

# Did the Great Flood Really Happen and Where?



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1. Parshas Noach

PARASHAS NOACH

פרשת נח

These are the offspring of Noah — Noah was a righteous man, perfect in his generations; \* Noah walked with God. — Noah had begotten three sons: Shem, Ham, and Japheth.

Now the earth had become corrupt before God; and the earth had become filled with robbery. And God saw the earth and behold it was corrupted, for all flesh had corrupted its way upon the earth.

God said to Noah, "The end of all flesh has come before Me, for the earth is filled with robbery through them; and behold, I am about to destroy them from the earth. Make for yourself an Ark of gopher wood; make the Ark with compartments, and cover it inside and out with pitch. This is how you should make it — three hundred cubits the length of the Ark; fifty cubits its width; and thirty cubits its height. A window shall you make for the Ark, and to a cubit finish it from above. Put the entrance of the Ark in its side; make it with bottom, second, and third decks.

"And as for Me — Behold, I am about to bring the Flood-waters upon the earth to destroy all flesh in which there is a breath of life from under the heavens; everything that is in the earth shall expire. But I will establish My covenant with you, and you shall enter the Ark — you, your sons, your wife, and your sons' wives with you. And from all that lives, of all flesh, two of each shall you bring into the Ark to keep alive with you; they shall be male and female. From each bird according to its kind, and from each animal according to its kind, and from each thing that creeps on the ground according to its kind, two of each shall come to you to keep alive.

אלה תולדת נח איש צדיק תמים היה בדרתו את האלהים והתהלך-נח: ויולד נח שלשה בנים את-שם את-חם ואת-יפת:

ותשחת הארץ לפני האלהים ותמלא הארץ חמס: וירא אלהים את-הארץ והנה נשחטה כיה-השחית כל-בשר את-דרך על-הארץ:

בא לפני כיה-מלאה הארץ חמס מפניהם והנני משחיתם את-הארץ: עשה לך תבת עצי-גפר קנים תעשה את-התבה וכפרת אתה מבית ומחוץ בכפר: וזה אשר תעשה אתה שלש מאות אמה ארך התבה

חמשים אמה רחבה ושלשים אמה קומתה: צהר תעשה לתבה ואל-אמה תכלנה מלמעלה ופתח התבה בצדה תשים תחתים שנים

ושלשים תעשה: ואני הנני מביא את-המבול מים על-הארץ לשחת כל-בשר אשר-בו רוח חיים מתחת השמים כל אשר-בארץ יגיע:

והקמתי את-בריתי אתך ובאת אל-התבה אתה ובניך ואשתך ונשי-בניך אתה: ומכל-החיי מכל-בשר שנים מכל תביא אל-התבה להחיות

אתך וזכר ונקבה יהיו: מהעוף למינה ומן-הבהמה למינה מכל רמש האדמה למינהו שנים מכל יבאו אליך להחיות: ואתה קח-לך מכל-

[Ramban raises an objection to the very premise of Rabbi Yitzchak's question:]

כי צרך גדול הוא להתחיל - But there is a question to be asked on [this Midrash]. - For there is in fact a great need to begin the Torah with In the beginning God created, - כי הוא שרש האמונה, - and someone who does not believe in [Creation], but thinks that the world has existed eternally without beginning, denies a main principle of Judaism, and has no connection to the Torah at all.

[Ramban resolves his objection to Rabbi Yitzchak's question:]

מפני שמעשה בראשית סוד עמק אינו מוכן מן המקראות - The answer to this objection is: - Since the account of Creation is a deep mystery, which in any case cannot be understood from merely reading the verses, and cannot be known with clarity except through knowledge of the tradition that goes back to that which our teacher Moses heard from the mouth of the Almighty, - and moreover, those who know [this tradition] are duty bound to conceal it, - therefore Rabbi Yitzchak said that there was no need for the starting portion of the Torah to include In the beginning God created; - שנוברא ביום ראשון ומה שנעשה ביום שני ושאר הימים והאריכות - or the account of what was made on the second day and the other days; - ביצירת אדם ותוהו, ותסאם וענשם - or the lengthy narrative about the creation of Adam and Eve, their sin and their punishment; - וספור גן עדן וגרוש אדם ממנו - or the story of the Garden of Eden and Adam's banishment from it. - For all of this cannot be understood fully from merely reading the verses, so why was it included? - And all the more so is this true for the story of the generation of the Flood and the generation of the Dispersion, which are not of such great necessity for theological purposes. - It would have sufficed for the people of the Torah without these verses, and they would believe in the general statement mentioned concerning [the six days of Creation] in the Ten Commandments: - כי ששת ימים עשה ה' את השמים ואת הארץ את הים ואת כל - For in six days HASHEM made the heavens and the earth, the sea and all that is in them, and He rested on the seventh day (Exodus 20:11), - and the specific knowledge of this six-day Creation could

2. Ramban (1194-1270) Bereishis 1:1





## **Evidence Noah's Biblical Flood Happened, Says Robert Ballard**

**Underwater Explorer Searches for Roots of Noah's Ark Story**

By JENNA MILLMAN, BRYAN TAYLOR and LAUREN EFFRON

Dec. 10, 2012—

The story of [Noah's Ark](#) and the Great Flood is one of the most famous from the Bible, and now an acclaimed underwater archaeologist thinks he has found proof that the biblical flood was actually based on real events.

In an interview with Christiane Amanpour for ABC News, Robert Ballard, one of the world's best-known underwater archaeologists, talked about his findings. His team is probing the depths of the Black Sea off the coast of Turkey in search of traces of an ancient civilization hidden underwater since the time of Noah.

Ballard's track record for finding the impossible is well known. In 1985, using a robotic submersible equipped with remote-controlled cameras, Ballard and his crew hunted down the world's most famous shipwreck, the Titanic.

Now Ballard is using even more advanced robotic technology to travel farther back in time. He is on a marine archeological mission that might support the story of Noah. He said some 12,000 years ago, much of the world was covered in ice.

"Where I live in Connecticut was ice a mile above my house, all the way back to the North Pole, about 15 million kilometers, that's a big ice cube," he said. "But then it started to melt. We're talking about the floods of our living history."

The water from the melting glaciers began to rush toward the world's oceans, Ballard said, causing floods all around the world.

"The questions is, was there a mother of all floods," Ballard said.

According to a controversial theory proposed by two Columbia University scientists, there really was one in the Black Sea region. They believe that the now-salty Black Sea was once an isolated freshwater lake surrounded by farmland, until it was flooded by an enormous wall of water from the rising Mediterranean Sea. The force of the water was two hundred times that of Niagara Falls, sweeping away everything in its path.

Fascinated by the idea, Ballard and his team decided to investigate.

"We went in there to look for the flood," he said. "Not just a slow moving, advancing rise of sea level, but a really big flood that then stayed... The land that went under stayed under."

Four hundred feet below the surface, they unearthed an ancient shoreline, proof to Ballard that a catastrophic event did happen in the Black Sea. By carbon dating shells found along the shoreline, Ballard said he believes they have established a timeline for that catastrophic event, which he estimates happened around 5,000 BC. Some experts believe this was around the time when Noah's flood could have occurred.

"It probably was a bad day," Ballard said. "At some magic moment, it broke through and flooded this place violently, and a lot of real estate, 150,000 square kilometers of land, went under."

The theory goes on to suggest that the story of this traumatic event, seared into the collective memory of the survivors, was passed down from generation to generation and eventually inspired the biblical account of Noah.

Noah is described in the Bible as a family man, a father of three, who is about to celebrate his 600th birthday.

"In the early chapters of Genesis, people live 800 years, 700 years, 900 years," said Rabbi Burt Visotzky, a professor of Talmud and Rabbinics at the Jewish Theological Seminary in New York. "Those are mythic numbers, those are way too big. We don't quite know what to do with that. So sometimes those large numbers, I think, also serve to reinforce the mystery of the text."

Some of the details of the Noah story seem mythical, so many biblical scholars believe the story of Noah and the Ark was inspired by the legendary flood stories of nearby Mesopotamia, in particular "The Epic of Gilgamesh." These ancient narratives were already being passed down from one generation to the next, centuries before Noah appeared in the Bible.

"The earlier Mesopotamian stories are very similar where the gods are sending a flood to wipe out humans," said biblical archaeologist Eric Cline. "There's one man they choose to survive. He builds a boat and brings on animals and lands on a mountain and lives happily ever after? I would argue that it's the same story."

Catastrophic events of this kind are not unique to the Bible. Some contemporary examples include the 2004 tsunami that wiped out villages on the coasts of 11 countries surrounding the Indian Ocean. There was also Hurricane Katrina, described as the worst hurricane in United States history.

Scholars aren't sure if the biblical flood was larger or smaller than these modern day disasters, but they do think the experiences of people in ancient times were similar to our own.

"If you witness a terrible natural disaster, yes, you want a scientific explanation why this has happened," said Karen Armstrong, author of "A History of God." "But you also need to something that will help you to assuage your grief and anguish and rage. And it is here that myth helps us through that."

Regardless of whether the details of the Noah story are historically accurate, Armstrong believes this story and all the Biblical stories are telling us "about our predicament in the world now."

Back in the Black Sea, Ballard said he is aware that not everyone agrees with his conclusions about the time and size of the flood, but he's confident he's on the path to finding something from the biblical period.

"We started finding structures that looked like they were man-made structures," Ballard said. "That's where we are focusing our attention right now."

At first Ballard's team found piles of ancient pottery, but then they made an even more important discovery. Last year, Ballard discovered a vessel and one of its crew members in the Black Sea.

"That is a perfectly preserved ancient shipwreck in all its wood, looks like a lumber yard," he said. "But if you look closely, you will see the femur bone and actually a molar."

The shipwreck was in surprisingly good condition, preserved because the Black Sea has almost no oxygen in it, which slows down the process of decay, but it does not date back as far as the story of Noah.

"The oldest shipwreck that we have discovered so far of that area is around 500 BC, classical period," Ballard said. "But the question is you just keep searching. It's a matter of statistics."

Still, Ballard said the find gives him hope that he will discover something older "because there, in fact, the deep sea is the largest museum on Earth," he said.

Ballard does not think he will ever find Noah's Ark, but he does think he may find evidence of a people whose entire world was washed away about 7,000 years ago. He and his team said they plan to return to Turkey next summer.

"It's foolish to think you will ever find a ship," Ballard said, referring to the Ark. "But can you find people who were living? Can you find their villages that are underwater now? And the answer is yes."



Also significant is the fact that practically all cultures have a tradition of a major flood which destroyed almost all of mankind. By far the best known, is the biblical record of the Noah's flood. Next is the Akkadian Gilgamesh epic, in which one Ut-napishtim tells in detail of a flood, brought on by the gods to destroy mankind. From this flood, he, together with his wife, is said to be the only survivor. Similar traditions are found in the Sumerian legend concerning Ziusudra. Other cultures that have a flood tradition, include India (Manu legend), China (Da Yu), Eskimo, and in the Western Hemisphere, American Indians (Iroquois), and Mexico (Maya - "Creation").<sup>33</sup>

Especially interesting is the fact that, in the Gilgamesh epic, Ut-napishtim's boat lands on a mountain top, whence, after seven days, he sends a dove, which returns signaling that the land is not yet dry. Eventually he sends a raven, who does not return. The astonishing parallels with the biblical narrative of Noah's arc very strongly point to a common origin. Rabbi Biberfeld<sup>34</sup> contrasts the two versions:

The resemblances between this Babylonian story and the Biblical account are obvious.<sup>35</sup> The agreement does not extend only to the incidents of the tale but even to its actual phrasing.<sup>36</sup> There are, however, most significant differences. The Babylonian conception of the deities is in strong contrast with the dignity of Biblical monotheism. The Babylonian gods disagree, are false to one another and false to men; they crouch with fear like dogs and come swarming about the sacrifice like hungry flies. The Babylonian Noah was saved through celestial favoritism, not because he was righteous and blameless. Such instances strongly indicate that the Bible supplies the original record,

whereas the Babylonian version was distorted by mythical and polytheistic perversions.<sup>37</sup> As in previous cases, we arrive at the conclusion that it is ridiculous to assume that by a process of purification these absurdities could have been transformed into the terse and majestic narrative of the Bible. The only adequate solution is that a simple and true original report, as retained in the Bible, was handed down by all the descendants of Noah, and later on, in their hands, distorted by polytheistic and mythical absurdities. The similar phrasing and verbal identity of some passages of the two versions would indicate that they were part of the original account.

This explanation is natural and self-evident, but in this instance external evidence is available. Besides the version of the Gilgamesh poem, which was written down in the 7th century B.C.E., fragments have been discovered of a much older Babylonian version written at Nippur at about 2000 B.C.E.<sup>38</sup> It represents Noah (Ziugiddu) as a very pious man, who was apparently saved from destruction on account of his piety. After the Flood he prayed that the curse that had come upon the land might be raised. This old version thus motivates the Flood and the rescue of Noah as acts of justice and not as celestial caprices. There can not be the slightest doubt, then, that the older form was much purer in its moral content. Consequently, the perversions of the later form mean that the original higher level had been lost. This shows, in principle, that the fact that the Biblical accounts are everywhere higher than their parallels is not due to a process of progressive purification but to the retention of originally high forms in their simplicity and purity. This is also the reason why, in this case, the less corrupt, old account from Nippur agrees more nearly with the Biblical account in the fundamental concept of the Flood than the much later one of the 7th century.<sup>39</sup>

#### 4. Rabbi Dr. Yehudah Levi

##### *"Torah and Science - Their Interplay in the World Scheme"*



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<sup>33</sup> For all of these, see ref. 29, under the headings given here parenthetically.

<sup>34</sup> Ref.31, 1:76-77

<sup>35</sup> G.A. Barton, *Archeology and the Bible* (Philadelphia, 1937); p.331. L. Woolley, *Abraham, Recent Discoveries and Hebrew Origins* (London, 1936); pp.169ff.

<sup>36</sup> Woolley, loc. cit.

<sup>37</sup> Barton, loc. cit.

<sup>38</sup> Barton, Ref.35, p.336

<sup>39</sup> Loc. cit.

**Parashat Noah 5763/ October 12, 2002**  
**Science and the Flood**

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The story of the Flood in Parashat Noah is one of the most dramatic in the annals of man. The massive destruction and calculated deliverance in this narrative have sparked the imagination of novelists, poets and humanists, making the story of the flood and its hero, Noah, the most recounted myth in all human society throughout the ages.

Two hundred and seventeen cultures around the world have a flood story (see the book by C. Sellien and D. Balsiger). Many studies document stories of the flood in the region of Mesopotamia, including stories written on stone or papyrus (cf., for example, the documentation in Lambert and Miller, *The Babylonian Story of the Flood*).

### **The Vast Amount of Water**

Generations of scientists have sought an explanation of the source of the vast quantity of water in the flood. Some have argued that the water resulted from subterranean volcanic shifting, and others believe that gasses covered the earth's surface and turned into droplets of water. According to the latter theory, which today is considered more piquant than scientific, the gasses blocked the ultra-violet radiation, causing Noah to live nine hundred years. Scholars today generally accept the hypothesis that most of the water came from glaciers melting. Both cite the Bible in support of water flowing from above and from below: "all the fountains of the great deep burst apart, and the floodgates of the sky broke open" (Gen. 7:11).

As for dating the flood, early studies set it around 5,600 B.C.E. A British archaeologist by the name of Leonard Wooley dated the flood to 2,800 B.C.E. Recently Gene Faulstich, from the Iowa Research Institute, proved the exact date of the flood to have been 2,345 B.C.E. Using methods from astronomy, he dated the onset of the flood precisely to the 14<sup>th</sup> of May in that year. The Sages also related to the timing of the flood. Rabbi Joshua said that it took place in the month of Iyyar (approx. May; see *Sanhedrin* 108a); thus Faulstich's findings match the Sages' remark.

### **Noah's Ark**

Attempts at finding Noah's ark have virtually become an obsession for more than a century. In 1887 two Persian princes reported that they had seen Noah's ark on one of the mountains of Ararat, and in 1916 two Russian pilots claimed to have seen it from the air. Since then dozens of similar reports have been published (see Bruce Feiler, *Walking the Bible*, HarperCollins 2001). Since 2000, in the wake of the findings mentioned above, the flood has become accepted as definite scientific fact.

It should be noted that none of the expeditions in search of the ark on the mountains of Ararat have come up with anything. Recently the idea came up of using satellite imaging from outer space. There is currently a plan to send up a photo satellite, Okono 2, capable of photographing objects as small as one meter, with which researchers hope to discover the remains of Noah's ark.

### **Life in Noah's Ark**

Finding Noah's ark is a fascinating archaeological challenge. But short of actually discovering the ark itself, the idea of the ark has aroused the curiosity of zoologists and biologists. They relate to the ark as the largest biological laboratory in the history of the universe. According to the Torah, Noah's ark was 300 cubits long, 50 cubits wide, and 30 cubits high. That makes it a vessel about half as large as the Titanic. One of the most widely researched questions is how the ark could have contained some two million kinds of animals. John Whitcomb surmises that Noah's ark hosted 3,700 mammals, 8,600 birds, and 6,300 reptiles, and in view of the size of the ark there was room for all.

Another related question is how these animals were fed. How much food did Noah have to load on board his ark in order to support the living things in it? The question of garbage disposal has also been researched. According to zoologists from San Diego University, the animals in the ark must have produced about 800 tons of refuse. The stimulation for all this research is provided by the biblical narrative itself, this week's Torah reading.

5. Professor Moshe  
Kaveh

President,  
Bar Ilan University



### The Scope of the Flood

Now we get to the motivation for writing this article, namely the amazing story that broke about a year or two ago, in which the world press announced that "decisive proof of the flood" had been discovered. The plain text of the biblical narrative gives the clear impression that the flood encompassed the entire world: "All existence on earth was blotted out - man, cattle, creeping things, and birds of the sky; they were blotted out from the earth. Only Noah was left, and those with him in the ark" (Gen. 7:23). However, scientific computations show that there is not enough water to cover the entire earth to the height of Mount Ararat. Moreover, there is no tradition of a flood story in the ancient civilizations of the Far East. Chinese civilization, which is well documented as far as 7,000 years back, makes no mention of any event resembling a flood. Particularly in the ancient Near East, however, there are flood stories, such as the Gilgamesh Epic from Mesopotamia.

6. Ramban  
(1194-1270)  
Bereishis 6:19

#### 19. מִכָּל בְּשָׂר׃ - OF ALL FLESH.

[Ramban discusses the vastness of the space required for Noah's task, in contrast to the limited area of the Ark:]

וּמִקֵּץ יְמֵי הַיָּמִים הַהֵם - It is well known that there are very many species of animals, and some of them are very large, such as elephants and re'eimim<sup>61</sup> and others like them. - והרמש הרומש על הארץ רב מאד - It is also well known that the small, crawling creatures that creep on the earth are exceedingly numerous. - השמים מנינים רבים אין להם מספר - Likewise, the species of birds in the sky are also many, without number, as the Sages said (Chullin 63b): "There are one hundred and twenty kinds of unclean birds in the east, and all of them are considered to be of a single species - the איה (mentioned in Leviticus 11:14)!" - והנה יצטרך - There are similarly countless species of clean birds.

Now, [Noah] had to bring specimens of all of these [to the Ark] so that they could reproduce more of their kind, and when you add up the food that would be eaten by all of these for a full year, nor even could ten [Arks] like it! - אולם, זה היה נס, אולם הוא נס, והחיות מצטט את המרבה - However, it was a miracle, that a small space was able to contain such a large volume.

You might ask, then: [Noah] could have made [the Ark] even smaller and relied on the same miracle of the small area containing a large volume beyond its capacity. The answer to this question is: - ואם תאמר: יעשה קטנה ויסקרן על הנס הזה - God, Blessed be He, saw fit to make [the Ark] large, so that the people of his generation would see it, marvel at it and tell each other about it. - ראה השם יתברך לעשותה גדולה כדי שיראו אותה בני דורו - והתקדו בה ויסקרו עליה וידברו בענין המבול ויכנסו - They would then speak about the Flood and the gathering of the animals, wild beasts and birds into it - for perhaps, as a result of all the discussions generated by the building of the Ark, they would repent. - Another answer is: [The Ark] was made big in order to lessen the magnitude of the miracle, - כי בן הדרך בכל הניסים שבתורה או בנביאים - [Man] is expected to do whatever is possible for the human hand to do, and only the rest, that which is beyond human ability, is left to be done by the hands of Heaven.

[Ramban now mentions a possible solution to the problem of the Ark's small size, and rejects it:] - But do not be misled into saying that the three hundred cubits of the Ark's length - and the other dimensions as well - were measured by the "forearm of that man"<sup>62</sup> Noah, and that [Noah] was a big person, much taller than people are today.<sup>63</sup> If so, the Ark would have been much larger than three hundred "standard" cubits long, allowing adequate space for all the animals and supplies. Ramban contends that this theory is not tenable, - שאם כן היו גם האנשים גדולים - for if it were so, that Noah was much bigger than today's humans, the people entering the Ark would also be large, and the animals and birds in those times would also be correspondingly large, before the world was stricken by the Flood, which is the underlying assumption of this theory.<sup>64</sup> - ועוד כי האמות אמות התורה הנה - Furthermore, the cubits here are presumably the standard cubits used throughout the Torah, and not unusually large ones.



7. Malbim  
(1809-1879)

**עוד כל ימי הארץ.** הנה התברר לחוקרי הטבע שכדור הארץ שינה מקומו בזמן מן הזמנים, באשר החופרים במעמקי האדמה בארצות הקרות מצאו עמוק עמוק באדמה עצמות פילים וקופים ויתר ברואים שלא יחיו רק באזור החם, וע"כ שהיה עת שעמד האקלים הוא קרוב לקו המשווה, וזה עדות שבימי המבול התמוטט כדור הארץ מדרום לצפון והמדינה שעמדה עד העת ההיא תחת קו המשווה באה רחוקה מן המשווה לצפון ונעשה שם אזור הקר, והשנהבים והקופים שחיו באקלים ההוא מצאו שם קבר. וזה אחד מן ההשחתות שהיה לארץ, שהארץ החמה שגרו עליה כל בני האדם אשר השחיתו את דרכם נעתקה מנגד השמש, ותחת מגד תבואות שמש נהיה שם קרח וקפאון ושמונות עולם. זאת שנית בארו חכמינו כי קודם המבול לא נטה השמש במעגלו השנתי כ"ג מעלות מן המשווה לצפון ולדרום כמו שהוא עתה, רק מסלול השנתי היה אז ג"כ על קו המשווה או סמוך לו, וע"כ חיו בני אדם חיים ארוכים, כי לא ידעו מנגעי התקופות ושנו העתים שזה סבה לשנוי האויר ונגעי בני אדם ומחלותם, והעתק הזה שנעשה בכדור הארץ במצבו נגד השמש שנה את האויר והחליש תוקף האדמה וכחה בהשקף על חיי האדם ובע"כ אשר עליה, וכמ"ש במד' שקודם המבול לא היה חלי בעולם, וספרו מגבורות בני אדם וכחם, וששלחו כצאן עויליהם וילדיהם ירקדון כבני צאן בהולדם, ושהגשם לא ירד רק א' למ' שנה, והיו זורעים בעת ההיא והי' די למ' שנה, וכ"ז נשתנה אחר המבול לרוע, וכ"ז נולד משנוי מצב הארץ נגד השמש. וזה הודיע ה' לנח השינויים שהיו מעתה, ואמר עוד כל ימי הארץ זרע וקציר, שכבר התבאר אצלי שיש הבדל בין ימים סתם שהם מכ"ד שעות ובין ימי הארץ שהם שנים. שכל שנה הוא יום אחד מימי הארץ, כי סיבוב השמש בכל יום ממזרח למערב בכ"ד שעות הוא יום סתמי, וסבוב השמש בכל שנה ממערב למזרח הוא יום מימי הארץ (כמ"ש בחבורי התורה והמצוה (בהר"ם) שלכן נקרא שנת השמטה שבת שהוא יום השביעי שבת לה' בימי הארץ), ולכן יאמר לפעמים שם ימים על השנה כמו ימים על השנה תהיה גאולתו, ועתה יש בכל יום מימי הארץ זרע וקציר, ר"ל שבכל שנה זורעים וקוצרים. וקודם המבול לא היה זרע וקציר בכל שנה רק אחד לארבעים שנה, ועתה בכל ימי הארץ היינו בכל שנה ושנה יהיה זרע וקציר. עוד שנוי ב', שעד עתה לא היה שנוי התקופות כי השמש הלך תמיד על קו המשווה ולא היה לא קור וחום ולא קיץ וחורף, שעתה שנטה השמש במסלולו במהלכו השנתי ללכת על עגולת המזלות נטה מן המשווה כ"ג מעלות וצד, יהיה קור וחום, קיץ וחורף, ושנוי האויר והמזג בעת התקופות יחליש את הגופים ויכניעם בל יוסיפו להשחית כמו קודם המבול, וע"כ אמר במדרש ש"מ"ק שר"ק חום הוא מיני חלאים שפי' שממנו יצמחו החלאים וחלישת הגוף. עוד שנוי ג' שיום ולילה לא ישבתו. שהארץ לא תתן פירותיה בנקל כמו קודם המבול, ויהיו בני האדם מוכרחים לעבוד את האדמה תמיד להוציא לחמם לא ישבתו ממלאכה, וע"כ לא יתגברו עליהם ציורי התאוות אשר הם זונים אחריהם, ומה אמרו חז"ל דב"נ אסור לו לשבות, כי רק לבני ישראל התיר וצוה לשבות בשבת אבל ב"נ נשאר באיסורו כמקדם:

היו ערצים עליו ומחזיקין למהו וזהו, וא"כ לא נשתיירו מהם שריד ופליט, אלא נראה שהעצמות האלה המה מלפני ימי המבול, ואע"ג שנמלאים באקלים שאינם חיים שם, זה נעשה ע"פ שנינו את דרכם על הארץ לפני המבול והלכו למקום אחר, ומה שמואלין בריות משונות הוא ממה שהרכיבו שני מינים שונים ונולד ע"י זה בריות משונות כמו הפרד היואל מהרכבת סוס וגמל, והי' ההשגחה שישתיירו עצמות אלו כדי שיבא דור אחרון ויכיר סמרי הטבע, וזהו כבודו ית' כמ"ש בשירת האזינו בפסוק כי אשא אל שמים ידי, אך באותו עת היה הרעון שיהיו נימוחים מן הארץ, כדי שלא יהיו נראים כלל וישתדלו להרכיב עוד ולהעמיד בריות כאלו שנית, מש"ה כתיב עוד הפעם ויבדחו מן הארץ. הי' ההשגחה שלא ימלאון באותו הדור וכמה דורות מאחרין העצמות המשונות כדי שלא ישתדלו לחדשן, לכן נמח זכרם מן הארץ. והנה כתיב מאדם עד בהמה עד רמש. שהמחיה היה לפי טבע הנשר שנוח להמחות מחלה, ובשר האדם נמחה מחלה, ומש"ה נכלל כאן חיה בכלל בהמה, משום שטבע בשרם שיהו צוא: (בר' ויגברו וגו'. היו עוקרים

8. Netziv

1816-1893

Bereishis 7:23



וכולם ממו קודם האדם: (בג) וימח את כ"ף היקרב. נמחו הגופות, ודייק הכתוב אשר ע"פ פני האדמה. דוקא אלו שהיו מונחים על פני האדמה, אצל נשתיירו כמה גופות שנפל עליהם עפר הרבה ע"י שטף המים ונשאר הגופות קיימן, והן הנה עצמות שמואלין חופרי ארץ ומואלין עצמות מבריות שלא נמלא עתה בעולם, ומה שפטו הרבה שהיה לפני צריחה זו עולם אחר ואז היו בריות אחרות, ובאמת יש צד"כ כ"פ על המקרא והנה טוב מאד מלמד שברא הקב"ה עולמות ומחזיקין ואמר דין הניין לו ודין לא הניין לו, וכ"ה צוה"ק ויקרא עה"כ ואם זבח שלמים קרבנו, מ"מ קשה לדעמי לומר כן, שהרי מבואר בשמ"ר פ' ל' אלה תולדות השמים והארץ מה פסל שהיה בורא עולמות והיה מסתכל בהן ולא

9. Dr. Jack Hanoka,  
PhD in Physics

"The Flood Revisited:  
A Fresh Look at an  
Old Story"



As the Torah puts it, it rained for 40 days and nights and the fountains of the deep, i.e. subsurface waters burst open as well. There were 150 days of continual flooding. From the initiation of the deluge, it took a full 12 months before dry land appeared and Noah could depart from the ark. Classical Torah sources have always maintained that accompanying the flood were massive upheavals in the world.

For example, the Midrash says that prior to the flood there was universal spring time, people harvested crops only once in 40 years and that there were no seasons until after the flood[1]. As pointed out by commentators such as the Malbim[2], this would mean that the earth was not tilted on its axis 23.5 degrees until after the flood. The Midrash further tells us that during the flood there was no day or night and that the planets did not function in their normal way[1].

Another Biblical commentator, The Netziv,[3] points out that the Earth's geology as we now know it was basically formed as a result of the flood. Furthermore, the Midrash points out that prior to the flood, a person could walk from one end of the earth to the other – the implication being that prior to the flood all the continents were connected and only separated during or after the flood.



The Talmud explains that the water was very hot, boiling in many places and that it was likely to contain sulfur which would imply sulfuric acid[4]. The Talmud also says that when G-d brought the flood, He used two "stars" from the constellation Kimah (generally said to be Pleiades)

According to the traditional chronology, the flood occurred 1656 years after creation or about 4100 years ago.

In summary, the Torah account of the flood was one of a global catastrophe in which virtually all living things perished, the earth's climate and geology were forever changed, the continents were separated, and the earth's tilt was emplaced. Furthermore, all this extraordinary amount of geology occurred within a period of months. Given the truth of all this, it is not in the least surprising that some sort of account of a universal deluge should be found in the traditions of all ancient peoples.

### **Universal Flood Stories**

The best known account is that from the Babylonians. This is the well known Gilgamesh Epic[5] which was written in cuneiform Akkadian and first deciphered by an amateur British anthropologist, George Smith in 1872.

This version shows many similarities to the Biblical text. As so colorfully described by Ryan and Pitman[6] "...what had so deeply moved Smith was the realization that the fragments he had assembled contained an independent version of the biblical deluge. The heathen words told almost exactly the same story as the Hebrew narrative, right down to the selection of a survivor of the deluge through the intervention of a god, the forewarning that gave time to build a wooden ark, the refuge in it of every kind of animal, bird, and reptile, the grounding of the boat on the side of a mountain, the details of dispatching a swallow, raven, and dove to find land, the offering of a sacrifice, and the pledge that the gods would never again return the world to its primeval watery chaos".

Following in the footsteps of the biblical criticism school that denies the Divine origin of the Torah, later writers have suggested an inversion whereby the Gilgamesh epic preceded and inspired the Torah story of the flood[7]. Of course, the traditional view is as stated above. In this regard, one notes that the famous Torah commentator, Sforno (15<sup>th</sup> century), refers to an account by Berosus, a Chaldean historian of the 3<sup>rd</sup> century BCE, of a flood story from the Babylonians – what much later was dubbed the Gilgamesh Epic[8].

In any case, all the other accounts found in ancient civilizations likely stemmed from the original Torah story or from the presumably later Babylonian description. Flood stories are found amongst the Hindus, the Greeks and the Romans. The Indians of the Americas all had one. The Spanish explorers were amazed to discover this when they met the Indians of the Americas. Extensive lists of flood stories can be found in a number of places[9]. So there are indications that the story of the flood became part of human history in general.

### **Modern Science and the Flood**

Can the descriptions from the Torah of all sorts of dramatic changes as a result of the flood be squared with modern science? It seems the answer is yes, but it is important to stress that a person's belief in the Divine origin of the Torah is not contingent on what science says. Rather, our goal is to present a scenario deriving from the Torah sources appears to be remarkably similar to that of certain recent scientific findings.

Recall that concurrent with the flood of Noah the Torah tells us, amongst other things: (1) catastrophic flooding that caused the demise of virtually all animals, (2) separation of the continents, and (3) tilting of the earth on its axis. We first consider what modern science says regarding catastrophic flooding.

### **Scientific Evidence for Catastrophic Floods**

Catastrophic flooding has been accepted as explanations for certain geologic phenomena since the 1950s when strong evidence supporting the idea of massive flooding to have taken place in Eastern Washington State in the U.S. led to a scientific consensus on sudden (over a period of months) and extremely cataclysmic flooding[11].

A more recent example is the so-called Black Sea flood. The saga of this discovery and some of its implications is outlined in a book by William Ryan and Walter Pitman[6]. Ryan and Pitman were a team of Geophysicists who used sound waves and coring devices to study the bottom of the Black sea. Their results led to the conclusion that the present Black sea was originally a fresh water lake that became inundated by an enormous amount of Mediterranean ocean water that had broken through the Bosphorus straits and totally overwhelmed the area of the Black sea with saltwater.

The numbers suggested in their book are impressive: the water flooding the Black sea had two hundred times the volume of that which now flows over Niagara Falls. The flood waters dashed across the Bosphorus straits at a speed greater than 50 miles per hour. They claimed "The Bosphorus flume roared and surged at full spate for at least three hundred days." [p.249] Using carbon 14 dating methods they estimated that this flood took place some 7,600 years ago.

The most spectacular of all the floods of this type now accepted by modern science was caused by the meteorite impact that also resulted in the sudden demise of the dinosaurs, and was said to have happened 65 million years ago (dating issues will be discussed later in this paper) and has already been described in detail in an earlier article [B'Or HaTorah, Vol. 17].

Aspects of this event relevant to this paper are: Earthquakes about 3000 times more powerful than any measured by modern man; a dust cloud that obscured the sun for many months; tsunamis estimated to be 200 feet high; high acidity produced in the oceans; and finally destruction of virtually all land animals (not just the dinosaurs) and very many plants.

A crater at the edge of the Yucatan peninsula in Mexico has been rather well identified as the impact site. Finally, and particularly noteworthy here is that a key piece of evidence for the entire idea involved a thin clay layer that is found world wide – on land and even in ocean depths. It has been found in over 100 places covering our planet. It is the so-called K-t boundary, a thin clay layer marking the stratigraphic distinction between two geologic periods, the Cretaceous and Tertiary eras (K is the German letter for Cretaceous) and is shown above.



How did such a clay layer form all over the earth? Its global occurrence was a result of the huge volume of dust and debris from the meteorite impact that eventually settled on the earth. Clays are hydrated silicate minerals and require water to form. Thus the scenario usually envisioned is that of this dust layer settling and then along with the presence of water and perhaps other minerals, resulting in this thin boundary layer of clay.

I would suggest that the discovery that this clay layer was ubiquitous suggests that the entire world was covered with water during the period subsequent to the meteorite impact. This layer of dust and debris also obscured the sun – reminiscent of the statement in the Midrash that there was no day or night during the time of the flood. Note also that the meteorite theory says that the oceans became acidic, another item mentioned in the Talmud.

### **Sea Shells and Marine Limestone on Mountain Tops**

Another indication that the entire world was covered with water at one time is the following. Since ancient times, it has been known that sea shells or fossilized examples of them have been found in mountains and other odd places far removed from present day oceans. Ovid, the Roman poet wrote some 2000 years ago, " Sea shells lie far away from ocean's waves and ancient anchors have been found on mountain tops." [12]. Even more remarkably, Mt. Everest, the tallest mountain in the world, is capped with marine limestone [13].

### **Fossil Trees**

A petrified tree is one in which there is an almost direct replacement of the organic material forming the tree by mineral matter, principally quartz. Chemically, the mineral quartz is silicon dioxide, as is ordinary sand. Impurities present when this mineralization occurs can produce different colors in the quartz and then it is often called the mineral agate.

The basic cellular structure of the tree and tree rings are still apparent after petrification. In the United States, one of the best known examples is an area in Northern Arizona, just south of the Grand Canyon. Here one can walk and examine trunks of trees that are now all mineral – literally a petrified forest.

For petrified trees, particularly those that become agate, formation is believed to have occurred by a hot solution that contains, amongst other substances, silicic acid. Silicic acid, in turn, is formed by the dissolution of fine sand in heated water. In other words, the petrification takes place with water at high temperatures that contains silicic acid. Petrified trees are found all over the world [14]. This universal occurrence of fossilized trees is thus an indication that there was water with silicic acid covering a major part of the world at one time.

### **Compressing the Geologic Time Scale**

Geologists would maintain that fossilized trees and some of the other discoveries mentioned above did have aqueous origins, but that these processes took extremely long times – on the order of millions or even tens of millions of years and were not necessarily contemporaneous.

If, as suggested in this paper, all the major Geology formed during the flood, how did processes such as fossilization occur in such a short time, i.e. months instead of millions of years? For this to happen would require a factor of at least a million times faster than is usually assumed to have occurred. A heuristic argument can show this was possible.

Recall that the Talmud says that during the flood, the water was boiling. If the water was at great depths, the boiling point would have been much higher than that at atmospheric pressure, 100°

C. This, combined with pressure from the depths of the water could have resulted in water up to several hundreds of degrees C. There is a chemical rule of thumb that reaction rates double for every 10°C rise in temperature.

Thus, for water at 250°C – a likely possibility given this scenario- reaction rates would, in fact, be approximately 1 million times faster than for room temperature. A further support for such an argument is found in a recent scientific report where petrified wood was formed in the laboratory under very high temperature (1400°C)[15] in a matter of hours.

### **Prediction from the Talmud**

The Talmud also tells us that G-d took two stars from Kimah (tail of the Ram, Pleiades)[4] to bring about the flood. As discussed above, the demise of the dinosaurs is believed to have involved one meteorite. Could there have been a second meteorite? And, if so, could this be what the Talmud was suggesting? My speculation on this is that there were two giant meteorites and this is what the Talmud meant by “stars”.

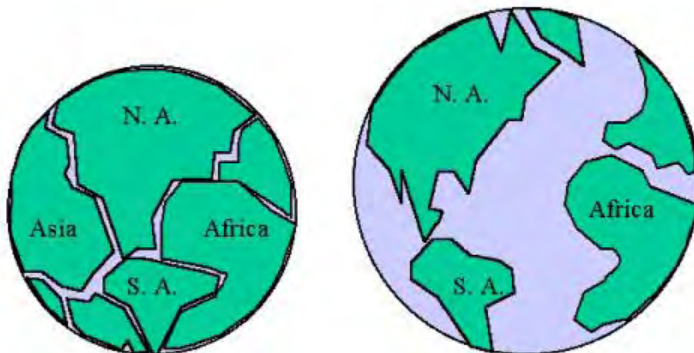
Is there any evidence for a second meteorite? The presence of giant deposits and their unique patterns in Madagascar has led to a recent suggestion by a research geologist[16] of a giant asteroid (meteorite) hitting the Indian Ocean and forming a huge crater that is now in the Indian Ocean. The resulting crater (called the Burckle crater) is 18 miles wide (10 x bigger than the crater at the Yucatan that resulted in the death of the dinosaurs), and produced estimated tsunamis 600 feet high – some 3x greater than the tsunami associated with the Yucatan. In the words of the one of the researchers involved, “We are not talking about any tsunami you have ever seen. Aceh (the disaster in Thailand in 2004) was a dimple”[17].

The estimated time of occurrence is 4800 years ago! Is it possible that when the Talmud used the term “two stars” it

could be referring to two giant meteorites? In fact, even serious scientists have suggested that the Burckle crater could be related to the biblical flood[18].

Although no one, as far as I know, other than myself, has suggested the simultaneity of these two meteorite events. It should also be mentioned that a possible giant meteorite impact associated with the Burckle crater is still controversial and not accepted by many scientists. The Yucatan scenario, on the other hand, has now become almost universally acknowledged to be valid. The possibility of two massive meteorites suggested here also ignores other meteorite impacts and associated craters. Geologists also speak of a giant meteorite occurring some 225 million years ago and also smaller meteorite impacts occurring in recent history. The evidence for the large and older impacts is considerably less than that for the Yucatan impact.

### **Splitting of the Continents**



Recall that the Midrash says that the Continents separated in connection with the flood. Modern geological theory says that the continents were all connected at one time and then, over hundreds of millions of years they separated. These dates are derived using radioactive rock dating, and other methods. Could it be that events connected with the flood also were responsible for the splitting of the continents? In particular, could the impacts of two giant meteorites hitting the earth during the flood also have initiated the splitting of the continents?

Interestingly, a recent hypothesis suggested by Prof. Vicki Hansen, an American geologist, is that a meteorite impact might have been a key factor in inaugurating continental drift[19]. She has proposed this as a hypothesis to address the longstanding issue of how the splitting of the continents began.

Could the continents have moved thousands of kilometers in a matter of days or months, instead of the currently observed several cm per year – a factor of about a hundred million times faster? As usually understood, such a question would be based on current observations, not on geologic processes that have not been observed. But, it is necessary to recall that the meteorite impact ideas are also based on geologic processes that we do not currently observe on earth.

For example, earthquakes some 3000 times stronger than any ever measured were believed to have occurred as a result of the meteorite impact that killed the dinosaurs. And the Burckle crater, if in fact is verified to be due to a recent massive meteorite, would have been produced by an impact far stronger than the Yucatan crater and associated effects.

A speculative argument can be made here. Assume for simplicity, that there was a single meteorite impact, the one which produced the Yucatan crater. Now, consider the recent earthquake that occurred in Aceh, Thailand in 1994. It is known that the island of Sumatra moved approximately one meter in a matter of about 100 seconds as a result of this earthquake [20].

For an earthquake some 3000 times stronger than this (the size of the earthquakes estimated for the meteorite that killed the dinosaurs) what might one expect for movement of islands and even continents?

As a first approximation, let us make a simple, linear extrapolation that islands and continents might have moved distances 3000 times more than one meter, or 3 Km. What kinds of distances would be called for if the continents had to move apart and form the oceans as we now have? The Pacific Ocean, the largest in the world, is at its widest point between Indonesia and the coasts of Peru and Colombia some 19,800 Km. extrapolating from the Aceh earthquake, we would need a factor of  $6600 \times 3$  Km to attain such a distance.

Recall that the Sumatra movement occurred in 100 seconds. Again using a simple linear extrapolation with the time factor as well as was done for the distance, we would need  $6600 \times 100$  seconds or 660,000 seconds. This comes out to less than 8 days. This is a number whose order of magnitude would be compatible with the time it took for the Biblical deluge.

The questions such a simplified approach raises are whether there is any basis either empirically or from modeling for such an analysis. I don't know the answer to this, but would suggest that what has been proposed is not unreasonable.

### **Nothing New Under the Sun**

The ideas suggested by the Biblical commentators such as the Malbim and the Netziv that the flood resulted in the current geology now seen on the Earth was also suggested by 17<sup>th</sup> and 16<sup>th</sup> century British geologists [see B'Or HaTorah Vol.17] – clearly preceding, chronologically, the Malbim (1809-1879) and the Netziv (1817-1893). From where did these non-Jewish sources derive their views? The commentators obviously said their remarks based on older, classic Torah sources. It is likely that some of these very old Torah ideas had seeped into the general culture of Western Civilization at that time.

An even more intriguing fact is that one of Newton's disciples, William Whiston, suggested that close encounters with comets could have been responsible for geologic features[21]. Furthermore, Thomas Burnet an early writer on the origins of the earth and often described as one of the founders of the science of geology (late 17<sup>th</sup> century) wrote that the flood was responsible for the tilt of the earth's axis, formation of the mountains as we now see them, and that there was perpetual springtime prior to it[22].

10. Torah Temima  
R' Baruch ha-Levi  
Epstein  
(1860-1941)

ולפי"י י"ל דהכונה שמחים כמווללים והוללים שאין עומדין לפני מטתן כגון ואין רוחאין ומטרתין גופן, שכל אלה הם דרך כבוד ומניעתם-דרך דבון. ועם הדבר שנהגו כן י"ל ע"פ מ"ש נשבת כ"ה ז' על הפסוק ותונת משלוש נפשי (איכה ג') זו הדלקת גר נשבת, נשימי טוכה - זו בית המרחץ, וכחצו המפרשים דחפס רק שני דברים אלו משום דשמן ועצים היו יקרי המזאבות כבבל [ושנער היא כבל כמבואר בפרשה הסמוכה (יא ב' וט')], ולכן לא שמשו בהם גם לנרטי מתים. ומה שראו חז"ל בכלל לדרוש המלה שנער לענין זה י"ל משום דבלשון רומי הו' באור המלות קיני' אלו"ר - בלי אור, וסיני' ארו"ר - בלי מרחץ, ודוע כי חז"ל השתמשו הרבה בלשון רומי, ולאשר כי הדת המלות קרובה למלת שנער לכן דרשוה מענינים אלה, וכן מצינו הרבה לחז"ל שדרשו על יסוד זה שכן בלשון פלוני קורין לדבר פלוני כך וכך, כגודע, ואין להאריך. (יא) נראה דר"ל מן המלות התלויות בארך. (יב) ע' ישע"י י"ד שהענין לומר

לחצו מזה פרסי. ז) ועיין בעורא (ר' ט') אפרסיה ארכיאו בנליא שושנאי, ופי"ש ארכיאו הם בני ארך שנאמר וארך ואדו וכלנה, עכ"ל, ויחן שגם יתר השמות מכוונים להשמות שאלו הפסוקים עם אלו שנייט. ח) מפני שהיא עמוקה מאד, ואשר ע"כ נקראת כבל [שהיא גם שנער] שם מלוה וכמ"כ דישע"י מ"ד האומר ללוה חרבי, יע"ש במפרשים. ט) אולי הפי' שאין קיום לעשרם, או שאין העשירות מתקנת נפשם, וכמ"ש צביה ל"ב ז' עמירי כבל יורדים לגיהנם מפני שאין מרחמין על הצריות, ושנער הוא כבל, כמבואר בפרשה הסמוכה (יא ב' ט'). והנה אע"פ שאין הכרח לדרוש מה שנקראת מתלה שם עיר זו שם שנער, אך כן דרך חז"ל לדרוש שמו, וכמ"ש בבב"ב ז' ב' על הפ' אשר שם שמום בארך (ההלים ט"ו) אל תקרא שמום אלא שמום, יע"ש, וע"ע בדרשא הנאה מענין זה. י) על הפסוק כפ' נא את אשר התעללתי במצרים תרגם יונתן ית מה דשניקית מזרא,

11. Gemara Zevachim 113a

The Gemara analyzes the dispute between R' Yochanan and Reish Lakish:

R' - אָמַר לוֹ רַבִּי יוֹחָנָן - The master said above: אָמַר ר' Yochanan said to him: Why, וְהָיָא כָּל אֶרֶץ יִשְׂרָאֵל בְּרוּקָה הָיָא - all of the Land of Israel is automatically pre-inspected! כְּמַאי - Regarding what point do they [Reish Lakish and R' Yochanan] disagree? מַר סָבַר - One master [Reish Lakish] holds that יָרַד מַבּוּל לְאֶרֶץ יִשְׂרָאֵל - the Flood descended in the Land of Israel, וְאֵת אֶרֶץ יִשְׂרָאֵל - while the other master [R' Yochanan] holds that לֹא יָרַד - it did not descend there.<sup>[81]</sup>

The Gemara elaborates:  
Rav Nachman bar Yitzchak said: - אָמַר רַב נַחְמָן בַּר יִצְחָק - And both of them expounded the same verse, only in different ways. Scripture states that God told the prophet Ezekiel:<sup>[82]</sup> - אָמַר יְהוָה - Son of man! אֶת אֶרֶץ יִשְׂרָאֵל - You are a land that has not been cleansed; she has not been rained upon on the day of fury. - אֶת אֶרֶץ יִשְׂרָאֵל - The verse is to be read as asking a rhetorical question: אֶת אֶרֶץ יִשְׂרָאֵל מִי לֹא מִטְהַרָהּ הִיא - Did then the rains descend upon you on the day of fury?<sup>[83]</sup> - אָמַר רֵישׁ לָקִישׁ סָבַר - And Reish Lakish maintains: The verse is to be read according to its plain meaning: אֶת אֶרֶץ יִשְׂרָאֵל מִי לֹא מִטְהַרָהּ אַתְּ - You are a land that was not cleansed, מִי לֹא יָרַדוּ עָלֶיךָ גְּשָׁמִים בְּיוֹם זַעַם - for did not the rains descend upon you on the day of fury?

12. Tosafos

ולא כתיב ויכסו כל ההרים הגבוהים אשר תחת כל השמים קרא עליו ולא יהיה כך עקב ועקרה ובנהמתך אפי' הבהמי שכן לא יתעקד מן התשובה ושואל י"ל דויכסו כל ההרים הייט שלשט הבל המטל בכל מקום כדאמרינן לקמן דמתו בהבלא ואותו כותו היה ר"ל שלא היה שם לא הבל ולא שום דבר אי נמי לכותו כותו נחטט לדחות בקש וקרא (להבל) ליק דבמקום שירד מטל החם קאמר שנחטטו ההרים :

ר"א ירד מבול לא"י . חז"ל והכתיב (בראשית ז') ויכסו כל ההרים הגבוהים אשר תחת כל השמים ובבראשית רבה אמרינן דר' ישמעאל כ"ר ויכו ובהמי אחד היו הולכין בדרך פירוש בהמי שומר בהמות אמר להון הוא כותאה איתו ללוי על טורא גריוס דלא נחית עליה עופנא אמר אותו בהמי לפני ר' ישמעאל בר' יוסי ויסי רבי תן לי רשות להשיב לו תשובה ח"ל השב ח"ל הר גריוס תחת-כל השמים הוא ח"ל הק

13. Professor Moshe Kaveh  
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Views of the flood as local in scope go back to the time of the Sages. According to R. Yochanan (Zevachim 113b), the torrential rains did not fall on the Land of Israel. Likewise, the Torah Temimah commentary of Rabbi Epstein writes: "Regarding Babylonia receiving more rain than any other land in the world and being drowned by the flood, it should be noted that according to Tractate Zevachim, loc. cit., Babylonia was therefore called Shinar, because all the creatures that perished in the flood were tossed (Heb. ninaru) there. It is a deep valley, and therefore is also called metzulah ('the deep')." In the mind of the Sages, Babylonia constituted the 'entire world'. This is evident in Pirkei de-Rabbi Eliezer (Horev ed., ch. 10, s.v. "be-shishi"): "... since all the creatures lived in one place, and seeing the waters of the flood, Nimrod became king over them, as it is said: 'the mainstays of his kingdom were Babylon, ...' (Gen. 10:10)."

*Noah's Flood: The New Scientific Discoveries About the Event that Changed History*, 1999, a book by Geologists Dr. William Ryan and Dr. Walter Peterman from Columbia University, suggests a fascinating theory based on research indicating that Noah's flood was a local event that came about as follows: at the end of the ice age European icebergs began to melt. The floods that resulted from this melting turned a fresh-water lake into a sea - the Black Sea. A study published in 1993 presented findings that a local body of fresh water was flooded by salt water. The Bosphorus blocked the water from flowing out; but gradually a channel was formed, and about ninety days later the water broke through with great force. Analysis of various shells from the area indicate the existence a subterranean division line that was formed thousands of years ago. Ryan and Peterman's study also showed that melting of icebergs caused the level of the Mediterranean Sea to rise and water to flow through the straits of the Bosphorus. Scientists calculated that water flowed through the Bosphorus so fast that the size of the lake increased at the rate of one and a half square kilometers a day.

An expedition called Black Horizon set out in the year 2000 under the leadership of the well-known oceanographer Ballard (famed for his discovery of the Titanic) to substantiate the above flood theory with remains of findings from the bottom of the Black Sea. About 20 kilometers offshore from Turkey, near the city of Sinop, the expedition discovered a well-preserved structure that was thousands of years old. This finding adds greatly to our knowledge about life in the ancient civilizations of this part of the world. It appears that from time to time the ancient dwellers of this area had to relocate due to floods.

An article in *National Geographic* describes the operations of a submarine robot that was lowered into the sea to photograph the area. The photos reveal a rectangular area approximately 15 meters long and 4 meters wide into which a structure of wood and mortar had apparently collapsed. The findings from this site - carved wooden pillars, tree branches and stone vessels - are well-preserved. There is broad consensus among scientists that this study, publicized in the press the world wide, is conclusive proof of the historicity of the flood.



14. *Chiba Yeseira*  
*Shut Bnai Banim v. 2*  
*R'Yehudah Herzl Henkin*

(Bereishit 7:19). "All the high mountains were covered that are under all of heaven." Not all mountains were covered. The word "all" (kal) is repeated and is a ribui achar ribui and comes to limit (l'mayeit). Thus, according to one opinion in Zevachim 113 "the flood did not descend to Eretz Israel." This is also the implication of "the high mountains were covered that are under all of heaven" i. e., those mountains that have all of heaven above them, which excludes the highest mountains whose tops are in the clouds. And similarly the implication of "that are under all of heaven" is those [mountains of the sort] that are found everywhere, which excludes the very high mountains that are only [found] in a few places."

(ז, יט) ויכסו כל ההרים הגבוהים אשר תחת כל השמים. לא כל ההרים כוסו, נאמר כל פעמים הוא רבוי אחר רבוי ובא למעט, וכן במסכת זבחים (קיג) לדעה אחת לא ירד מכול לארץ ישראל, ואינו דומה ללעיל לשחת כל בשר וגוי חתחת השמים ובדברים (ב) על פני העמים תחת כל השמים שבשניהם נאמר כל רק פעם אחת. ועוד משמע ההרים הגבוהים אשר תחת כל השמים פי' אותם ההרים שכל השמים מעליהם, ולהוציא ההרים הגבוהים ביותר שראשם בעננים וראה להלן על הכתוב עיר ומגדל וראשו בשמים, ועוד משמע אשר תחת כל השמים פי' המצויים בכל מקום, ולהוציא ההרים הגבוהים מאד שאינם אלא במקומות אחדים.

15. Rabbi Michael Hattin

Yeshivat Har Etzion

<http://vbm-torah.org/archive/intparsha/bereishit/02-64noach.rtf>

CONCLUSION

Perhaps the simplest solution to the conundrum of the Ramban, who rightfully could not imagine all of the world's creatures and their needs being crammed into an ark of utterly inadequate proportions, is to suggest that not all of the creatures boarded. Not all of humanity was destroyed, and not all of the world was covered with 8000 meters of water! But this author further maintains that such a reading, while according with Rabbinic opinions that imply as much as well as with human reason with which God graced us, would NOT DIMINISH ONE IOTA from the Parasha's most enduring lessons, for these teachings have nothing to do with physics and geography and everything to do with the moral and spiritual state of mankind. Are these lessons of the Flood any less meaningful if the rains did not fall upon the Patagonian highlands or else the Australian outback? One who would so maintain has failed to internalize the Parasha's most salient features and has instead grasped onto its minor features.

Judaism demands of its adherents that they accept certain fundamental doctrines, but the universality of the Flood is not one of them. While no one has the right to emend the words of the Torah or to deny the received traditions concerning its commands, with respect to the Torah's narrative portions there is much room for interpretation and even for disagreement. Let us conclude with another citation from the Ramban, this one from our own Parasha concerning the chronology of the Flood. Concerning this chronology, Rashi had adopted the problematical interpretation of the Seder Olam Rabba and Ramban refuted his reading on purely textual grounds, offering a different chronology in place of Rashi's. He introduces his novel interpretation with the following telling words: "In some places Rashi himself takes issue with Aggadic Midrashim and exerts himself in order to explain the straightforward meaning of the text. His example thus gives us license to do likewise, for there are seventy facets of Torah interpretation, and many Midrashic sources preserve legitimate differences of interpretation between our Sages" (commentary to Bereishit 8:4).

16. R' Dovid Zvi Hoffman  
(1843-1921)



יש כאן משום ריבוי כפלי לשון בזה אחר זה, והאז כדי ליתן ביטוי ציורי לשטפון הגדול. בדומה לתחילת פרק ב דלעיל, בה היה צריך ליצור הפסקה לציון סיום הבריאה, ולשם כך הוקדש פסוק שלם לכל מושג ומושג, כן בא גם כאן פסוק מיוחד לכל ענין וענין. פסוק זה בא לומר, שהמים היו מרובים ושנשאו את התיבה. פסוק זה — התיבה שטה על פני המים. פסוק יט — המים כסו את כל ההרים הגבוהים. פסוק כ — המים גבהו חמש עשרה אמה מעל לראשי ההרים. — כל-ההרים וגו', לפי זה נראה, שאכן כסו מי המבול את כל פני האדמה, ואמנם, מחקריהם של מדעני טבע רבים אשרו דעה זו<sup>19</sup>. אולם עדיין אפשר גם להגן על הדעה שלפיה לא היה המבול כללי, דעה שמסתמכת על תופעות אחרות. כי הביטוי „אשר-תחת כל השמים” יהיה מוצדק גם אם נפרשהו — כל חלקי הארץ המיושבים על ידי בני אדם, ומה גם שאף לפי דעה אחת שבתלמוד<sup>21</sup> „לא ירד לארץ ישראל”.

העובדה שסיפור המבול מצא הדים גם באגדות שאר העמים. איננה יכולה אלא לשמש לאישורו של המסופר בתורה. ויש מן הטענות המועלות כנגד המסופר כאן, שכמעט ואין מקום להתחשב בהן. כך, למשל, כאשר מפקפקים באפשרות המעשית לשיכונם של כל בעלי החיים ואיחסון המספוא שלהם לשנה תמימה בתוך התיבה — כאילו אפשר לקבוע בבטחון, כמה מיני בעלי החיים היו קיימים אז, ומלבד זאת, הרי כלל לא נאמר במפורש במקרא, אם אמנם כל כדור הארץ הוצף במימי המבול, או שמא בא המבול רק באותן ארצות, שהיו כבר אז מיושבות על ידי המין האנושי. ואם כך, כלום אין להניח שבעלי החיים ממינים שונים נשארו בחיים באזורים הלא-מיושבים? וכבר אמרו חכמינו ז"ל<sup>20</sup> אשר בימי נח, מבול אשר הציף שליש העולם, גם בי אנוש<sup>20</sup>.

17. B'Toraso Shel R' Gedalya

R' Gedalya Nadel

(1923-2004)

Kollel Chazon Ish

א  
"וזה אשר תעשה אותה שלש מאות אמה אורך התיבה, תמישים אמה רחבה וכו' ומכל החי מכל בשר שנים מכל תביא אל התיבה" – האם המינים הללו של התיבה מספיקים לכל מיני בעלי החיים, בהמות וחיות עופות ורמשים, המצויים בכל כדור הארץ? והלא יש מספר עצום של מינים? ועוד: בעלי החיים זקוקים למרחב מחיה מינימלי. אם ידחוק אותם זה על זה – ימותו, אבל, אם נניח שהכוונה רק לבעלי החיים המצויים בארצו של נח, ארץ קרמת ערן, הדבר אפשרי. ייתכן אפילו שנוח לא נצטוו להכניס ממש כל מין ומין הקיים בסביבתו, אלא רק את המינים העיקריים, וגם זה נקרא "מכל החי מכל בשר"<sup>8</sup>.

ב  
והמים גברו מאד מאד על הארץ ויכסו כל ההרים הגבוהים אשר תחת כל השמים" – האם גם הר האברסט כוסה? להלן אנו שומעים שהמים חסרו מקץ חמישים ומאת יום, "ותנת התיבה בחודש השביעי בשבעה עשר יום לחודש על הרי אררט", שהם – לפי אונקלוס והמפרשים – הרי קורדיסטן. מדוע לא נחה על האברסט? מסתבר שהרי אררט הם ההרים הגבוהים ביותר שכוסו על ידי מי המבול, כי המבול לא היה אלא בסביבה ההיא, סביבת הסהר הפורה. שם גברו המים מאד מאד, עד שהפכו את כל האיזור לאגם ענקי. כשאר איזורי העולם אולי לא ידעו בכלל שיש מבול.

"ותחת הארץ לפני הא-לקים ותמלא הארץ חמס" – "הארץ" אינה דוקא כל העולם כולו. "הארץ" כאן היא ארץ קדמת ערן, שבה מתרחשים הדברים שהתורה מספרת עליהם. כאן "בני האלהים" חמסו וגזלו, חטפו נשים ועשו כל תועבה. הארץ הזאת נשחחה לפני הא-לקים.

ב  
"לשחת כל בשר וכו' מתחת השמים, כל אשר בארץ יגוע" – כבר אמרנו ש"מתחת השמים" מתייחס לשמים שעל הארץ הזאת, ארץ קדמת ערן. בשביל האדם החי בסביבה הזאת זהו כל העולם, כל מה שהוא רואה אותו ומתייחס אליו. יש להביא ראיה מהגמרא לזה. בבכורות (נה). למדנו: "הנודר ממימי פרת אסור בכל מימות שבעולם", כי מקודות הפרת גבוהים, וכל מימי האיזור עולים ושופעים מהם בגלל חוק הנימיות של הנוזלים. האם אין בעולם כולו מקומות גבוהים יותר ממוצאי הפרת, שאינם מושפעים כלל מהפרת? – וראי שיש, והלשון "כל מימות שבעולם" פירושה בודאי: שבכל האיזור, בכל המזרח התיכון. זהו "כל העולם" למי שחי באיזור זה. ועוד למדנו בזבחים (ק"ג) שר' יוחנן וריש לקיש נחלקו האם המבול ירד גם בארץ ישראל או לא. האם ארץ ישראל איננה "מתחת השמים"? רואים שאפשר לחשוב שמי המבול לא כיסו את כל העולם. ויש להבין שנחלקו לגבי ארץ ישראל, הואיל והיא קרובה לבבל, האם גם היא לקחה בכלל האיזור אשר ירד עליו המבול, או שהיא – בגלל קדושתה או מסיבה אחרת – ארץ אשר "לא גושמה ביום זעם".