

The Increase in the Volume of the Planet Earth and the Processes of Earthquakes

Abstract

If we accept the hypothesis of an expanding Earth [1], then rapid changes in meteorological conditions on the planet will become clear, and the secrets of earthquake processes will come out of the shadow of existing misconceptions among most geophysicists of the world and scientists will understand the mechanisms of energy formation of seismic processes. But...There are multiple arguments of world geophysicists testifying against the hypothesis of an expanding Earth, and in their opinion, scientists supporting this hypothesis allegedly did not provide mechanisms for the expansion of the planet [2]. In turn, the development of the theory of plate tectonics and the alleged discovery of the processes of formation of subduction zones led to the recognition of the hypothesis of plate tectonics by the world scientific community as the main theory of geophysics and sent science straight into a dead end of false conclusions, from which modern geophysics has not found a way out. And it was enough just to listen to A. Einstein and a march into the jungle of unfounded fantasies could be very easily avoided. Everything is extremely simple, but this makes it obvious and incomprehensible to most geophysicists that energy is matter, and matter is energy. For example, only the total amount of solar energy that our planet absorbs, including the atmosphere, land surface, and mirrors of the seas and oceans, is $\sim 3,850,000$ EJ per year [3]. And this is without taking into account the energy supply from space in the form of highly energetic particles. This scientific fact, which cannot be denied, must inevitably lead to the formation of matter and, consequently, to the expansion of the planet, because any high school student knows the physical concept of the equivalence of mass and energy arising from the theory of relativity A. Einstein [4], according to which the energy of a body at rest is equivalent to its mass multiplied by the square of the speed of light in a vacuum: $E = mc^2$. That is, whether we like it or not, but the energy of the Sun and Space, as it has been transformed for billions of years into matter familiar to us: rocks, gases, minerals, fluids, will be transformed, in accordance with the laws of science. Otherwise, all the proponents of the expanding Earth hypothesis will have to declare that Mr. Einstein's formula $E = mc^2$ does not correspond to reality, and recognize the great scientist as a falsifier. Therefore, no matter what far-fetched arguments in the form of mythical subduction zones geophysicists give, no matter what "exotic laws of local significance" they invent, no matter how cynically they mock the fundamental laws of science - all energy entering the planet is necessarily processed and will be processed into matter with an increase in the volume of the planet. Without any exceptions! Only one biochemical process of photosynthesis continuously occurring in algae in one year brings $\sim 3.6 \cdot 10^{11}$ tons of oxygen into the Earth's atmosphere [5], which significantly exceeds the amount of hydrogen and helium "immigrating" into space. Even if we take a geological epoch of one hundred million years, the evidence of an increase in the volume of the Earth only due to oxygen ($3.6 \cdot 10^{11} \cdot 10^7$ tons) becomes quite convincing. the surface area of the Earth is constantly increasing, then the processes of expansion of the planet increase exponentially, which inevitably leads to an increase in seismic activity and volcanic activity, and the increase in the volume of the planet itself serves as a lever for changing the meteorological conditions of the planet's existence and one of the sources of seismic energy formation. In this article, we will consider seismic processes in the light of the expanding Earth hypothesis.

Keywords: earthquake, planet Earth, photosynthesis, energy

The Expanding Earth Hypothesis

At the moment, most geophysicists in the world hold the opinion of the stability of the size of our planet throughout its existence. Obviously, without understanding the essence of Mr. Einstein's formula $E = mc^2$, geophysicists-fixists came up with arguments that do not stand up to criticism, which in their opinion clearly (?) and convincingly (?) testify against the hypothesis of an expanding Earth:

1. Measurements using modern high-precision geodetic technologies show that currently the Earth does not change its radius are accurate to 0.2 mm per year [6].
2. Measuring the movements of tectonic plates and subduction zones using various geological, geodetic, and geophysical methods support the theory of plate tectonics [7].
3. Paleomagnetic data indicate that the radius of the Earth 400 million years ago was 102 ± 2.8 percent of the current radius.
4. Estimates of the moment of inertia of the Earth from Paleozoic rocks indicate that there has been no significant change in the radius of the Earth over the past 620 million years.
5. According to the research of Francis Birch (1968), even with a 2-fold change in the gravitational constant G , the radius of the Earth would change by about 370 km [8] At the same time, according to modern data, the relative change in the constant G is much lower and does not exceed $\sim 10^{-11}$ - 10^{-12} per year.
6. If the continents had been in closer contact in the past, the world's waters would not have fit into the ocean beds and the planet would have been completely covered by the world ocean, which would have made the existence of fossil land animals impossible. If there had been less water in the past, it would have made life on Earth impossible in its usual sense.

We will not carry out verification calculations and proofs against the figures and provisions given in paragraphs 1, 3, 4, 5 because they do not stand up to any criticism and we do not need to waste time proving their absurdity. For example, even with the naked eye it can be seen that the figure indicated by NASA researchers [6] in paragraph No. 1 in no way can amount to 0.2 mm per year, because in this case the relative accuracy of measuring $0.2\text{mm} / r$ of the earth will be less than 1 Angstrom ($1 \text{ \AA} = 0.1 \text{ nm} = 100 \text{ pm}$; $10,000 \text{ \AA} = 1 \text{ \mu m}$). We remind you that 1 \AA is the diameter of the electron orbit in an unexcited hydrogen atom, or the step of the atomic lattice in most crystals. I would like to ask the dreamers who “calculated” the figure 0.2 mm: and how did you take into account the “rapid breathing” of the Earth's surface, which does not stop for a femtosecond, from solar and lunar tides and gravitational forces of other planets, which are many times greater than 0.2 mm? This also applies to the indicated paleomagnetic data in paragraph No. 3 - $102 \pm 2.8\%$ of the current radius, when the gravitational constant could change many times dozens of times during the geological epoch of four hundred million years indicated by them. What does this give us and is it worth taking seriously such dubious calculations and conclusions that even with the naked eye do not cause any confidence? As for point 2, no one disputes that tectonic plates are in constant motion, only this movement is easily explained, among all other reasons, by the increase in the volume of the planet, its expansion, an increase in the mass of magma and volcanic activity. As for subduction zones, this deadly weapon against the idea of an expanding Earth, this is such geophysical nonsense that the fantasies of the great storyteller Anderson are far from the fantasies of the authors of the idea of a fixed Earth. Paradoxically, fantasies about the existence of subduction zones rest on the theory of Spreading, which substantiates the process of expansion of the planet and which is confirmed by experimental work and entered the category of geophysical theories, and supporters of a fixed diameter of the Earth trying to hide this obvious fact of expansion of the Earth, invented a beautiful fairy tale about subduction zones. We remind you that geophysical Spreading is a geodynamic process of the divergence of lithosphere plates in the rift zones of the mid—oceanic ridges, which has a direct and enormous impact on the processes of movement of tectonic plates, and consequently on the processes of earthquakes and volcanic eruptions, on the accumulation of minerals in sedimentary covers of rift valleys, on changes in the level of oceans and seas, on climatic processes and the habitat of the flora and fauna of the planet, and therefore the daily living conditions of people. Theoretically, the basics of spreading were formulated by Harry Hammond Hess in 1960. Currently, it is believed that the mechanism of pushing the plate (ridge-

push) and retracting the plate (slab pull) is responsible for the spreading processes [9], [10]. The pushing process begins with mantle convection. Due to the heat of the asthenosphere and under the influence of pressure from the magmatic melt pumped from below, the plate rises (bulges), a median plate fracture occurs, followed by gravitational sliding of the oceanic plate downhill in both directions from the fault (rift). Next, the process of retracting the two halves of the plates due to their weight into the mantle during immersion in the subduction zone, in which the expansion of the earth's surface is compensated, is activated. Thus, according to fixists, there is a process of birth of new crust in spreading zones and utilization of old crust in subduction zones, which allows us to talk about the stability of the planet's size. We believe that this does not really correspond, since the process of mantle convection, pushing, and pulling of the plate does not correspond to the elementary laws of mechanics, hydrodynamics, thermodynamics, and just common sense. The primary cause of the spreading process is the formation of a median rift due to the expansion of the "shell" of the planet, the appearance of tensile and compressive forces with multidirectional vectors of forces acting on the mountain range leading to numerous crustal fractures in the form of grabens, Fig. 1 and graben-like "wrinkles" of the bottom surfaces of the oceans, for example, Fig. 2.

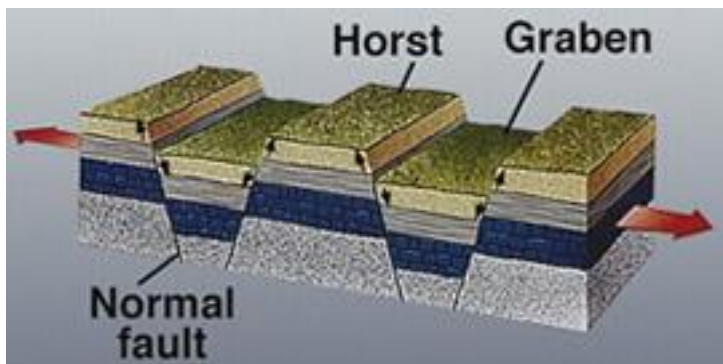


Fig.1. Graben diagram



Fig.2 The bottom of the Atlantic Ocean

Further, the spreading of oceanic plates occurs due to the formation of a large amount of magma from superheated plate rocks in the fault zone as a result of a sharp drop in rock pressure under the oceanic plate at the spreading site and when the bending strength of the rocks is exceeded, its fracture occurs. The growing mass of rocks due to the magma and sedimentary material entering the rift valley, the rift valley will increase in size and push apart both halves of the split plate, thereby increasing the surface of the planet. In this process, no subduction zones invented by geophysicists are formed, because this is easily refuted by the laws of mechanics. We explain this with a simple example: - In order for the process of pushing the plate to start and it began gravitational movement downhill; the angle of inclination of the plate must (!) be at least a few degrees. For example, if we take the angle of inclination of the plate to be only 1 degree, then with its length of 1000 km, the end of the plate must be raised to a height of $h = 17,455,064$ m. For example, water begins to flow at a slope of ~ 1 degree. But, the density of the slab is several times greater than the density of water, therefore, if we take the slope angle of the slab at least 5 degrees (the slope angle of the roof for sliding snow is at least 9 degrees), then to ensure its sliding, the height of the lifting end of the slab must be $h = 87,488,663$ m. There are no ridges of this height even on Mars. But even this is not the whole truth, because in order for the plate to start moving spontaneously downhill, nothing should interfere with its end. What about us? And here the plate rests against the rocks of the mantle and magically pierces them through. And neither the laws of mechanics, nor the laws of physics, nor common sense will allow such an unscientific outrage. Therefore, the generally accepted mechanism of pushing the plate is an invention at the elementary school level. We can say the same for the plate retraction mechanism, because due to the small angle of inclination and as a result the occurrence of a large friction force, the plate will simply burst in several places, which is clearly visible in Fig.2. As you can see, the above simple calculation completely crossed out the mechanism of the subduction process legalized by geophysicists and showed that modern interpretations of this mechanism do not correspond to the fundamental laws of mechanics and physics. Moreover, it is simply unrealistic to imagine that a basalt plate with a specific density of 2.9 T/m^3 can pierce mantle rocks with a density of 3.3 T/m^3 , because this is like saying that a sheet of paper can pierce a metal plate, or that a bar of iron can sink in a vessel with mercury. Nevertheless, despite such an embarrassment, the geophysical community is widely presented with images of subduction zones taken by the method of so-called seismic tomography, Fig. 3,

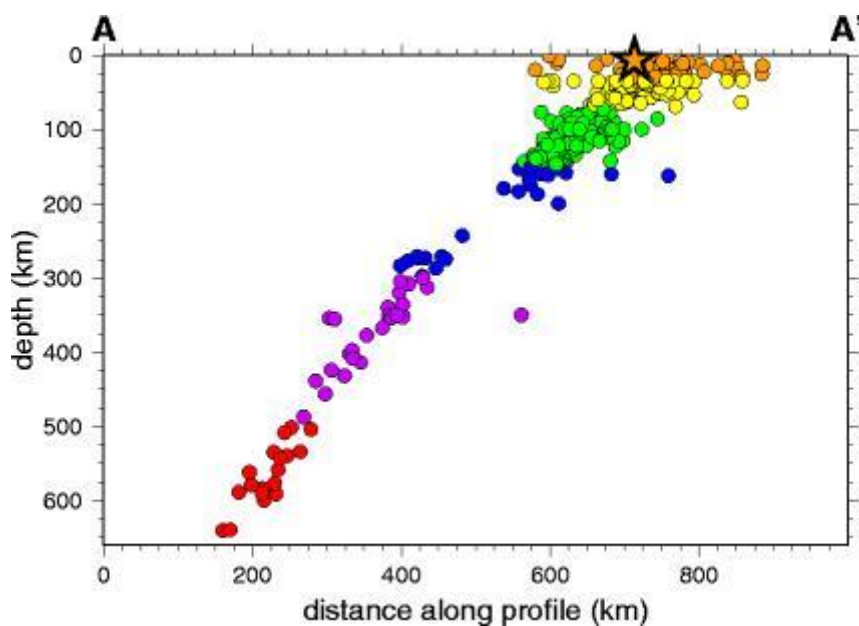


Fig.3 Multicolored circles show earthquake foci of the oceanic plate sinking into the mantle.

which clearly show a cold oceanic plate sinking into the mantle. Seismologists claim that this became possible thanks to the equipment of seismic stations with powerful computers capable of

detecting even small deviations of the velocities of seismic waves less than 5% when they pass through mountain ranges. The methods that allow obtaining such three-dimensional pictures of inhomogeneities in the mantle and crust of the Earth are called seismic tomography. It is the funny pictures of subduction zones that act as the heavy artillery of fixists, whose "shells" allegedly literally tear the hypothesis of the expansion of the Earth into insignificant pieces. Is it so? No, this is a lie from beginning to end, because some geophysicists are trying their best to give wishful thinking. No one disputes that getting a seismic tomography of a volcanic chamber, this isolated high-temperature object located at an insignificant depth of 5-6 km, does not present any big problems at present, but getting a picture of an object at a depth of hundreds of km with a huge range of temperatures and pressure, is a completely different matter, because seismic tomography directly depends on the step between seismic receivers and points of excitation of waves and parameters of the mountain range, which significantly affect the resolution of the resulting image, as well as the presence of fluids, gradients of temperature, pressure, density and fracturing of rocks, various inclusions, faults and other defects of the mountain range, which together will form such a mosaic panorama of seismic wave vectors on the monitor that ten independent interpreters of the same tomographic panorama will give ten completely different versions of the object they describe. This is quite understandable, because the change in the velocities of seismic waves in a significant range and depth of the studied mountain range with an area of several tens and even hundreds of thousands of square kilometers turns out to be so unpredictable that the outline of a geological object is an unsolvable puzzle from the arsenal of fortune-telling on coffee grounds. Therefore, tomographic images depicting geological bodies of the earth's crust and mantle at depths of hundreds of kilometers must be approached carefully and without fantasies, and all images obtained must strictly comply with the laws of science. For example, a less dense slab cannot in any way sink into a denser one. Unfortunately, modern pictures of subduction zones do not fit into the scientific explanation of their origin and contradict the physical laws of science, which means that the interpreters of tomographs of imaginary subduction zones in their compilation showed no knowledge of the laws of science, but a violent and unbridled imagination and the subduction zones they painted exist only in their heads!

Speaking about the same amount of water at different times of the existence of the planet (No. 6), opponents of the theory of the expanding Earth for some reason ignore the fact that to date there is no reliable answer to the question - how, at what time and in what quantity water appeared on Earth and how its volumes changed over time. Therefore, this supposedly serious argument of fixists against the hypothesis of an expanding Earth can be considered absurd. For example, we can recommend to fixists the article [11], which shows one of the possible processes of water formation in the bowels of our planet, in which huge reserves of water on Earth could arise directly in the mantle, and not get from space as a result of collisions with ice-rich comets. This is the result of chemical reactions in the Earth's upper mantle between atomic hydrogen and quartz. *"This is one of the ways water is formed on Earth,"* says John Tse of the University of Saskatchewan in Canada. — *We show that water can be formed in the natural environment of the Earth, and not have an extraterrestrial origin. A simple reaction occurs at $T = \sim 1400\text{ }^{\circ}\text{C}$ and $P = \sim 20,000\text{ atm}$ with the formation of water and silicon hydride.* Fig.4

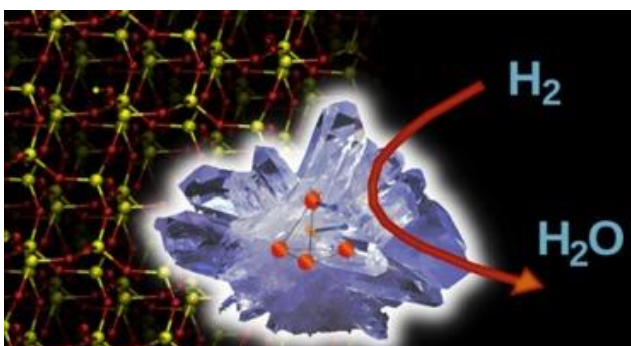


Fig.4 The process of water formation as a result of chemical reactions in the upper mantle of the Earth between atomic hydrogen and quartz

We created a computer simulation very close to the experimental conditions and simulated the reaction, which showed that water is formed inside the quartz volume."

"These results provide important insights into the reactions between quartz and hydrogen at high pressures," - says John Ludden, executive director of the British Geological Survey. - "The formation and release of water under excessive pressure can become an important trigger mechanism in the deep lithosphere for ultra—deep earthquakes, sometimes located well below the earth's crust and in more rigid parts of deep continental plates."

"The new modeling results are quite unexpected, because instead of hydrogen binding to the crystal structure of quartz, it completely destroys it, binds to oxygen and forms water—rich areas under the surface," - says Lydia Hallis from the University of Glasgow, UK. - "The study highlights how the minerals that make up the Earth's mantle can include large amounts of water, and that the Earth is probably in some sense 'wet' right down to its core." By accepting this statement from scientists, whom we tend to trust, accepting Mr. Einstein's formula, we point out to the fixists that their argument about the constant amount of water on the planet at different geological times does not stand up to any criticism, and therefore cannot be taken seriously by the scientific community. Based on the above, it can be concluded that the arguments of supporters of a fixed size of the globe contradict Albert Einstein's theory and common sense, which means that the hypothesis of an expanding Earth has no serious contradictions in the face of science and scientists should pay close attention to the state of the geosphere in connection with the exponential process of increasing the diameter of the Earth, which will change with increasing speed every year with various unpleasant consequences for humanity.

The connection between the expansion of the Earth and seismic processes

There is no doubt that the diameter of the globe is related to the size of the outer and inner cores of the planet. The development of geophysical science currently does not allow us to even approximately judge the effect of changes in the size of nuclei on the processes occurring in them and the forces arising from them, followed by their impact on the bowels and surface of the globe. Obviously, an increase in the mass of the Earth will increase the energy state of the planet and as a result, the process of transition of the energy state of the planet to a non-equilibrium state will begin (is already underway and will only accelerate). We can only hope that in the future the Universe, in accordance with the laws of Thermodynamics [12], will independently eliminate all attempts by our planet to get out of an unbalanced state with a disastrous value of entropy for humanity. At the same time, we can predict an increase in seismic activity on the planet in the near future, because any change in the mass of the planet will change the mining and geological parameters of the subsurface, cause the appearance of charges [13], which will provoke seismic tremors. The conversion of energy into matter will primarily affect an increase in the number of fluids circulating in the bowels of the Earth: magma, water, hydrocarbons, various solutions, gases, and therefore hydrodynamic phenomena associated with fluid movement will occur more often [14], volcanic activity will increase and tectonic plates will "float" faster through the asthenosphere [15] and their splitting and fragmentation will occur more and more often with the release of seismic energy of large magnitudes, which will be increasingly difficult for the earthquake shock absorber of our planet to "digest" [16]. And last note: Already at the stage of preparing the article, I received a strong objection to the hypothesis of an expanding Earth on the grounds that energy from the outside cannot turn into the mass of the Earth according to Einstein's formula $E = mc^2$, because there is no mechanism for direct conversion of energy into matter. Yes, today humanity does not know the direct mechanism of the transformation of energy into matter. The reverse process of converting matter into energy is known and widely used in our practice, but the fact that the direct process is still unknown to us does not mean that it does not exist! The same process of photosynthesis, although it does not

directly release energy, but through the processing of carbon and the production of oxygen, it does. Or the same solar panels. The discovery of a mechanism for converting energy into matter will bring enormous benefits to humanity and will allow us to maintain a thriving ecological environment on our planet.

Conclusion

Based on the physical concept of the equivalence of mass and energy of Mr. Einstein, we can argue that the hypothesis of an expanding Earth should be accepted by the geophysical community as a theory of increasing the mass of our planet, and in general of any planet receiving excess energy from the surrounding space. Obviously, along with the change in the diameter of the globe, the diameters of the inner and outer cores of the planet and, in general, the geological capacities of the earth's crust and mantle will change, which should lead to a change in the electromagnetic parameters of rocks, the amount of magma and other fluids and, as a result of these processes, to an increase in seismic activity with an increase in earthquake magnitudes, as well as to a significant change in the meteorological situation in the form of a sharp climate change. It is obvious that it is necessary to conduct computer modeling of the Earth's expansion processes and identify the most dangerous trends in the spread of the negative impact of this process on our planet in the near future.

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