taking action quickly, we propose initially addressing the following six main sectors. Each includes the pertinent infrastructure:

- 1) Water (e.g., drinking water quality, treatment, distribution, sewage contamination, chemical/toxin contamination, infectious agent contamination; dam stability; waste water; stormwater)
- 2) Food (e.g., production, safety, reliability, distribution, refrigeration)
- 3) Public Health (e.g., disease prevention, vaccine availability, epidemic control, disease diagnosis and management, medication availability/distribution, food safety)
- 4) Energy and Communication (e.g., availability, distribution)
- 5) Security (e.g., police, fire control, cyber, courts, banks, terrorism risks)
- 6) Land use (e.g., planning development; zoning; protecting forests, tidal and non-tidal wetlands, rivers, estuarine and coastal waters; minimizing environmental waivers and variances)

Each main risk sector should be addressed in light of both ongoing, chronic changes as well as episodic, acute events. Ongoing, chronic changes in climate, temperature, rain, drought, wind, sea level, land subsidence are already occurring and can be predicted to continue to change over the coming years and decades. Episodic, acute events and disasters such as hurricanes, tornadoes, floods, plagues of pests affecting people and/or crops, epidemics of infectious diseases, failure of infrastructure for water, energy, communication, and other essentials have begun and will also continue to occur.

CONCLUSIONS

The impacts and severity of climate change are increasing rapidly, as are the consequent risks to the health and safety of Baltimore County residents. The CEQ recommends that the County Executive and the County Council address them urgently. A vulnerability assessment must be conducted and initial strategies implemented in 2019 to minimize harm to the County's residents.

ADDITIONAL RESOURCES

Maryland Climate Leadership Academy: www.mdclimateacademy.org/about3

US Climate Change resilience toolkit: toolkit.climate.gov/#steps

FEMA link about Climate Change: www.fema.gov/climate-change