



# The Flood Gates Have Opened

## Student Procedures



### Essential Question

- What can maps and satellite pictures tell us about stormwater runoff from the Chesapeake Bay watershed and its consequences for waterways in your neighborhood as well as in the Bay?

**Note:** You will work in a project team of three or four students. Team answers to the questions below should be recorded in your individual journal. Each team should be ready to contribute to a class discussion on each topic.

### Procedures

1. Look at the satellite picture of the Chesapeake Bay taken on August 20, 2011 and compare it to a road map and a land use map of the same area. What similarities and differences do you notice?

Why do we refer to a map as a model?

2. Locate the following cities on a land use or road map:
  - a. Baltimore, MD
  - b. Washington, DC
  - c. Hampton/Norfolk, VA
  - d. Fredericksburg, VA

In your journal, describe their locations and suggest a reason why these cities were established and grew where they did. Answer this question for a city that is close to your school.

Is there a relationship between cities and waterways?





3. How land is used and the density of the population living in an area influence the quality of water nearby. Answer the questions about land use on *Watershed Land Use* (Student Sheet #1).
4. Complete *It All Goes Somewhere* (Student Sheet #2). On the chart your team should list some of the items that you have noticed are carried away by stormwater in your neighborhood and region.
5. Find out where all of this water with debris eventually goes and complete the chart. Then answer the questions that follow. Reflect on how the answers to these questions affect you and your neighbors and write about it in your journal.
6. Answer the following questions in your journal:
  - a. Should stormwater be captured and treated before it runs into a stream or river? Why?
  - b. Should citizens and governments make an attempt to reduce the amount of stormwater and debris that flow into waterways after heavy rains? Why?
7. Working with your team, suggest at least three ways that your town or region could reduce the amount of stormwater and the material it carries. Who should be responsible for carrying out your suggestions? Contribute your ideas to a class discussion.

