

Topographic Maps

Lesson Objectives

- Define a topographic map and state its uses.
- Describe how contour lines show the elevations, shape, and slope of the land.
- Identify the meanings of some symbols and colors used on topographic maps.

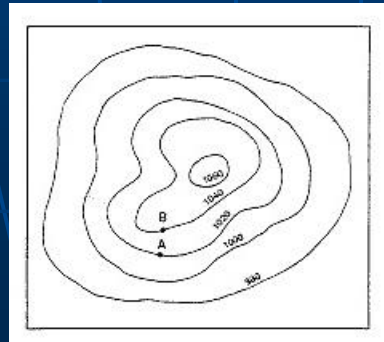
What is a topographic map?

- A topographic map, also known as a contour map, is a map that shows the shape of the land using contour line.
- It is a map that shows and elevation field, meaning how high and low the ground is in relation to sea level.



What are contour lines?

- Contour lines are lines that connect points that are of the same elevation.
- They show the exact elevation, the shape of the land, and the steepness of the land's slope.
- Contour lines never touch or cross.



What is a benchmark?

- A benchmark is a point where exact elevation is known and is marked with a brass or aluminum plate. It is marked BM on the map with the elevation numbers given in feet.
- Benchmarks are useful to help determine contour lines.

Other Topographic Terms

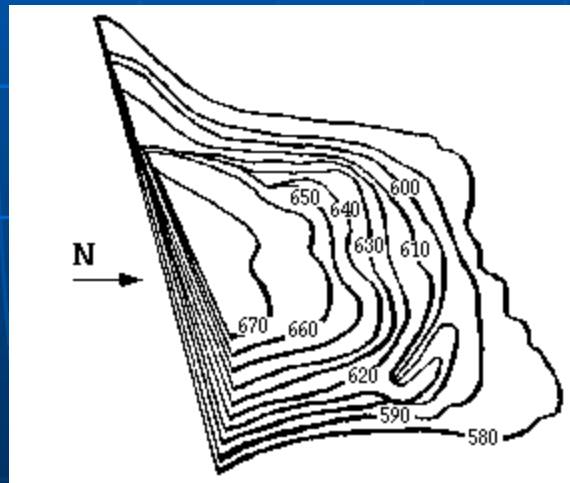
- Map scale – compares distances on the map with distances on earth.
- Legend – explains symbols used on the map.
- Index contours – contour lines that are labeled to help you find the contour interval.

What is a contour interval?

- A contour interval is the difference in elevation between two contour lines that are side by side.
- Remember that a contour interval is not the distance between the two lines – to get the distance you need to use the map scale.

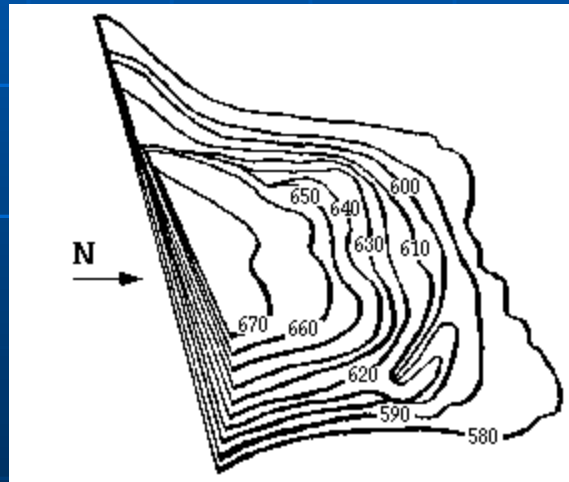
What if my contour lines are close together?

- If the contour lines are close together, then that indicates that area has a steep slope.



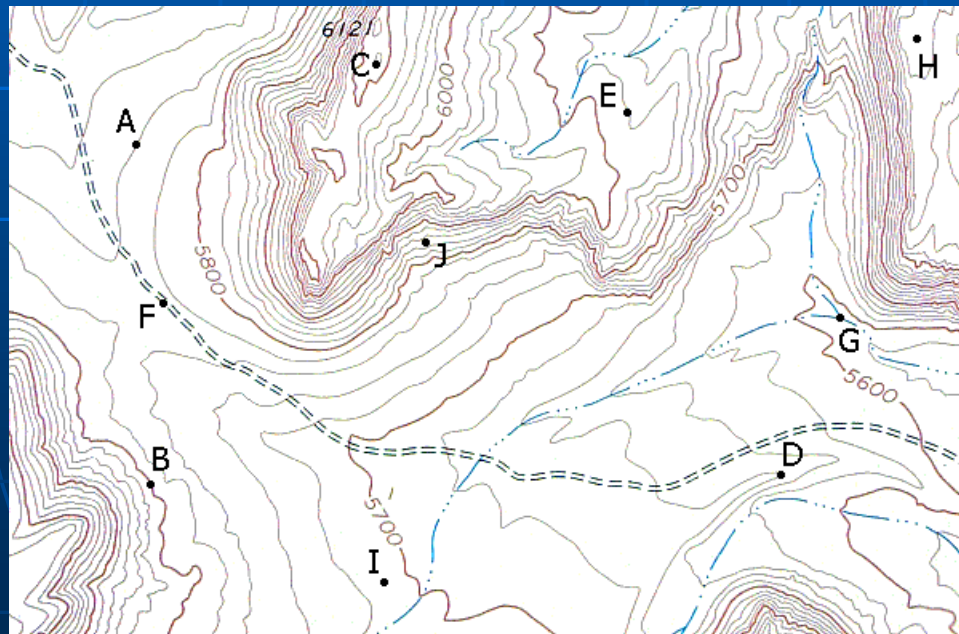
What if my contour lines are far apart?

- If the contour lines are far apart, then that indicates the land has a gentle slope (low slope).



What do the dark colored contour lines mean?

- The dark colored contour lines represent every fifth contour line to make it easier to read the map.



What do depressions in the map look like?

- A depression, such as the inside of a dead volcano, is represented by Hachure lines.
- Hachure lines are regular contour lines with small segments sticking out from it.
- The first hachure line is at the same elevation as the contour line before it.



More on Contour Lines

- Contour lines form V's that point upstream when they cross a stream.
- It is important to remember that they point in the opposite direction as the flow of water.



What do the colors on the topographic map represent?

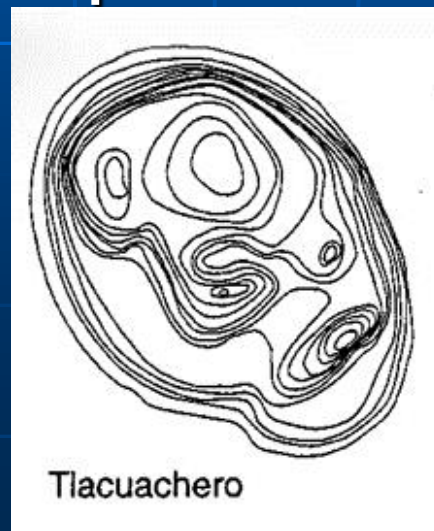
- Blue lines/shapes - represent water features, such as streams and lakes.
- Brown – contour lines
- Black – Roads, buildings, railroads, other man made objects.
- Green – Woodland areas
- Red - Highways

Now that I know what a topographic map is, how do I read it?

- First determine the contour interval (the distance between each contour line)
- Then determine the map scale (usually at the bottom of the map)
- Identify any hills or depressions
- Use the legend to identify man made features.

Reading a topographic map cont.

- Look for areas where the contour lines are close together – they indicate a steep area.
- Look for areas where the contour lines are spread apart – they indicate a gentle slope.



Review Questions

- How are contour lines drawn on maps?
- How does a contour map show whether a slope is gentle or steep?
- What is a benchmark?
- How is a benchmark shown on a map?
- How is distance measured on a contour map?