
CLIMATE CHANGES

SCIENCE AND THE HOLY BIBLE TEXTS

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Abstract

In this paper, we investigated the connection between the Holy Bible texts and climate changes. Also, for the texts from Bible (Old Testament) about time, space, energy, climate and climate changes, a scientific interpretation is obtained. By the today's prognosis scientists share the opinion that the climate changes may destroy the civilization on Earth. In the texts of Bible, we try to find a connection between the Holy text and climate changes. For example, big flood in the Noah time can indicate one strong climate change's influence. Interpretation of Bible will always have an enormous importance for past, present and future science.

Keywords: Holy Bible, climate changes, Old Testament, science, religion

1. Introduction

Humankind is strongly connected with Science and with religion too. Many scientists share the opinion that Science is the same as religion [1]. Some of the unsolved problems are: How many people can live on the Earth? Will the humankind find a habitable planet in the Universe? May human beings become immortal or transhuman? Are there any other civilizations in the Universe? Will an asteroid catastrophic impact spell the end of humanity? Will climate changes destroy plants and animals on the Earth? [2-4].

Does God take the influence of these events? Is it a God knowing about these discoveries? Many scientists compare their own investigations and discoveries with the comparison of God influence. The original holy texts of the Christianity are changed due to the translation to other languages. During the time some words were added some was erased. As well, religious people think that Old Testament texts had minor changes across time. On the other hand, another group of scientists established a paradox in hope to explain existence of

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God. Some of them are Fermi paradox, Faint Sun paradox, Big Bang, astronomical components of climate changes - Milankovic's Cycle, Forest migration paradox, etc. [5, 6].

One of the strongest proofs of connection between religion and Science was established by the Belgian priest Lemaitre (Georges Lemaitre, 1894-1966). Lemaitre was the first pioneer in applying Albert Einstein theory of Cosmology. Lemaitre estimated the numerical value of Hubble constant. This Cosmology theory was the pure example of religion in Science. The Bing bang is for Catholic Church labelled as the point of creation. Another interesting example is Fermi paradox principles. In this paradox, Fermi was trying to find the answer for existing of extra-terrestrial life. The main questions of this paradox are:

- There are billions of stars in the Galaxies that are similar like Sun and many of these stars are billions of years older than the Solar system.
- There is a strong probability, that some of these stars have planet very similar or like Earth, and if the Earth is typical, some may have developed intelligent life.
- Some of these civilizations may have developed interstellar travel.
- At the slow pace of currently envisioned interstellar travel, the Milky Way galaxy could be completely traversed in a few million years, this period for humankind present probably too much long way.

All of these questions must be reformulated in one main question: Where's everybody? The climate changes paradoxes can be explained by forest migration paradox and in Milankovic's cycles. Forest migration paradox tries to explain the migration of trees across time. This paradox shows same taxa in the same place over the time and different climate. This paradox also can't predict future climate, because some trees may migrate to another climate type.

Most of the scientists believe that climate changes are affected by greenhouses gases and a terrestrial component of climate. The famous Serbian geophysicist and astronomer Milutin Milankovic established in 1920s a new theory about Earth orbit changes. This orbital force strongly influence on climatic patterns on Earth. Earth orbital movements, Earth rotation and anomalies of these movements, strongly affect, according to Milankovic's theory, the climate changes on Earth for a long time period. Milankovic has studied Earth orbit anomalies with a mathematical tool. The shape of the Earth orbit varies between circular to elliptical. This orbit anomaly occurs once in 413,000 years. For Milankovic the main changes of orbit happen in 100,000 years. These changes can effect to the temperature, and to lengths of seasons. This climate theory may explain changes of climate on the Earth and also on the other planets, especially on the planet Mars. Also this theory has some problems such as Transition problem, Stage five problem and Unsplit peak problem. In case for 1 to 4 million years ago, climate cycles matched the 413,000-year cycle in incline.

The transition problem refers to the need to explain what and how climate have been changed a 1 million years ago. Some researchers found in the Milankovic's cycles investigation that records don't show all peaks (of the curvature), but only show the single cycle of 100,000 years and this is the cold

Unsplit peak problem. The Stage five problem showed that deep-sea core samples point out that the interglacial interval known as marine isotope began 130,000 years ago, and not before 140,000 years ago, like calculated into Milankovic's theory [7, 8]. But unlike this theory, today terrestrial climate forecasting is a main point of investigation. The main proofs of this theory are greenhouse gasses into lower layer of atmosphere (troposphere), like water vapour (H₂O) - between 36% and 72%, the second important gas is carbon dioxide (CO₂), its range is between 9% to 26%, other are methane (CH₄) - this gas makes 4% to 9%, and ozone (O₃) - between 3% to 7%. The greenhouse gasses have influence on next processes: melting of polar caps, sea level rising, plants devastation, weather and climate changes. Many lands around the world will become hotter and dryer, and then others will become cooler and wetter. Also other consequences can be creation of the giant tornadoes, hurricanes, cyclones, winds, heavy rains, large landslides, etc. These problems can affect the agricultural production, migration rate, overpopulated cities, new diseases, etc. Some predictions tell that temperatures on the Earth may grow up for almost 3.0⁰C. These consequences can destroy whole population on the Earth. Before 2000 years Christianity became the world spread religion. Following the canonical gospels of Matthew, Luke, Mark, John and Old Testament texts we found the sentences concerning the climate and nature and established a connection with the modern science view [9].

2. Some paradoxes and global climate change

Many scientists can't accept the theory of climate changes and an increase in global temperatures. In support to that, they include many paradoxes which contribute to different views concerning the climate changes and greenhouse effects. Some of the paradoxes explain the minor influence of humankind on Earth and climate; others prefer to explain astronomical implications in the global climate cycles. All conclusions speak in favour of the fact that two independent factors affect the climate changes, first is terrestrial with common effect of greenhouses gases, and the second is astronomical which prefers astronomical component and influence on the climate on the Earth. Whatever the case is, in the study of climate properties on the whole Earth it is necessary to treat a huge body of data. Finally, local, regional and continental investigations must be combined in the creation of a climatological-parameters database for a long-term period.

2.1. Faint early Sun paradox

One of the most popular theories concerning the climate changes were the Faint early Sun paradox. This paradox describes the apparent contradiction between liquid water in the early geological history of the Earth and younger Sun. The paradox was established by astronomers Karl Sagan and George Mullen in 1972 [10, 11]. Potential explanations of this paradox have taken into account a connection between the greenhouse effect and astrophysical influence. Some scientific explanations, which are still in use, appear as theories or hypotheses.

The Israeli-American physicist Nir Shaviv [12] used climatological influences of the solar wind in combination with a hypothesis of the Danish physicist Henrik Svensmark [13] for a cooling effect of cosmic rays in an attempt to explain the paradox. According to Shaviv, the younger Sun emitted a stronger and more frequent solar wind that produced a protective effect and shield against cosmic rays. In early age, a modest greenhouse effect comparable to today's one would have been sufficient to explain an ice-free Earth. Today this paradox doesn't offer a full explanation and a connection between liquid water, Sun and greenhouse effect, so it remains to be a mystery for Science.

2.2. Forest migration paradox

Forest migration was the movement of large seed plant dominating communities in geographical space over time. Some plants which were dominant only in one climate zone (Köppen climate zone) are in present today in two or more different zones. Other migration should be given on various elevation zones across the Earth. Many plants try to find an acceptable area for living without climate changes effects. The main climate elements which can affect the plants are temperature and precipitation. With the change of average altitude and angle of inclination, the type of plants which can grow must also change. Some plants can disappear with the change of climate properties.

Anyway, from all of the above mentioned, none theory can completely describe moving of plants and returning at the same time. Many of them, at the same time will exist for 20 years in a certain areal but they can move and return in the former areal and survive in the next period [14].

2.3. Cool tropics paradox

The cool tropics paradox describes an apparent difference between tropical temperatures in the past during warm, ice-free periods of the Cretaceous and Eocene in comparison with the present temperatures. We can use this paradox like partially solved because the new data of global temperatures have suggested a significantly warmer tropic past climate which can include ancient greenhouse effects. Some of the problems still exist, for example, the low-gradient problem which suggests a very warm polar region concerning the present day.

Models which have been developed for this paradox try to explain the areas and depth of ice in the Cretaceous, as well as in Eocene. Another problem can be found in the different continental configuration of ice. These could not produce an ice-free state without using an increased concentration of CO₂. The new estimated values of ice introduced some new problems, more CO₂ can produce warmer tropical sea temperatures, but the present measurements suggested that they were the same or even colder than in the present time [15].

3. The Bible and climate change

3.1. Genesis 8.22

While the Earth remains, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease.

In the part of Genesis of the Old Testament, we have explanations about main climate properties and cycles of long-term and small scale. Cold and heat are in conjunction with summer and winter, as well as in day and night such as a minor part of the climate time [16]. The long-term scale in Holy Bible could be climate properties.

3.2. Genesis 2.15

The Lord God took the man and put him in the Garden of Eden to work it and keep it.

The Garden of Eden was a garden with trees and flowers. This Garden shows land rich with the greenery.

3.3. Genesis 1.10

God called the dry land Earth, and the waters that were gathered together he called Seas. And God saw that it was good.

In this part of the Old Testament God created separately lands and seas.

3.4. Genesis 9.11-15

I establish my covenant with you, that never again shall all flesh be cut off by the waters of the flood, and never again shall there be a flood to destroy the Earth. And God said, This is the sign of the covenant that I make between me and you and every living creature that is with you, for all future generations: I have set bow in the cloud, and it shall be a sign of the covenant between me and the Earth. When I bring clouds over the Earth and the bow is seen in the clouds, I will remember my covenant that is between me and you and every living creature of all flesh. And the waters shall never again become a flood to destroy all flesh.

In this part of the Genesis, God said something most important and fascinating for future people on the Earth. After the Noah severe flood, God gives instructions for pious that He never shall again destroy the Earth and all the living creatures. Till today, in view of the global climate properties during the last 2,000 years, such a global devastating flood has never been recorded.

3.5. Genesis 1.22

And God blessed them, saying, "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the Earth".

God defined water as one of the most efficiency backgrounds for the birth of animals and plants. Without water there is no life on Earth.

3.6. Genesis 1.1-26.35

In the beginning, God created the Heavens and the Earth. The Earth was without form and void, and darkness was over the face of deep. And the Spirit of God was hovering over the face of waters. And God said, "Let there be light", and there was light. And God saw that the light was good. And the God separated the light from the darkness. God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day.

In this part of the Old Testament called Genesis, the God created two separate astronomical parts of the day: Night-time and daytime. They must affect the future climate on the Earth. During daytime the temperature usually increases, during night-time it decreases.

3.7. Isaiah 24.5-6

The Earth lies defiled under its inhabitants; for they have transgressed the laws, violated statues, broken the everlasting covenant. Therefore, a curse devours the Earth, and its inhabitants suffer for they guilt; therefore, the inhabitants of the Earth are scorched, and few man are left.

There is a catastrophic scenario directly done from God. Climate catastrophes can be used against the man on the Earth.

3.8. Isaiah 51.6

Lift up your eyes to the Heavens, and look the Earth beneath; for the Heaven vanish like smoke, the Earth will wear out like a garment, and they who dwell in it will die in like manner, but my salvation will be forever, and my righteousness will never be dismayed.

In this part of the Bible God said everything about a treaty between Earth-man and time. The energy cannot be destroyed; its only changes its aggregate state.

3.9. Isaiah 34.4

All the host of Heaven shall rot away, and the skies roll up like a scroll. All their host shall fall, as leaves fall the vine, like leaves falling from the fig tree.

The powers of God are the powers of Nature. The nature is always in connection with the God.

3.10. Isaiah 30.26

Moreover, the light of the Moon will be as the light of the Sun, and the light of the Sun will be sevenfold, as the light of seven days, in the day when the Lord binds up the broken of his people, and heals the wounds inflicted by his blow.

The God defined time intervals labelled as weeks and days.

4. Conclusions

In this research, we indicted the connection between the climate changes and Holy Bible texts which preach about the influence of God. The texts from Old Testament were studied slowly and studiously. In this way, we give possibilities for potential readers to make a decision, what influences them more, Science, the Holy Bible texts or both. If Milankovic's theory can be proved, it support much stronger the Bible texts than the modern science. This theory may also be applicable to other terrestrial planets such as Venus and Mars. If these planets are a good example of proof of God, then we can give the conclusion about God's commandments of being like one of the most important parts of Bible. The greatest criticism comes in evidence of creation, especially when the creation dates are mentioned. However, since the concept of God is explaining God as absolute, one day for God is maybe for the people on Earth a much longer period (1 day - 1 billion of years).

This research showed that Science should be more engaged in the Bible, but also researcher in Religion sciences should study the other sciences much more. We also wanted to show in this research that there are many connections between Science and religion.

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