Landscape – surface features on the Earth

Landscapes form due to:

1. Elevation
2. Relief (difference in elevation)
3. Bedrock Structure

Types of Landscapes:
1. Mountain
2. Plateau
3. Plain

1. Mountains:
   • area of high elevation
   • steep gradient/relief (many changes in slope)
   • igneous and/or metamorphic rock
   • distorted bedrock (folding/faulting)
2. **Plateau:**
   - medium/high elevation
   - gentle slope/relief (flat)
   - horizontal sedimentary rock layers
   - **Dissected Plateau** - plateau with steep relief as rivers cut through plateau

3. **Plains:**
   - gentle relief
   - horizontal sedimentary rock
   - low elevation

Mohawk Valley (Plains)
## Landscape Characteristics

<table>
<thead>
<tr>
<th>Type of Landscape</th>
<th>Common Name</th>
<th>Elevation</th>
<th>Relief</th>
<th>Bedrock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain</td>
<td>Highland</td>
<td>High</td>
<td>High</td>
<td>Distorted (metamorphic/igneous)</td>
</tr>
<tr>
<td>Plateau</td>
<td>Upland</td>
<td>High</td>
<td>Low</td>
<td>Horizontal (sedimentary)</td>
</tr>
<tr>
<td>Plain</td>
<td>Lowland</td>
<td>Low</td>
<td>Low</td>
<td>Horizontal (sedimentary)</td>
</tr>
</tbody>
</table>

- **Landslides**
  - **Distorted Bedrock**
    - High Elevations
      - High Relief: Mountains (Highlands)
    - Low Elevations
      - Low Relief: Plains (Lowlands)
  - **Horizontal Bedrock**
    - High Elevations
      - Low Relief: Plateaus (Uplands)
    - Low Elevations
      - Low Relief: Plains (Lowlands)
Landscapes

Factors that Effect Landscape Development:

1. **Bedrock Structure**
   - harder rock (igneous/metamorphic) will weather slower than softer rock (sedimentary) – leads to higher elevations
   - streams follow zones of weakness (cracks, faults, less resistant rock)
   - distorted rocks (metamorphic) - mountains
   - horizontal rocks before erosion - plateau
   - horizontal rock after erosion - plain

2. **Time**
   - the longer rock is exposed at the surface, the more time it has to erode down
     - **Uplifting Forces**:
       - originate beneath the surface
       - cause land to rise
     - **Leveling Forces**:
       - originate at or near surface
       - level down rock (cause land to erode to sea level)
   - features of a landscape are the result of how much time the uplifting and leveling forces have acted on the rocks
3. **Climate** - how humid (moist)
   - **Arid** Landscape:
     - steep
     - exposed bedrock
   - **Humid** Landscape:
     - smooth
     - rounded hills
     - covered in vegetation

**Landscapes and River Systems**
Drainage Basins

Drainage Patterns - the patterns the rivers make when they flow across different landscapes

Landscapes determine drainage patterns:
- harder rocks form hills
- softer rocks will erode into valleys
- streams follow zones of weaker rock and flow downhill
- Drainage Basin (Watershed) - area of land drained by a river system

- High points divide river systems (watersheds) by making streams flow downhill in different directions

Five Types of Drainage Basins - based on the underlying bedrock structure:
1. Dendritic
2. Radial
3. Trellis
4. Rectangular
5. Annular

Dendritic - found with flat laying, uniform bedrock
Drainage Basins

**Radial** - dome or mountain with little change in type

**Trellis** - folded or tilted rock layers of different rocks

**Rectangular** - faulted rock layers

**Annular** - dome with upturned layers
NYS Landscape Regions