

Dive into Our Water Ways

1. IDENTIFY THE CONTEXT

of extreme rain events annually by 2100, up from 5 historically.

of rain per year to date compared to 60 years ago.

MORE RAIN, MORE SNOW

Floods from extreme rain events and snow melt can

damage people's homes, damage property, destroy

ecosystems, and literally stop traffic. Heavy rain and

snow melt can overwhelm storm sewer systems,

triggering an overflow of raw sewage into the lake

which can threaten human and ecosystem health.

2. UNDERSTAND THE TOOLS

TREATMENT AND TRANSPORT **OF EVANSTON WATER**

- Evanston storm and wastewater goes through three sewer systems-the Combined, Relief, and Storm Systems.
- The Combined Sewer System carries both sanitary sewage and surface runoff in typical rain events to the Metropolitan Water Reclamation Plant in Skokie to be processed and treated.
- The Relief Sewer System carries storm water and overflows from the combined sewer system to the Metropolitan Water Reclamation District deep tunnel system.
- The Storm Sewer System is only utilized during rain events to take storm water from the street to Lake Michigan or to the North Shore Channel.
- The North Shore Channel is mainly utilized as a place for storm water overflow and is home to a multitude of aquatic wildlife.

BIODIVERSITY

The variety of life that can be found in a habitat on Earth including plants, animals, fungi, and microorganisms.

COMBINED SEWER OVERFLOWS (csos)

Combined Sewer Overflows (CSOs): Combined sewers are designed to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater. During periods of heavy rainfall or snowmelt, wastewater volume can go above the capacity of combined sewers causing that wastewater to overflow into bodies of water.

GREEN INFRASTRUCTURE

A way to manage rainfall and snowfall by reducing and treating storm water at its source while providing environmental, social, and economic benefits.

PERMEABLE PAVEMENT

An alternative pavement made out of material that allows rain and snowmelt to seep through the surface down to underlying layers of soil and gravel.

STORM WATER RUNOFF

Rainfall and snowfall that flows over and off surfaces such as roads, driveways, rooftops, and flow into sewer systems that may be transferred into bodies of water.

3. EXPERIENCE THE SYSTEM

LAKE LEVELS

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there will be long-term effects on Lake Michigan's water levels. It is difficult to know with certainty if lake levels will rise or fall on average through the end of the century. We do know whether fluctuations will increase above the historical 6 foot range.

As the temperature and precipitation increase

DROUGHT

In future where temperatures are much higher and even though there will be more annual precipitation, those rain or snow events are anticipated to fall in shorter, extreme events leaving longer periods of time that experience no rainfall, increasing the potential for drought. The increases in drought like conditions are more likely to occur in the summer and fall.

WATER USE AND EFFICIENCY

Evanston's water use is close to the national average, 100 gallons per person per day. Businesses use a lot of water as well. With the high need for freshwater and as climate change accelerates, we will need to find ways to preserve Lake Michigan and other freshwater sources.

AQUATIC BIODIVERSITY

The Great Lakes are the world's largest freshwater ecosystem. Rising air and water temperatures, increased summer evaporation, threats from pollution, and invasive species all threaten Lake Michigan. As the water near the lake's surface becomes too warm and the dissolved oxygen levels drop in deeper waters, fish are squeezed out of available habitats during summer months. The loss of species and damage of ecosystems can reduce or eliminate ecological benefits provided by biodiversity, which can lead to lower water quality.

4. TAKE ACTION

WATER QUALITY

Surface water quality is declining as water temperature increases and nutrients and pollutants (lawn fertilizers, hygiene products, street treatments, vehicle oil, and pesticides) runoff into the Lake during extreme precipitation events. Higher water temperatures, increased runoff, and nutrientrich waterways, encourage harmful bacteria growth and lower water quality.











