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**Committee:** Education, Health and Environmental Affairs  
**Testimony on:** SB 227 – “Stormwater Management Regulations and Watershed Implementation Plans – Review and Update”  
**Position:** Favorable  
**Hearing Date:** January 21, 2021

The Maryland Sierra Club supports SB 227 and urges a favorable report. This bill would require important steps to be taken towards meeting the 2025 goals for clean up of the Chesapeake Bay in the context of climate change, and reducing impacts of flooding associated with increases in heavy storms.

More specifically, the bill would require: that the Phase III Watershed Implementation Plan (WIP III) submitted by the Maryland Department of Environment (MDE) take into account added pollution loads attributable to climate change impacts; that MDE update its stormwater management regulations, and that the updated regulations “use the most recent precipitation data available to revise water quality and water quality control standards”; and that all stormwater permits issued next year and thereafter “incorporate any new requirements and standards established under the [revised] regulations.”

Stormwater runoff is the most rapidly growing source of pollution, not only into the Chesapeake Bay but into our streams and rivers, many of which are upstream from drinking water intakes. Increasingly, it is also a cause of urban flooding. A review by the Montgomery County Climate Workgroup on Adaptation<sup>1</sup> found that “heavy precipitation events have increased by 55 percent in Maryland between 1958 and 2016 and could increase by another 40 percent by the end of the century if greenhouse gas emissions are not reduced.” The Workgroup also found that “the National Weather Service Local Storm Reports (LSR) of urban flooding in Montgomery County show an upward trend from between 2 to 4 occurrences per year before 2010 to 11 to 39 occurrences per year since 2010.” A statewide analysis could be expected to show similar upward trends in urban flooding – compounded in some areas compounded by tidal flooding. In the northeastern United States, the 2014 National Climate Assessment reported a 71% increase in the heaviest 1% of storms between 1958 and 2012.

We strongly support the use of most recently available data in stormwater regulations, design standards and permit requirements. As is acknowledged in the bill, the State of Maryland and local governments rely on outdated precipitation estimates and storm design standards for management of stormwater runoff. The most recent NOAA Atlas 14 precipitation frequency data for the mid-Atlantic region, which provide the basis for stormwater design standards and flood mapping, are based on historical records through 2000, and lack dedicated funding. Although not the same as an update of Atlas 14, modeled projections of rainfall intensity/duration/frequency for the Bay region, that also take climate change into account, are being supported by the Chesapeake Bay Program and are expected to become available in Spring 2021 and could be adopted by MDE.

We note that the bill also requires that MDE consult with certain groups and stakeholders in developing the new regulations. In this regard, we suggest this consultation be expanded to include environmental NGOs.

We also note that, beyond the matters addressed in this bill, Maryland faces other significant issues in improving its stormwater management efforts. In addition to using updated precipitation data, it is

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<sup>1</sup> <https://www.montgomerycountymd.gov/green/climate/climate-workgroup-recommendations.html>.

Founded in 1892, the Sierra Club is America’s oldest and largest grassroots environmental organization. The Maryland Chapter has over 70,000 members and supporters, and the Sierra Club nationwide has approximately 800,000 members.

important that the data be understood and relied upon in a manner that recognizes the impact of climate change in shifting rainfall toward shorter duration, larger cloudbursts, i.e., we can no longer simply rely on precipitation models in which it is generally assumed that rain totals are distributed over a 24 or 48-hour period. There are a variety of approaches being adopted by cities across the nation to do this.<sup>2</sup> Another ongoing issue is whether limits should be placed on the ability to grant exemptions from stormwater management requirements for new development, which could help to reduce nuisance flooding and avoid overwhelming stormwater systems.

This bill would take a critically important step forward for our state in responding to impacts of the climate crisis, and we urge the Committee to issue a favorable report.

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<sup>2</sup> These include: building in a 20% margin of safety beyond available historical data; using high end rather than central values found within the range of the confidence interval; using 5 or 20-year rather than 1 or 2-year storm values; using annual 6-hour instead of 24-hour rainfall in order to accommodate the more intense downpours over shorter periods; and improving hydrological and meteorological data collection with a denser network of precipitation monitoring gauges so that spatial and temporal variation in precipitation can be better understood. In addition, floods of record can be used to supplement existing FEMA floodplain maps which are also based on outdated and historical precipitation records, and risk can be abated based on 500 rather than 100-year floodplains.