ADDRESSING SEA LEVEL RISE AND A CHANGING CLIMATE

INTRODUCTION
Climate change presents Virginia with a number of pressing challenges that require immediate action, including sea level rise, recurrent flooding, increased air and water temperatures, and increased frequency and intensity of storms and heavy rainfall. The potential effects on our environment, economy, citizens, and communities were initially documented by the 2008 Governor’s Commission on Climate Change. Since that time, little progress has been made towards implementing the recommendations of the Commission. Significant work is needed in Virginia to ensure that our natural systems, infrastructure, economy and citizenry remain healthy and resilient in the face of change.

BACKGROUND
Virginia is experiencing a changing climate: carbon dioxide levels have increased by more than 45% since the late 1700s due to the burning of fossil fuels and human industrial activity. These greenhouse gases have warmed the surface and lower atmosphere by approximately 1.8°F during the last 50 years; in 2008, Governor Kaine’s Climate Change Commission estimated a 3.6-degree increase by 2100. As the atmosphere warms, large volumes of melting glacial water and warmer ocean temperatures contribute to accelerating sea level rise - but in Virginia, that’s only part of the problem. The southeast corner of the Commonwealth is sinking, increasing the relative rate of rising seas.

A warmer atmosphere also increases rain intensity. The Southeast has experienced a 27% increase in the frequency of its heaviest precipitation events, and some scenarios in the 2018 National Climate Assessment suggest additional increases of more than 40% in decades to come. Studies in Virginia Beach confirm the rise of high-intensity rainfall events in the 10-year storm precipitation rates. These studies recommend a 20% increase in the design criteria for stormwater practices to accommodate these precipitation increases.

POLICY RECOMMENDATIONS

Reduce Greenhouse Gas Emissions through mitigation (see Investing in Virginia’s Energy Efficiency, p. 52; see Offshore Wind: Made in Virginia, p. 60, see Regional Action on Climate with Local Benefits, p. 54, and, see Curbing Vehicle Pollution, p. 36).

Refine Virginia-specific projections for temperature change, sea level rise, storm intensity, and changes in rainfall intensity.

Provide consistent guidance, updated regularly, on climate change benchmarks for which localities should plan.

Evaluate and consider climate impacts when making decisions on agency operations, programs, funding allocations, planning documents, and regulations. Existing studies should be considered during this process.

Establish a state requirement that all state agencies, regional planning authorities, and localities include climate impacts in all long-range planning processes (e.g., comprehensive, transportation, water-supply, hazard mitigation) and land use decisions.

Fund adaptation efforts through existing funding mechanisms beginning with $50 million annually to the Virginia Shoreline Resiliency Fund.

Develop new or refocus existing programs to facilitate utilization of natural and nature based strategies in sea level rise resiliency efforts including programs that support re-naturalization of lands to support their most sustainable use.

Revise design-storm criteria in Virginia’s water quality regulations to ensure that they reflect current precipitation data.

Establish a fund to subsidize flood insurance for low-income residents.

In real estate transactions, all potential buyers and renters should receive information regarding the flood history of the property in consideration.