Classification of Soils

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On the basis of decomposed material, climatic condition, period, bacterial activity etc. soils of the world can be divided into three major groups: -

A) Zonal soils

B) Intra Zonal Soils

c) Azonal Soils

***A) Zonal Soils** are formed by long period effect of vegetation and climate and thus are distributed throughout the world according to the vegetative and climatic conditions.*

Zonal soils are further divided into following types: -

1. ***Pedalfer Soil**: - It is made up of three words (Ped+ Al + Fe). Ped means soil. So Pedalfer are those soil having large amount of aluminum and iron. It is formed by the process of **Laterization**.*
   Pedalfer soil is further divided into two groups: -

a) *Forest Region Pedalfer soil*
b) *Grassland Region Pedalfer soil*

2. ***Pedocal soils****: - (Ped + Cal) Ped means soil and Cal stands for calcium. So Pedocal soils are having large amount of calcium. In such type of soil calcium comes to the upper layer of soil from its lower layers by the process of* ***Capillary Action****. Pedocal soils are further divided into following groups: -*

   a) *Chernozem Soils*
   b) *Brown Steppe Soils*
   c) *Desert Pedocal Soils*

3. ***Tundra Soils****: - It is found in the Tundra region and due to very cold climatic condition these soils are much less developed again due to lack of Bacterial activity these soils are not fertile.*

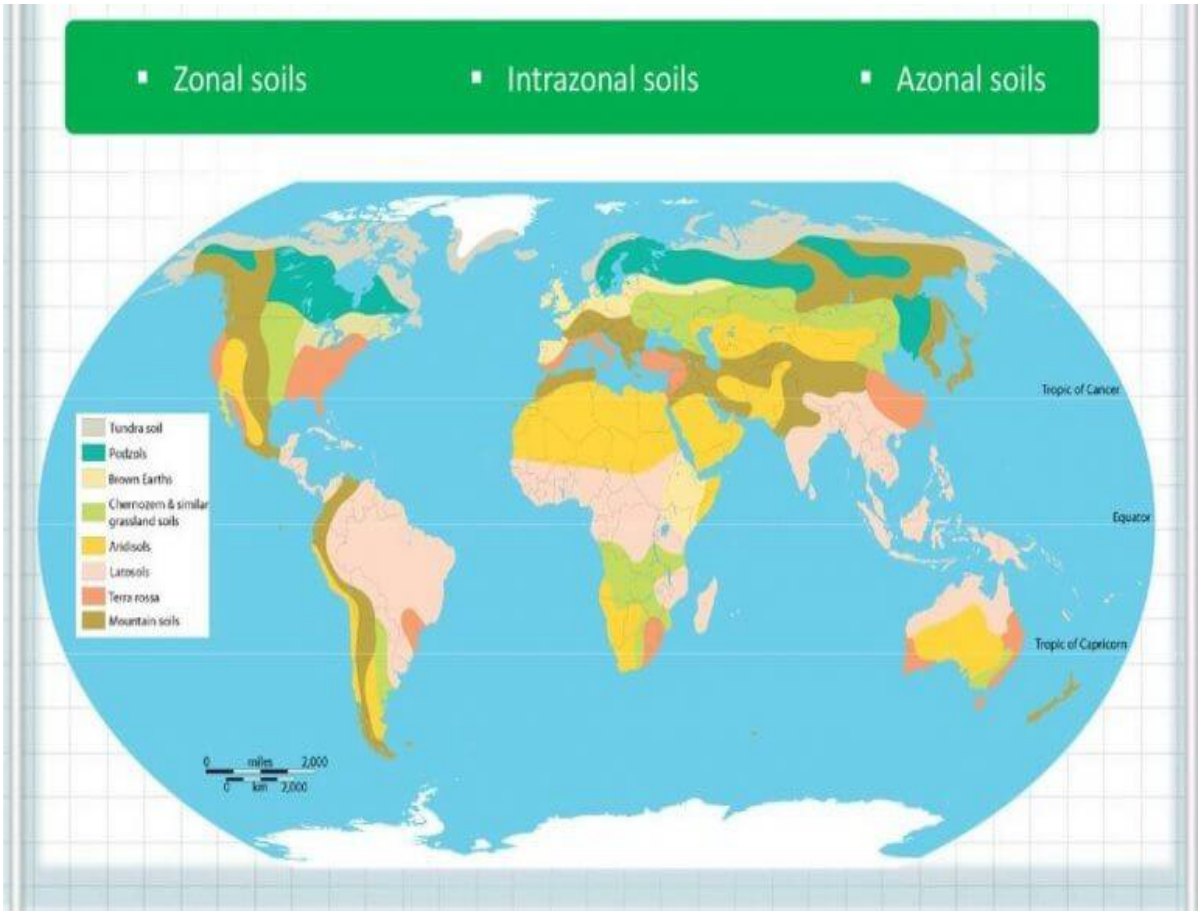
B) ***Intra-Zonal soils*** *are formed by the combined effect of parent rocks, surface features, drainage factors etc. As such soils are found in scattered way between the Zonal soils these are known as Intra-Zonal soils.*
Regur or Black soils, Rendzina soil, Peat, Bog soil, Muck soil, Solanchak, Solonetz etc. are prominent Intra-Zonal soils. These soils are somewhere fertile while somewhere infertile.

C) ***Azonal Soils*** *are not having developed layers of Soil Profile and are also not formed by any specific process. These undeveloped soils have humus and minerals deposition at many places. Alluvial, Loess, Moraine, and Lithosol are prominent Azonal soil among which Alluvial soils are much fertile soils which are found in the flood plains of the world formed by different rivers. Deposition of new layers of soil every year by floods caused by these reivers has made them much fertile but this is also the basic*

reason why such soils have less developed soil profile. Large Alluvial plains of North India is divided into two groups:-

***a) <u>Khadar Plains</u>** are regions of new Alluvial deposition.*
***b) <u>Bhangar Plains</u>** are regions of old Alluvial deposition.*

Due to new alluvial deposition Khadar Plains are much fertile and Bhangar plains are less fertile. Alluvial plains are widely used to grow rice, wheat, sugarcane, jute etc. Loess soil is found in the Shanshi, Shenshi, and Honan region of North China and Kiyushu region of south China which has plenty of lime. Similarly in Pampas region of Argentina and in Mississippi basin of United states of America Loess soils are found which is widely used for agricultural work.



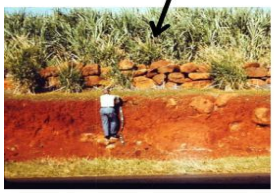
Zonal soils – examples

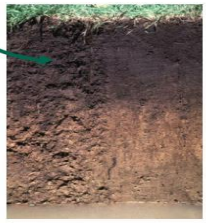
Podzols – cool climates, coniferous forest

Brunizems – tallgrass prairies

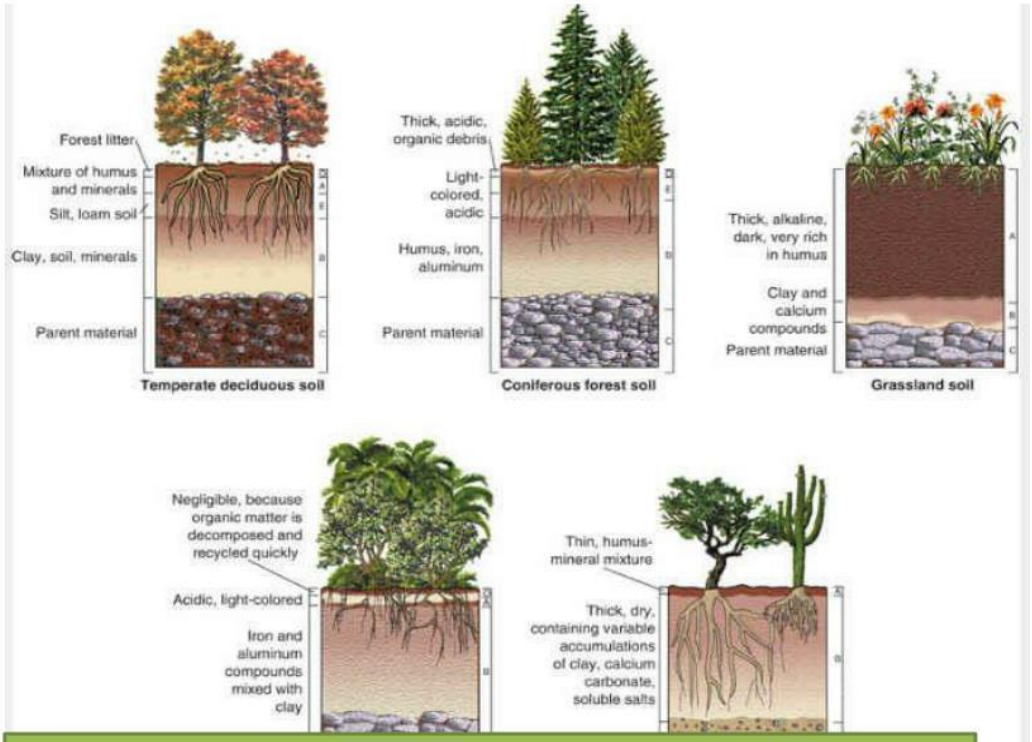
Sierozems – desert soils

Laterite soils – red tropical soils





Different regions have different soil profiles



The type of soil in an area affects the types of plants that can grow there