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# NATURE AND HUMAN BODY

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## SIMILARITIES AMONG LIVING ORGANISMS

- Lungs
- Heart
- Immune system



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# REPEATING PATTERNS ON A LARGE AND A SMALL SCALE

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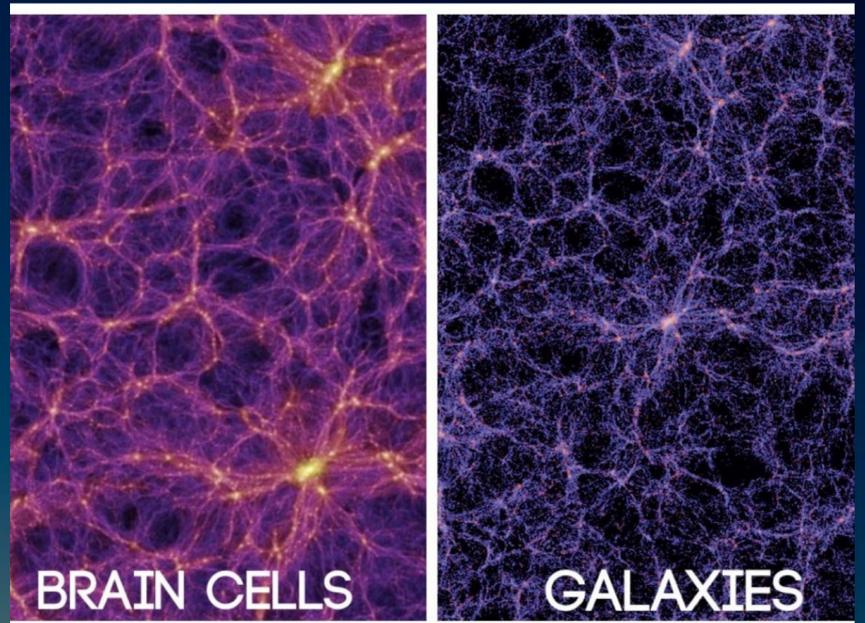
All around us are really just recurring patterns of functional systems.

They differ only in certain details and sizes.

Just as humans are slightly different from each other, so are they different from nature.

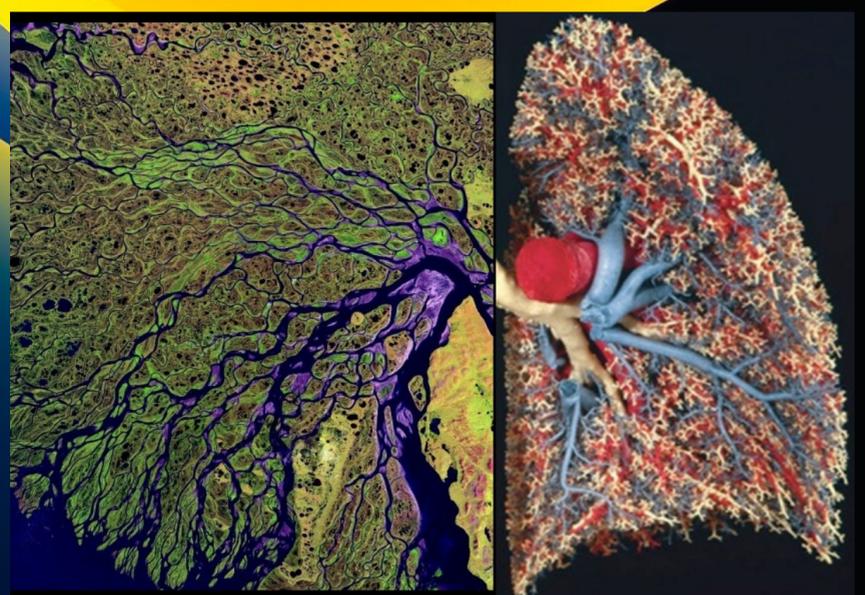
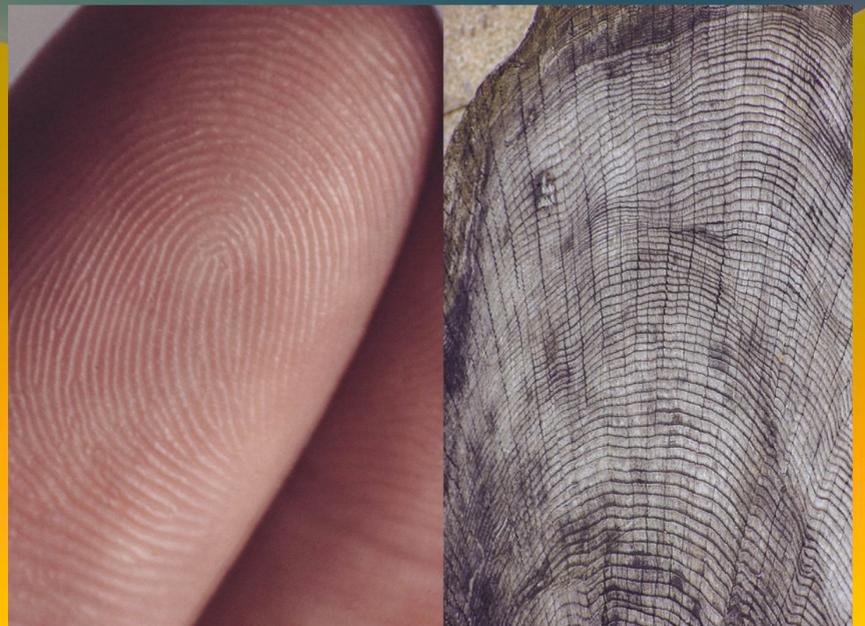
The magnitude of the differences with the planet Earth or other living organisms is determined only by our perception.

There are many similarities. Some are clearly visible to the naked eye and some are very interesting from a scientific point of view.



BRAIN CELLS

GALAXIES



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# WATER

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One of the well-known and striking similarities is the amount of the main element ensuring life on the planet for all living organisms - water.

The amount of water on the planet (71%) is very similar to the human body (70-75%). However, the amount of water on the planet Earth does not change. Water just circulates and transforms.

Organisms and the human body slightly change amounts according to a drinking regime

Planet Earth does not change the water amountt.

97% of all water is in the oceans as salt water. The remaining 3% is fresh water such as glaciers or rivers, rain, groundwater and lakes.

Only 1% of fresh water on the planet is available to humans and other living beings.

We influence this 1% to a large extent by how we treat it and how we transform it. When flushing and showering, you can transform only the contents of your wallet, but water remains water and circulates.

Consider agriculture, farming, cultivation, industry and all production and this 1% available being transformed into various things, food, plants and animals.

If we all lived as vegans, the planet would sustain 26 billion people. But the current state (7 billion people) is twice as much as the planet can handle and many countries have a serious problem with drinking water already.

It is estimated that by 2035 there will be 15 billion people with a 30% increase in water consumption per person, but there will certainly be no water for everyone. Not at today's level of consumption and its fast transformation to products.

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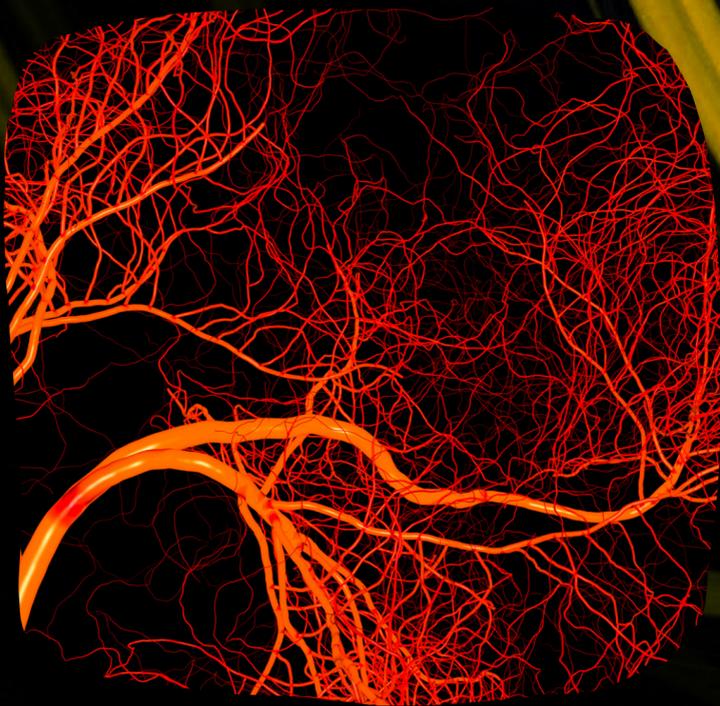
# CIRCULATORY SYSTEMS

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Another important and visual similarities are in individual parts of circulation systems between human blood circulation, rivers and planetary currents, as well as the vascular system of plants.

The complexity and intertwining is breathtaking.

Rivers and Streams



Bloodstream Vessel

Vascular Vessel



However, these systems are not only visually similar, but they are identical and have functional significance. Let's take a closer look.

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# SIMILARITIES IN FUNCTION SYSTEMS

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01

## Bloodstream Vessel

ensure circulation of blood throughout the human body.

It allows flow of nutrients, vitamins, minerals, oxygen and waste substances formed by metabolic combustion in cells, etc. This is the transformation that I have mentioned in the previous topic about Water. All substances flow throughout the body to organs into individual cells to nourish them.



02

## Rivers and Streams

Rivers and streams provide water circulation on the planet Earth.

Its functional significance is identical to that of humans, and it also transfers water containing nutrients, minerals, sediments, and bound gases to the ocean and other ecosystems. All that is needed goes to where it should be so all can live and work together



03

## Plants - Vascular Vessel

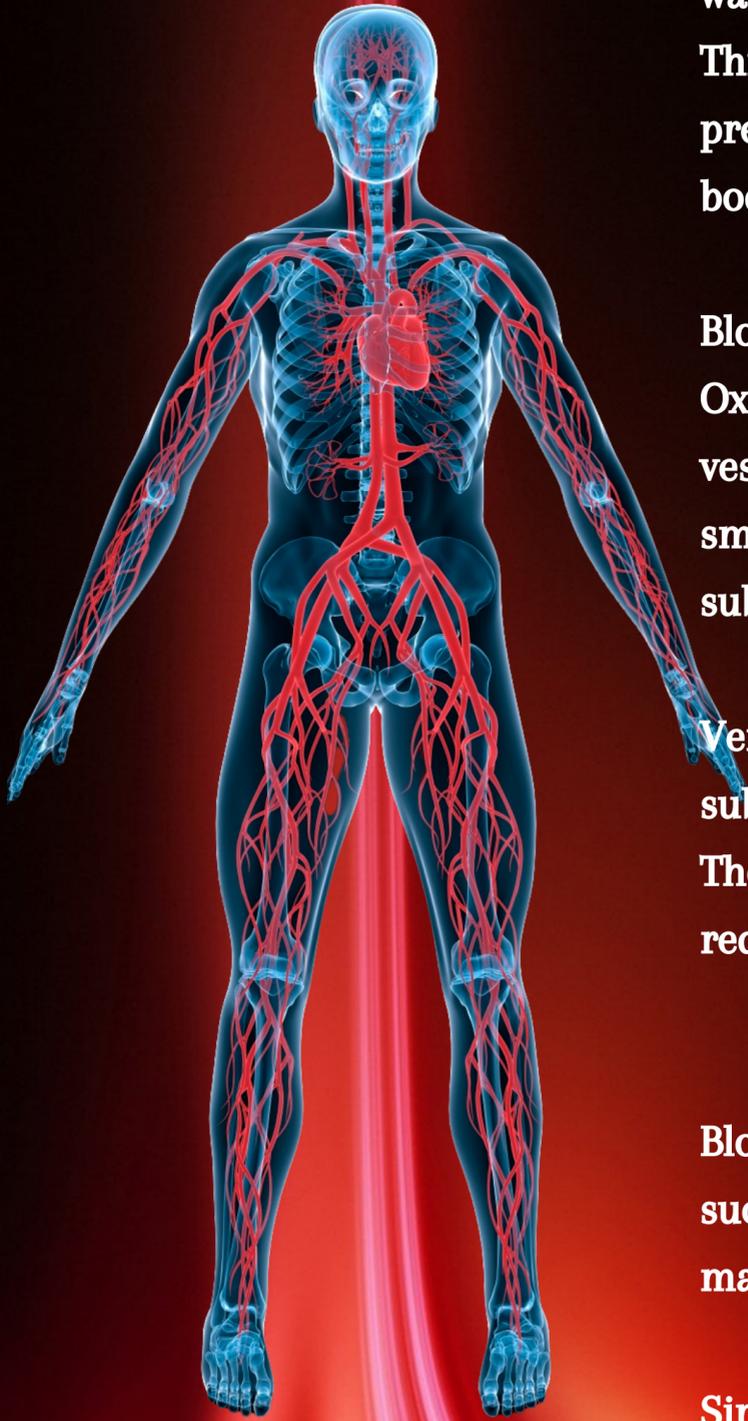
Same necessary transport of water, minerals, nutrients, organic compounds and other various molecules throughout the body of the plant.



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# HUMAN BLOODSTREAM VESSEL

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Human bloodstream ensures blood circulation throughout the body. It allows flow of nutrients, vitamins, minerals, oxygen and waste substances formed by metabolic combustion in cells, etc. This is the transformation that I have mentioned in the previous topic about Water. All substances flow throughout the body to organs into individual cells to nourish them.

Blood flows through blood vessels and veins of various sizes. Oxygenated blood from the heart is carried by the largest vessels of the artery, the largest is called the aorta, and to the smallest capillaries with a permeable wall so it can exchange all substances.

Veins carry blood without oxygen or including waste substances

The transmission of oxygen and carbon dioxide is ensured by red blood cells, which contain hemoglobin causing red colour.

Blood contains not only red cells, but many other elements such as: - gases, vitamins, minerals, lymphocytes, proteins and many others.

Simply put, it is water with a certain living content, which mankind is not able to produce and fully replicate so far. Therefore, blood is being donated in case of necessity.



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# RIVERS AND STREAMS

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The circulation of water on the planet Earth is ensured by rivers and ocean currents.

Its functional significance is identical to that of humans. It also transfers water containing nutrients, minerals, sediments and bound gases to the ocean and other ecosystems.

Everything goes to where it should be so all can live and function.

Currents in oceans have the same significance as rivers on land.

Their visual and functional resemblance to the human bloodstream is breathtaking.

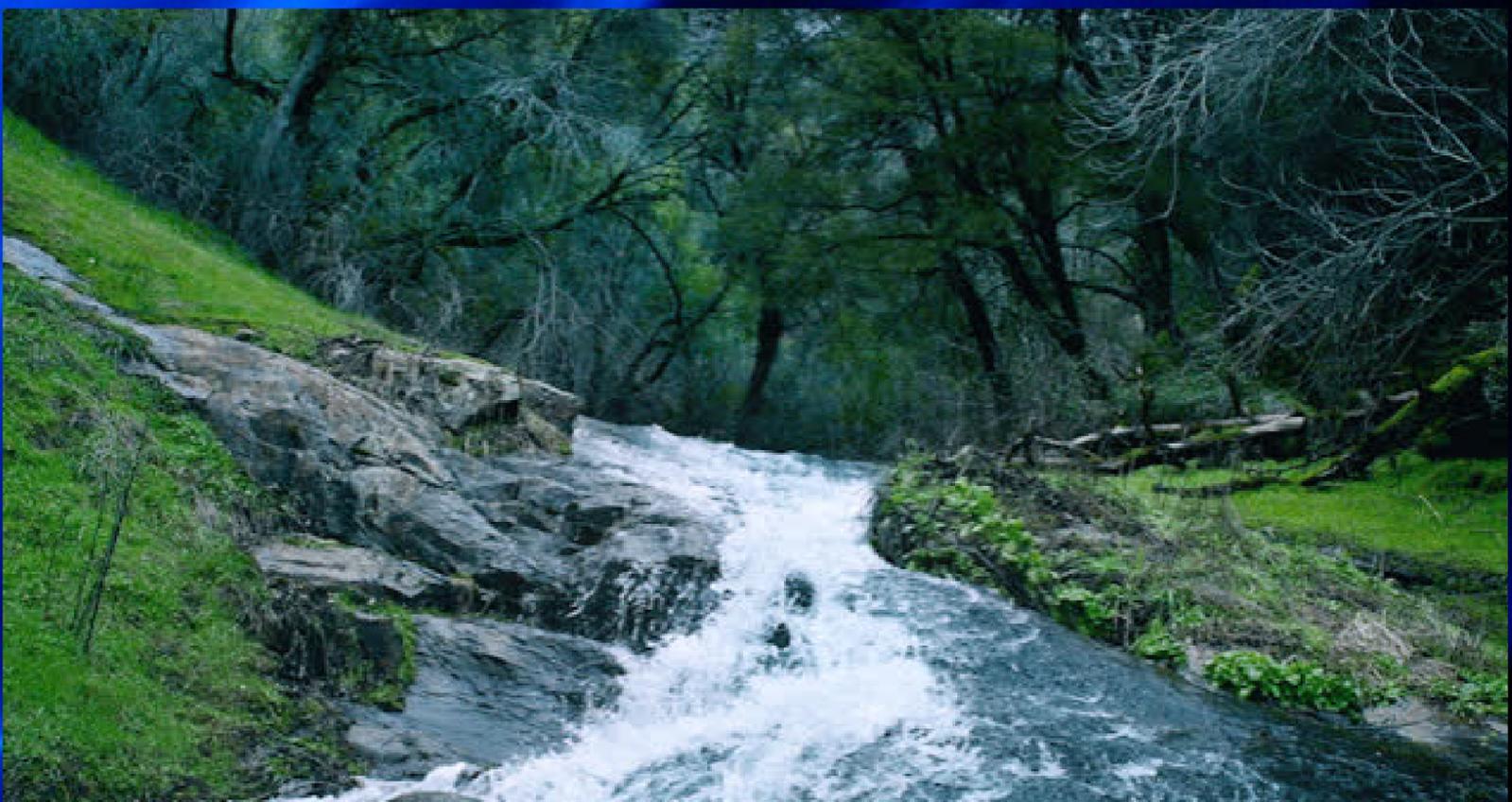
We should think about today's condition of rivers including sources of fresh water and its purity from which we drink.

If you can't drink from the stream directly without any risk to one's health, it means that it has been polluted and even poisonous.

What about our blood or body consisting of 70% of water?

What is the planet's limit or ours in terms of water toxicity?

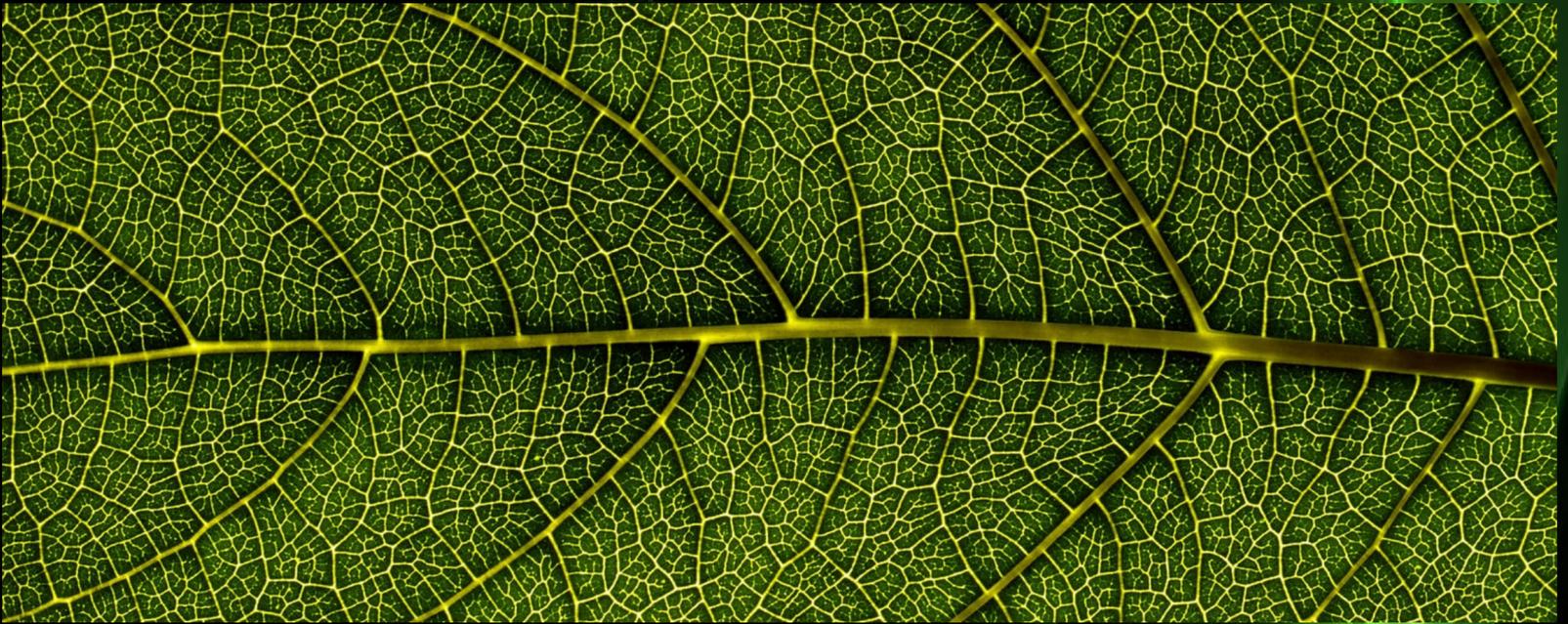
Quality of blood in our blood vessels is as important as the water quality in rivers and streams for the planet Earth.



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# VASCULAR VESSEL OF PLANTS

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**Plants are different from us and all animals, but still the significance of their vascular system is identical to humans and to planet Earth.**

**The Vascular system in plants is composed of conducting tissues and associated supportive fibres. Xylem tissue transports water and dissolved minerals to the leaves, and phloem tissue transports food from the leaves to all parts of the plant.**

**It also transports water, minerals, nutrients, organic substances and other various molecules throughout a body of plant.**



**So far we have discussed and demonstrated the functions and similarities of the circulation system.**

**But let's dive a little deeper and have a look at organs of living organisms that provide the basic vital functions.**

**Without these and its correct functioning there would be no life.**

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# LUNGS

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Lungs ensure exchange of oxygen and carbon dioxide, when CO<sub>2</sub> is released from blood and oxygen is absorbed in. Oxygen binds to red blood cells and can travel into cells that need it to live.

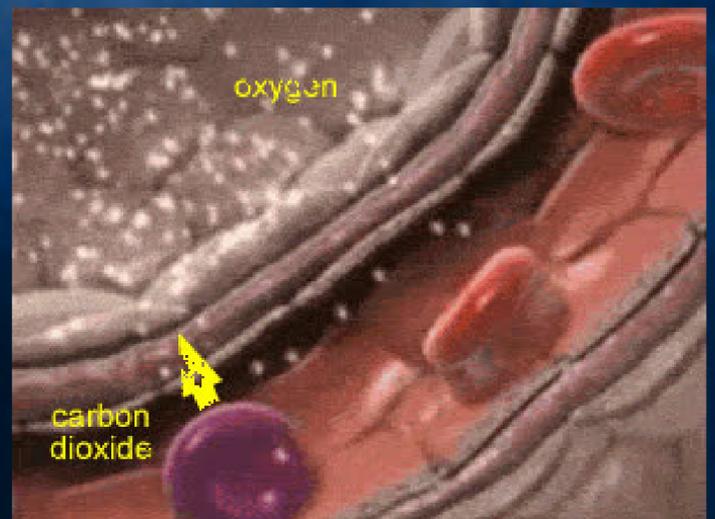
Red blood cells and tissues in various organs absorb carbon dioxide and transfer it to lungs, where they leave the body thanks to permeable walls of veins and alveoli.

This process of filling and emptying lungs is due to inhalation and exhalation, when we inhale oxygen and exhale carbon dioxide during this process.

It happens about 18 to 20 times per minute at rest.

The whole complex system of the organs ensures the intake of oxygen and the release of carbon dioxide.

Life would not be possible for us without it.



## Oxygen -

Oxygen is the most widespread element in the universe and if we consider it on the planet, it will make up 97% of the total weight.

However, this does not mean that it is all in the form of gas in the atmosphere.

There is only the necessary and appropriate amount to ensure life on the planet, namely 21%.

For a better understanding, it is bound, for example, in water, likewise, carbon dioxide.

So if we want to talk about the planet as a living organism, it must have this complex system that ensures its life as well.

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# OCEANS

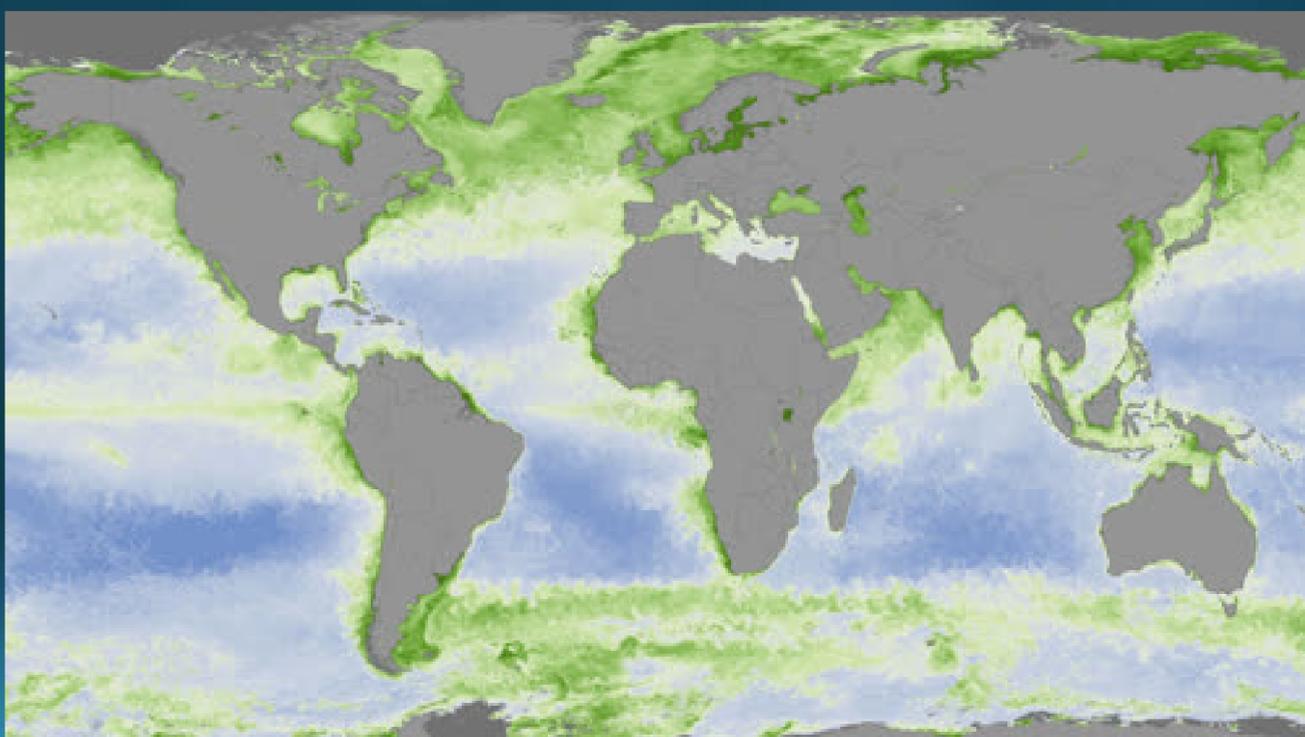
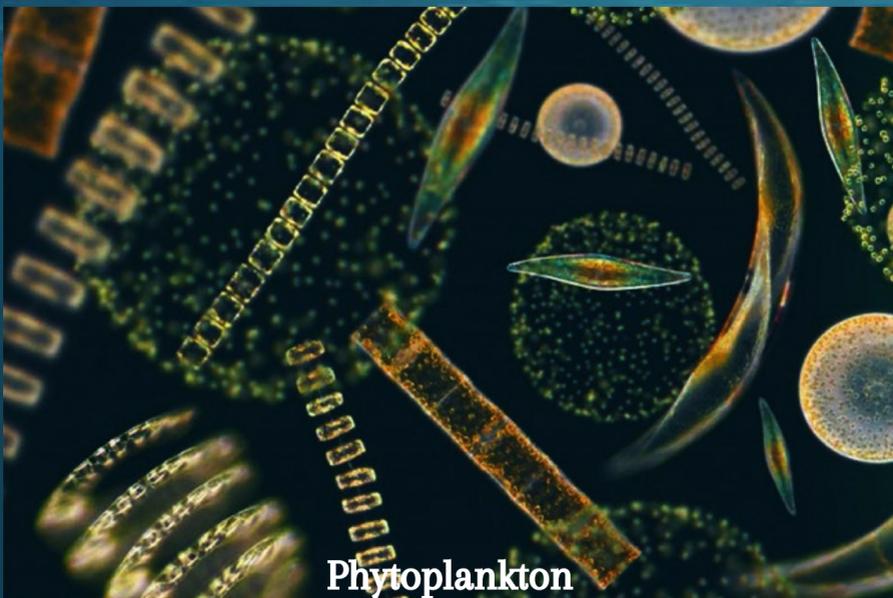
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**The LUNGS of The Planet Earth.**

**Those incredible areas and depths of water, which covers about 70% of the planet's surface, are thus the largest organ in body of the planet Earth, just as the lungs are the largest internal organ in human body. (The largest organ of the whole body is skin.)**

**Oceans produce up to 80% of the world's oxygen and absorb carbon dioxide from the atmosphere, approximately 22 million tons of carbon dioxide per day. Oceans contain far more carbon dioxide than the atmosphere.**

**All this is due to the phytoplankton and seaweeds in oceans.**



**The satellite animation of movement phytoplankton in the oceans affected by the season of the ENSO phase, so-called EL NINO and LA NINA cycles.**

**Phytoplankton and seaweeds are plants. So what process makes them so significant?**

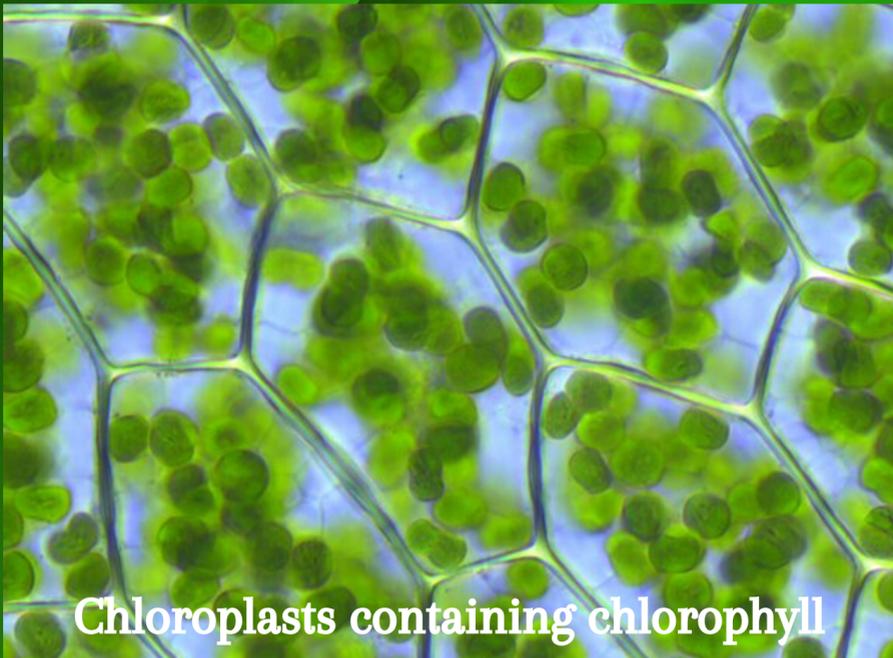
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# PHOTOSYNTHESIS

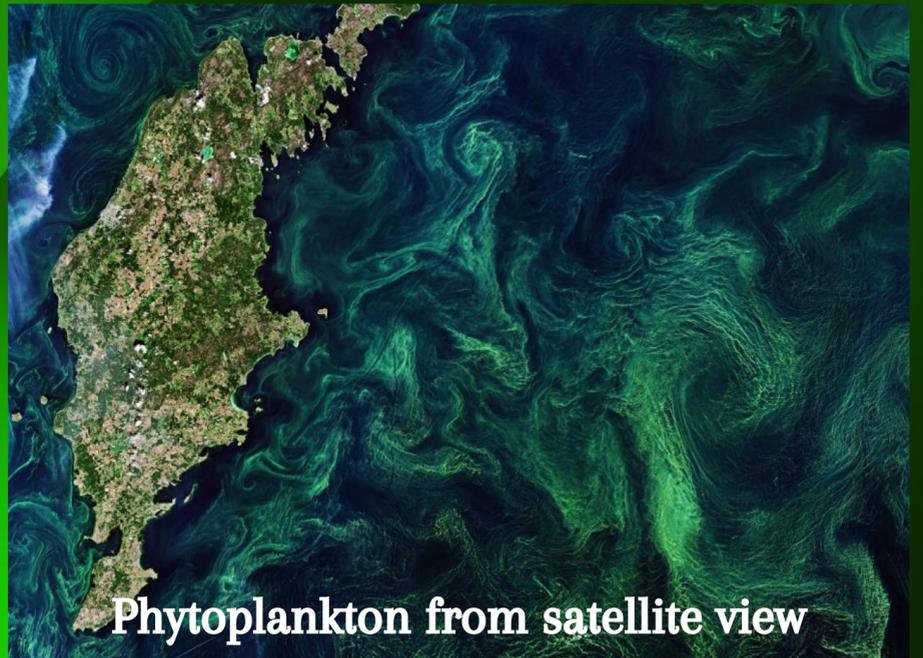
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Process by which plants and some other organisms transform light energy into chemical energy.

Light is captured by chloroplast cells with a permeable wall which contain the green pigment chlorophyll.



Chloroplasts containing chlorophyll



Phytoplankton from satellite view

It is used to transform water, carbon dioxide and minerals into oxygen and rich organic compounds.

Plants release oxygen and absorb carbon dioxide through certain starches and proteins as a building substance for its body. Later, when a plant dies, carbon is stored in the ground or in the ocean.

Oil is actually a decomposed plant that we drill and extract from the ground to use as fuel in many of our products. We produce cars and burn the fuel in engines or we transform oil into a plastic pen that I used to write this presentation with, to convince you of the importance that this is exactly what we shouldn't do.

So now we know that it can be described as an organ - ecosystem providing the same vital function as our lungs.

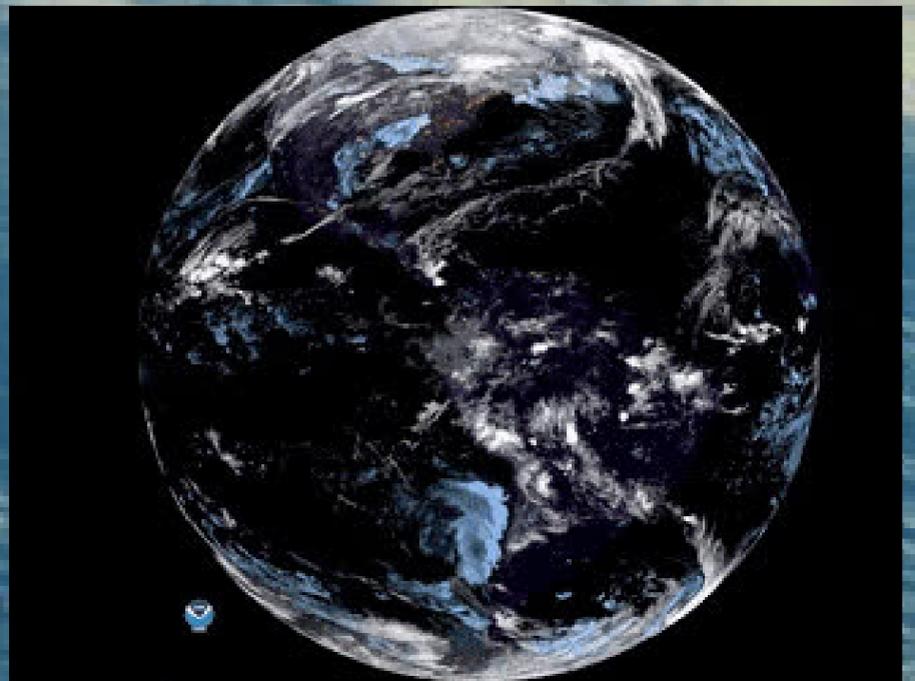
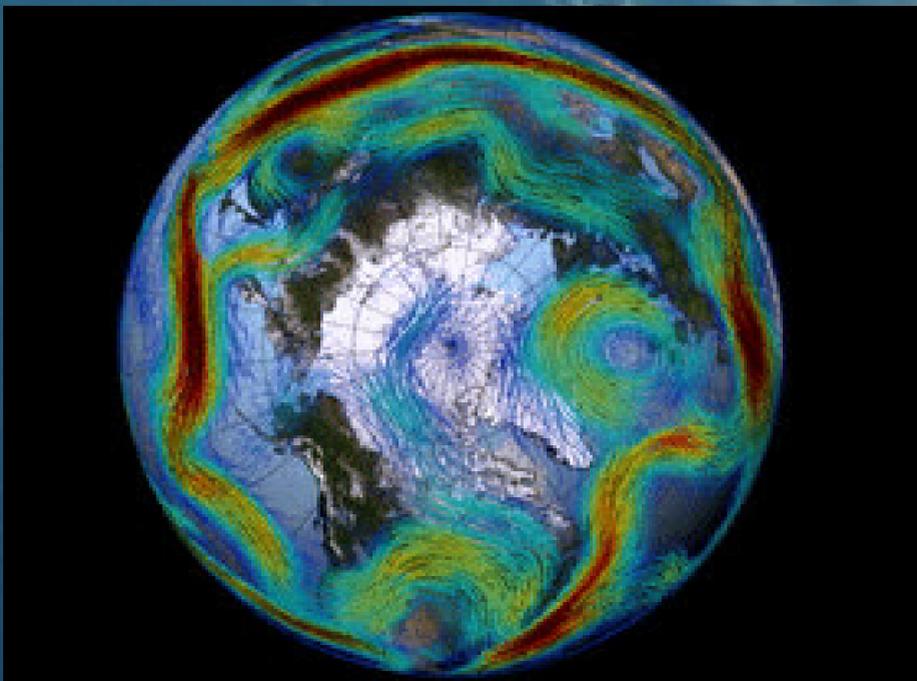
However, we lack one more important factor for the function of lungs and that is a movement that ensures exchange of gas in lungs. Inhale and exhale.

# BREATHING AND JET STREAMS

Exchange and circulation of gas on the planet is affected by jet streams and weather. They are air belts of strong winds in the upper layers of the atmosphere with a speed up to 400 km per hour. There are 2 polar streams near the polar circles and 2 subtropical streams near the equator.

They are caused by uneven heating of the atmosphere by the sun, creating significant temperature differences that move these jet streams. This, of course, affects the weather on the entire planet.

Let's see why it is important that the sun heats the atmosphere unevenly so that these processes can occur.



it's the rotation of the planet Earth, the day and night cycle take turns regularly. Inhale and Exhale.

Curiosity is that we count the length of life of our planet in terms of the number of inhales and exhales. And ours too.

How old are we if we count our life in our inhales and exhales?

This is the visual and functional similarity of the vital organs and functionality of the system important for the life of organisms. Of our own and the planet Earth.

The question is, if this organ connects us and the planet as living organisms, then there will surely be a display of disease as disharmony of certain cycles.

Is it even possible?

# RESPIRATORY DISEASES

## 01 Respiratory Acidosis

There is a condition that sets when human lungs cannot release enough CO<sub>2</sub>. This results in an increased concentration of CO<sub>2</sub> in lungs and red blood cells absorbing far more of it than they should.

This lowers the pH of blood and other body fluids causing blood cell acidity.

Normal pH of healthy blood is between 7.35 and 7.45.

Decline of blood PH by only 0.2 to 0.3 can cause seizures, coma or even death.

It seems that leading experts and our government leaders have probably forgotten to tell you this fact, when they decided to enforce that everyone had to cover their breathing holes with a piece of cloth or plastic one and half year ago. And by doing so, sacrificing their health with a small chance that the rag will catch a huge amount of virus when coughing or sneezing.

## 02 Acidification of soil and Plants

Few years ago scientists came up with the finding, which the world celebrated as the salvation and solution of climate change. That increase of the level of CO<sub>2</sub> in the air and soil has a fertilizing effect for plants and so they grow faster and better. In doing so, they consume less water. It is also logical, since CO<sub>2</sub> is food for plants.

However, Stanford University scientists stated that 3 weeks was not an adequate period for research and began their own study simulating a combination of other probable consequences of climate change such as rising temperatures, precipitation or increased nitrogen deposition in the soil, etc. After 4 years they reached a clear conclusion that at the beginning plants really gain in volume and thrive, but in the long term the growth completely stops and the plant dies.

Further research is in the process and is more focused on soil, but even if the plants function a little differently than us or the planet, they are still organisms that are alive and the acidity is simply killing them just like us or planet Earth.

# RESPIRATORY DISEASES

## 03 Acidification of the OCEANS

Since the beginning of the industrial revolution 200 years ago, acidity has accelerated by 30%. That's more than with any other known change in the chemical composition of the ocean over the last 55 million years.

The pH of the ocean has fallen from 8.2 to 8.1 since the beginning of the industrial revolution.

0.1 pH drop does not seem so bad but the opposite is true.

Because the PH scale is logarithmic as well as the Richter scale, which measures the strength of an earthquake.

This means that PH 4 is 10 times more acidic than PH 5. 100 times more acidic than PH 6 and 1000 times more acidic than PH 7 and 10,000 times more acidic than PH 8.

From this point of view a decrease by 0.1 is not so negligible.

We can observe large changes affecting organisms living in the ocean such as corals, oysters, mussels, starfish, fish etc. today.

Scientific calculations and research have shown that by the end of this century, which is only 79 years from now, the pH of water in the ocean will drop by another 120% to 7.8 or 7.7, which will have a huge impact on all life on the planet

It's important to note that during the last major acidification of the ocean 55 million years ago, 75 to 80% of living species, including deep-sea invertebrates, became extinct

An indisputable fact is that big changes in nature do not happen immediately.

From the planet Earth perspective, the so-called inertia process is in operation, and even if we stop releasing all carbon dioxide, consuming and drilling oil and all the industrialization activities and start living sustainably in nature. The level of carbon dioxide in the atmosphere and ocean will stabilize in hundreds to thousands of years.

Now I wonder, how long does it take for the body to get to a stable state after long-term mask use?

Although the consumption, production and non-stop extraction of resources can be very lucrative for some, it is certainly not sustainable for life of humankind as is not for the planet Earth.

**There is no doubt that life has common features on a large and small scale and has both functions and dysfunctions.**

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# HEART

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Human heart is a muscular organ located in the middle of chest.

Its main function is to pump blood into a bloodstream, to move blood by repeated, rhythmic contractions of the myocardium muscle called heartbeat, which compresses blood in heart.

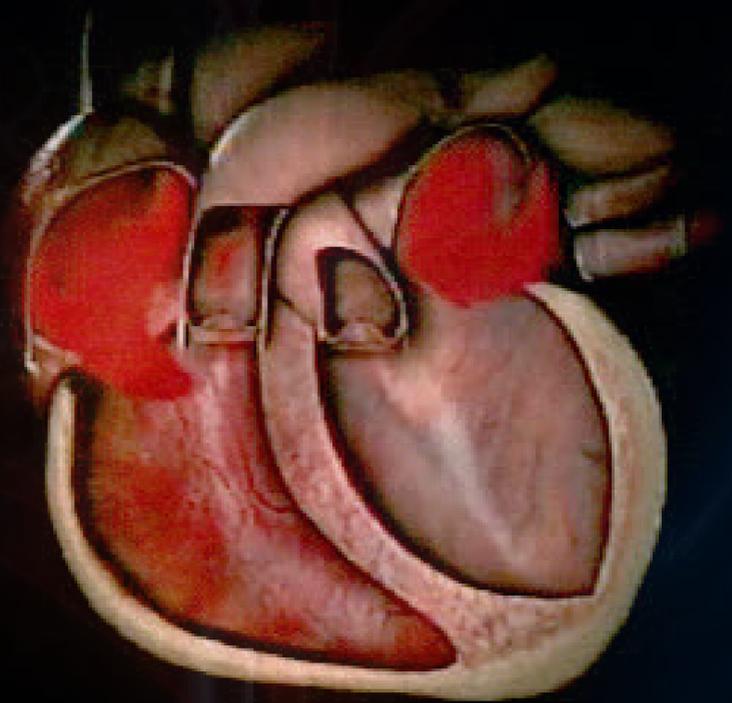
These muscle contractions are caused by electrical impulses that come from the natural cardiac pacemaker.

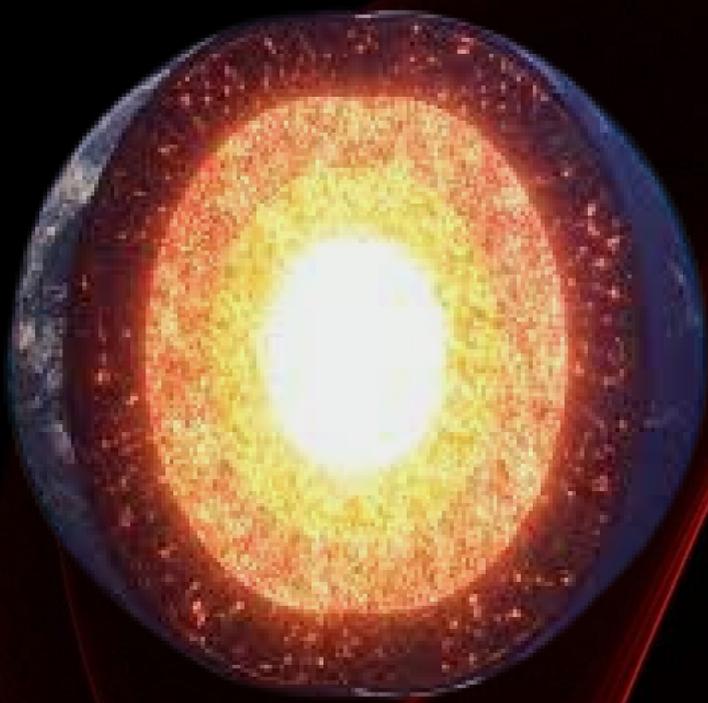
This source is the most powerful generator of electromagnetic energy in human body.

The heart rate is variable at about 72 beats per minute at rest and in a healthy state.

The heart rate is variable as the lengths vary between each heartbeat and are not completely regular. The measurement by the classical method is therefore only indicative. This is because the variability allows the heart to react quickly to any changes and is still alert and ready to react.

Curiosity - Did you know that the heart is not subject to the aging process?





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# HEART OF THE PLANET EARTH

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**Core of the planet Earth consists of two parts. From the liquid part and the solid inner part.**

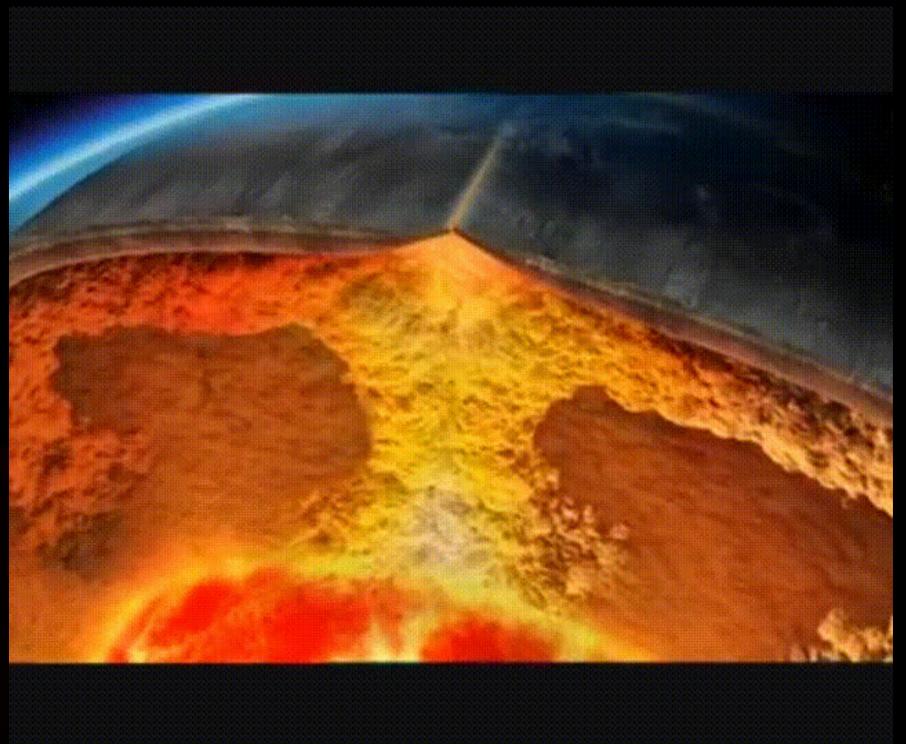
**This nucleus acts as a pulse georeactor, which is a source of electromagnetic energy.**

**An older theory was based on a so-called dynamo effect caused by rotation of the Earth, which was later dismissed.**

**Outside the core is the inner inert mantle, in which amazing processes and circulation take place (so-called convection).**

**It's similar to heating water in a pot on a stove. Warm water goes up in the middle and colder water falls down on sides.**

**Many of these processes are happening under our feet all over the planet.**



**Moon on the Horizon**

**Above this layer is the Earth's crust, a solid cover on which we all live called the lithosphere.**

**This lithosphere moves rhythmically up and down.**

**You might think it's going to be the bottom-up convection, but not quite.**

**It wouldn't have the regular rhythm.**



**Low Land Tide  
High Ocean Tide**

**The rhythmic movements of the entire lithosphere occur in connection with the gravitational influences of the moon and the sun.**

# TIDES AS HEART BEAT OF THE EARTH

Let's shine a new light on the common perception of tides.

It has been strongly believed that the moon and the sun affect water in the ocean it attracts.

This is certainly not the case, as the gravitational force acts immediately. Right at this moment, without any delay. At the time when the moon is over our heads, the tide is low, not high as per a long term accepted and erroneous theory.

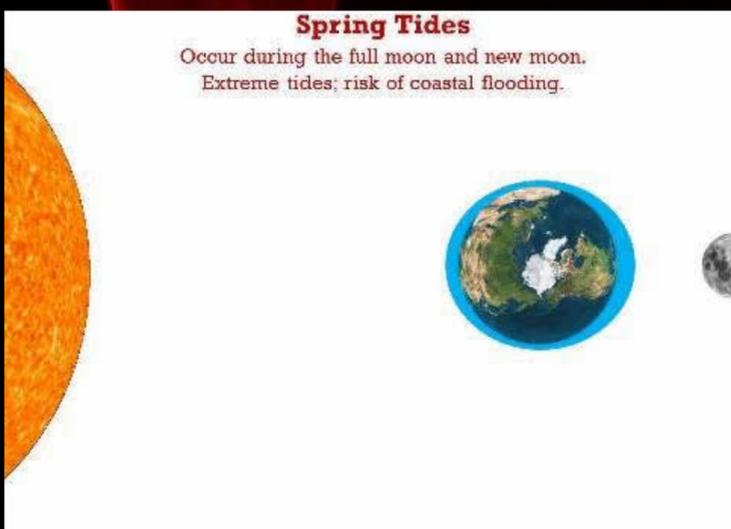
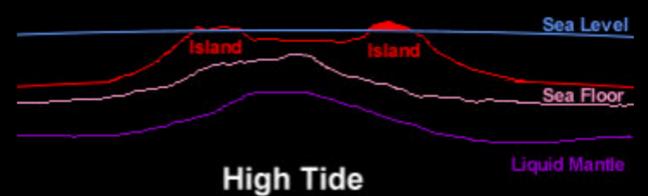
With the exposure of the instantaneous gravitational forces of the moon and the sun affecting the elastic layer of the Earth's crust causing the crust to rise slightly.

It's happening at the same time and place where these gravitational forces operate.

The Earth's crust gradually rises by about 30 to 35 cm at a large width and subsequently gradually decreases.

Thanks to the centrifugal force of Earth's rotation. This also happens on the opposite side, only with a minor force.

Moon on the Horizon



Even this rise and fall is not completely constant and changes every 14 days.

At full moon phase, when the moon is closer, its strength is slightly greater and attracts the lithosphere a little more strongly..

The biggest difference and the time when we are actually the highest is at the Nova phase, as both gravitational forces of the sun and of the moon are behind each other and thus act strongest at that moment.

Scientists also measured how this pumping affects the increased frequency of earthquakes and volcanic eruptions.

When the Earth's crust rises, the volcanic throats expand and increase the effect of pumping lava.

So what is the heart rate of planet Earth? It's about 63 beats per month.



We have a self-sufficient and strongest source of electromagnetic energy in the human body and in the body of the planet Earth. Rhythmic movements of the middle layer of the human heart and our planet with the occasional and mild change that the source causes.

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# OXYGENATION PROCESS, BLOODSTREAM

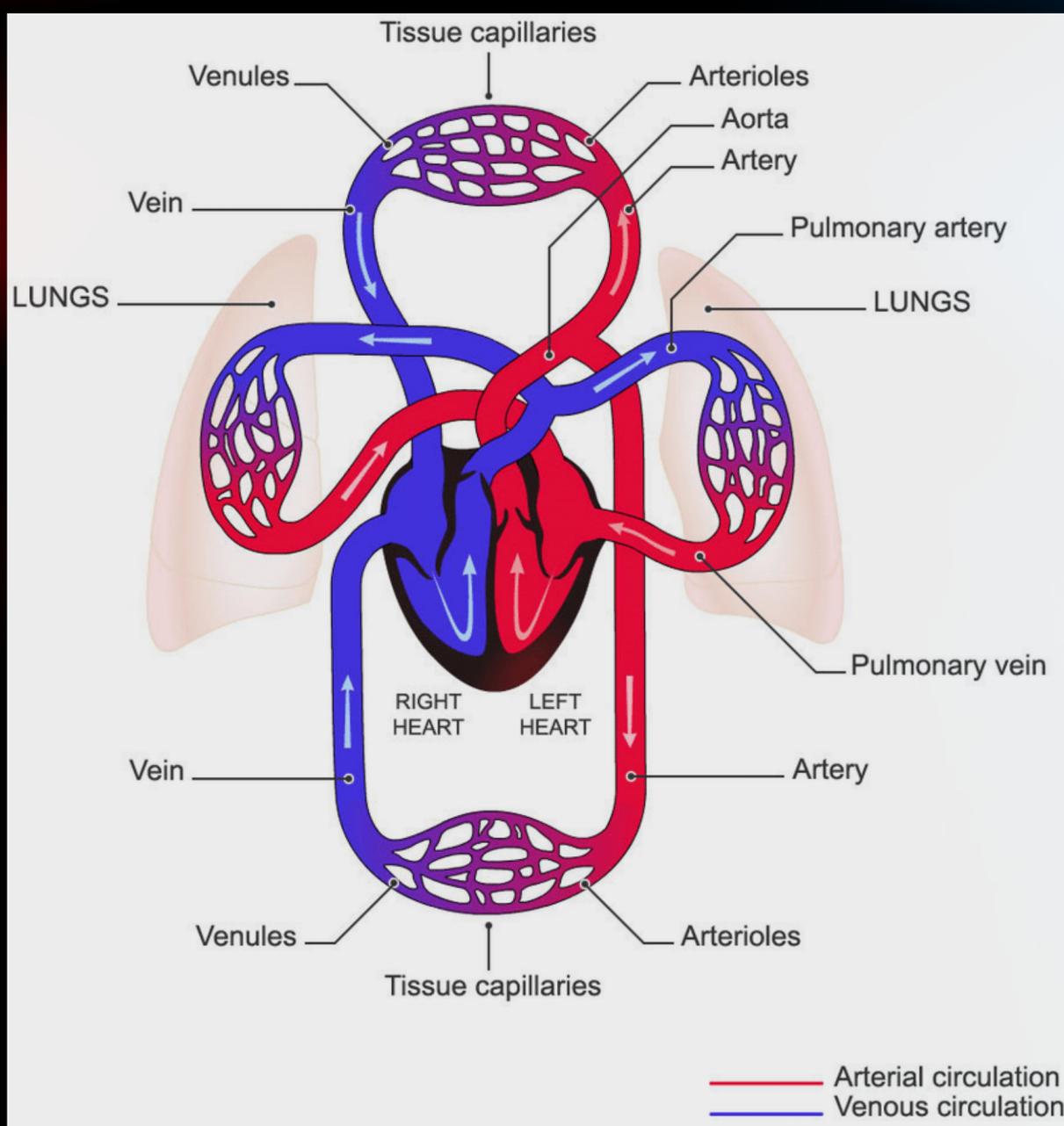
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## Blood Circulation of the Human Body

Oxygenated blood from lungs travels to heart and it pumps it into the whole body and organs.

There are a lot of other processes going on that consume oxygen and where carbon dioxide is produced.

It travels from body to heart and then to lungs, where it is transformed into oxygen and the whole life vital process continues in its rhythm and harmony.



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# OXYGENATION PROCESS, BLOODSTREAM OF PLANET EARTH

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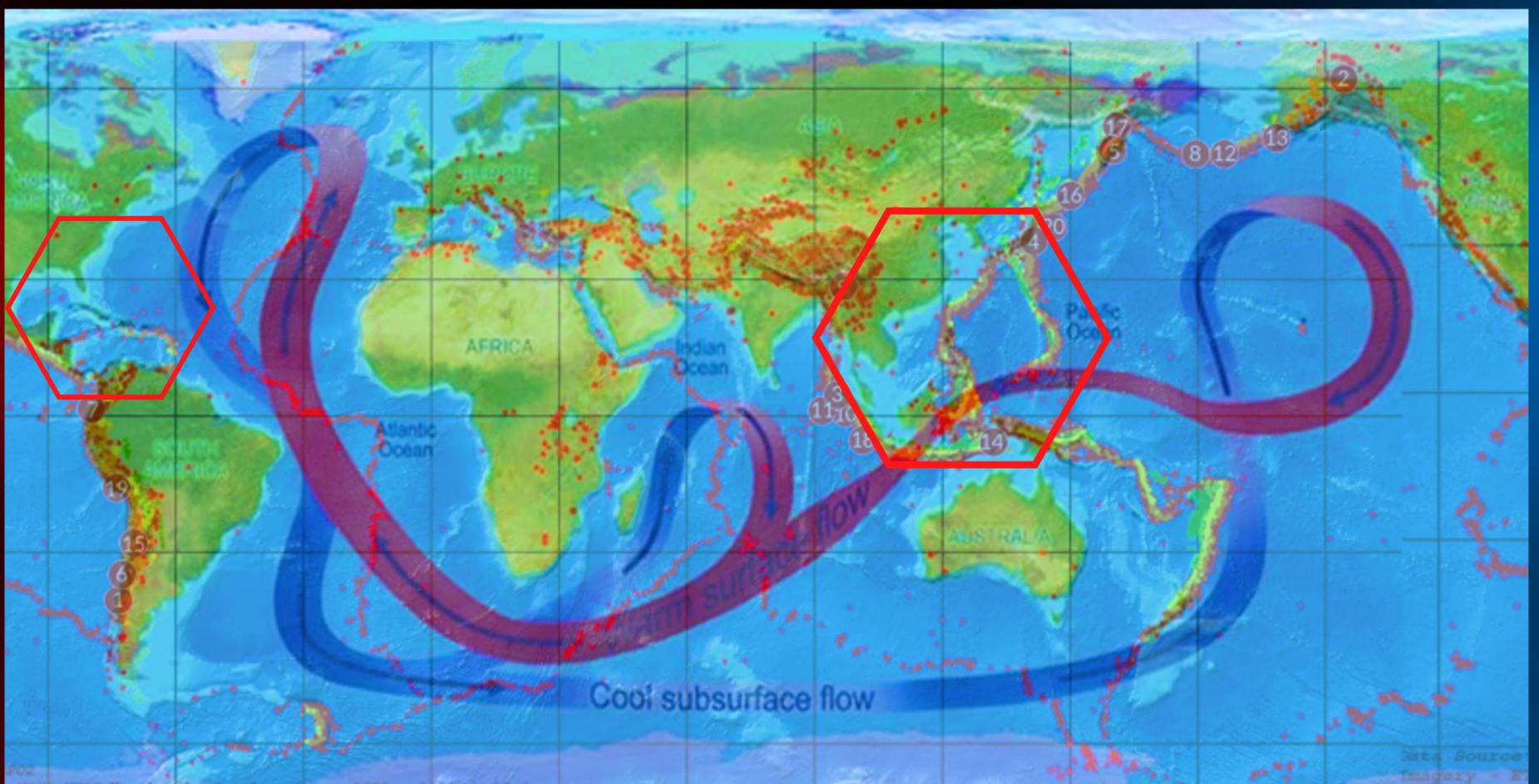
## Blood Circulation of the planet Earth

This was created by overlapping the map of the circulation of warm and cold ocean currents with a map of the largest earthquakes and eruptions in recent times. 20 of the largest are highlighted. Let's focus first on the currents and interesting places where the water cools and flows to the bottom of the northern polar circle. It clings to the bottom and travels around cold Antarctica until it warms up and rises. That's two very vital areas of South Asia and Central America.

As well as the estuary of large arteries from the heart in our body. Not only that the water warms up there but also changes direction of movement. Warm currents do not flow around Australia from the south, but they work their way through the region of South Asia.

By the way, these are the places with the richest biodiversity of the planet on land and in the ocean. These areas are also places with the highest concentration of eruptions and the largest earthquakes. Scientists therefore call this entire vast area the Circle of Fire.

From the point of view of Planet Earth, the name is irrelevant, it's the hugely important energy that operates here and how that matters.



The MAP of the circulation warm and cold water in OCEAN CURRENTS covered by seismic activity

We already know that earthquakes and eruptions are affected by the Earth's heart rate, and now we can see how it drives water in the oceans - the lungs of the planet and from there further into the whole system.

Interestingly, the lithosphere rises up not only here, but everywhere on the entire planet Earth. It will certainly have an impact on the river currents, when they flow and whether in a larger or, on the contrary, a milder slope.

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# OXYGENATION PROCESS, BLOODSTREAM OF PLANET EARTH

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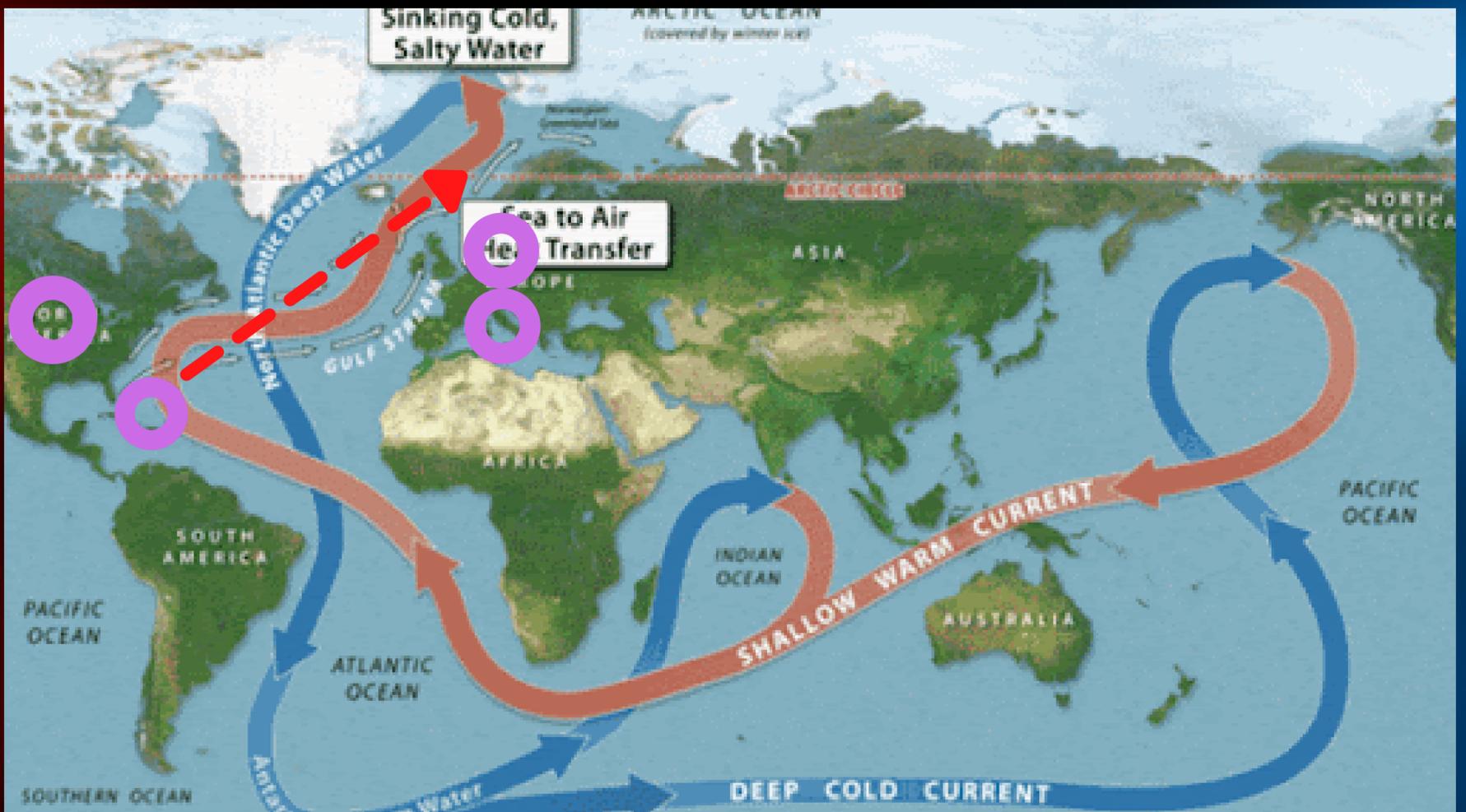
## Blood Circulation of the planet Earth

If we think about the pumping movement and forces that flow in from inside the planet, there can be no doubt about the functional system of the heart.

Even the ancient tribes living in these areas have a special respect for them and speak of them as the most important places from which the life of the planet Earth flows, not even seeing this map.

In any case, we will probably be able to verify the importance and functionality of this system very soon, as, according to scientists, collapse of the Gulf stream is underway and I am convinced that the heart of the planet will try to get the blood flowing again and restore the circulatory system by strong eruptions. I don't even dare to estimate how big, but there are well-known super-volcanoes and several of them are now re-awakening. Two of them are in Europe. In Germany, Láchen Lake and Italy are known as the Flegray Fields, which when it last exploded, erasing Neanderthals in Europe.

Nature does nothing unnecessarily and everything in it has a purpose and meaning. It would certainly be most interesting from this point of view to focus on further research and to begin to connect certain processes of the planet as a living organism.



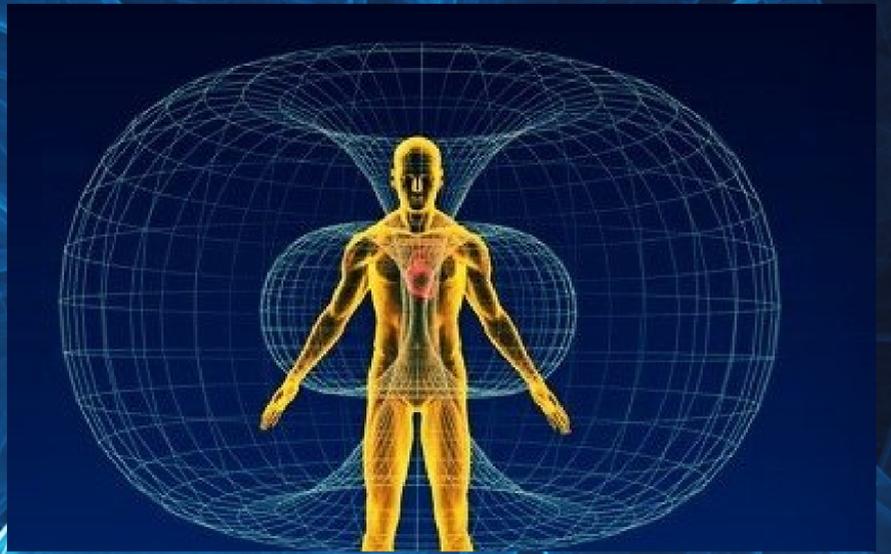
In case of doubts whether the functional system of the heart of the planet is legit, there are still other surprising facts that cannot be overlooked.

Our heart and the heart of the planet Earth are not just the strongest source of electrical energy in human body, but also no less important than magnetic energy too, which seems to be much more important than most people think and admit.

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# ELECTRO-MAGNETIC FIELD OF HEART

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Scientists already know that heart is a source of magnetic field and even measure it with a very sensitive device up to two meters from the human body.

As a result, scientists have discovered amazing things.

For example, the heart has its own nervous system, independent of the brain, one that allows it to even perceive and learn. Memorize and make independent decisions of the cerebral cortex.

Surprisingly more information is sent from the heart to the brain than from the brain to the heart.

This certainly takes on a completely different meaning of the words “listen to your heart”.

The electromagnetic field of the heart can even transmit information among other people. You know the situations when a man comes up to you, and you have a feeling about him.

You don't really. You actually communicate with him directly, because his heart transmits information to yours and vice versa.

For example, you like someone straight away and feel the opposite towards someone else. Respectively, in a short period of time you get to know a person quite well, not you but your heart.

Surely these measured values and facts will explain the importance of feelings and its undeniable importance on the overall functioning of the organism, including a further understanding of life, because without a heart no one will survive.

If you think that thanks to your heart you only get to know the other person opposite you, then that's not all, you can even influence them.

This heart signal can affect another person's brain waves and may even cause synchronization of the brain as well as heart rate. In this case, the nervous system of the brain acts as an antenna or receiver that tunes and responds to electromagnetic fields created in the hearts of other individuals.

Surely everyone has heard about old Chinese medicine, about Reiki and working with human energies. This practice has been obviously known for a long time and today it is also recognized by science.

Facts show us that the heart is not only a pump pumping fluids, but it is also of great importance in terms of spirituality and so-called intuition.

As another fact, it is important to mention that we are social beings and sharing does not only take place by giving something into someone's hand, but also at a much deeper level of the heart and brain, much more than meets the eye.

I wonder what happens when we exchange information or signals with animals via our heart or what can the heart perceive within the reach of its electromagnetic field?

Many vegans have probably found out already.

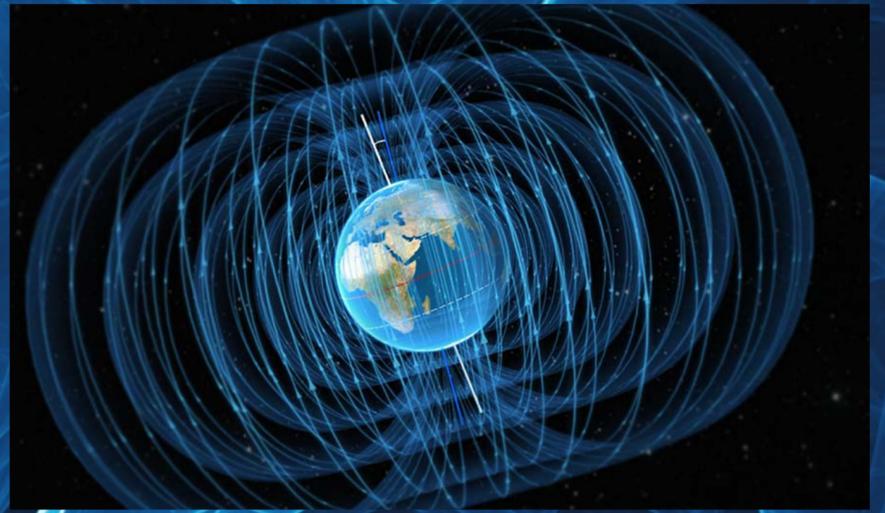
Another question is how this exchange of information using our heart affects other functions of the organism and what's probably happening to the body if two-meter distance must be observed or during isolation?

Everyone has to find the answer on their own.

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# ELECTRO-MAGNETIC FIELD OF THE PLANET'S EARTH HEART

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We know that the Earth's magnetic field creates protective shields against high-energy particles from the sun and space.

The magnetosphere diverts most of the charged particles away, but not all and this is what creates a known phenomenon called “northern lights” or aurora borealis.

Scientists don't really think about the same research they do in the human magnetic field. It does not happen very often that a planet gets close to another planet to measure some values.

What is certain, however, is that with help of the Earth's magnetic field, it effectively protects itself from imperceptible external influences that could harm or even destroy it, but at the same time it very easily lets in what is prosperous for it or needs for life, such as UV radiation from the sun, gravity of the moon and others.

It is very easy to say that our heart can also choose, or certainly knows what benefits the body and what to let in and on the contrary, what harms it.

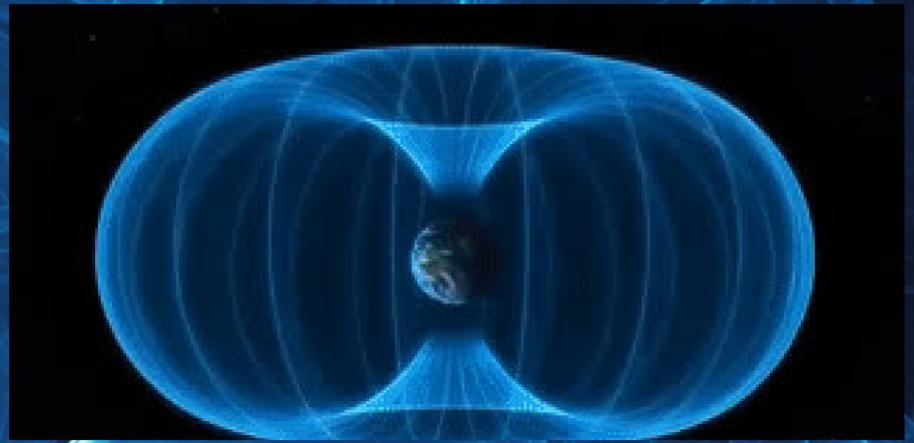
We call it the “Voice of your Heart” or Intuition, and unfortunately in a lot of cases we only suppress it and ignore it. Sometimes later in life we get sick or something happens to us, an accident on a motorcycle for instance. We often say afterwards “I knew it.” How many times in your life have you said this sentence or thought so? Women probably more often, they are more sensitive.

What if one day Planet Earth decides not to listen to its intuition and these heavily charged particles penetrate the earth and burn it to ashes while killing all life on the planet?

And that's why I don't point to the brain as an organ providing basic vital functions, although it certainly has its meaning. For example, the planet Earth could easily make up its mind, (sort of speak) that we have to pay for water and food.

It makes me wonder,, if there can be something like the “northern lights” taking place in us? Having a moment of perception and clarity would work out nicely for us once in a while.

# ELECTRO-MAGNETIC FIELD OF THE PLANET'S EARTH HEART



Let's go back to the planet and the magnetic field. It is worth mentioning the fact that over the last 200 years, the magnetic field has lost its strength in the global average by approximately 9% of its strength and a large area of reduced magnetic intensity is developing between Africa and South America. We call this Atlantic Anomaly.

Another phenomenon observed during the same period is the sudden movement of the northern magnetic pole towards Siberia.

Scientists share concerns that as a result of this movement could be a reversal of the Earth's polarity.

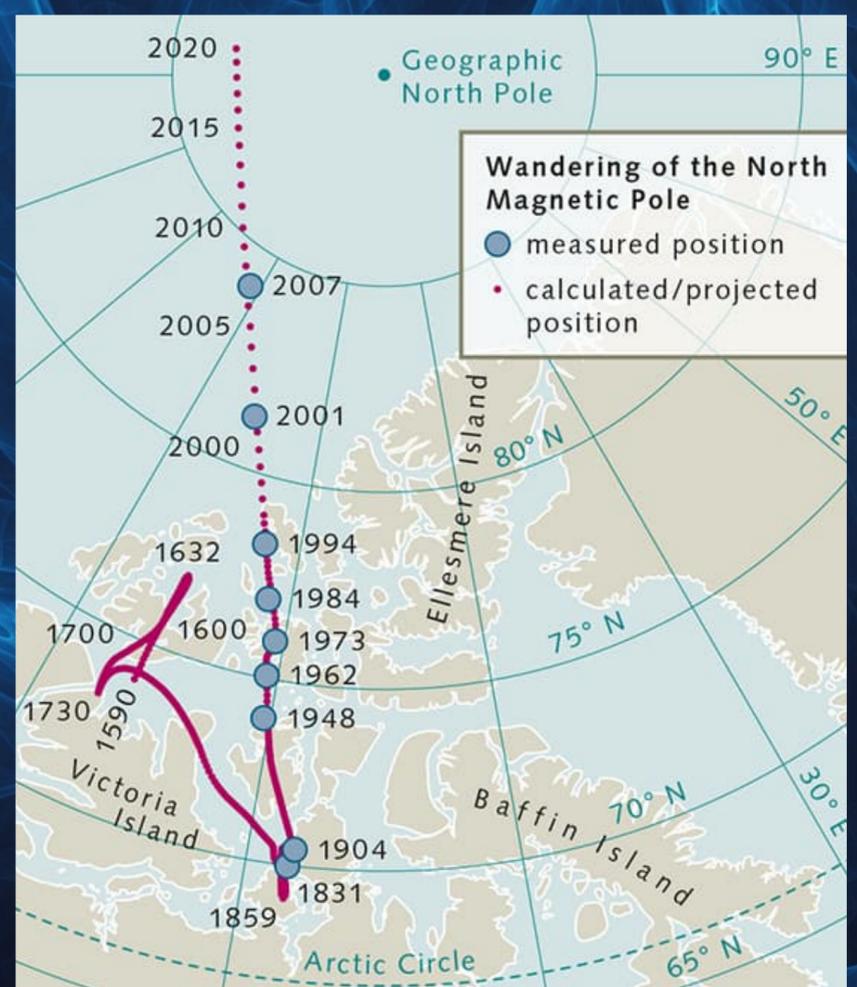
This means flipping the magnetic poles with the magnetic north and south switching places.

However, they cannot determine if and when this will happen.

This would have a major impact on everything that is GPS oriented. For example, Satellites, navigation systems, aircrafts, military systems and many more.

We can only speculate on this for the time being.

Either way, one thing I know for sure! Some of us really need polarity reversal and deep purification of their hearts.



Let's close the great chapter of the heart and summarize it in a nutshell.

There are two basic organs and their systems providing the basic vital functions of the organism. Nutrients, water, oxygen, everything goes where it's supposed to go and how it's supposed to. If not, a condition called illness occurs that can endanger our lives.

Our planet Earth needs to breathe as much as we do. It's got a pump that is powering the water flows, nutrients and oxygen to get it where it's supposed to go. We now understand the planet can get sick as much as we can with the same consequences for both of us.

We know that the heart is not consciousness like the one that is being described by spiritual teachings. Some of you would surely think of this, but it certainly plays a huge role in awakening.

The similarities and identities between man's life and the life of the planet are indeed very many and would take a very long time to describe. But what is important nowadays, from the point of view of humans and from the point of view of the planet, which is a matter of life and death, is the similarity of the Immune System.

If you have found any of the previous information interesting so far, the immune system chapter will make you fall from the chair.



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# MICROBIOME

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**The microbiome of the human body.**

**A huge breakthrough in medicine and its further development.**

In the human body and on its surface, trillions of microbial organisms live in symbiosis with us.

Their specialization is to ensure that we are healthy.

Our bodies are indeed a home to more bacterial cells than human ones. So our bodies are obviously not quite ours as it may seem.

We have about 100 trillion microbial cells in the body and only 30 trillion human cells. 200x more bacterial genes in DNA than human genes.

These different species also have a certain place where they live.

Namely in the intestines, ears, nose, brain, skin, mouth, gastrointestinal tract, respiratory tract, urinary & vaginal tract and also in the bloodstream.

Everyone has a different microbiome composition and there is no one in the world with the same microbiome like yours. Everyone is unique from this point of view, like a fingerprint.

The main ecosystem, or organ, is our intestine, where bacteria produce an effective immune response against unwanted viruses and bacteria, but also against those that attack the lungs.

They also affect our nervous system and influence neuropsychiatric diseases such as depression, parkinson's disease or autism. I have to say that a third of the European population is on antidepressants, which is something we should be concerned about.

And how do the bacteria actually do that? These different microbiomes in different organs communicate with each other, and when an intruder is discovered, they summon specialized cells from our immune system to produce strong antiviral proteins. Thus, bacteria in your intestine are responsible for activating T-lymphocytes.

For example, Lactobacillus is responsible for the immune response to respiratory bronchitis virus and pneumonia.

**The reduction in the number and diversity of individual microbes causes disharmony or disease and it also causes a natural aging process.**

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# MICROBIOME

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**The microbiome of the human body.  
- Influences and Impacts**



Healthy individuals are known to have a wider diversity or biodiversity of microbial partners than unhealthy ones.

It is therefore in our own interest to keep this biodiversity in the norm, because we depended on these friends of ours.

Let's talk about what affects it and how we can influence it.

One of the very significant influences is the environment in which we live. Many studies have proven the positive effect of forests on our health.

The Japanese called nature walks a therapy, named "forest bathing".

For example, it has been demonstrated that post operation recovery takes 40% less time in people who have a view of the forest and trees from a hospital bed than in people who look only at concrete walls.

People living in nature or its vicinity have about 1,500 different species of microorganisms in the intestine, unlike people living in the city, who have only about 900 to 1,100 species. That's a significant difference when these species in the intestine control our immune response.

Then comes a rather weak virus and people have their immune systems on its knees. It just doesn't react because it has no microorganisms to react in time.

For sure, please look at microbiome versus covid studies provided in the references found at the foot of this study.

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# MICROBIOME

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## The microbiome of the human body. - Influences and Childrens

Other influences are, for example, our lifestyles, how often we wash ourselves and what we eat, what clothes we wear, how much time we spend outside, or even with whom we often come in contact, use of antibiotics that greatly affect the intestinal microbiome and, last but not least, the chemicals with which we come into contact with or consume.

Women should know that the composition of the baby's microbiome is influenced by the method of childbirth and there is a large difference in the composition and biodiversity of bacteria between natural childbirth and caesarean section.

A child who passes through the vaginal canal is exposed to a microbial biofilm on the wall of vagina, and as a result, the child forms his microbiome very quickly.

This is why babies born by caesarean section are depleted and show a greater susceptibility to asthma or allergies.

Research on microbiomes is really groundbreaking in the field of medicine and will help with the individualization of medicine. Diversity of the composition of microbiota in the human body causes that everybody reacts differently to different drugs. A medicine that helps one individual today does not have to help the other and on the contrary can hurt him.

Let's take a closer look at the important conclusions of the research into the connection between the microbiome and the effect on our health

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# CHRONIC DISEASES

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## Diabetes type 2, Obesity and Cardiovascular diseases - microbiome in our intestines

In these very commonly spread diseases, research has found that the patient has hyperactivity in the immune system, which then does not recognize another harmful stimulus and this is associated with an altered intestinal microbiome.

In these chronic diseases, the intestinal microbiome lacks bacteria that activate immune cells, which in turn blocks the response against those harmful bacteria in our intestines.

Such a change in the intestinal microbiome is observed in children born by caesarean section, but also in the individual consuming a poor diet and in some older persons.

In the United States, 117 million people, about half of the adult population, suffer from type 2 diabetes, obesity, cardiovascular disease or a combination of all.

This suggests that half of the adult American population has a faulty microbiome that could not fight attackers from outside.

And that's not a trifle.

It's definitely not a problem only in American and western countries.

In Indonesia in 2019, about 1.6 million people died. Of these, 560,000 for cardiovascular disease alone, mainly for stroke, so Indonesia as a developing country is not much better off.

People do everything to destroy their inner ecosystems and biodiversity which ensures their health and life, in exchange for delusions of wealth, comfort or glory by living in cement sterile jungles.

They take this self-destructive way of life as the norm and are able to defend it to death. Then comes the flu and they are able to declare a pandemic, as they usually have a completely broken immune system that would cope with most of the new and far stronger viruses.

But one thing is for sure known today.

Unless we all put our ecosystems and biodiversity in order together,  
we can never win.

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# ***ECOSYSTEMS - DIVERSITY***

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**As we have microbiomes, planet Earth has its biome.  
The diversity of the planet Earth's ecosystem.**

**This part about biodiversity is the most important similarity.**

**Just as humans have organs that perform a certain function so that our organisms can live, so do planet Earth. We call them ecosystems.**

**These include tropical rainforests, pastures, prairies, savannas, deserts, tundra, taiga, estuaries, freshwater lakes, rivers, oceans, wetlands, boreal forests and more.**

**All species of ecosystem and every individual also have their own compositions of biodiversity, as well as our intestines. Every composition of microbiome is unique and differs from other types.**

**However, the planet Earth is much larger and so the biodiversity is much wider and richer.**

**There are 8.7 million species known so far and an estimated amount might reach 30 million.**

**For example, soil contains in a single gram about one billion bacterial cells and one million fungi, about one million protozoa and several hundred nematodes.**

**Can you imagine how many processes and information takes place in such a large number of organisms?**

**In the human body, one million processes are running in just one second. Various biochemical, electrical, magnetic, and many other processes.**

**This is an incredible capacity that no computer can handle.**

**And what about the processes in the soil or even all the processes on planet Earth.**

**Because of brain capacity no one will ever notice and understand all ongoing and ever-changing processes around us,  
but in the end it would be enough for people to understand ourselves and everyone can do it.**

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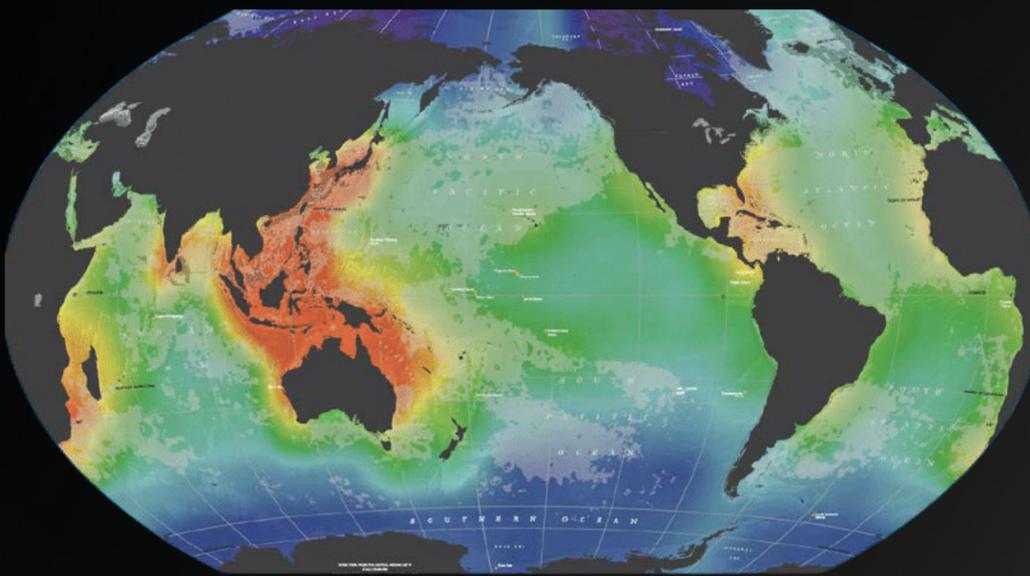
# BIODIVERSITY

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## Species diversity

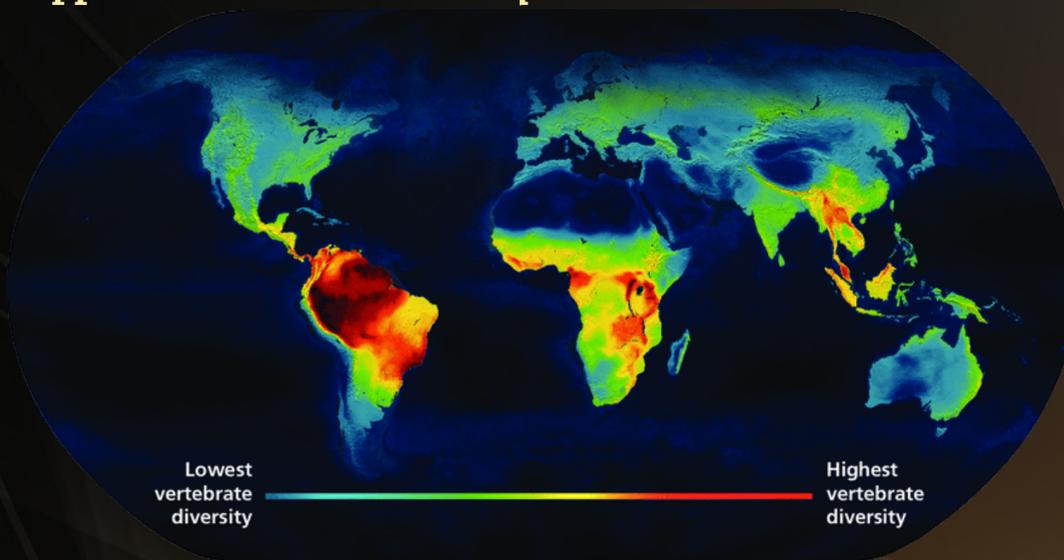
Includes all species living on the Earth from plants, bacteria, viruses, fungi, weeds, moss, to all species of animals, including unicellular protozoa to mammals.

The already mentioned 8.7 million species and approximately 13,000 new species are discovered every year. That's how little we know about the planet we share life with. After living 5 years in or near the tropical rainforest, I discover every day different species or its different color, from insects to trees and plants.



This map shows the concentration of biodiversity in the oceans. Those colored are places with the largest biodiversity in the ocean. Those are the same localities as shown in connection with the heart of the planet

These areas are the richest thanks to the ecosystem of coral reefs. Coral reefs are the most biologically diverse ecosystems on the planet. They occupy only 1% of the seabed and support more than 25% - a quarter of all marine life.



We know most about Vertebrates so far and it can be evaluated well.

On the map, the greater diversity is determined by the color red, and thus a clear dominance of the biodiversity in tropical rainforests can be seen.

They cover 6% of the world's continental area and contain 50% of the world's terrestrial plants and animal species.

For comparison and imagination.

There are 320 species of butterfly living throughout Europe. 1,300 species of butterfly live in Peruvian National Park only.

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# ***BIODIVERSITY***

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## **Species diversity**

**Biodiversity is essential for the strength of the ecosystem, and the loss of a single species affects many others, causing inequality, or disharmony.**

**After all, we already know this from understanding our microbiome.**

**People sometimes ask me why I don't protect nature in Czech Republic when it's my birthplace. I hope I have managed to answer this question in this study.**

**Even if we save all diversity of life in Europe, preserving 320 kinds of butterflies, in comparison one small National Park in the tropics is home to 1,300 species.**

**The loss of one hectare in the tropics has a completely different dimension than protection of the entire Czech Republic, whether someone likes it or not.**

**That's just the way it is.**

**For us humans however, the biodiversity of our microbiome in our bodies is vital for our life, which acts as the foundationstone of our immune system.**

**Capable of dealing with any disease if it's rich and balanced in terms of biodiversity. If not, we are vulnerable to illness or even death.**

**We depend so much on other organisms and microbes in our own body to keep us alive**

**and yet we do everything possible to eliminate them.**

**And what about our Planet Earth and its immune system?**

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# 6TH MASS EXTINCTION

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**Mass extinction is defined  
as the loss of 75% of all existing species on Earth  
in a short geological period.**

**That is considerable 2.8 million years, certainly not  
negligible from a human point of view.**

Mass extinctions have occurred five times in the history of the planet and the last one took place 55 million years ago, when the earth lost about 80% of all species. To this day, it is not entirely clear why, since Alvarez's theory relating to extinction of dinosaurs caused by the impact of a large asteroid has a time inconsistency of 50 thousand years. Don't think we will solve this in this study.

Notably, a large decline in wildlife can cause the same ecosystem disruption as the complete loss of certain species

Please, don't think that Zoos help to protect certain species in any way. Possibly bank accounts of some individuals.

All animals that live in captivity are only burdensome ecosystems, as they do not perform any function in it for what they were born, but draw more from it than normal.

It's as if you took bacteria from the gut and put them in a glass, it was difficult to create the conditions in it to survive and just look at them.

On the one hand, you will miss them in your intestines and you will break your whole microbiome, which will make you sick or kill you, and on the other hand, it will be completely useless.

Maybe you could withdraw money from other viruses and bacteria to watch the glass, but it still won't help you.

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# **6TH MASS EXTINCTION**

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**Scientists have wondered if the theories and assumptions of some skeptics about the ongoing mass extinction today are true and what influence human kind may have on it.**

**They found that 77 vertebrate species show that they lost 94% of their population in the last century.**

**Furthermore, more than 400 vertebrate species have become extinct in the last century, and extinction would take up to 10,000 years under normal evolution.**

**The analysis also showed the so-called domino effect. This means that the extinction of one species has an impact on others, which are rapidly declining their populations and gradually dying out.**

**The conclusion of the whole analysis is that not only do we lose species much faster than we would expect, but we lose them a thousand times faster than during the aforementioned rare events of mass extinction in Earth's history, and human activity causes extinction to an unprecedented extent.**

**This means that even if the theory of a 10km asteroid crash on average was true and he actually exterminated dinosaurs, Humans can do it 1000 times faster now.**

**Earth has never experienced such speed and situation before,**

**and it will probably never experience this again.**

**Not with Humans.**

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# **6TH MASS EXTINCTION**

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**Professor Paul Ehrlich of Stanford University said:**

**"If humanity destroys other creatures and species, it cuts a branch right beneath it and destroys a functional part of our own life support system.**

**Protection of endangered species should be raised to a global emergency for governments and institutions, which have to deal with the disturbance of climate with which it is associated"**

**Scientists are urging to address rapidly growing populations, ecosystem destruction, wildlife trade, pollution and the climate crisis.**

**The fate of humanity and most living species is at stake, so it is necessary to act now!**

**We are the main drivers of these environmental changes such as deforestation, climate change, ocean acidification, hunting and ecosystem pollution.**

**However, one positive thing is that we people are to blame and we know it, so we are aware of our mistakes.**

**There is still hope for change.**

**We may lower human impact for the sake of future generations.**

**But it will be extremely hard work.**

# CONCLUSION

Someone would say we have an option to stop it.  
And someone would say that we have a responsibility to stop it.

In any case,  
we have about 8 years  
not to choose the option,  
but to stop it all.

After that we will cross the breaking point  
and the changes will be irreversible.



I believe that everyone knows best  
what is right,  
where is your place in life ,  
where you feel best  
and what to choose.

Because we all already know all the functions of  
Our Hearts.

I hope this lecture gives you a complex and holistic view and brings a new era of  
thinking and solving the world's crisis on all its levels.

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# ABOUT AUTHOR

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**JUSTICE FOR  
NATURE**

## JUSTICE FOR NATURE

Website : [justicefornature.org](http://justicefornature.org)

We are a part of world's nature preservation and our effort is trans-continental.

Our energy consists of counter-poaching activities, preservation of critically endangered animal species and education.

We are a members of International Ranger federation.

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Zbynek has been living in Indonesia for 6 years, where he leads projects to protect tropical ecosystems as part of the Justice for Nature initiative.

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Made in  
2021 - 30. August

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# REFERENCES

---

## *HUMAN BODY AND PLANET EARTH*

<https://wall.alphacoders.com/>

<https://www.indiatoday.in/education-today/gk-current-affairs/story/human-body-326508-2016-05-31>

<https://www.independent.ie/irish-news/earth-was-regularly-pummelled-by-asteroids-that-left-giant-craters-on-moon-trinity-researchers-34669621.html>

---

## *SIMILARITIES*

<https://foglets.com/the-universe-as-like-human-brain-discover-scientists/>

<https://www.ignant.com/2017/09/12/human-vs-nature-by-agnieszka-lepka/>

<http://mholcumbrink.blogspot.com/2012/07/critique-of-bejans-design-in-nature.html>

<https://www.bibalex.org/sciplanet/en/article/details.aspx?id=12352>

---

## *BLOODSTREAM VESSEL*

<https://www.webmd.com/heart/anatomy-picture-of-blood>

<https://www.fi.edu/heart/blood-vessels>

<https://www.linkedin.com/pulse/new-developments-human-blood-vessel-model-systems-meredith-sosulski>

---

## *RIVERS AND STREAMS*

<https://natureandus.wordpress.com/2013/04/01/interconnectedness-of-trees-and-rivers-network-patterns/>

<https://www.thegoldenscope.com/2018/10/donana-national-park/>

[https://www.nasa.gov/multimedia/imagegallery/image\\_feature\\_1838.html](https://www.nasa.gov/multimedia/imagegallery/image_feature_1838.html)

---

## *PLANTS*

<https://chopmytree.com/gettin-deep-proper-root-fertilization-for-trees-and-shrubs/>

<https://en.freejpg.com.ar/free/info/100014116/texture-of-a-plant-leaf-in-the-foreground>

---

## *LUNGS*

<https://www.shutterstock.com/video/clip-3494561-all-human-body-systems-transition---respiratory>

<https://www.doccheck.com/en/detail/photos/3968-heart-lung-blood-circulation>

<https://www.genengnews.com/news/alveoli-finding-may-offer-new-opportunities-to-treat-lung-damage/>

---

## *OCEANS*

<https://ocean.si.edu/ocean-life/invertebrates/ocean-acidification>

<https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification>

<https://www.loceanalabouche.com/pages/newsletters/news-2020/decembre-2020/1er-decembre/l-impact-desastreux-des-nanoparticules-sur-le-phytoplancton.html>

<https://svs.gsfc.nasa.gov/12176>

<https://giphy.com/explore/open-ocean>

<https://www.calacademy.org/educators/lesson-plans/sensational-seaweed>

---

## *PHOTOSYNTHESIS*

<https://www.britannica.com/science/photosynthesis>

<https://watchandlearn.scholastic.com/videos/animals-and-plants/plants/what-are-plants.html>

<https://microbenotes.com/xylem-vs-phloem/>

<https://edizione-sfondo-tg5.blogspot.com/2020/12/get-20-42-photosynthesis-gif-funny.html>

<https://www.sciencenewsforstudents.org/article/scientists-say-chlorophyll>

---

## *JET STREAMS*

<https://scijinks.gov/jet-stream/>

[https://commons.wikimedia.org/wiki/File:STS039-601-049\\_Jet\\_Stream\\_\(cropped\).jpg](https://commons.wikimedia.org/wiki/File:STS039-601-049_Jet_Stream_(cropped).jpg)

<https://sos.noaa.gov/catalog/datasets/earthnow-effects-of-el-nino-and-la-nina-on-phytoplankton-and-fish/>

<https://gfycat.com/lightfrightenedbigmouthbass-csu-satellite-photos-earth-night-rammb>

<https://gfycat.com/hollowgroundedguillemot>

<https://www.weather.gov/jetstream/jet>

---

## *RESPIRATORY ACIDOSIS*

<https://www.healthline.com/health/respiratory-acidosis>

<https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-021-06056-0>

[https://www.teahub.io/viewwp/iwbiRm\\_grunge-background-dark-red-background-hd/](https://www.teahub.io/viewwp/iwbiRm_grunge-background-dark-red-background-hd/)

<https://www.pinterest.com/pin/850406342130495358/>

---

---

# REFERENCES

---

## *ACIDIFICATION OF OCEANS*

<https://ocean.si.edu/ocean-life/invertebrates/ocean-acidification>

<https://www.google.com/amp/s/www.forbes.com/sites/davidbressan/2019/10/02/humans-release-40-to-100-times-as-much-carbon-as-do-earths-volcanoes/amp/>

<https://www.carbonbrief.org/new-satellite-reveals-places-on-earth-most-at-risk-from-ocean-acidification>

---

## *ACIDIFICATION OF PLANTS*

<https://news.stanford.edu/pr/02/jasperplots124.html>

---

## *HEART*

<https://www.msdmanuals.com/home/heart-and-blood-vessel-disorders/biology-of-the-heart-and-blood-vessels/biology-of-the-heart>

[https://www.researchgate.net/figure/Cardiovascular-system-diagram-representing-blood-circulation-between-the-heart-and-lungs\\_fig2\\_340870492](https://www.researchgate.net/figure/Cardiovascular-system-diagram-representing-blood-circulation-between-the-heart-and-lungs_fig2_340870492)

<https://trialsitenews.com/lilly-clinical-trial-evidences-trulicity-reduces-heart-risks/>

<https://gifer.com/en/4DFJ>

<https://www.ugetwellsoon.com/category/myocardium/>

---

## *HEART OF THE EARTH*

<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/mantle-convection>

<https://www.pnas.org/content/113/31/8601>

<http://nuclearplanet.com/Herndon's%20Nuclear%20Georeactor.html>

<https://www.scientificamerican.com/article/why-is-the-earths-core-so/>

<https://mammothmemory.net/chemistry/the-earths-structure/lithosphere/lithosphere.html>

<https://imgur.com/gallery/Q5l3hPV/comment/931400178>

<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/mantle-convection>

---

## *TIDES*

<https://knowablemagazine.org/article/physical-world/2020/tides-they-are-changing-and-its-not-just-climate-change>

<https://mrascience.com/2016/01/14/spring-neap-tides/>

<https://se.copernicus.org/articles/10/725/2019/>

<https://www.pinterest.com/pin/401875966719334437/>

<http://www.this-magic-sea.com/TIDE.HTM>

---

## *WATER CIRCULATION AND VOLCANOES*

<https://myNASAdata.larc.nasa.gov/basic-page/ocean-circulation>

<https://www.tonymappedit.com/mapped-20-largest-earthquakes-in-the-world/>

<https://news.climate.columbia.edu/2019/06/07/tides-trigger-earthquakes/>

<http://tautai.com/climate-change-gulf-stream-system-slow-down/>

<https://www.forbes.com/sites/robinandrews/2019/01/22/deep-quakes-reveal-that-magma-is-moving-beneath-an-ancient-german-volcano/?sh=773d5f7d4e8c>

<https://academic.oup.com/gji/article/216/3/2025/5257845>

<https://www.smithsonianmag.com/smart-news/five-things-know-about-yellowstone-supervolcano-180965345/>

<https://www.smithsonianmag.com/smart-news/volcano-maybe-killed-neanderthals-stirring-once-again-180961549/>

<https://phys.org/news/2016-12-naples-astride-rumbling-mega-volcano.html>

<https://geocenter.info/en/article/italian-supervolcano-campi-flegrei-is-showing-signs-of-reawakening>

<https://www.armstrongeconomics.com/international-news/nature/naples-the-supervolcano/>

[https://www.armstrongeconomics.com/international-news/nature/naples-the-supervolcano/?\\_\\_cf\\_chl\\_jschl\\_tk\\_\\_=pmd\\_RFd5YrjaqPfX4\\_qPu76i1\\_lozqH8M2Qu6trDum.1RAQ-1630076217-0-gqNtZGzNALCjcnBszQdl](https://www.armstrongeconomics.com/international-news/nature/naples-the-supervolcano/?__cf_chl_jschl_tk__=pmd_RFd5YrjaqPfX4_qPu76i1_lozqH8M2Qu6trDum.1RAQ-1630076217-0-gqNtZGzNALCjcnBszQdl)

<http://caribbeanvolcanoes.com/>

---

## *MAGNETIC FIELD OF HUMAN*

<https://www.heartmath.org/science/>

[https://www.researchgate.net/figure/The-hearts-magnetic-field-which-is-the-strongest-rhythmic-field-produced-by-the-human\\_fig11\\_293944391](https://www.researchgate.net/figure/The-hearts-magnetic-field-which-is-the-strongest-rhythmic-field-produced-by-the-human_fig11_293944391)

<https://www.heartmath.org/articles-of-the-heart/global-interconnectedness/each-individual-impacts-the-field-environment/>

<https://www.heartmath.org/resources/downloads/science-of-the-heart/>

---

## *MAGNETIC FIELD OF THE EARTH*

<https://worldoceanreview.com/en/wor-6/the-arctic-and-antarctic-natural-realms-at-the-poles/a-brief-history-of-the-polar-regions/the-earths-wandering-poles/>

[https://www.mozaweb.com/en\\_US/Extra-3D-scenes-The\\_Earth\\_s\\_magnetic\\_field-47092](https://www.mozaweb.com/en_US/Extra-3D-scenes-The_Earth_s_magnetic_field-47092)

[https://www.esa.int/Applications/Observing\\_the\\_Earth/Swarm/Swarm\\_probes\\_weakening\\_of\\_Earth\\_s\\_magnetic\\_field](https://www.esa.int/Applications/Observing_the_Earth/Swarm/Swarm_probes_weakening_of_Earth_s_magnetic_field)

<https://astronomy.com/news/2012/03/earths-magnetic-field-provides-vital-protection>

---

---

# REFERENCES

---

## *IMMUNE SYSTEM - DIVERSITY*

<https://www.horyou.com/member/holly-smith/news/5-major-threats-to-biodiversity-and-how-we-can-help-curb-them>  
<https://www.news-medical.net/news/20210107/Gut-and-oral-microbiomes-predict-COVID-19-severity.aspx>  
<https://extension.oregonstate.edu/news/secret-life-soil>

---

## *MICROBIOME*

<https://theconversation.com/a-healthy-microbiome-builds-a-strong-immune-system-that-could-help-defeat-covid-19-145668>  
<https://www.hindawi.com/journals/ijbd/2016/2718275/>  
<https://www.whatisbiotechnology.org/index.php/science/summary/microbiome/the-human-microbiome-refers-to-the-complete-set-of-genes>  
<https://theconversation.com/the-human-microbiome-is-a-treasure-trove-waiting-to-be-unlocked-118757>  
<https://www.hindawi.com/journals/ijmicro/2020/8045646/>  
<https://www.gastrojournal.org/>  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5599043/>  
<https://www.immunology.org/public-information/bitesized-immunology/organs-and-tissues/immunity-in-the-gut>  
<https://www.sciencedirect.com/science/article/pii/S245223172030004X>  
<https://www.dermascope.com/scope-this/the-skin-microbiome-the-secret-world-on-our-skin>

---

## *ECOSYSTEMS*

<https://sciencetrends.com/earths-many-different-types-ecosystems/>  
<https://twitter.com/invertophiles/status/993314502513836032>  
[https://www.blendspace.com/lessons/iU\\_gjYxgZ9EU1g/living-in-harmony](https://www.blendspace.com/lessons/iU_gjYxgZ9EU1g/living-in-harmony)  
<https://www.conserve-energy-future.com/what-is-an-ecosystem.php>

---

## *BIODIVERSITY*

<https://www.newscientist.com/definition/biodiversity/>  
[https://www.researchgate.net/figure/Distribution-of-biodiversity-in-the-oceans-Biodiversity-data-Tittensor-et-al-2010\\_fig3\\_291958124](https://www.researchgate.net/figure/Distribution-of-biodiversity-in-the-oceans-Biodiversity-data-Tittensor-et-al-2010_fig3_291958124)  
[https://www.researchgate.net/figure/Latitudinal-diversity-gradient-in-amphibians-including-6-117-species-in-5-o-grid-cells\\_fig6\\_326656888](https://www.researchgate.net/figure/Latitudinal-diversity-gradient-in-amphibians-including-6-117-species-in-5-o-grid-cells_fig6_326656888)  
<https://www.mrgscience.com/ess-topic-31-introduction-to-biodiversity.html>  
<https://www.treehugger.com/3-types-of-biodiversity-overview-and-importance-5191428>  
<https://www.theatlantic.com/health/archive/2013/06/healthy-soil-microbes-healthy-people/276710/>  
[https://www.researchgate.net/figure/The-tropics-have-higher-levels-of-biological-diversity-This-map-shows-levels-of\\_fig2\\_273320508](https://www.researchgate.net/figure/The-tropics-have-higher-levels-of-biological-diversity-This-map-shows-levels-of_fig2_273320508)

---

## *FOREST*

<https://www.dec.ny.gov/lands/90720.html>  
<https://sciencing.com/importance-forest-ecosystem-5422707.html>  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793341/>  
<https://www.sensorytrust.org.uk/blog/nature-and-the-immune-system>

---

## *HUMAN IMPACT*

[https://link.springer.com/chapter/10.1007/978-3-662-08237-9\\_14](https://link.springer.com/chapter/10.1007/978-3-662-08237-9_14)  
<https://onlinelibrary.wiley.com/doi/10.1111/gcb.15539>  
<https://www.google.com/amp/s/www.rainforestmaker.org/amp/facts.html>  
<https://www.sciencedirect.com/science/article/pii/S0960982219310231>  
<https://www.nap.edu/read/9148/chapter/11>  
<https://overpopulation-project.com/what-is-the-optimal-sustainable-population-size-of-humans/>  
<https://academic.oup.com/nsr/article/3/4/470/2669331#>

---

## *MASS EXTINCTION*

<https://ourworldindata.org/extinctions#are-we-heading-for-a-sixth-mass-extinction>  
<https://up-magazine.info/en/planete/biodiversite/58770-les-scientifiques-observent-une-acceleration-imprevue-des-extinctions-de-masse/>  
<https://earth.org/sixth-mass-extinction-of-wildlife-accelerating/>  
<https://interestingengineering.com/the-sixth-mass-extinction-may-exterminate-mammals-in-the-next-50-years>  
<http://www.greenandprosperous.com/blog/3-small-ways-we-can-prevent-mass-extinction>

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