



Exploring Your Watershed: Mapping with EnviroAtlas

These materials are part of EPA Report #EPA/600/R-18/203.

Student Name: _____

Key Words/Vocabulary

adapt	ecosystem	erosion	pollution	ridge	stream
divide	ecosystem services	flooding	pond	river	watershed
drainage	environment	habitat	precipitation	runoff	

Procedure, Part 1: Croplands—make sure every partner writes in at least one answer

1. Look at **Map #1**; it shows your school. These maps are from an online program called *EnviroAtlas*. You can explore the maps in more detail online—feel free to do this anywhere that you have internet! (The web address is shown on the top right of this page.)

Discuss these ideas as a class or with your partner:

- Describe the location of your school in your watershed.
 - What do you think it means if your school is right on the edge of the watershed (near one of the orange lines)?
 - What if your school is right in the middle of the watershed (not near an orange line)?
 - Look at some of the features on the map. Which kinds of watershed features that we have learned about so far are near your school?
2. Look at **Map #2**. The **orange line** around your school outlines your watershed, similar to the ridges that you made in the wax paper exercise. The map shows your school area and the amount of cropland (where plants for food and fiber are grown) in your watershed. Using the map key and some help from your teacher, answer *EnviroAtlas* questions 1-2 below before moving on to the next portion.
 3. Look at **Map #3**, which shows the percent of cropland across your entire State. Try to find your school on the map of the entire State (hint: there should be a dot!), and show it to your group members. Then, answer questions 3-4 below.

Procedure, Part 2: Raindrop Tool—*make sure every partner writes in at least one answer*

- Look at **Map #4**. It has a red line from your school to your nearest waterbody. This is the path of a “raindrop” from your school—so if a raindrop falls on your school, this is how it travels to the nearest waterbody in your watershed. Answer EnviroAtlas questions 5-7.

EnviroAtlas Questions

- Looking at the “Map Legend” next to **Map #2**, what is the percent cropland in your school’s drainage area/watershed? _____ %
- Look at the watershed(s) next to your school’s watershed. How does the percent cropland in your school’s watershed compare with ones around it? Does it have more or less cropland? Be as specific as possible. _____

- Look at **Map #3**, which shows your entire state. How does the amount of cropland in your watershed compare to the amount of cropland in the entire State? Which part of your State has the watersheds with the most cropland? _____

- What is the main human benefit of cropland? How might cropland impact the watershed? _____

- Follow your raindrop!** Does it go through a field? _____ Does it go through the woods? _____ Does it go over a parking lot? _____ Does it cross a road? _____ Describe how your raindrop could be polluted by human actions: _____

- Look at the legend in Map #4.** What is the distance that your raindrop has to travel? _____ km
- Cleaning up the environment and preventing ecosystems from getting polluted in the first place can benefit **both nature and people**. In the chart, list some of the many benefits of caring for your local watershed. If you can think of more than three, feel free to add them!

Benefits (all of the positive outcomes of caring for the watershed)	
	<i>Example: cleaner places to play/fish/swim! (recreation)</i>
1	
2	
3	



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Procedure, Part 2: Raindrop Tool—make sure every partner writes in at least one answer

4. Look at **Map #4**. It has a red line from your school to your nearest waterbody. This is the path of a “raindrop” from your school—so if a raindrop falls on your school, this is how it travels to the nearest waterbody in your watershed. Answer EnviroAtlas questions 5-7.

EnviroAtlas Questions

1. Looking at the “Map Legend” next to **Map #2**, what is the percent cropland in your school’s drainage area/watershed? *Answers will vary* %
2. Look at the watershed(s) next to your school’s watershed. How does the percent cropland in your school’s watershed compare with other ones around it? Does it have more or less cropland? Be as specific as possible. *Answers will vary.*
3. Look at **Map #3**, which shows your entire state. How does the amount of cropland in your watershed compare with the amount of cropland in the entire State? Which part of your State has the watersheds with the most cropland? *Answers will vary.*
4. What is the main human benefit of cropland? How might cropland impact the watershed? *The main human benefit of cropland is food. Cropland can impact the watershed by contributing to erosion, fertilizers, pesticides, animal waste, and sediment into the water.*
5. **Follow your raindrop!** Does it go through a field? _____ Does it go through the woods? _____ Does it go over a parking lot? _____ Does it cross a road? _____ Describe how your raindrop could be polluted by human actions: *Answers will vary.*
6. **Look at the legend in Map #4.** What is the distance that your raindrop has to travel? *Answers will vary* km
7. Cleaning up the environment and preventing ecosystems from getting polluted in the first place can benefit **both nature and people**. In the chart, list some of the many benefits of caring for your local watershed. If you can think of more than three, feel free to add them!

Benefits	
(all of the positive outcomes of caring for the watershed)	
	<i>Example: cleaner places to play/fish/swim! (recreation) (Example answers, student responses will vary)</i>
1	<i>Planting trees along streams traps pollutants and prevents erosion. This also keeps the water temperature from heating up in summer!</i>
2	<i>Preventing industrial/chemical pollution in rivers protects fish from getting sick, which can prevent families from getting sick or going hungry.</i>
3	<i>Preventing human trash and waste from getting in the streams and rivers protects wildlife habitat and increases our enjoyment of the natural environment.</i>