**Wildland Soils**

**What is soil?**

* **Geologic definition:**
* **Traditional definition:**
* **Component definition:**

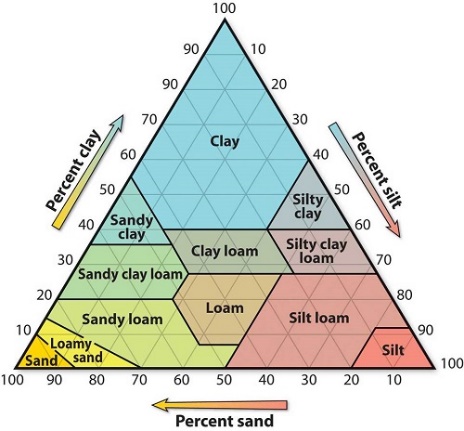
Mixture of mineral matter, organic matter\*, water, and air

\* Land managers can only manage for the organic matter.

**Soil Formation Processes**

* **Translocations -**
* **Transformations -**
* **Additions -**
* **Losses -**

**Soil Formation (ClORPT):**

* **Climate:**
* **Organisms:** A productive soil is a “living” soil
* **Relief:**
* **Parent Material:**
  + **Soil Texture: “**feel” the difference, three fractions of mineral matter (sand, silt, & clay)
* **Sand:**
* **Silt:**
* **Clay:**
* Understand how to use the texture triangle
  + **Soil Structure:**
* **Aggregate:** mass or cluster of soil particles such as clod, crumb or granule.
* **Structure:** the combination or arrangement of soil particles into aggregates.
  + **Soil Color:**
* Indicator of different soil types
* Indicator of certain physical and chemical characteristics
* Due to humus content and chemical nature of the iron compounds present in the soil
* **Time:** Soil develops and changes over time

**Soil** affects **Vegetatio**n which affect **Soil …** *and on and on*

**3 soil orders that are the primary soils in rangeland ecosystems:**

* **Mollisols**:
* **Aridisols:**
* **Entisols:**

**Soil Maps:**

* **Soil Series:** a group of soils that are similar in texture and profile
* **Soil Map Units:** grouping of soils that occur together, often based on geomorphology
* **Management Implications:**

**Ecological Sites**

* Abiotic →

Vs

* Biotic →

1. Specific physical characteristics: soils, climate, hydrology, geology, topography.
2. Differ in its ability to produce distinctive kinds and amounts of vegetation.
3. Respond similarly to management actions and natural disturbances.

**Ecological Sites – Based on Soil**

* Soil affects the type of plants that grow on the land.
* Therefore, soil maps usually form the basis for maps of ecological sites.
* Ecological Site Descriptions – can be found by starting with soil maps in the Web Soil Survey

**Ecological Potential & Dynamics**

