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Geology

* Lacustrine or lake sediment will emerge from inside the ground based on if its under pressure
* Carbon Cycle
  + Carbon is the element of life and is very important
  + Carbon dioxide leaves the atmosphere by photosynthesis
  + Carbon can come from coal, oil, or gas
* Nitrogen Cycle
  + Nitrogen is very important
  + Largest part of our atmosphere
* Importance of soil
* Soil
  + Earth material that has been altered by physical, chemical, and biologial process
  + Loose earth material
* Dirt is airborne!
* Soil Formation
  + Weathering breaks down rock to sediment
  + Alluvial soil
    - Soil made from material transported from where the sediment originated
  + Colluvival or residual
    - soil that forms in place from weathered rock
* Engineering properties of Soil
  + Three phases: solid liquid and gas
  + Particle size and water content- amount of fines
  + Plasticity
    - used to classify fine materials
      * Liquid limit: acts as liquid
      * Plastic limit: can deform w/o rupture
      * Liquid limit: plastic limit = plasticity index
    - You want your soil to be in the “goldylocks” zone with the proper amount of water for max stability
* Soil Erosion
  + Erosion occurs by raindrops, sheet flow, rills, and gullies
  + Rate of erosion is 10-100 times faster than soil formation