



TeachEngineering

Flood: Causes and Mitigation Strategies for Civil Engineers



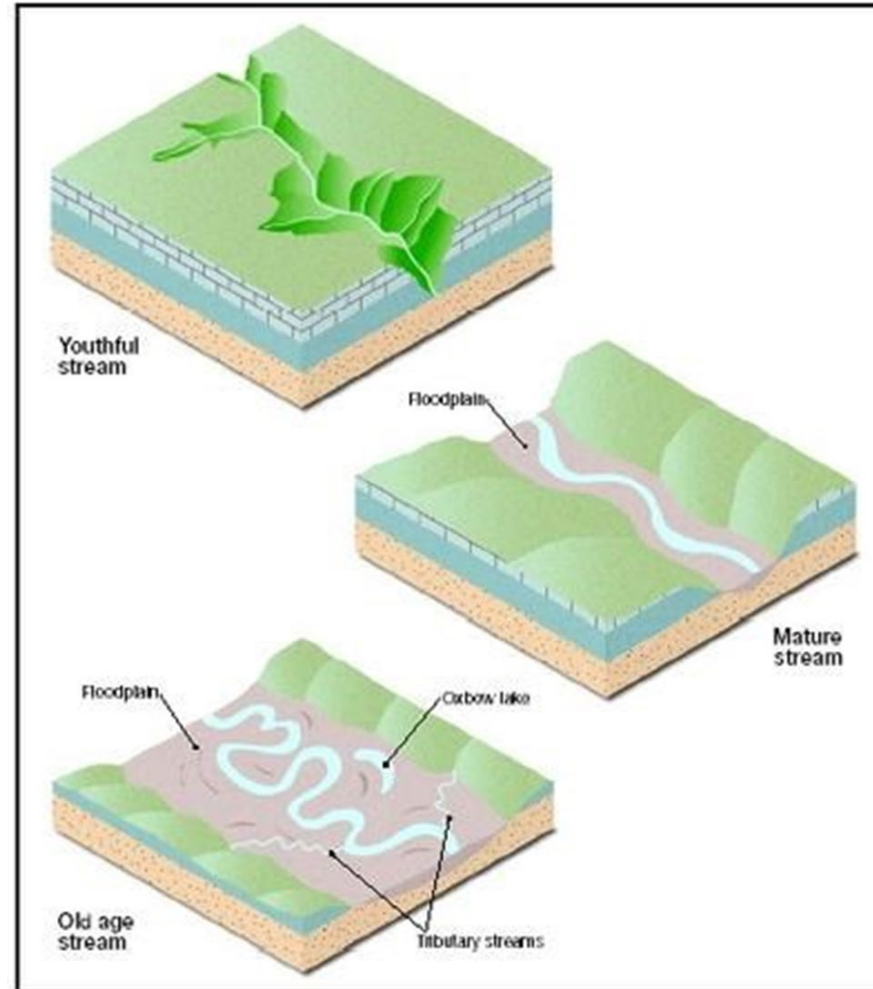
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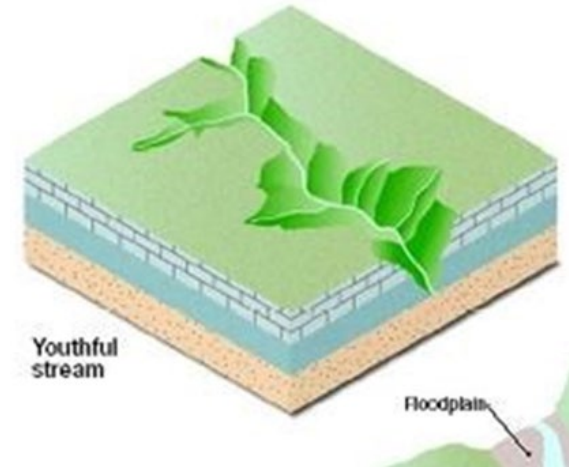
Age of Rivers

I can discuss how a river changes over time.



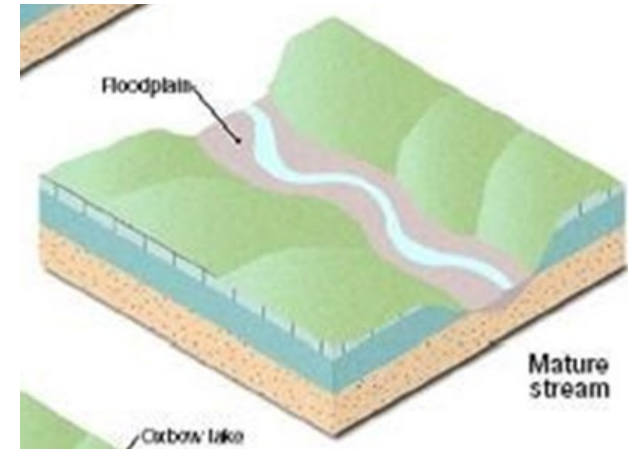
Young Stream

- Steep gradient
- Very few tributaries
- Flows quickly – white water rapids, waterfalls
- Channels erode deeper rather than wider
- Example: Rivers in mountainous regions



Mature Stream

- Gradient is less steep
- Flows more slowly
- Fed by many tributaries
- More discharge than a youthful stream
- Channels erode wider rather than deeper
- Well-developed floodplain
- Example: Mississippi River



Old Age Stream

- River with a low gradient (1-2 ft/mile)
- Low erosive energy
- Very wide valley
- Floodplains with levees
- Lots of deposition of sediment
- Oxbows
- Example: Red River

