The maximum water level during the Flood

Kevin May

I feel Max Hunter has oversimplified the matter when he writes 'it is very likely that the maximum water level was only about 6.7 metres ... above the summit of Mt Ararat as it existed at that time.'[1] I suggest that 6.7 metres, or 15 cubits, is just a minimum figure.

Hunter states that the draught of the Ark was likely to have been 15 cubits, which is half of its height. I have no reason to dispute this figure. Now Genesis 7:20 says, 'the waters prevailed 15 cubits higher and the mountains were covered.' This would mean that the floating Ark would not have run aground on any of the mountains that existed at the time. The passengers in it would have sensed the rising waters lifting it up from the ground where it was built, as it commenced floating. If the depth of water covering any hills had been less than 15 cubits, they would have felt the Ark running aground as it came to such a hill. But they did not, so they knew that the depth of water must have been at least 15 cubits.

But this is not to say that the waters could not have exceeded a depth of 15 cubits above the highest hill, as Hunter seems to suggest. I understand simply that the maximum depth of water was indeterminate. We do know that it was at least 15 cubits above any land over which the Ark passed, but we cannot know just how much deeper it was than that.

It also seems improbable that the water level of the Flood would have remained constant during the 150 days. After all, there would have been at least a daily tidal variation, assuming that the Sun and Moon remained in approximately the same relationship with the Earth during the Flood year. Nevertheless, we take it as fact that the fountains of the deep were stopped, and the rain of the first 40 days ceased. So, it is unlikely that significant amounts of additional water would have reached the Earth's surface once the 40 days were ended, either from the sky or from below. But who knows how the land surface may have been varying under the waters?

It seems certain that orogenesis (mountain building) must have accompanied the upheaval of the Flood, because the present height of the world's mountains far exceeds the ability of the present quantity of water on Earth to cover them. It is reasonable to suppose that the rising Mt Ararat approached the water surface close to the time when the Ark ran aground on it, and continued to rise, carrying the Ark with it well above the final sea level. It is not necessary to suppose that the Ark rested on the very summit of the mountain, although it was probably close to it, since the mountain tops became visible some three months after the Ark came to rest (Genesis 8:4–5).

From the Scriptural record, we understand that the Ark was not tethered to any point on the ground. It was free to float away, being driven by the wind and waves from wherever it was built until it encountered Mt Ararat. No one knows how far it travelled, but as it floated for 150 days or more, it could have gone a great distance. It would be wrong to assume that it simply floated for all that time 15 cubits above the site of Mt Ararat.

We do not know whether Noah had any method of sounding the depth of water beneath the Ark. I suspect that he did not, because the only reference in Scripture to depth seems to refer only to the draught of the Ark. If that is true, the record we have in Genesis describes his perception of the sensation of floating or grounding. Therefore we do not have evidence to justify limiting the water depth to just 15 cubits above Mt Ararat.

Max Hunter replies:

Kevin May questions my interpretation that the maximum water level during the Flood was only about 6.7 metres (15 cubits) above the summit of Mt Ararat as it then existed,[2] suggesting that the 6.7 metres is just a minimum figure, and that the maximum water depth is indeterminate.

Mr May's letter has prompted me to re-assess the Scriptural support for my estimate, and I am now more than ever convinced that my original interpretation is correct, and can be supported on Scriptural, geographic and statistical grounds.

There are, I believe, good reasons why an accurate estimate of the maximum depth of the Flood waters, above present mean sea level, to the nearest 15 cubits (or perhaps even to the nearest cubit), might be useful in the construction of a credible Flood geological model. A difference of 15 cubits (6.7 m) in the depth of the Flood waters would result in a pressure difference at the base of the Flood waters, at present sea level, of about 65.7 Pa. Accurate determinations of the pressures of formation of certain mineralogical associations, perhaps in the upper levels of hydrothermal mineral deposits, may enable their depth of formation to be determined, perhaps thereby corroborating the Scriptural record.

Let us examine May's statements in detail, in the order in which they appear in his letter.

> 'The passengers in it [the Ark] would have sensed the rising waters lifting it up from the ground ... as it commenced floating'

I suggest that the passengers in the Ark would probably have had no sensation of being lifted up, because the effective Earth surface, insofar as they could see, was the surface of the rising waters. Thus, as the waters rose

and lifted the Ark they would have seemed to be remaining at the surface of the Earth. Any visible land would always be either at or **above** the water level. The sensation of height, as I understand it, requires one to be able to perceive relative height relationships of objects **below** the observer. Because water supported them, and covered everything below them, this perception would have been unavailable to the occupants of the Ark.

> 'If the depth of water covering any hills had been less than 15 cubits, [the passengers in the Ark] would have felt the Ark running aground as it came to such a hill. But they did not … '

Whitcomb and Morris[3] expressed similar thinking when they wrote:

> ' If the Flood had not covered the mountains by at least such a depth, the Ark could not have floated **over** them during the five months in which the waters "prevailed" upon the earth (emphasis added).'

May, and Whitcomb and Morris seem to assume that, during the rise of the floodwaters, the Ark would necessarily pass **over** several mountains with their summits less than 15 cubits below water. This, I suspect, would not necessarily have been the case.

I suggest that it is reasonable to assume the reason the Ark did not run aground on any mountains was not because the water depth exceeded 15 cubits above every mountain, but because the Ark floated **between** any mountains whose summits were less than 15 cubits below water level, rather than **over** them.

During the rising of the waters between Day 1 and Day 40, as the waters progressively covered the mountains, there would continually be mountains with their summits less than 15 cubits beneath the surface of the waters, perhaps many of them in the region of the Ark's journey. The Ark would only have run aground on any of these mountains if its path across the surface of the waters **happened to coincide with the position of such a summit**. The Ark could have passed **between** many mountains with their summits only **one** cubit below water level without running aground on them. Given the size of a mountain peak relative to the extent of the floodwaters, it would be statistically more likely for the Ark to have missed them. This would be progressively more likely as the floodwaters rose, given the hypsometric distribution of land above sea level. The absence therefore of the perception (or the fact) of running aground would not necessarily have meant that the waters were more than 15 cubits above the summits of such mountains, as May, and Whitcomb and Morris seem to indicate, but simply that the Ark's path missed such summits. If we believe that God was guiding the path of the Ark across the waters then the likelihood of such a random encounter would be even more remote.

Even if the Ark did run aground, it would be very likely that the continually rising waters would soon, probably within a few hours, lift it off the ground to resume its journey.

> 'We do know that it [the maximum water level] was at least 15 cubits above any land over which the Ark passed, but we cannot know just how much deeper it was than that.'

The first part of this statement is, I believe, correct, however I do not agree with the second part.

There are at least two ways that I can think of by which we may be able to determine, independently of the Scriptural record, the maximum water depth during the Flood. If these methods were to confirm that the maximum water depth was close to the present summit altitude of Mt Ararat, with corrections for such factors as erosion and vertical movements after the Flood and Earth expansion, then we could be more certain that the '15 cubits upward' refers to the summit of Mt Ararat.

> 'It seems improbable that the water level … would have remained constant during the 150 days. … there would have been at least a daily tidal variation … '

Presumably May means that it was improbable that the water level would have remained constant for 110 days (Between Day 40 and Day 150), not 150 days. A 'daily tidal variation' would raise the water level in one area and lower it, by the same amount, in another, so the average water level would remain the same over the whole of the globe.

> '... who knows how the land surface may have been varying under the waters?'

I think there may be very good geological evidence that all orogenesis occurred during Stage III of the Flood (Day 150 to Day 371). Space precludes further development of this subject in this letter.

> 'It is reasonable to suppose that the rising Mt Ararat approached the water surface close to the time when the Ark ran aground on it, and continued to rise, carrying the Ark with it well above the final sea level.'

I find it difficult to understand why May considers such a scenario necessary, and what relevance it has to the maximum water level.

Mt Ararat is a stratovolcano,[4] probably erected by submarine, possibly explosive, volcanic eruption during Stage I of the Flood. If it did rise through the water surface about Day 150 it would be due to either continued volcanic activity or tectonic uplift. Whilst this scenario might be possible,

it doesn't seem necessary. God could just as easily have organised for the Ark to arrive over Mt Ararat the night before the Flood waters began to abate, gently settling it on the summit on Day 150. Neither scenario is any more or less miraculous than the other but the latter would seem to me to be more likely.

> 'It is not necessary to suppose that the Ark rested on the very summit of the mountain ... '

If the Ark had rested on the side of the mountain, the view from the Ark would have been, as May implies, severely restricted. The sighting of the mountain tops on Day 223 (Genesis 8:5) may prove to be very important regarding a model of the rate of abatement of the floodwaters. A 360^{O} view from the Ark, on top of Mt Ararat, may have been necessary if the mountains were at different points of the compass.

> 'From the Scriptural record, we understand that the Ark was not tethered to any point on the ground. It was free to float away, being driven by the wind and waves from wherever it was built until it encountered Mt Ararat.'

The journey of the Ark upon the floodwaters might arguably be considered the most important sea voyage in the Earth's history. The survival of human life was entirely dependant upon the successful completion of the voyage. We could then reasonably assume that the Ark's journey was guided by God, who had planned that it should run aground on the top of a specific mountain, in a specific area of the globe. This, in my opinion, is further reason to conclude that an inadvertent grounding of the Ark prior to its landing on Mt Ararat would have been highly unlikely.

> 'We do not know whether Noah had any method of sounding the depth of water beneath the Ark.'

I suggest that the passengers on the Ark had no knowledge of, nor any need to know, how deep the floodwaters were. As far as we know they had no way of anchoring or altering the course of the Ark if they thought it was running aground, and so any means of 'sounding the depth of water beneath the Ark' would have been superfluous.

> 'It would be wrong to assume that it simply floated for all that time 15 cubits above the site of Mt Ararat.'

I certainly didn't assume nor imply that this was the case.

> ' ... the record we have in Genesis describes his [Noah's] perception of the sensation of floating or grounding.'

The 'perception of the sensation of floating or grounding' could, I suggest, only have been based on the perception of, respectively, movement of the Ark, or lack thereof. During the 110 days of constant water level between Days 40 and 150 no land would have been visible, as all the mountains had been covered (Genesis 7:20) and a perception of horizontal motion across the waters may not therefore have been possible. The only movement that the Ark's occupants may have been able to detect would have been the rocking motion of the Ark on the waves. Such motion would indicate that the Ark was afloat, and the absence of such rocking motion would indicate that the ark had run aground.

> ' ... we do not have evidence to justify limiting the water depth to just 15 cubits above Mt Ararat.'

If we conclude, as above, that the '15 cubits upward' does not refer to the depth of water above any of the mountains that the Ark may have floated between while the waters were rising, then we might ask regarding Genesis 7:20, '"Fifteen cubits upward" **from what**?' Let us look at Genesis 7:20 in more detail:

> 'Fifteen cubits upward did the waters prevail; and the mountains were covered.' (Genesis 7:20)

This verse must refer to Day 40 when the waters reached their maximum level, otherwise there would still be mountains **un**covered. The fact then that the '15 cubits and upward' occurs in the same sentence as 'and the mountains were covered' in my opinion strongly suggests that the 15 cubits refers to the event which happened on Day 40, i.e., the covering of **all** the mountains. The very last mountain to be covered must have been Mt Ararat, and thus I conclude that the 15 cubits refers to Mt Ararat.

Thus I believe that the evidence supporting the interpretation that the maximum water level was only about 15 cubits (6.7 metres) above the summit altitude of Mt Ararat is primarily Scriptural. I believe that this Scriptural record may one day be confirmed by science. A precise estimate of the maximum water depth may await more accurate measurements of several geographic parameters.

References

1. Hunter, M.J. Scriptural constraints on variation of water level during the Genesis Flood, *CEN Tech. J.* **14**(2):91–94, 2000.
2. Hunter, M.J. Scriptural constraints on variation of water level during the Genesis Flood, *CEN Tech. J.* **14**(2):91–94, 2000.
3. Whitcomb, J.C. (Jr) and Morris, H.M., *The Genesis Flood: The Biblical record and its Scientific Implications*, Presbyterian and Reformed Publishing Company, Philadelphia, 1974.
4. Navarra, F., *Noah's Ark: I Touched It*, Logos International, Plainfield, NJ, 1974.