

The where, when, and on the scale of the Biblical Flood could have occurred

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Abstract

This article explores the possible place, time, and scale of the Great Flood as recorded in the Bible. The results of this paper conclude that the existence of the Bible-recorded Flood is highly likely. The time was about 4,500 years ago in the plains of Mesopotamia. The flood was caused by the failure of a massive glacial lake dam in the desert region of southern Afghanistan that existed after the end of the last glacial period. Due to the dam failure in the western part of the glacier lake in the Tarim Basin of the western plateau of China, the water of the glacier lake continues to flow into the glacier lake in southern Afghanistan. When the glacial lake in southern Afghanistan overflowed, it continued to wash away the glacial lake dikes made of soft soil, and eventually caused the dam failure of the glacial lake in southern Afghanistan, resulting in huge floods and mudslides. After the energy of these floods and mudslides was released in a concentrated manner at the outlet of the Persian Gulf, part of the energy produced a huge Seiche standing wave phenomenon in the closed interior of the Persian Gulf, which caused a tsunami in the Mesopotamian Plain that lasted for about seven days, up to one or two hundred meters, and then soaked the Mesopotamian Plain in the 50 meters deep flood for dozens of days.

1 The location of the flood

On the one hand, the record of the Great Flood in the Bible is basically similar to the Epic of Gilgamesh in Mesopotamia, so it is highly probable that the Great Flood in the Bible occurred in Mesopotamia. In addition, from the perspective of the scale of the flood, because the flood in the ancient city of Liangzhu in China lasted for tens to hundreds of years, the flood time recorded in the epic of Gilgamesh was only seven days, and the great flood recorded in the Bible was only a few dozen days, so it is unlikely that this flood occurred in the ancient city of Liangzhu. In addition to these two places, look at the topography of the world, including the topography of Europe, and the lack of the presence of huge plateaus, glacial lakes, and densely populated cities. The probability of

such a large flood is relatively small.

2 The time of the flood

According to Gilgamesh's writing, the Great Flood should have occurred more than 4,000 years ago. Considering that the Great Flood of Liangzhu occurred 4,300 years ago, and that there was a severe drought two to three hundred years before the Great Flood of Liangzhu ^[1], the Great Flood of Mesopotamia may have occurred about 4,500 years ago, which is a little earlier than the Great Flood of Liangzhu. This is due to the dam failure of the glacial lake in the Tarim Basin in the westward direction, which reduces the flow to the east. During this period, a very advanced and developed Sumerian civilization located in the southern part of the Mesopotamian plain suddenly became very declining and disappeared, which should also be related to the great flood.

3 The scale of the flood





As you can see from the map above, there are many deserts in the south of Afghanistan and the northwest of Pakistan. When the glaciers in this area dissolve, a relatively large glacial lake is formed. The naturally occurring levees around this glacial lake are supposed to be made up of very soft sediment. After a certain degree of dam failure on the western side of the glacial lake in the Tarim Basin, a large amount of flood water flowed to the glacial lake, which eventually led to the overflow of the glacial lake. A large amount of water washed away the very soft soil, and a large amount of soil was lost, which in turn caused a large landslide, and the flood water carried a huge amount of mudslide into the sea.



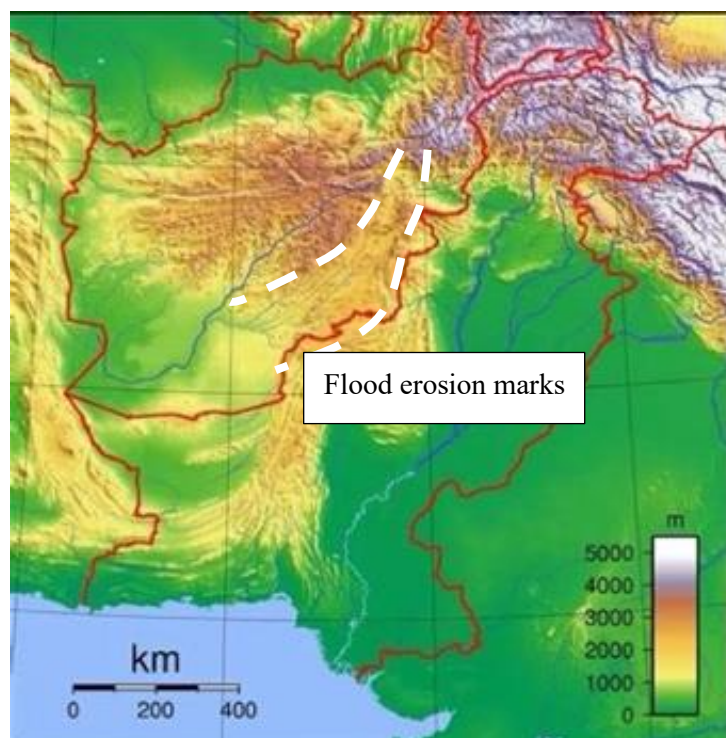
As can be seen from the topography below the desert above, there must have been a large number of landslides in this place, which means that in addition to floods, there are also a large number of mudslides flowing to the ocean. The terrain in the red dotted box above has a wavy shape. It is supposed to be a very strong flood with mudslides that generate waves when flowing. These waves are able to carry more energy into the sea. It can also be seen that the energy carried by the floods and mudslides of that year was very large, because the material in this area could no longer consume more energy.



As can be seen from the figure above, two river channels emerged after the dam failure in the

western part of the Tarim Basin. One is a passage in southern Kyrgyzstan. This channel is relatively wide, thus distributing the main westward flow of glacial lakes in the Tarim Basin. However, this ancient river channel flows to the lower lying areas in the north such as the Caspian Sea and the Siberian Basin, and is vast and sparsely populated. The geological disasters caused may be huge, but the impact on human society and history is not great.

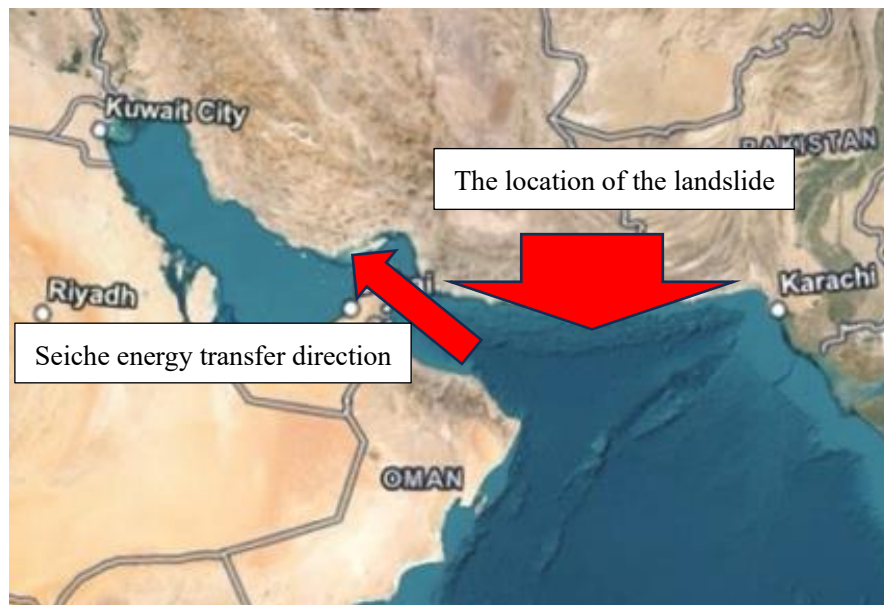
The following ancient river channel should be the Wakhan Corridor connecting the border between Afghanistan and China. The ancient river is currently 75 km wide at its widest point and 15 km at its narrowest point. Far beyond the existing land rivers. Therefore, there is enough capacity for a very large glacial lake dam burst flood.



As you can see from the image above, there is a very clear trace of flood erosion in this area. The location inside the white dotted line in the image. The passage stretches from the Wakhan Corridor to the desert of southern Afghanistan. In this way, the water of the Tarim Glacier Lake can continue to flow through the Wakhan Corridor into the glacial lake in the desert of southern

Afghanistan, causing the water volume of the glacial lake to rise sharply and overflow. Eventually, the soft soil beneath the glacial lake was completely washed away, creating a huge mudslide. And because the altitude of southern Afghanistan reaches 1,000 meters, floods and mudslides carry huge potential energy into the ocean, eventually triggering a huge tsunami in the Persian Gulf. As can be seen from the map above, the entire area covered by mudslides and major floods amounted to 120,000 square kilometers. None of the existing human history and scientific research have seen such large-scale mudslides and floods.

4 Seiche tides in the Persian Gulf



The map above shows the topography of the Persian Gulf. We can note that the sea in this place is very narrow, so that all the energy gathered at the outlet of this Persian Gulf will be divided into two parts, one part will spread out to the vast Arabian Sea, and the other part will flow to the closed Persian Gulf region where the Mesopotamian plain is located. The current depth of water in this

area is about 40 meters, and the width is about 50 kilometers. The entry of the Arabian Sea can raise this part of the enclosed Persian Gulf by almost 100 meters, so that a Seiche standing wave about 50 meters high can be formed. However, based on the size of the Seiche in Dickson Fjord in Greenland in September 2003 ^[2], a tsunami of up to one or two hundred meters high could form over the Mesopotamian plain of the Persian Gulf in the first few days. For the next few days, the entire plain will be submerged in a flood of about 50 meters. The duration of the flood recorded in the epic of Gilgamesh was about 7 days. This is largely consistent with the 200-metre-high tsunami Seiche that occurred in Dickson Fjord in 2023. However, the duration of the flood recorded in the Bible is about 40 days, or 150 days. If we take into account that the sea surface of the Persian Gulf is much wider than that of Dickson Fjord in Greenland, the Mesopotamian Plain flood should have reached a depth of tens of meters and lasted for dozens of days.

5 Conclusions

From the results of this analysis, it is very likely that the biblical Flood occurred in the plains of Mesopotamia. In this area, about 4,000 years ago, there was a very prosperous civilization. However, the dam failure of the glacial lake in the Tarim Basin in the western plateau of China has caused a large amount of glacial lake water to pour into Kazakhstan and southern Afghanistan. Part of this flood water flows through the Wakhan corridor, forming a river tens of kilometers wide and hundreds of kilometers long. Large amounts of glacial lake water rushed to places such as Kandahar in southern Afghanistan, causing the water level of the glacial lake to rise rapidly to very dangerous levels. When the water of the glacial lake rushes downstream, the soft soil is also washed away, forming an even greater flood, and carrying a huge amount of mudslide to the mouth of the Persian

Gulf. At the mouth of the Persian Gulf, the energy of these landslides forms Seiche standing waves throughout the Persian Gulf region. This Seiche wave can start with a tsunami of more than 200 meters high and last for about seven days, causing severe damage to the Mesopotamian plains. For tens of days, the entire plain of Mesopotamia was submerged in floodwaters about 50 meters deep. The entire Sumerian civilization was forced to be interrupted.

References

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- [2] Kristian Svennevig et al. (2024). A rockslide-generated tsunami in a Greenland fjord rang Earth for 9 days. *Science* 385, 1196-1205. DOI:10.1126/science.adm9247