

# Why Study Stormwater?

**#FLOODED**  
Activity (60 – 90 minutes)



## Learning Outcomes

- Students will watch a short video that explains what stormwater is and some of its consequences.
- Students will think about how stormwater affects them, their homes and their school and begin to brainstorm what can be done about it.

## Materials Required

- Flood:ED Backgrounder (for reference)
- Internet Enabled Device
- Marking Rubric

## Step 1: Introduction to Stormwater

Start by watching the following video:

- [What the Heck is Stormwater Runoff?](#) (start at 1:26)

After watching the video, in groups contemplate and discuss the following questions:

1. What are the images used for the opening of this video?
2. What is a definition of stormwater in your own words?
3. What happens to water when it goes into the sewer system or drainage system?
4. How does stormwater affect water quality?
5. What are the impacts on wildlife?
6. How could it affect human health?
7. How does climate change affect the frequency of 100-year storms?

## Step 2: Understand Storms in Your Area

In this step, learn about storms in your area. Begin by explaining the following to your students:

- **Extreme weather** events are unexpected, unusual, unpredictable, severe or unseasonal weather events. These weather events are considered extreme because they are rare in the historical record - defined as lying in the most unusual ten percent.
- **100-year storms** refers to the estimated probability of a storm event happening in any given year. A 100-year event has a 1 percent chance (or 1-in-100 chance) of occurring in a year. The term "100-year flood" allows us to place a particular weather event in context with other similar events. These 100-year storms are defined by the severity of the winds - the large amount of rain and the intensity in which it falls and the flooding that results.

These terms are used more and more frequently in the news now, since we are witnessing an increased number of extreme weather events or 100-year storms around the world due to climate change.

Learn more about weather changes and climate change by visiting the GreenLearning's program page [Decoding Carbon](#).

Study the weather data provided below for Canadian provinces and territories, and discuss the questions below. Click on the province you want to study to open the hyperlink.

**Weather averages data:**

[Alberta](#) | [British Columbia](#) | [Manitoba](#)  
[New Brunswick](#) | [New Foundland & Labrador](#) | [Northwest Territories](#)  
[Nova Scotia](#) | [Nunavut](#) | [Ontario](#)  
[Prince Edwards Island](#) | [Quebec](#) | [Saskatchewan](#)  
[Yukon Territory](#)

*HINT: Look at Extreme Daily Rainfall (mm) in the data and compare with other provinces and territories*

**Discussion Questions:**

1. What is the record rainfall in your Province or Territory?
2. Imagine standing in this much rain - where does it reach on your body?
3. What might be some of the effects of these storms happening every few years?
4. Research the rainfall in your community. What is the average rainfall per year? What is the record amount of daily rainfall?

**Step 3: Further Discussion**

After completing the activity above, break into groups and Think about what would happen to your school or your house in one of these storms. Think about these questions with the person next to you and then share your answers as a whole class.

**Consequences of storms:**

1. When was the last big storm you remember?
2. Where does the rainfall in your area drain to in these storms?
3. Where are your local waterways (streams, rivers, lakes or oceans)?
4. Which buildings in your neighbourhood are likely to be flooded?
5. Have you seen flooding in these areas before?
6. What areas of a house or building are most likely to be flooded? Why?
7. What parts of where you live would be affected - and what do you have stored there?
8. All the litter on the street would go down the sewer. What kind of trash would this be?
9. Have beaches been closed in your community? Flooding and pollution runoff can eventually lead to closed beaches? What is the connection?
10. Why does flooding sometimes mean people have to evacuate (leave their home for a safe place to stay)?