

Understanding Watersheds through Topographic Maps

This activity introduces topographic maps and how they relate to watersheds.

Introduction: This activity is meant for small groups in a lab setting led by an instructor. This may work best with different 'stations' one being the ARS the other stations having other relevant activities to supplement the Lesson

Objectives: Students will use the ARS to understand topographic maps and how they relate to understanding watersheds.

Two Important Rules for Using the Sandbox:

Keep the sand in the box

Please don't touch the computer or projector to insure proper settings

A topographic map uses different colors to show a bird's eye view of the features in an area. The colors represent different elevations and are ordered from lowest to highest.

Light blue is the lowest elevation and represents sea level or where groundwater can be found.

Green represents the lowest areas of land, just above sea level. This land is nearest water and often has more vegetation than areas of higher elevation.

Yellow, orange, and red follow in order to represent higher and higher elevations.

White represents the highest elevation. It represents the snow that caps mountains due to the cold temperatures at high elevations.

Below are two topographic maps to compare. One is the lower peninsula of Michigan. The other is part of Colorado.

What differences do you notice about the colors in these maps?

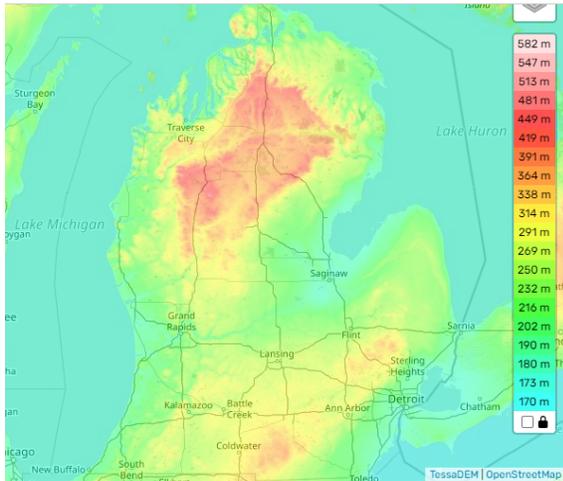
How would you imagine these places to be different if you were to visit both?

Knowing that a watershed is an area where water flows to one location, what do you think would be different about watersheds in these areas?

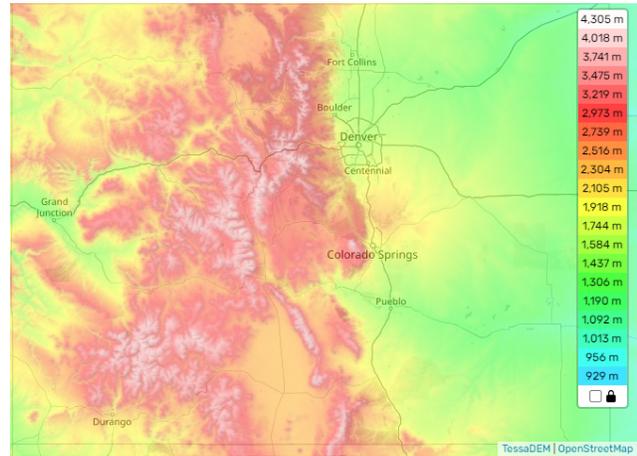
How fast do you think the water moves?

Where do you think water collects?

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Michigan



Colorado

Use the ARS:

Divide the sandbox in half by creating a line in the sand or using a ruler.

Now, on one side of the sandbox, create a watershed that you might find in Michigan.

On the other side, create a watershed that you might find in a mountainous area, like Colorado.

Compare and contrast the two watersheds you have created.