**What is it?**

Simply, biodiversity is the measure of how variable or differentiated life is. This can be measured on the genetic level, the level of individual species and the ecosystem as a whole. In a healthy ecosystem biodiversity is expected to rise. Its distribution is not even, rather it is grouped in hotspots and is usually higher in the tropics. The largest hotspot is the Amazon rainforest.

**Importance of biodiversity**

Ecosystems in any shape benefit from increased biodiversity in productivity and stability.

Diverse ecosystems are more productive, because the requirements of different species are better distributed, thus the resources will be used more effectively, also with more species there is also a higher chance of species improving the conditions for other species. Overall, more species means a higher probability for the occurrence of more productive, better adapted or highly complementary species.

These ecosystems are also more stable for a variety of reasons. For example, when there are more species, their reactions to change will also be more diverse causing higher overall stability and if more species are present then the amount of species that can stabilize the ecosystem should also be higher.

For humans, biodiversity is most clearly connected with agriculture, for example genetic diversity in a species, such as potatoes causes greater overall resistance to pathogens. Species diversity is also important in this regard, since combinations of crops generally yield larger amounts than a monoculture.

Health is also impacted by biodiversity, as in diverse ecosystem pathogens are more likely to meet resistance, decreasing the chance of a pandemic.

**Threats**

It is generally agreed upon by scientists that we are experiencing the sixth mass extinction event, the Holocene extinction, caused by human activity. According to the IUCN (most threats fall under one of 11 categories, these include among other categories such as climate change, pollution, residential and commercial development and biological resource usage.

Biodiversity is presently declining at a rate similar or higher than during the previous five mass extinctions in the last 500 million years. Habitat destruction is one of the most prominent threats to biodiversity, especially concerning tropical rainforests which are the biggest hotspots of biodiversity on the planet.

**Solutions**

All of the threats have their own specific solutions, however they hold in common the need to change the current habits of human development, which disregard long-term effects in favour of short-term advancements that generally concern economy. Changes do not necessarily mean a regression in human development instead the method is more essential than the result.