Soil Museum in National Taiwan University, Taiwan

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Soil museum in National Taiwan University, Taipei, TAIWAN
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Tropical soils

Soil monoliths made by Prof. Chang

Andisols in Yangmingshan

Black soils in east Taiwan

Alluvial soils

Temperate soils

Soil structures

Temperate soils

Soil maps of Taiwan

Large-scale soil profiles

Interior configuration of the soil museum in NTU
Soil museums in National Taiwan University, Taipei, TAIWAN

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Soil museum in National Taiwan University, Taipei, TAIWAN

Posters showing basic soil knowledge
Soil museum in National Taiwan University, Taipei, TAIWAN
Soil museum in National Taiwan University, Taipei, TAIWAN
Soil orders in Taiwan

Soil museum in National Taiwan University, Taipei, TAIWAN
土壤怎麼來的？

物理風化作用
受氣候、溫度影響而造成岩石熱脹冷縮或沖蝕作用，使原本堅硬的岩石構造崩解，逐漸形成礦物碎屑物。

化學風化作用
岩石風化破壞後，礦物與水之間產生化學作用，例如：水解、水溶解作用，可使礦物徹底分解成土壤。

土壤形成
經過物理和化學作用的洗禮，固結碎屑物釋放出許多養分，可讓動植物或微生物棲息於其中，最後逐漸形成「土壤」本體。

土壤之物理、化學與生物學特性，均受其生成環境（如氣候、生物、地形、母質、及時間）之特性而交互影響，亦顯其複雜性。

土壤樣體與土壤剖面

土壤樣體指土壤的立體模式，土壤樣體聚集而成的土壤樣體群，有就是人們所稱之某一土壤名稱，例如：紅壤、黑色土或黃壤等。

土壤剖面

O層：最接近地表的土壤，由有機物堆積而成。依分解程度不同可分為Oa、Oi、和Oe。
A層：由腐植化的有機質與礦物質混合而成。
E層：剖面中較上方層次，因受到水分淋洗，土壤中物質往下移動，僅殘留石英、砂粒或粉粒，通常此層顏色為灰白或淡灰色。
B層：此層為移動物質洗入聚積之礦物質土層，按洗入之物質不同則有不同之B化育層，包括：淋澱層、黏聚層或氧化層等。
C層：剛由母岩轉換而來之土層，不具備以上所提到之任何特徵。

土壤與地形的關係

Relations between soil and landscape
Five major factors influencing soil formation:

1. **Time**
   - Soils are formed over a long period of time, affecting the way their minerals are weathered and the type of organic matter that is present.

2. **Climate**
   - Climate significantly affects the rate of soil formation, as well as the type of vegetation that can grow in a particular area.

3. **Vegetation**
   - Plants play a crucial role in soil formation through their root systems, which help to break down rocks into smaller particles, and through the decomposition of plant material.

4. **Organism**
   - Soil is a living habitat for countless microorganisms and larger animals, which contribute to soil formation through their activities.

5. **Parent Material**
   - The type of bedrock or parent material that the soil forms on can greatly influence its properties and fertility.
Five major functions of soils in ecosystem
Soils with various land uses in Taiwan

Prepare for soil monolith
Distribution of Soil orders from west to east part of Taiwan
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Large-scale soil profiles
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Spodosols and Entisols
Entisols and Ultisols
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Soil museum in National Taiwan University, Taipei, TAIWAN
Soil maps of Taiwan made by Japanese in 1920s
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Parent materials and soil orders of farmland in Taiwan
The levels of rice yields in Taiwan
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Tropical red soils
Ultisols (with plinthite) and Oxisols
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Ultisols and Oxisols (with uplifted coral)
Entisols and Ultisols in outlying islands of Taiwan
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Different alluvial soils in western Taiwan
Soil museum in National Taiwan University, Taipei, TAIWAN
Entisols, Inceptisols, and Alfisols
Entisols, Inceptisols, and Alfisols
Inceptisols and Alfisols
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Entisols and Inceptisols
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Histosols, Ultisols, and Inceptisols
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Termite mound, Biopores, and Plinithites
Ferromanganese pan and Ferromanganese concretion

Soil museum in National Taiwan University, Taipei, TAIWAN
Clay coatings, Clay column, and Ferromanganese concretion
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Sand rose (gypsum) and Spodic materials
Pumice, Clay coatings, and Biopores
Slickensides and Limestone
Limestone, Clay coatings, Mn coatings, pore-lining residue, and Plinthite
Fe and Mn nodules, Plinthsites, E horizon
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Mollisols, Ultisols, Histosols, and Vertisols
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Soil monoliths made by Prof. Chang, Jung-Ming in 1980s
Welcome to the Soil Museum in National Taiwan University