

# Runoff Review

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## A Message from the Chair

On behalf of MAFSM, I'd like to wish you and your families as much health and sanity as possible during these crazy times. A changing climate, flood risk, vulnerable populations and infrastructure... these are issues that don't simply pause during a pandemic or presidential campaign. So we have to continue working collectively to share knowledge and learn from each other; and MAFSM hopes to continue providing worthwhile opportunities for all of us to do that.

We've seen our fall conference steadily grow in numbers over the years and we would have loved for all of us to get together again this year at the Maritime Institute. But at this stage, we must ensure people's safety and know that many of us will already be facing travel restrictions, kids attending virtual school, and more. So, with the positive feedback and lessons learned from our Virtual Spring Conference in June, we are working to put together an exceptional virtual conference for this fall, which is currently expected

to be split across 2 half-days on November 5th and 6th. We will have plenty of additional details to share in the weeks ahead, so look for forthcoming emails and check back often to [www.mafsm.org](http://www.mafsm.org) or our social media pages.

Lastly, we had a few new individuals regularly participating this year during our board meetings. It's been great to have their perspective and involvement as we plan out valuable events for our members and the community at large. We're also coming around on elections for the MAFSM board to serve the 2021-2022 cycle. I, myself, jumped in head-first several years ago as MAFSM Secretary, and it's been great to work with this team and get to know many of you. So, as you see the call for nominations, I encourage you and your colleagues to get involved.

Until next time, stay safe, be well, and do good.



JASON SEVANICK,  
CFM, GISP  
MAFSM CHAIR

**Save the date**  
**MAFSM 16th Annual**  
**Fall Conference**  
**November 5–6, 2020!**



The Maryland Association of Floodplain and Stormwater Managers invites you to SAVE THE DATES of November 5 and 6, 2020, for our 16th Annual Conference. The event will be held virtually this year and will include technical sessions sharing best practices and innovations in floodplain management, stormwater management, climate adaptation, outreach and community engagement, and mitigation for the benefit of professionals from the public and private sectors.

TOP PHOTO: A BALD EAGLE PERCHES NEAR THE CONOWINGO DAM SPILLWAY.

# Helping students discover careers in stormwater and floodplain management



This fall, MAFSM is teaming up with RePicture to help college and high school students discover careers related to stormwater and floodplain management. MAFSM will be sponsoring an award for the RePicture STEM Resume-Builder Program. For the “Protecting Maryland’s Waters and Coast” award, students will research and write papers on science, technology, engineering, and math (STEM) projects related to floodplain management, stormwater management, climate adaptation, outreach and community engagement, or mitigation. The top one or two students with the best project write-ups will win free registration to the MAFSM Annual Conference on November 5 and possibly a chance to present their ideas. This is a great opportunity to help students understand the work scientists and engineers do related to stormwater and floodplain management.

RePicture is currently completing a similar summer resume-builder program that involves six

1-week sessions. The program was developed to help students whose internships or jobs were canceled due to COVID-19 to still have a meaningful summer. Over 220 students applied to the free program, and the summer cohort includes high school students and college students located in over 35 states and three countries.

“The demand for the summer program has exceeded our wildest expectations,” explained Lynn Mayo, CEO of RePicture. She continued, “As the 6-week summer program is coming to an end, several students have asked if they can continue with the program into the fall. So, we’ve decided to roll out a modified version of the program. We know students will be very busy during the school year, so the sessions will be 1 month long instead of the very quick 1-week sessions during the summer.”

For the RePicture STEM Resume-Builder Program, students research, write about, and publish on RePicture.com a summary of projects done by STEM professionals or students. The

projects cover a wide variety of topics based on the student’s interest. Past participants have uploaded projects such as “Creating Glass from Chicken Manure” and “A Living Building – Phipps Center for Sustainable Landscapes.” The projects are then used by high school and college students, as well as early career professionals, to understand the type of work different STEM professionals do.

“I cannot express how amazing an experience this has been,” noted Taden Welsh, a summer program participant and rising senior at Gettysburg College. She continued, “I am so grateful to have been accepted into this program with such an amazing and intelligent group of people to work with and all the new topics I am learning about!”

To add some interest to the program, students can compete for awards that are sponsored by organizations and companies. MAFSM volunteers will select the winner for their award. “We are grateful to have MAFSM sponsor one of the awards for our fall program,” noted Aelisa Carr, President of RePicture. She continued, “The students are excited to know that STEM professionals will be reviewing the work that they do. This provides them the extra incentive to do their best quality work.”

If you know a high school or college student that is self-motivated and wants to learn more about STEM careers and build their resume, have them apply to the fall RePicture STEM Resume-Builder Program by going to [RePicture.com/students](http://RePicture.com/students). You can also explore all the projects written by students and professionals at [RePicture.com](http://RePicture.com).

*Lynn Mayo, CEO, RePicture*



# Why Should I Care

# About Stormwater Runoff?



Courtesy NCDENR

As a grandmother of four and mother of three, I have often tried to explain the importance to them about the need to care about stormwater and for each of them to do their part in helping to care for our environment—the area in which we live, work, and play. Hopefully, this article will help you to understand stormwater runoff and how you too can do your part.

In order to understand stormwater runoff and why we should care about it, we first need to understand how it is generated. The hydrologic cycle tells us this story. As explained by Maidment (1993), “water evaporates from the oceans and land surface, is carried over the earth in atmospheric circulation as water vapor, precipitates again as rain or snow, is intercepted by trees and vegetation, provides runoff on the land surface, infiltrates into soils, recharges groundwater, discharges into streams, and ultimately, flows

out into the oceans from which it will eventually evaporate once again. This immense water engine, fueled by solar energy, driven by gravity, proceeds endlessly in the presence or absence of human activity.” It is through these processes, in combination with geology, that many of our scenic mountains, valleys, deltas, and canyons have been created over many millennia.

However, when the hydrologic cycle becomes unbalanced, excess stormwater runoff can be generated. One reason the cycle can become unbalanced is due to increased impervious areas. Impervious areas include areas such as buildings, roads, and parking lots where the water cannot enter into the ground, as much or at all, as it can compared to soil and vegetated areas, such as parks, open space, and forests. This excess water, called stormwater runoff, can have detrimental impacts.

## Detrimental impacts include . . .

### FLOODING



One well-known impact is flooding. Flooding occurs when excess water cannot exit the waterway (e.g., river, stream) system as fast as the precipitation and stormwater runoff is delivering it. Flooding can negatively impact properties, damage structures, and cause public safety concerns. Severe flooding often results in financial loss and even in loss of life.

Mary L. Searing, PE, D.WRE, CFM  
Brudis and Associates, Inc.

While we cannot control these impacts as a whole, each of us can do our part to reduce negative impacts due to stormwater runoff. Picking up our pet waste, fertilizing properly, and not leaving soil bare on our lawns can all reduce pollution in our waterways and improve human health. Using rain barrels at our down spouts and/or installing rain gardens or pavers that are porous (allow runoff to penetrate through them), are ways to capture water and reduce the amount of runoff and pollutants. Employing these and other similar practices and educating others about how to do the same can make a difference.



So, the next time you see it rain, care about that stormwater runoff, and perhaps there is some small change that you can do too—maybe with your child or grandchild.

Reference: Maidment, David R. 1993. Handbook of Hydrology.

## Detrimental impacts also include . . .

### POLLUTION



Another impact is pollution. While stormwater runoff migrates by gravity to rivers and streams, it traverses along the ground and can pick up and carry with it things such as trash, which are clearly visible to us. However, it can also pick up and carry with it things that may be invisible to the eye, such as animal waste, chemicals (e.g., fertilizers and pesticides), oil, and sediment. These can migrate with the stormwater runoff to the waterways, potentially causing pollution and human health impacts, especially if these waterways are used for recreational uses such as fishing, boating, swimming, or drinking water. These pollutants can also smother fish habitat, or reduce the amount of oxygen in the water that is necessary for certain aquatic species to live.

### GROUNDWATER



A third impact is to groundwater. If precipitation does not have a chance to percolate into the soil, and just runs off the hard impervious surfaces of the earth, it cannot replenish the groundwater. Groundwater is used by humans for drinking water and other necessary processes, such as irrigation. Diminished groundwater quantities can impact drinking water wells and other wells, as well as surface water levels.



# MAFSM Third Annual Spring Conference Goes Virtual

Amy G. Moredock, CFM  
Queen Anne's County Principal Planner  
and MAFSM Eastern Region Representative



On Wednesday and Thursday, June 18–19, 2020, MAFSM held its third annual spring conference. Having planned the spring conference as a 1-day event at an Eastern Shore venue, the MAFSM planning team had to adapt to the COVID-19 pandemic and create its first virtual event. While our annual fall conferences are always well-packaged and well-attended events, we were encouraged to see the spring conference gain attendance and allow us to expand our membership throughout Maryland. Since conference registration includes an annual membership to MAFSM, it is our hope that introducing Maryland stormwater and floodplain professionals to the informational and networking opportunities will continue to grow our Association in not only numbers but also in diversity in regional membership.

Initially, we were all a bit trepidatious about moving from a physical to a virtual event; however, the depth of our agenda ensured outstanding participation in this year's spring conference (and mandated that we create a two-day rather than one-day conference). Almost 100 attendees tuned in to participate in a two-day agenda which brought expert speakers together who focused on both micro- and macro-level implementation efforts. State experts outlined planning requirements and resources; while professional planners, engineers, and nonprofit experts addressed how the implementation of the best management practices identified within the various state-mandated plans looks on the ground: the success stories, as well as the disappointments.



## Comments from Spring 2020 Conference Attendees:

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The MAFSM 2020 Spring Virtual Conference provided an excellent opportunity for stormwater and flood management professionals to connect and share resources. I commend MAFSM on its success with planning and delivering an engaging conference and making it easily accessible to participants.

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The virtual conference felt very intimate even though we could not be together in person. Great job by the hosts and the presenters.

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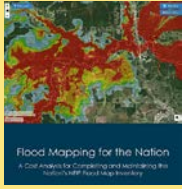
The 2020 Spring Virtual MAFSM conference was a great opportunity to connect with my colleagues and to learn more about different projects and planning efforts that are taking place on the Eastern Shore. Although the conference was virtual this year, I still feel that I gained a lot of knowledge, and I was able to connect with others in the field of Floodplain Management. I look forward to returning to in-person conferences in the future, but if global health issues persist, I would gladly attend another virtual conference with MAFSM. The planning committee did an excellent job adapting to the remote environment without losing any of the great presentations that MAFSM is known for.

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The MAFSM conference is consistently excellent because of the high-level presentations which share useful information for practicing professionals.

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## Recent ASFPM Publications



**Flood Mapping for the Nation: A Cost Analysis for Completing and Maintaining the Nation's NFIP Flood Map Inventory**



**Urban Flooding: Moving Towards Resilience**



**Understanding and Managing Flood Risk: A Guide for Elected Officials**

# Office of the Flood Insurance Advocate Annual Report

*Rhonda Montgomery, Deputy Flood Insurance Advocate, Federal Insurance and Mitigation Administration*

The Federal Emergency Management Agency's Office of the Flood Insurance Advocate (OFIA), an independent office within the Federal Insurance and Mitigation Administration at FEMA, has released its 2019 Annual Report highlighting complex issues National Flood Insurance Program (NFIP) policyholders and property owners face navigating the program.

The complex issues identified through OFIA's casework present opportunities to improve the program's overall customer experience. As a voice for the customer, the OFIA presents recommendations it believes will resolve these issues, and the NFIP acts on the recommendations to ultimately improve the program for current and future policyholders and property owners.

In its 2019 report, the OFIA identified five systemic areas of customer frustration related to the NFIP:

1. Improper application of elevation ratings using an Elevation Certificate (EC)
2. Loss of rating discounts following a lapse in coverage
3. Confusion regarding group flood insurance
4. Limited refunds after receiving a Letter of Map Amendment, Out as Shown
5. Denial of Increased Cost of Compliance (ICC) funds when permits are issued before Substantial Damage letters

The program offices concurred with the large majority of OFIA recommendations and are in the process of implementing changes to improve the NFIP customer experience.

The OFIA's mission is to advocate for NFIP customers with compassion and fairness. It advocates for the fair treatment of policyholders and property owners by providing education and guidance on all aspects of the NFIP.

## Ward's® 3D Flood Simulation Model

If you're interested in using the flood model at a local school or event, please contact Paul Slonac ([PSlonac@mbakerintl.com](mailto:PSlonac@mbakerintl.com)) or Ben Kaiser ([benjamin.kaiser@acem.com](mailto:benjamin.kaiser@acem.com)).



WARD'S 3D MODEL DEMONSTRATION AT THE SALVATION ARMY BOYS AND GIRLS CLUB

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