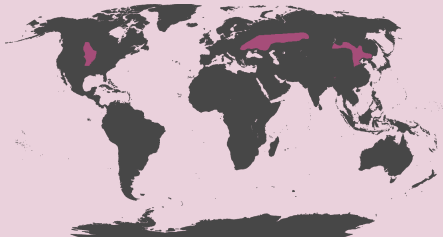


CHERNOZEM SOILS



(Source: https://en.wikipedia.org/wiki/Chernozem#/media/File:Black_dirt_in_Black_Dirt_Region.jpg)

Location:

Chernozems are only located in the **Northern Hemisphere** above 30°N, especially in North America and Russia. Chernozems cover 230 million hectares (or 1.8%) of total land area on Earth.

Characteristics:

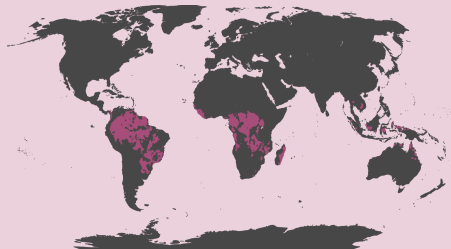
- Chernozems are rich in an organic matter called **humus**, which is decayed plant and animal matter. The general characteristics of humus are:
 - High water retention, meaning it is not easily waterlogged
 - Rich in nutrients
 - Workable
- Chernozems are also naturally fertile from **high phosphorus and nitrogen content**
- Natural grasslands
- Develops in areas with cold winters and short, hot summers, with adequate seasonal rainfall

Agricultural uses:

- **High water retention** makes chernozems favourable for **arable crops** as it is not likely to flood/ become waterlogged in the event of heavy rainfall. Therefore, high yields can be sustained even in times of more extreme weather.
- **Clay-like structure** makes soil good for ploughing, as it will not be as **vulnerable to erosion** as some soils, which reduces the losses associated with agricultural work.
- Crops can be grown **throughout the year** as there are enough nutrients for the soil to sustain yearly growth. This means chernozems are usually used for **multiple harvests**, which brings consistent revenue for farmers.
- **Maize, barley and wheat** are mainly grown



TROPICAL LATOSOLS



Tropical latosols are sometimes known as **ferralsols** or **oxisols**. They are a type of **tropical soil**, but they are not **all** tropical soils, as many tropical soils are not classified as latosols.

Location:

Tropical latosols are found around the Equator, in the tropics. These soils are concentrated within South America, Central Africa, Southeast Asia, and Northern Australia. These soils cover 8% of ice-free land.

Characteristics:

- Tropical latosols are rich in **aluminium** and **iron oxides** (hence why they are sometimes called oxisols or ferralsols - 'ferrum' is latin for iron). The iron gives the latosols their red/yellow colour.
- Tropical latosols are very **deep** - around 30-40 metres.
- As the tropics are **biodiverse** and many areas are **dense rainforests**, there is a lot of **decaying plant matter** on the floor. However once this decomposes into **humus**, it is very **quickly absorbed by plants**, meaning the soil does not contain a lot of nutrients.
- The **high rainfall levels** in this region cause the majority of nutrients to be **leached** from the topsoil, making the latosols less fertile.

Agricultural uses:

- Tropical latosols are **poor for agriculture** due to the lack of nutrients in the soil (as **humus** is not left in the soil, and minerals are **leached**). When plants are cleared for agriculture, the soil is left exposed to **heavy, consistent rainfall**, which further leaches away minerals needed for plant growth. **Fertilisers** are needed if **arable crops** with high yields are desired, and this still requires a large amount of **inputs**, lowering **productivity**.
- Traditional farming practices in latosol regions allow the **soil to recover after agriculture** - this is known as **shifting cultivation**. After an area has been used, it is left for a few years at the least to fully recover, or the soil risks being **permanently degraded**. 'Slash-and-burn' is a technique where the area is **stripped of plants**, and then **burned**. This both clears an area **quickly** and adds **nutrients** to the soil.
- **Commercial farming practices** have extended to the tropical latosol region, where **pastoral farming** is common as the land can be used for grazing.

