

Ecosystem 'SOIL'

Davy Ottevaere

May 5th 2020



Ecosystem 'SOIL'



What is 'soil'?

- Synonyms: earth, dirt, ground, ...
 - Definitions:
 - *“the upper layer of earth in which plants grow”*;
 - *“the dark crumbly looking material that readily breaks up in the hand, and leaves your fingers dirty”*;
 - *“the mixture of mineral particles and organic matter from decomposed plants”*;
- ↳ not so easy to define: depends on the usage / user



Ecosystem 'SOIL'

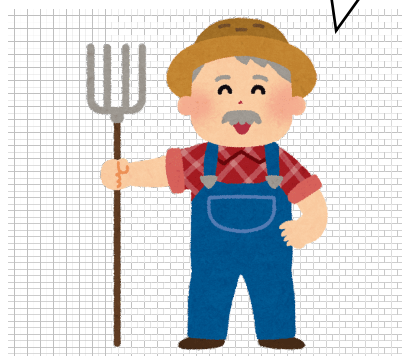


Adam & Eve:

- "Adam" = "Man, Of The Earth"
- "Eve" = "life"

What is 'soil'?

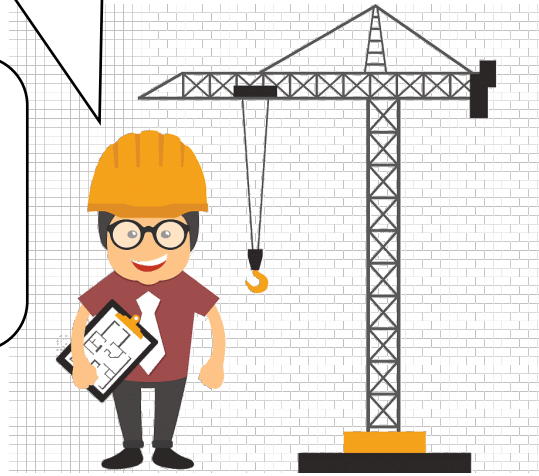
The top 40 cm or so of my ground, the bit that I dig...



The skin of our earth, with plants being the clothing...



The unconsolidated loose material that isn't rock...



TERRACOTTEM®

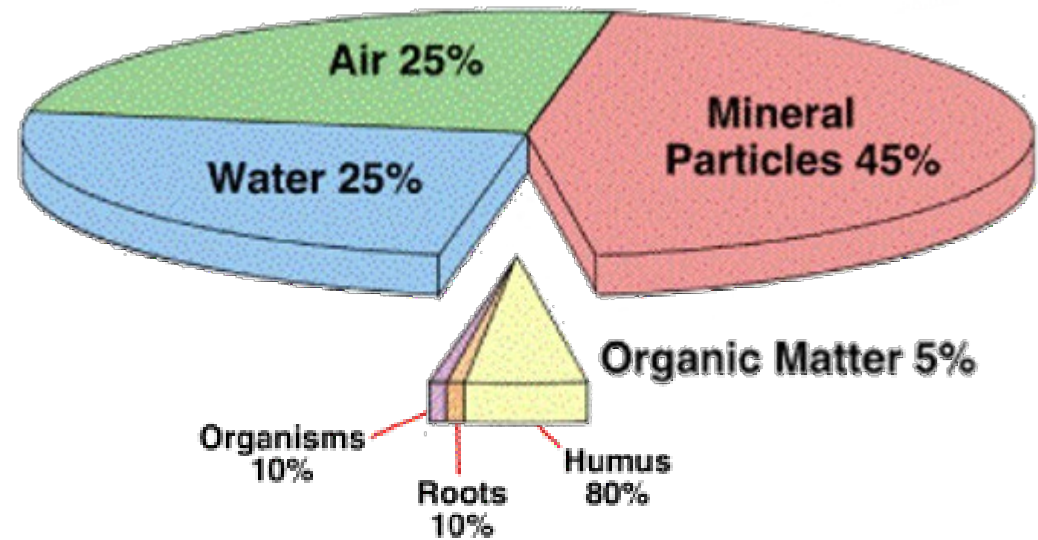


Ecosystem 'SOIL'



Composition of soil

1. Mineral particles
2. Water
3. Air
4. Organic matter
 - Humus
 - Organisms
 - Roots

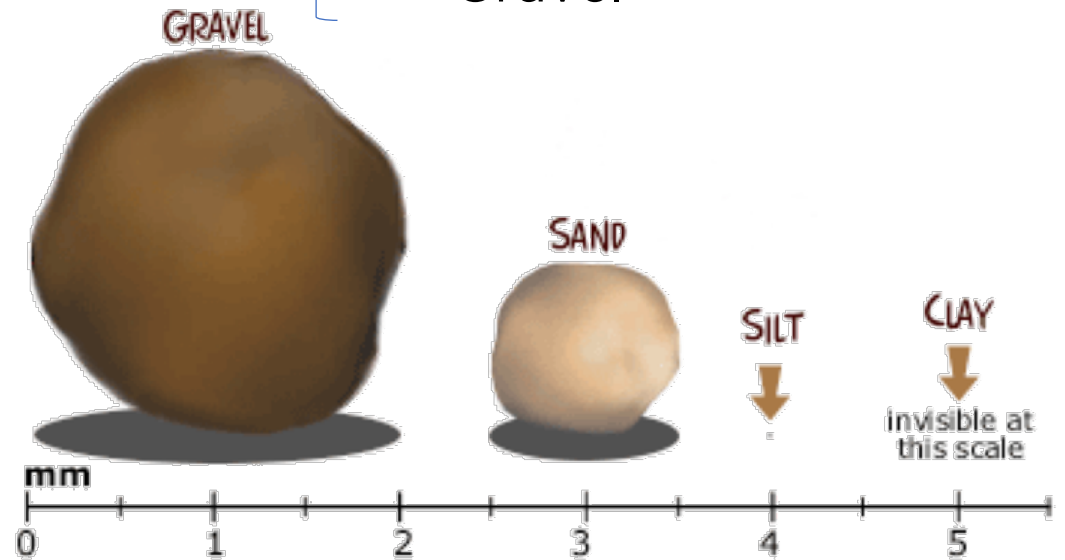


Ecosystem 'SOIL'

Composition of soil

1. Mineral particles
2. Water
3. Air
4. Organic matter
 - Humus
 - Organisms
 - Roots

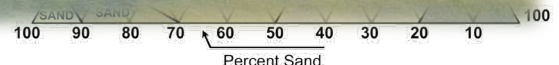
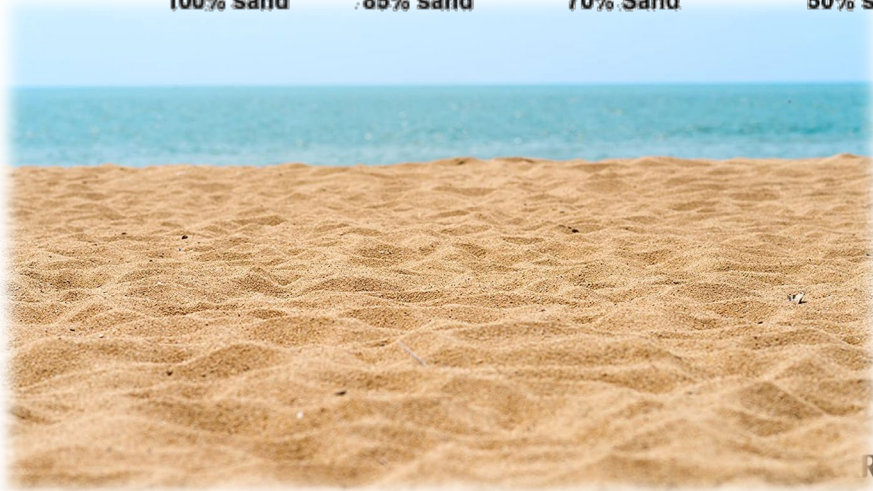
- Clay
- Silt
- Sand
- Gravel



Ecosystem 'SOIL'



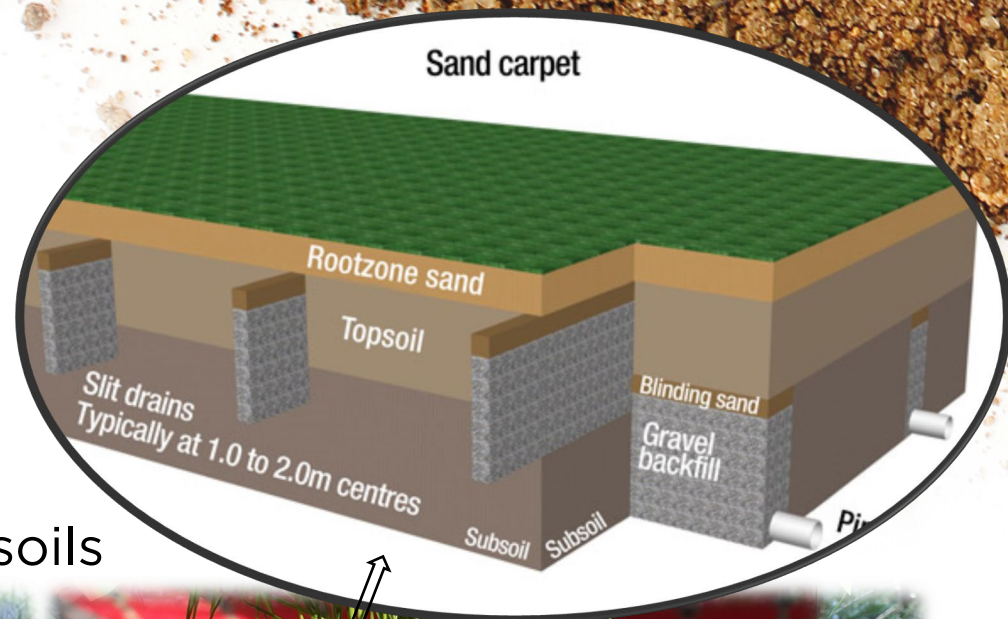
Soil types



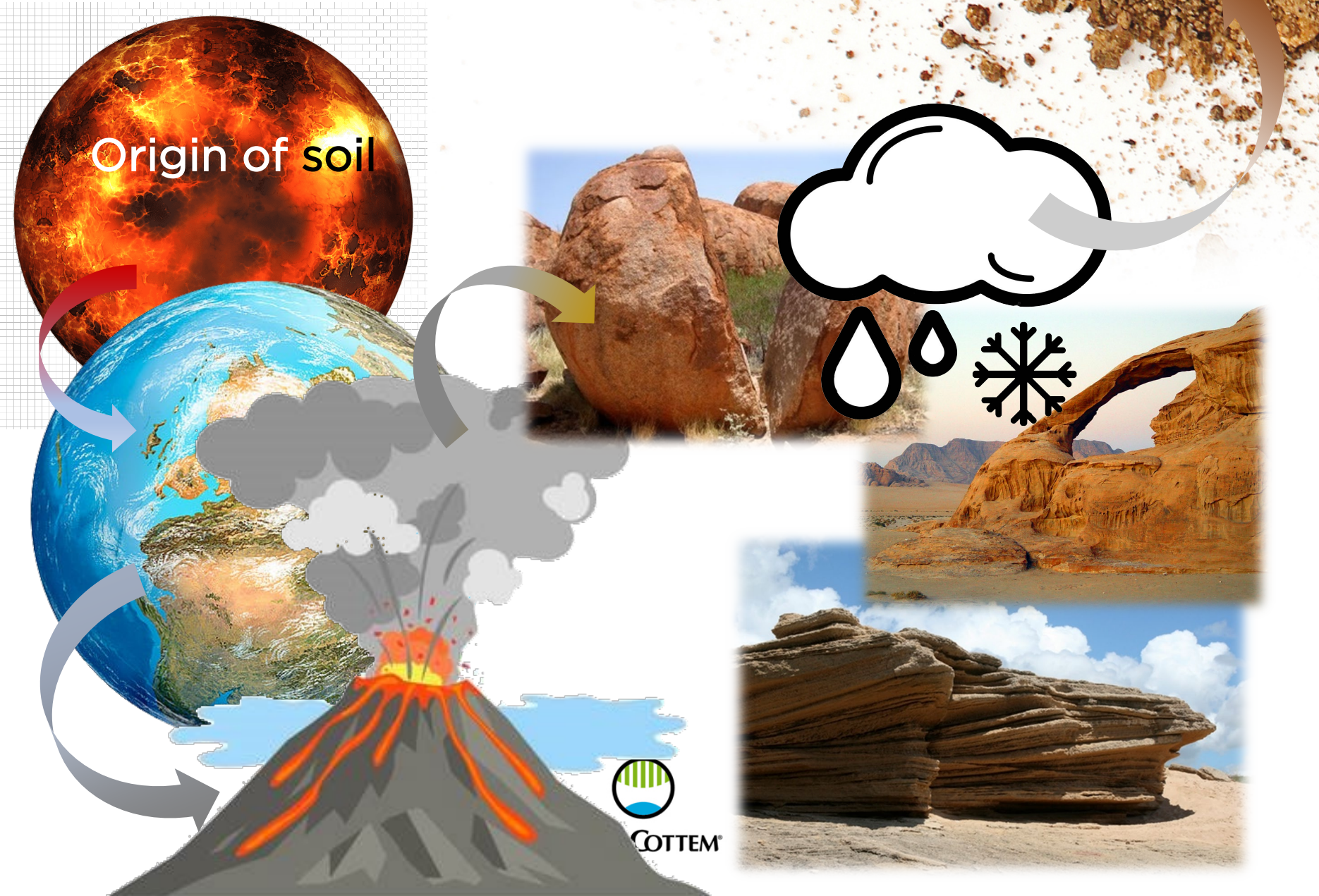
Ecosystem 'SOIL'

Soil types

- Shallow vs. deep soils
- Natural vs. man-made soils



Ecosystem 'SOIL'

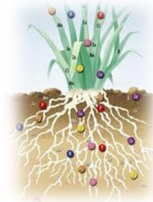


Ecosystem 'SOIL'



Soil purpose

1. Growing medium for plants: they produce FOOD !
2. Provide a habitat for living organisms.
3. Soils absorb, hold, release, alter, and purify water.
4. Soils process nutrients so that living things can use them over and over again.
5. Soils play a role in the modification of earth's atmosphere.
6. It's a construction material for us humans.

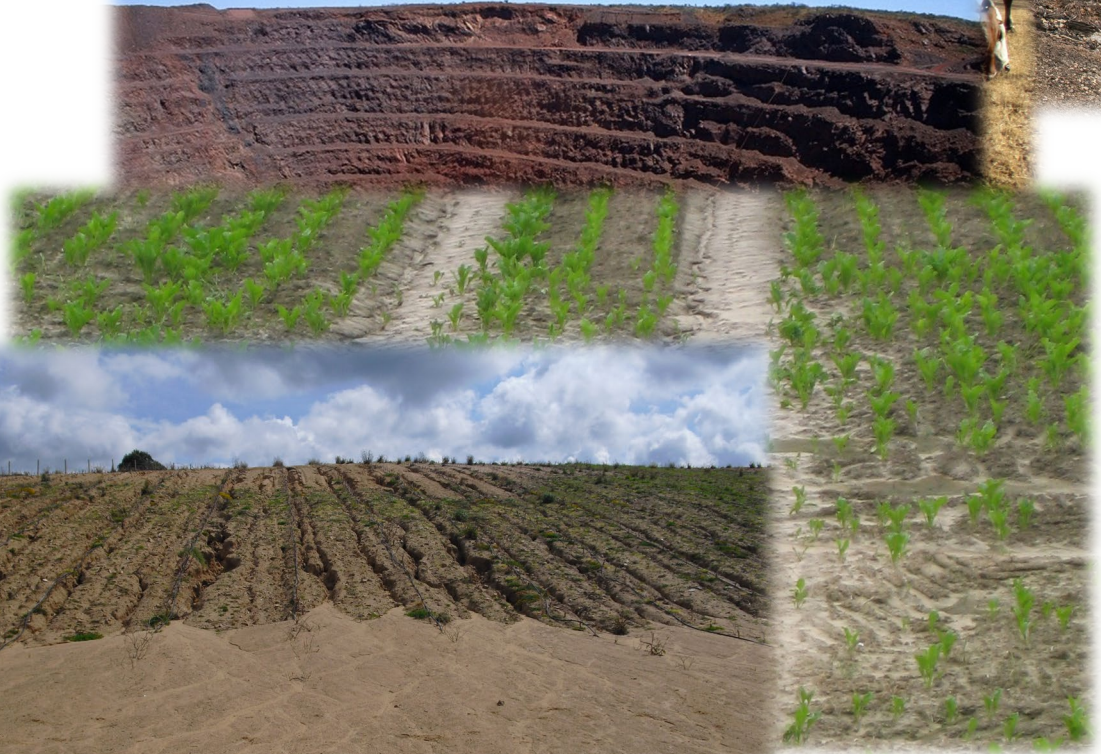


Ecosystem 'SOIL'



Soil problems

1. Soil erosion
 - Deforestation
 - Overgrazing
 - Mining
 - Monoculture
 - Ploughing



Ecosystem 'SOIL'

Soil problems

1. Soil erosion
2. Soil fertility
 - Soil depletion
 - Soil pollution
 - Salinity



Ecosystem 'SOIL'

Soil problems

1. Soil erosion
2. Soil fertility
3. Drought
 - Climate change
 - Loss of vegetation
 - Urbanization → hard landscaping
 - Loss of water retention



Ecosystem 'SOIL'

Soil problems

HUMAN INFLUENCE



Ecosystem 'SOIL'



What can be done?

1. Education
2. Awareness
3. Common sense



Ecosystem 'SOIL'

Thank you for listening !

Questions?

