Topographic Maps and Profiles

*How do topographic maps help us interpret our planet?*
Topographic Maps and Profiles

- Topographic Maps [contour map] - commonly used model of the elevation field of the surface of Earth
  - Topographic maps show 3D shapes in 2D
- Elevation - height above or below sea level
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- Benchmark - a marker that has the exact latitude, longitude, and elevation of that position
  - Labeled on a map as BM. X.
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• Natural Features - features that are created by nature
  • Examples: mountains, hills, lakes, and rivers
• Cultural Features - features that are created by mankind
  • Examples: roads, cities, buildings and dams
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- Contour Lines - lines drawn on a map that connect equal points of elevation
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- Contour Interval - the difference in elevation between two side by side contour lines
  - The contour interval is usually found on the map key or legend
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- Index Contour - lines that are bold and have an elevation labeled
- Example: 200 ft and 300 ft
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- Gentle Slope - when contour lines are spaced far apart
- Steep Slope - when contour lines are spaced close together
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- When contour lines cross a river they bend upstream.
- Note: rivers flow in the opposite direction of the contour lines point.
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- Depression Contour Lines - are marked with small lines called hachured lines that are pointed toward the center of a depression.
- Allows you to distinguish a hill from a hole.
Calculating the Highest Point:

1. Finding the last [highest] contour line on that hill
2. Imagine you drew another line
3. Subtract one from the imaginary line
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- Topographic Profile - the side view of a geologic feature
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Creating a Topographic Profile:

1. You need two points on a contour map and a horizontal grid between the two points
2. Transfer the points from the map to the horizontal grid
3. Connect the points with a smooth line to draw the profile