RUNNING WATER
How does running water help shape our Earth?
Running water is the most common agent of erosion.

Stream - running water that is confined to a channel.

Tributary - smaller streams that flow into a larger one.
• Flood Plain - nearly level plain that borders the river

Flood Plain in Fargo, ND
Levee - mound of sediment that parallels the course of the river that prevents flooding

Built by Army Core of Engineers
Delta - landform that forms from deposition of sediment at the mouth of a river due to slower moving water
Ewaso Nigiro River Delta
RUNNING WATER

- Streams carry sediment in various ways:
  - Dissolved minerals in solution
  - Solid particles are suspended in water
  - Larger particles roll, bounce or slide along the bottom
● **Stream Velocity** - the speed of the stream

● **Gradient** - slope of the stream

● **Discharge** - amount of water that flows past a given point for a given period of time

● **Channel Shape** - shape of the stream bed where the running water is confined
Relationship of Transported Particle Size to Water Velocity

- Boulders
- Cobble
- Pebbles
- Sand
- Silt
- Clay

PARTICLE DIAMETER (cm)

STREAM VELOCITY (cm/s)
Variations in Stream Velocity:

- When a stream channel is straight the greatest velocity is in the middle.
- When a stream channel curves the greatest velocity is on the outside of the curve.
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- Areas of maximum velocity
- Pool (deep)
- Point bar deposit
- Maximum velocity
- Undercut bank erosion
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Variations in Stream Velocity:

- Deposition
- Erosion
Stream Characteristics:

- **V-Shaped Valley** - downcutting of a stream
Stream Characteristics:

- **Meanders** - as a stream gets older it begins to shift its course in a series of bends.
Meandering Stream
Grandpa is Crazy
Stream Characteristics:

- **Oxbow Lake** - a curved lake formed from a cutoff bend of the river
Oxbow Lake