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Hamilton County Storm Water District E-Newsletter
Spring 2023 Edition

Quarterly News & Updates from your Partners at the Hamilton County Storm Water District

News & Highlights

Spring Featured Co-Permittee:
City of Montgomery

Check out this new section featuring co-permittees doing great work implementing stormwater friendly best management practices!

City of Montgomery, Ohio:
Leading the way in rainwater retention

Tucked into the heart of Hamilton County sits the city of Montgomery with its quaint, tree-lined streets. Strolling through the neighborhoods, the innovative stormwater BMPs are not immediately obvious, but at the city public works building they are hard at work creating cost-efficient and replicable means of mitigating overflow of our storm sewers thus protecting property, businesses, and investments and adding value to the community.

First off, the public works building itself houses a one-of-a-kind rain barrel, the contents of which are used to water their impressive flower boxes and hanging baskets adorning the streets and buildings. The rain barrel was designed and implemented by city engineers on site. It stores 5,000 gallons of rainwater runoff from the building, which is around 1.5” of rainfall at a time. With an average annual rainfall of 30-35” per year, that’s over 100,000 gallons of water.

Next to the rain barrel is what appears to be a small retention pond, but what doesn’t meet the eye is the depth of this pond was excavated to around 20ft, leaving plenty of room for sediment detention. The pond is stocked with bluegill, catfish, and bass and the fish are supported by an aerator powered by a windmill sitting next to the pond. Not only is this pond functional, but it is also beautiful and offers mental health support to the employees on site.

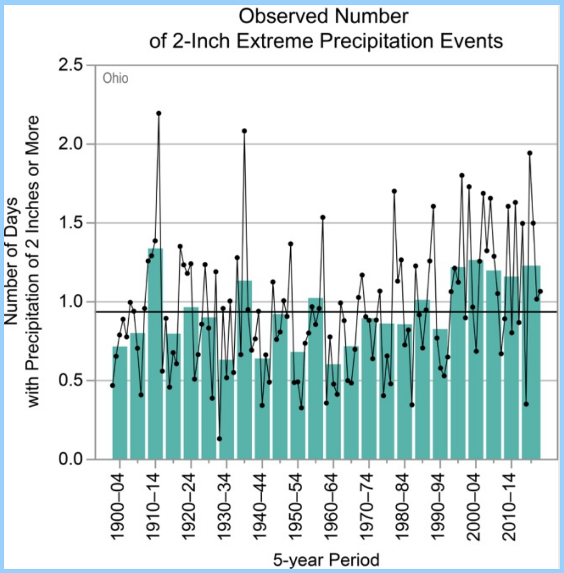
Another new, innovative BMP is located at the roundabout connecting Montgomery Rd and Cross County Highway. Beneath the pavement lies an underground retention basin that acts as a centrifuge to remove trash and soil sediment and has a capacity of 19,000 gallons. Street runoff is piped underneath the structure and drains into Sycamore Creek and eventually the Little Miami River.

Finally, the new business and entertainment district called Montgomery Quarter has the ability to mitigate a 100-year storm event with an underground retention basin approximately the size of an Olympic swimming pool which filters sediment, trash, and residue. Amazingly, what was once a non-porous concrete car lot, is now an innovative, multi-use facility for upscale dining, shopping, and housing.

Resiliency & Sustainable Stormwater Practices

Ohio has experienced a substantial increase in the number of heavy rain events, with the past 26 years having some of the highest levels on record since the historic peak from 1910 to 1914.

The figure to the right shows the observed annual number of 2-inch extreme precipitation events for Ohio from 1900 to 2020. Sources: CISESS and NOAA NCEI. Data: GHCNDaily from 25 long-term stations.
https://statesummaries.ncics.org/chapter/oh/



Eight of the 10 wettest years in Ohio have occurred since 1990. (Below) The use of this past data means that stormwater infrastructure designs with a 25 to 50-year life cycle will need to be functioning in a future condition that is likely quite different than the design year. Existing infrastructure is likely inadequate or capacity critical when considering the last few decades with more failure into the future based on trend analysis.

Top 10 Warmest & Wettest Years in Ohio

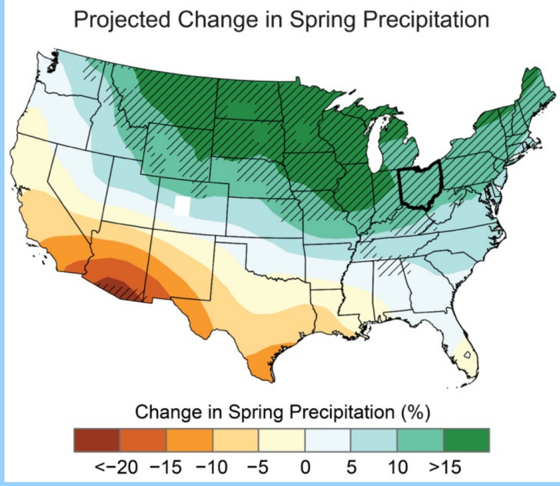
TEMPERATURE				PRECIPITATION			
RANK	YEAR	AVERAGE	DIFFERENCE	RANK	YEAR	TOTAL	DIFFERENCE
1	1998	54.1	2.4	1	2011	55.95	14.85
2	2012	54.0	2.4	2	1990	51.07	9.97
3	2016	53.6	1.9	3	2018	50.93	9.83
4	1921	53.5	1.8	4	1950	48.34	7.24
5	2017	53.2	1.6	5	2019	46.87	5.77
5	2021	53.2	1.6	6	1996	46.85	5.75
7	1991	53.1	1.5	7	2003	46.42	5.32
8	2020	53.0	1.4	8	1929	46.07	4.97
9	1931	52.9	1.3	9	2017	45.51	4.41
10	2006/1990	52.7	1.0	10	2004	45.45	4.35

The Ohio State University

Franklin County SWCD partnered with OSU to update local precipitation models to help determine what changes need to be made and make recommendations for local solutions in the future. It will be up to local jurisdictions to adopt practices that will help to be resilient in the future unless there is a timely methodology from federal resources.

The figure to the left shows projected changes in total spring (March–May) precipitation (%) for the middle of the 21st century compared to the late 20th century under a higher emissions pathway.

Ohio is part of a large area of

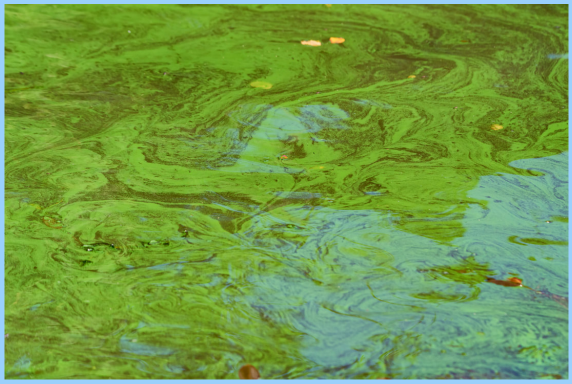


projected increases in spring precipitation in the Northeast and Midwest. Sources: CISESS and NEMAC. Data: CMIP5.
[https:// statesummaries.ncics.org/chapter/oh/](https://statesummaries.ncics.org/chapter/oh/)

Spring Stormwater Best Practices

Fertilizers

A beautiful and healthy lawn is a source of pride for many homeowners, but over-fertilizing can have negative consequences for both your lawn and the environment. Applying too much fertilizer can lead to excessive growth, which weakens the roots and makes your lawn more vulnerable to diseases and pests. Moreover, over-fertilization can have serious consequences for water quality, as excess nutrients can run off your lawn and enter nearby waterways. When fertilizer runs off into waterways, it can cause a process called eutrophication, which is the excessive growth of algae and other aquatic plants. This can cause a decrease in oxygen levels in the water, leading to the death of fish and other aquatic life. Excessive algae growth can also produce harmful toxins that can affect the health of humans and animals that come into contact with the water.



To prevent over-fertilization and its harmful consequences, it's important to apply the appropriate amount of fertilizer to your lawn. The ideal amount of fertilizer depends on several factors, such as grass species, soil type, and climate. A soil test can help determine the exact nutrient needs of your lawn, so you can apply the appropriate amount of fertilizer.

To further reduce the risk of fertilizer runoff, you can use slow-release fertilizers that release nutrients gradually over time. This can help minimize the risk of excess nutrients washing away during heavy rainfalls.
By understanding your lawn's nutrient needs and applying the appropriate amount of fertilizer, you can promote healthy growth while protecting water quality and the environment.

Below are fertilizer best practices that should be followed to ensure our natural resources are protected:

1. Get your soil tested. Testing your soil helps avoid unnecessary fertilizer applications.
2. Read and follow the label. Use the recommended application rate and nutrient ratio for your area.
3. Check the weather. Don't apply fertilizer right before rain or within 75 ft. of a stream

For more information on soil fertility testing visit the Hamilton County Conservation District Website.

2023 Upcoming Events

Rain Barrel Art Project Auction

April 18th - 28th

Barrels from the 2023 Rain Barrel Art Project will be going on display for the month of April at the Cincinnati Zoo. Over the past three months, local artists (1st graders up to professional artists) have painted 40 rain barrels that will be auctioned off. Funds raised from the auction benefit environmental education in the tri-state area. The barrels will be on display until April 27th. The auction will take place on eBay, starting April 18th at 10 am, and will conclude on April 28th at 10 am. For additional information and to view all the barrels from this year, **click here**.

Midwest Regional Sustainability Summit

May 12th

The Midwest Regional Sustainability Summit brings together hundreds of passionate and visionary leaders to share inspiring, forward-thinking, and solution-oriented ideas that propel us toward a healthier, more resilient, sustainable, and equitable future. Join Fortune 500 powerhouses, innovative entrepreneurs, government officials, sustainability directors, academic, non-profit, and community leaders, and passionate residents committed to solving some of the region’s toughest environmental problems while creating a positive economic impact.

The 10th annual Summit will take place at the Duke Energy Convention Center. For an agenda and to register, visit the website here.

Ohio Stormwater Conference

May 10-12th

The Ohio Stormwater Conference is an annual conference dedicated to advancing the knowledge and understanding of comprehensive stormwater and watershed management for those dealing in all aspects of planning, design, implementation, and regulatory compliance. This year’s conference is held May 10-12, 2023 at the Kalahari Resort and Conference Center located in Sandusky, Ohio. The conference will provide updates on environmental issues, new technologies, regulatory information, and pollution prevention. The 2023 Ohio Stormwater Conference is a great opportunity to strengthen your skills and knowledge in an intensive workshop setting with other colleagues.

The 2023 Ohio Stormwater Conference will be an in-person event, with an option to register for a virtual-only component. Visit the website here.

Rain Barrel Workshop

June 7th, 5:30-7:30pm

Collect free water for your plants! Come learn how rain barrels can help you save water and lessen stormwater impacts. A rain barrel is a container that connects to a downspout on your home and is used to collect and store rainwater that runs off your roof. The collected rainwater can be used to water your yard or landscaping. Join Hamilton County Conservation District staff to learn additional benefits to rain barrels, how to install your rain barrel and rain barrel maintenance. Two registration options are available; one includes a rain barrel and the other does not.

Register Here

Skimmer Specifications, Installation, and Maintenance Workshop

June 15th, 8am-12pm

Sediment basins are the most effective way to capture sediment from construction site runoff. Skimmers are key tools in retrofitting retention basins to allow them to function as sediment basins during construction. This workshop is geared to equip engineers, contractors, plan reviewers, and inspectors with the information they need to effectively design, install, inspect, and maintain these devices.

3.5 Professional Development Hours can be claimed. Hours have been preapproved by Envirocert.

Register Here

6th Annual Ohio Stormwater Awareness Week

October 1-7

Click here to learn about resources and how you can participate.

Storm Water District Partner's Contact Information

HAMILTON COUNTY Planning + Development

Phone: (513) 946-4550

HAMILTON COUNTY PUBLIC HEALTH

Phone: (513) 946-7800

HAMILTON COUNTY CONSERVATION DISTRICT

Phone: (513) 772-7645