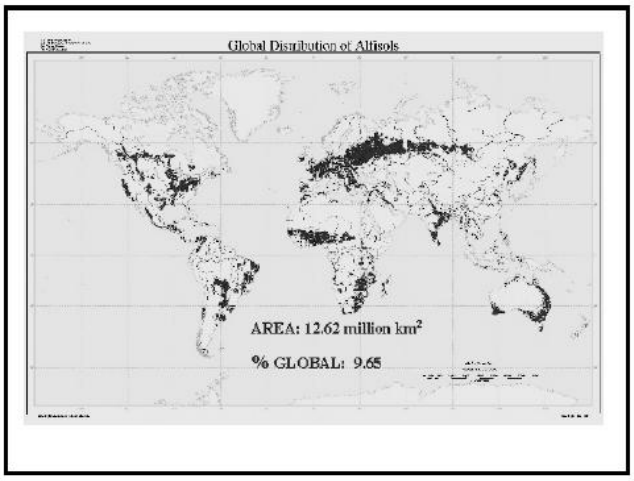
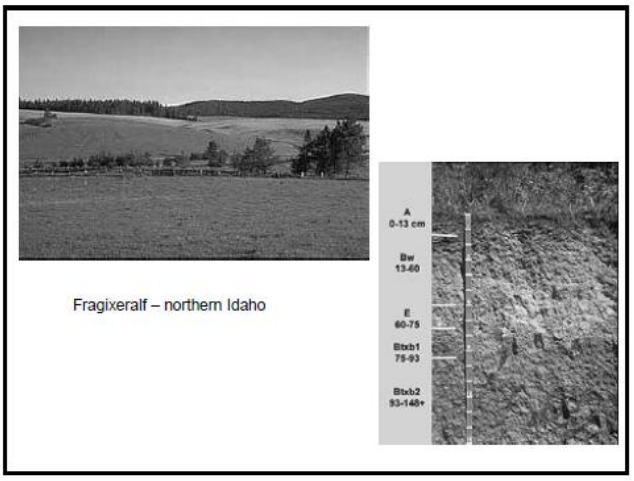
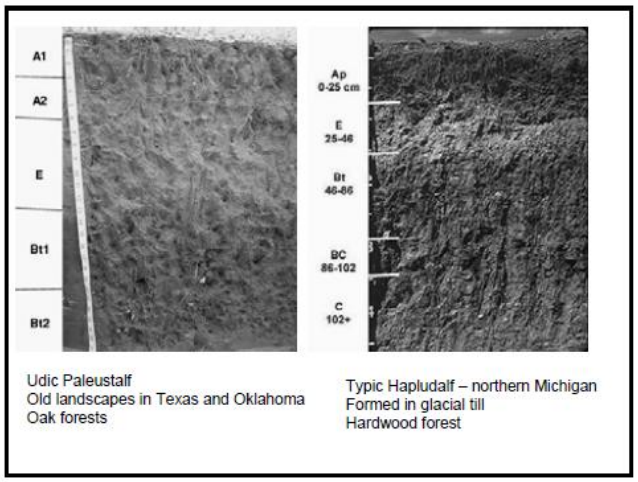
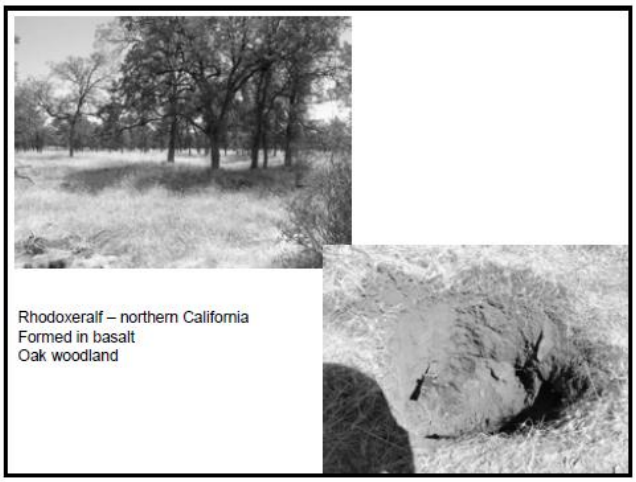
Alfisols:

- Central concept –stable landscape positions and subsurface zone of clay accumulation.
- Morphologically well developed; Structure, horizonation, clay films.
- Five prerequisites;
  - Accumulation of layer lattice clays in subsurface – argillic horizon.
  - Relatively high BS%, >35% in lower part of argillic horizon.
  - Contrasting soil horizons.
  - Favorable soil moisture regimes.
  - Relatively little accumulation of OM in mineral soil horizons.
- Global distribution: Area – 12.62 million Km^2 (% 9.65).



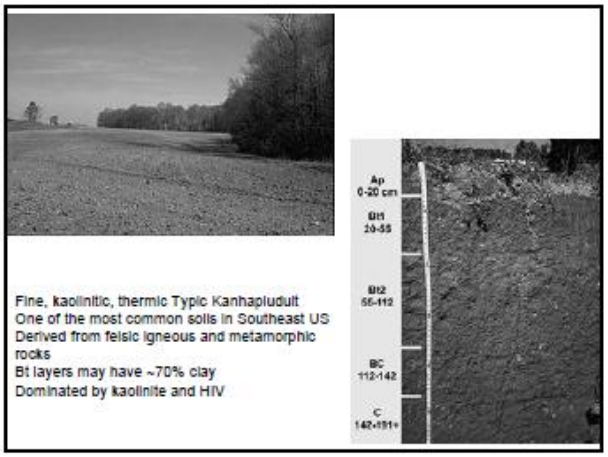


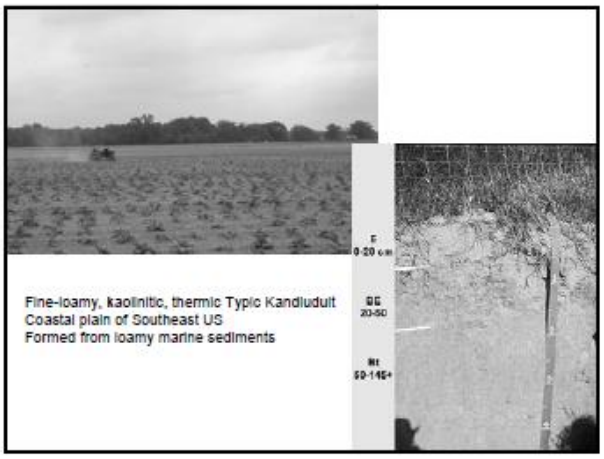


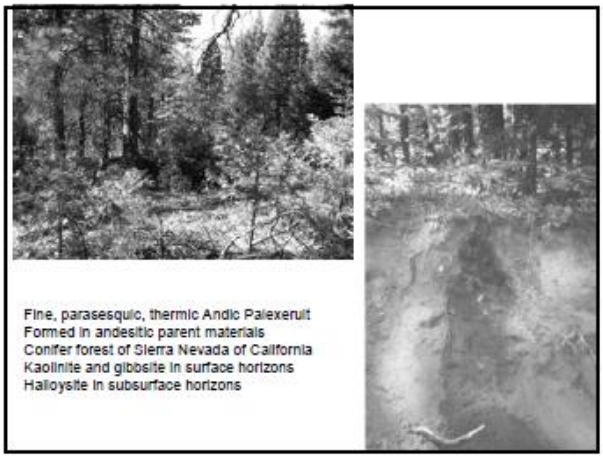


Ultisols:

- Strongly leached, acid, forest soil with relatively low fertility with subsurface accumulation of clay.
- Few base cations in subsurface, BS% <35 in the argillic horizon.
- Global distribution: Area – 11.05 million Km^2 (% 8.45).

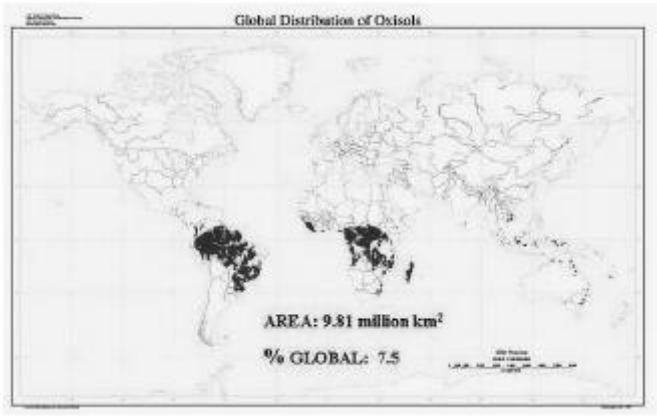


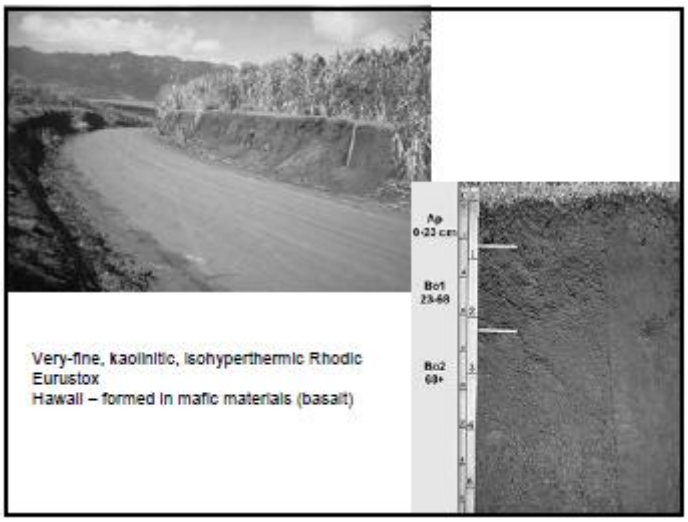




Oxisol:

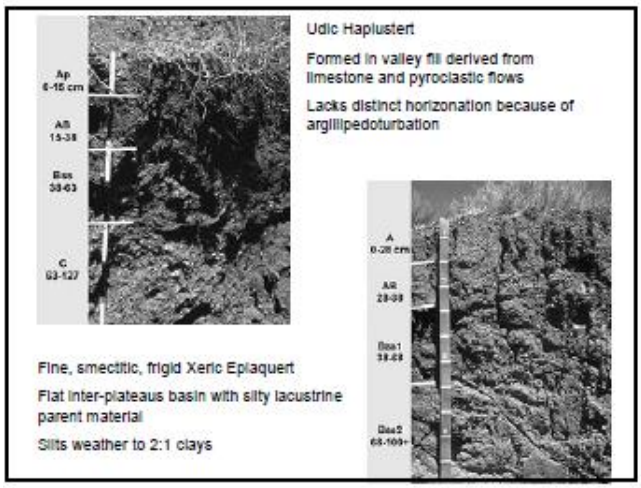
- "Ox" - Oxide dominated.
- < 10% weatherable minerals in the 50-200 µm sand fraction; Feldspare, micas, olivine, pyroxene, amphibole, carbonates.
- Low CEC.
- Low activity clays; Kaolinite, halloysite, sesquioxides (hematite, goethite, gibbsite).
- Global distribution: Area – 9.81 million Km^2 (% 7. 5).

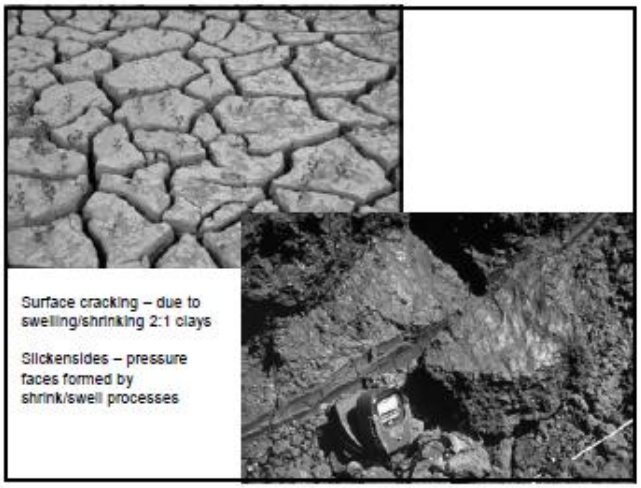




Vertisol:

- "vert" – inverted
- Dark, clayey soils that shrink and swell upon drying and wetting
- Distributed on every continent except Antarctica

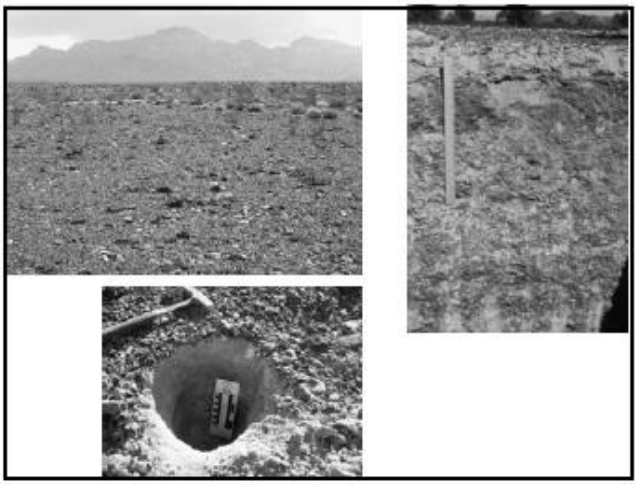


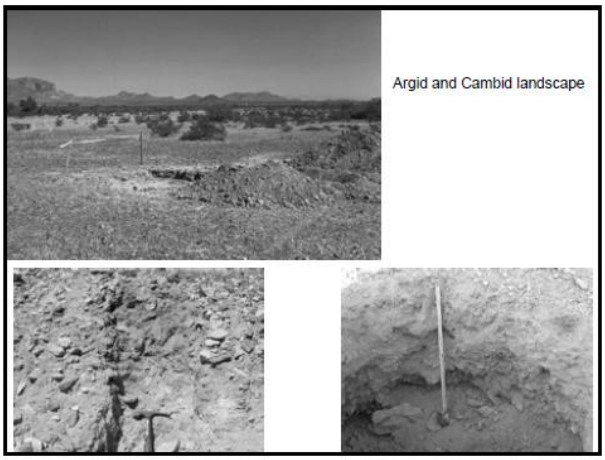


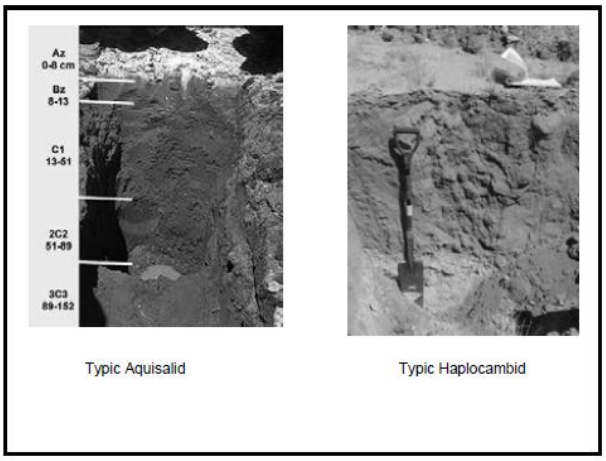
- Global distribution: Area – 3.16 million Km^2 (% 2. 42).

Aridisol:

- Arid systems
- Occur in both cool temperate deserts; Between 35° and 55°N
- Warm deserts at lower latitudes
- Global distribution: Area – 15.73 million Km^2 (% 12. 02)

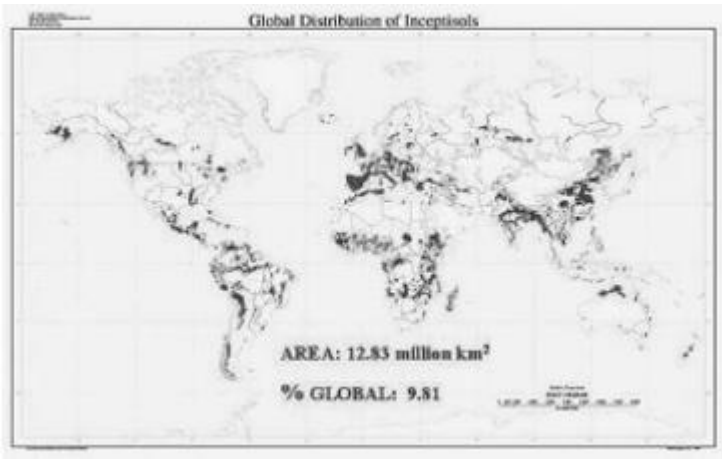


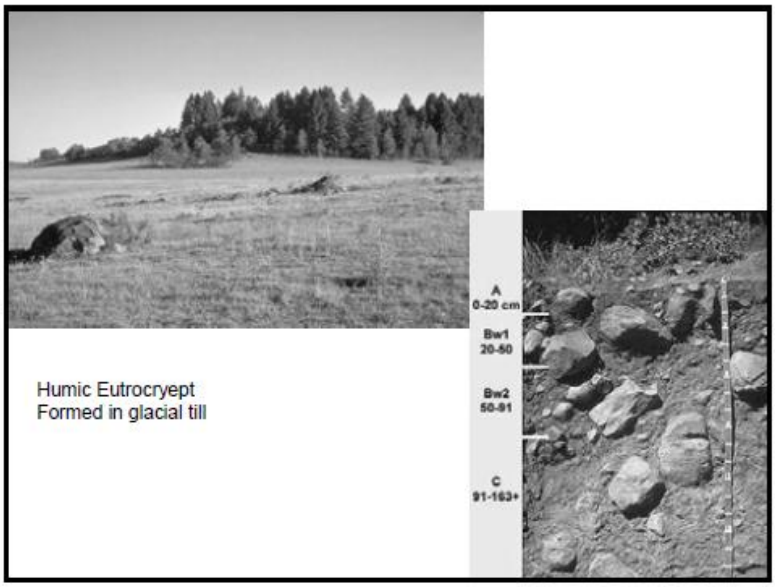




Inceptisol:

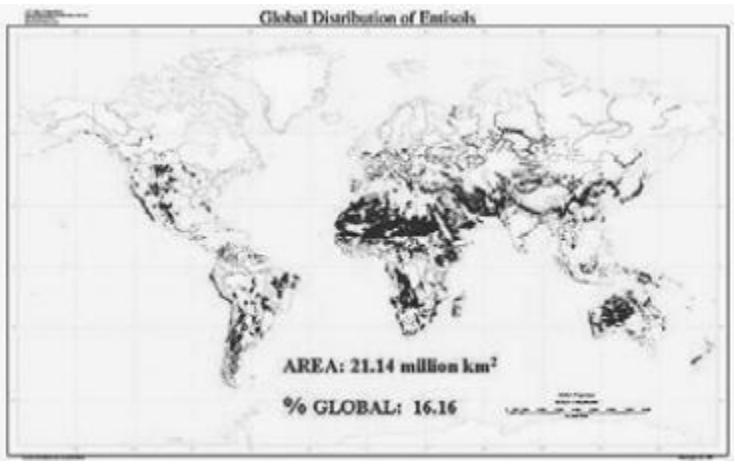
- Incipient soil formation
- Some diagnostic features in addition to an ochric epipedon or albic horizon
- Global distribution: Area – 12.83 million Km^2 (% 9. 81)

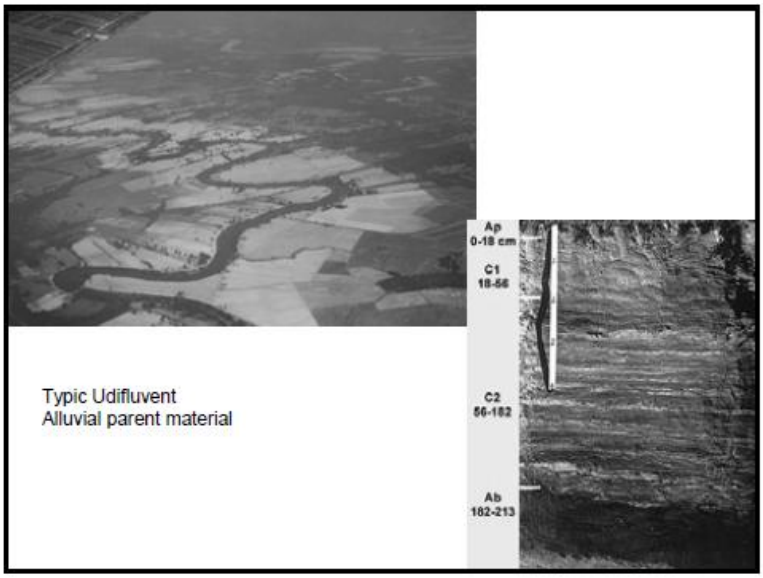


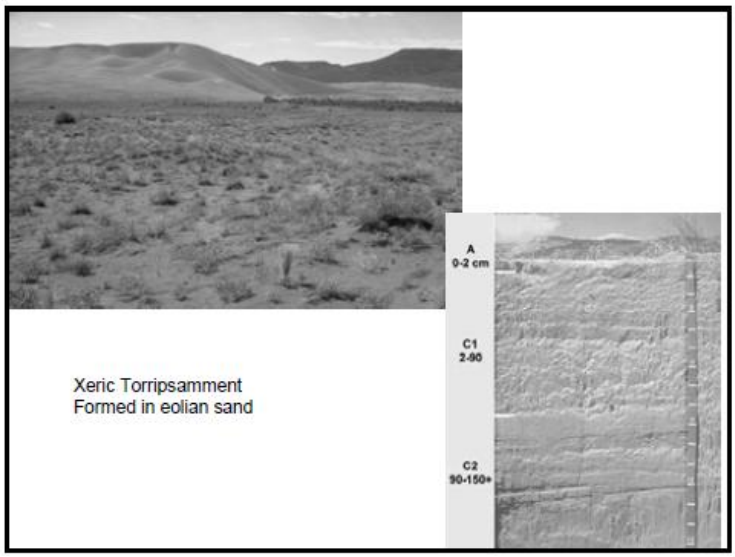


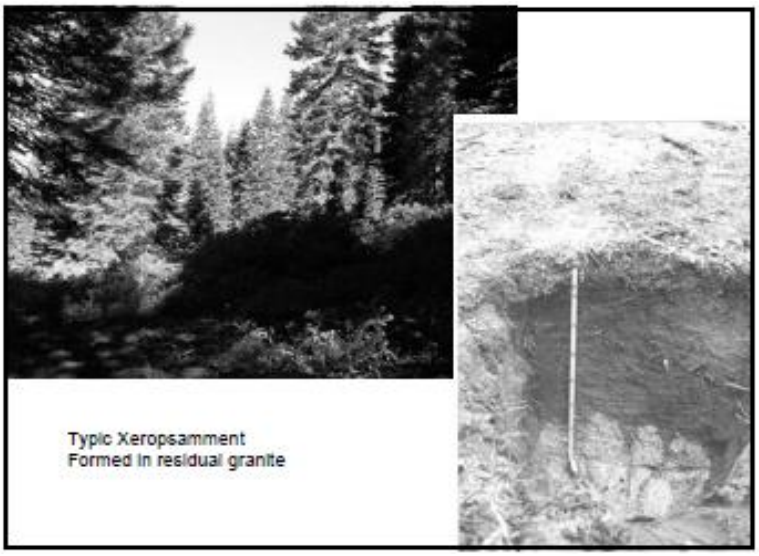
Entisol:

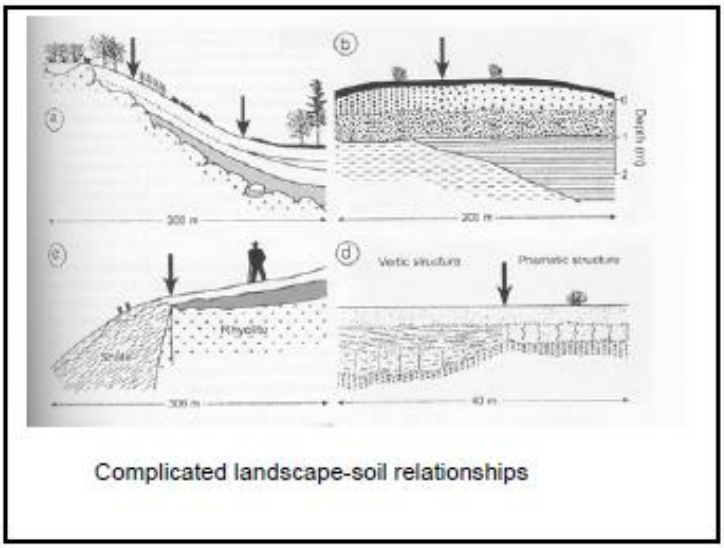
- Little to no soil development
- Root domains are present – can support plant growth
- Global distribution: Area – 21.14 million Km^2 (% 16. 16)

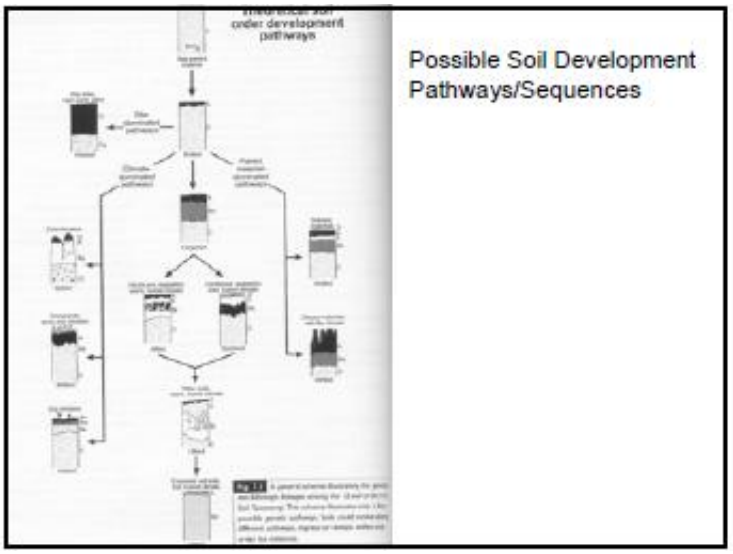

Global Distribution of Entisols
AREA: 21.14 million km²
% GLOBAL: 16.16


Typic Udifluvent
Alluvial parent material
Ap
0-18 cm
C1
18-56
C2
56-182
Ab
182-213


Xeric Torripsamment
Formed in eolian sand
A
0-2 cm
C1
2-90
C2
90-150+


Typic Xeropsamment
Formed in residual granite


Complicated landscape-soil relationships


Possible Soil Development Pathways/Sequences