



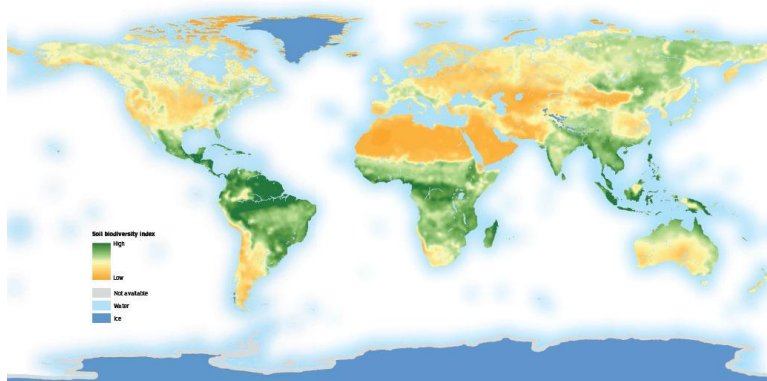
Map Of Global Distribution Of Soil Biodiversity

Mapping soil biodiversity

While scientific knowledge of individual groups of soil fauna, together with their role in providing key ecosystem services, is continuously evolving, data on their abundance, diversity and geographic distribution remain scarce. Although the major ecosystems of the planet are now relatively easily mapped and monitored through the vast quantities of data collected by various satellite-based sensing systems, such tools are unable to provide any direct information relating to soil-based organisms. In fact, any comprehensive or large-scale survey and monitoring programme for soil organisms can only be carried out through direct field observations or sampling. Therefore, knowledge of belowground species distribution is very incomplete and, as a consequence, there is a general lack of maps showing the degree of soil biodiversity, especially at global scales.

In addition to the practical problems associated with mapping soil biodiversity, the issue is further compounded by the lack of a precise definition. When combined with the practical challenges associated with collecting data, the task becomes even more daunting!

It is interesting to note that recent studies have found that the aboveground biodiversity of a region are strongly correlated, at least on a global scale, to the number of soil types in the same area.



Methodology

There are numerous groups of soil organisms distributed in different ways across the globe. Also, there is a significant lack of data for many groups of soil-dwelling organisms at global scale. Furthermore, as numerous factors influence the geographical patterns of soil biodiversity, it is not easy to give a static representation of soil biota distribution on a map. For all these reasons, it is difficult to obtain a reliable global map showing the distribution of all soil biodiversity.

However, available data can be used to develop a simple index describing the potential level of diversity living in soils on our planet. In order to do this, two sets of data were used:

- distribution of microbial soil carbon developed by Serna-Chavez and colleagues.
- distribution of the main groups of soil macrofauna developed by Mathieu.

Results

The resulting map is an initial attempt to denote global soil biodiversity levels. The analysis shows that most soil biodiversity is found in both humid-temperate and humid-tropical soils, followed by soils where extremes in temperature and precipitation levels are generally absent.

Soil Lovers say: There is a significant lack of research and data collection For Reliable Mapping.