

Another Look at the Genesis Flood (Revised 03/2014)

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The great flood in Genesis 6–9 is a puzzle. The author describes it as having taken place in history, but fitting it into history is very difficult. Scholars have suggested many different ways of doing this, from identifying it with a major flood in Mesopotamia, to making it responsible for most of the sedimentary rocks in the earth's crust.¹ Here I take another look at the problem.²

Type of flood

According to Genesis, the waters of the Flood rose and then receded. This immediately eliminates some of the identifications scholars have suggested, e.g. with a surge in the flooding that led to the formation of the Persian Gulf when sea levels rose after the last Ice Age,³ or with a rapid expansion of the Black Sea through a breach of the Bosphorus.⁴

Extent of flood

According to Genesis, God 'saw that the evil of mankind⁵ was great on the land-area (*'erets*)' (6:5) and said, 'I will wipe out mankind whom I have created from the face of the land-area ...' (6:7). He told Noah, 'I will bring a flood of waters upon the land-area to destroy all flesh in which there is the breath of life from under the heavens' (6:17). The resulting flood extended over 'the face of all the land-area' (8:9).

Here I have tried to capture the general sense of the word *'erets*. In Genesis 1–11, the author uses it to refer to land as opposed to sky (1:1) or seas (1:10), to a particular land (2:11–13 etc.), and to the land area occupied by Noah's descendants after their dispersal (10:32, 11:8–9).⁶ He also uses it of the 'world' of Noah's descendants (11:1,

¹ See, e.g., John C. Whitcomb, Jr., and Henry M. Morris, *The Genesis Flood* (Philadelphia: Presbyterian and Reformed, 1961); Lloyd R. Bailey, *Noah* (University of South Carolina Press, 1989); Davis A. Young, *The Biblical Flood* (Grand Rapids: Eerdmans / Carlisle: Paternoster, 1995); William Ryan and Walter Pitman, *Noah's Flood* (New York: Simon and Schuster, 1999); Robert M. Best, *Noah's Ark and the Ziusudra Epic* (Fort Myers, Florida: Enil Press, 1999); Carol A. Hill, 'A Time and a Place for Noah,' *Perspectives on Science and Christian Faith* 53 (2001), 24–40, and other articles; Paul H. Seely, 'Noah's Flood: Its Date, Extent, and Divine Accommodation,' *WJT* 66 (2004), 291–311.

² Cf. P.G. Nelson, *Big Bang, Small Voice: Reconciling Genesis and Modern Science* (Latheronwheel, Caithness, Scotland: Whittles, 1999, repr. 2003); 2nd edn. (Hull: Botanic Christian Books, 2014, ISBN 978-0-9928256-0-7).

³ Walter S. Olson, 'Has Science Dated the Biblical Flood?' *Zygon* 2 (1967), 272–8; Bailey, *Noah*, 40–5; J.T. Teller, K.W. Glennie, N. Lancaster, and A.K. Singhvi, 'Calcareous Dunes of the United Arab Emirates and Noah's Flood: the Postglacial Reflooding of the Persian (Arabian) Gulf,' *Quaternary International* 68–71 (2000) 297–308.

⁴ Ryan and Pitman, *Noah's Flood*.

⁵ Heb. *hā'ādām*, here collective.

⁶ The resulting peoples are listed in 10:2–31. Many cannot be identified with any certainty (see commentaries). Those that can occupied an area encompassing the Eastern Mediterranean and Middle East.

9a). In his account of the Flood, he does not specify a particular land, so he must be referring to land more generally.

The author also says that the floodwaters at their height covered ‘all the high peaks (*harim*) under all the heavens’ (7:19–20). Here I have tried to capture the general sense of the word *har*, which can refer to a hill or a mountain.⁷

The land area in the narrative includes ‘the peaks of Ararat’ (8:4). Scholars identify these as mountains north of Mesopotamia, on the plateau that runs from modern Turkey through Armenia to Iran. The highest of these, modern Mount Ararat, is 5,200 metres or 17,000 feet above sea level. Thus if ‘all the high peaks’ were covered, the greater part of the earth as we know it today must have been covered.

For the Flood to have been on this scale, God would have had to have acted supernaturally. This he could have done. There is still, however, a problem. This is that Noah would have had to have taken on the ark animals from distant parts of the earth. Now he could certainly have done this if God brought these animals to him supernaturally, but then we would have expected him to report that animals came to him that he had not seen before.

A possible solution to this problem lies in the conception the ancient Hebrews may have had of the universe. Some references in the Old Testament suggest that they might have thought of the sky as being a solid dome, which rested on the distant mountains of the land area they knew. Thus the author of Genesis describes the sky as a *raqia*‘ (1:6–8), a term derived from a verb meaning ‘to beat, stamp, or spread’, and used of the working of metals.⁸ Elihu asks Job, ‘Can you, like him, spread out the heavens, strong as a cast metal mirror?’ (Job 37:18). Further, David speaks of ‘the foundations of the heavens’ (2 Sam. 22:8), and Job of ‘the pillars of the heavens’ (Job 26:11), which may refer to distant mountains.

These references may all, of course, be figurative or poetic. We speak of a ‘cloudburst’ even though we do not believe that clouds are balloons of water. However, if Noah did have such a conception of the world, then when he said that ‘all the high peaks’ were covered, he might have excluded the distant mountains. If these included the higher mountains of Ararat, the flood waters would not have been as deep, and would have been confined to a smaller area.

Some support for this interpretation is provided by the description of the Flood given by the Jewish philosopher Philo of Alexandria, writing in the first century AD. He visualized the Flood as covering all the mountains within the world as he knew it, but not those on the edge of it.⁹

... the flood was not a trifling outpouring of water but a limitless and immense one, which almost flowed out beyond the Pillars of Hercules and the Great Sea. Therefore the whole earth and the mountainous regions were flooded.

⁷ See lexicons.

⁸ Derek Kidner, *Genesis* (London: Tyndale, 1967), 47.

⁹ *Questions and Answers on Genesis* 2:28 (Loeb edn., tr. Ralph Marcus). (Marcus identifies the Great Sea as the Atlantic, but it usually refers to the Mediterranean.)

The Pillars of Hercules are the rocks on either side of the Strait of Gibraltar.

Where?

If the Flood was confined to the land area known to Noah, where was this?

Genesis gives the impression that the first human population lived around Eden (2:8) and remained in the same general area until the Flood. The author does not refer to the dispersal of populations until after the Flood (Chapters 10–11). Cain settled east of Eden (4:16), but Noah knew enough about his descendents to preserve their history (4:17–24). Jabel’s family were nomads (4:20), but there is no reference to any group moving permanently out of the area. If they did, Noah seems not to have known about them.¹⁰

The author says that Eden was ‘in the east’ (2:8). Commentators are generally agreed that this means ‘east of the land of Canaan’. This points to Mesopotamia as a possible location. Mesopotamia, however, is not mentioned until Chapters 10–11 (‘Shinar’).

The author also gives the location as the area in which the rivers Pishon, Gihon, Hiddekel (Tigris), and Perath (Euphrates) have their headwaters (2:10–14). The first two rivers cannot be identified, but the Tigris and Euphrates have their headwaters in the highlands north of Mesopotamia, on the Turkish-Iranian plateau. However, Havilah and Cush, the countries around which the author says the Pishon and Gihon flow, are identified elsewhere in the Old Testament as respectively Arabia (Gen. 25:18) and Ethiopia (Ezek. 29:10), south of Mesopotamia.

A reasonable solution to this problem is to focus on the Tigris and Euphrates, whose identification is certain. Anyone knowing these rivers would have at least a general idea of where they flowed from. This places Eden on the highland plateau north of Mesopotamia. The Pishon and the Gihon are then two of the other rivers that have their headwaters in this area, and Havilah and Cush are different from Havilah and Cush elsewhere in the Old Testament. Slight support for this is that Havilah and Cush are descriptive names (‘swirling or sandy’ and ‘dark’ respectively¹¹), which could have been applied to more than one land. Also, *hawilah* carries the definite article in 2:11 (*haḥawilah*) but not elsewhere.

Some commentators try to resolve the puzzle by suggesting that the author is describing the river system in an upstream direction.¹² They identify the river in Eden as the Persian Gulf, the ‘heads’ as river mouths, and the direction of flow as that of an incoming tide. The Assyrians called the Gulf a river (*nar marratum*, ‘bitter river’), and the Sumerians apparently thought that high water levels in the Tigris and Euphrates came from the Gulf. However, the narrative (lit. ‘a river [kept] going out from Eden to water the garden, and from there it divided’) describes a river with a

¹⁰ I discuss this further later.

¹¹ See lexicons.

¹² E.A. Spieser, ‘The Rivers of Paradise,’ in *Oriental and Biblical Studies*, ed. J.J. Finkelstein and M. Greenberg (Philadelphia: University of Pennsylvania Press, 1967), 23–34; Kidner, *Genesis*, 63–4.

continuous (not tidal) flow,¹³ and the watering of Paradise by a ‘bitter’ river seems unlikely. If Eden had been in Mesopotamia, the author could surely have said so.

Another possibility is that Genesis describes the geography of Eden before sea levels rose after the last Ice Age and flooded the basin that now forms the Persian Gulf. This basin was watered mainly by the Tigris, Euphrates, Karun, and Wadi Batin Rivers, which came together to form the Ur-Schatt River, now under the sea.¹⁴ The Karun runs down the mountains east of the Tigris, through an area Speiser identified as the Cush of 2:13.¹⁵ The Wadi Batin comes in from Arabia in the west, a country that was noted for its gold and called Havilah in 25:18.¹⁶ The basin was also watered by subterranean aquifers, calling to mind the ‘springs of the great deep’ in 7:11 and 8:2. The correspondence here with Genesis is very striking, and suggests that the Genesis flood was a temporary deluge of the basin and Tigris/Euphrates valley before the permanent flooding that formed the Gulf. Against this again, however, is the fact that the author describes one river dividing into four, not four rivers converging into one. Tidal flows cannot be invoked in this case since the Tigris, Euphrates, Karun, and Wadi Batin converged above sea level.

This takes us back to the plateau north of Mesopotamia. Bolder scholars have identified the Pishon and the Gihon with particular rivers on this plateau. The most convincing is the identification of the Gihon with the Araxes/Aras, which flows into the Caspian Sea.¹⁷ This river was once called the Gaihun. Also, *b^edōlah* and *šōham* in 2:12 (LXX *anthrax* and *prasinus*) could refer respectively to obsidian and jadeite, which are found, along with gold, on the plateau.¹⁸

Further support for locating Eden on the plateau is the evidence archaeologists have that human beings began to cultivate cereals, domesticate animals, and work native metals, in the highlands north of Mesopotamia, on the plateau.¹⁹ Here wild forms of rye, wheat, and barley grow, there are wild sheep and goats, and copper and meteoritic iron occur naturally. The author of Genesis gives the impression that these activities originated in and around Eden (3:23; 4:1–2, 20–22).²⁰

There is, of course, no river on the plateau that divides into the Tigris, Euphrates, and two other rivers. All the main rivers have separate sources. These do, however, lie in the same general region, along with the mountains of Ararat. It is possible, therefore,

¹³ On the wording, see S.R. Driver, *The Book of Genesis*, 14th edn. (London: Methuen, 1943), 39; John D. Currid, *A Study Commentary on Genesis*, Vol. 1, *Genesis 1:1–25:18* (Darlington: Evangelical Press, 2003), 102.

¹⁴ Jeffrey I. Rose, ‘New Light on Human Prehistory in the Arabo-Persian Gulf Oasis,’ *Current Anthropology* 51 (2010), 849–83.

¹⁵ ‘The Rivers of Paradise,’ 25–6.

¹⁶ Wenham, *Genesis 1–15*, 65.

¹⁷ See David M. Rohl, *A Test of Time*, Vol. 2, *Legend* (London: Century, 1998), Chap. 1.

¹⁸ James Mellaart, *The Neolithic of the Near East* (London: Thames and Hudson, 1975), *passim*.

¹⁹ Mellaart, *The Neolithic of the Near East*; Daniel Zohary and Maria Hopf, *Domestication of Plants in the Old World*, 2nd edn. (Oxford University Press, 1993); David R. Harris (ed.), *The Origins and Spread of Agriculture and Pastoralism in Eurasia* (London: UCL Press, 1996). Metals were not yet being smelted.

²⁰ Genesis 4:22 describes Tubal-Cain as a ‘sharpener’ (Heb.) or ‘hammerer’ (Gk.) of copper and iron.

that Noah's world lay somewhere in this region,²¹ with peaks rising within it, and more distant peaks around it.

Rain on the plateau for 'forty days and forty nights' (Gen.7:12) would have caused widespread flooding. If rivers became dammed, a large area could have been covered. Areas around the plateau could also have been hit. Even where waters did not accumulate, there could still have been loss of life.

When?

A date for the Flood can be calculated from the genealogy in Genesis 11 and other data in the Old Testament. The calculation assumes that the genealogy is complete and that the numbers in it are real.²² Ussher obtained 2349 BC in this way. Driver revised his calculations and obtained 2501, 2936, or 3066 BC depending on the version (Hebrew, Samaritan, or Greek respectively).²³ The same calculations gave 1491 BC for the date of the Exodus.

Driver, however, calculated the date of the Exodus from Egyptian historical data to be about 1230 BC. Scholars are divided over whether the earlier or the later date is correct.²⁴ The later date gives about 2240, 2675, or 2805 BC for the Flood.

Radiocarbon dating does not help.²⁵ If the proportion of radiocarbon in the atmosphere is set equal to the present-day value, the dates obtained agree with those derived from Egyptian historical data by conventional methods. When, however, dates are calibrated by matching and counting tree rings (dendrochronology), significantly earlier dates are obtained (about 300 years earlier at the time of the Exodus). This supports the Biblical dating, but creates problems for Egyptologists, especially for those who think that even the conventional historical dates are too early.²⁶

Because of this, I shall in the following discussion give two dates for events. The later one will be the conventional historical date or an uncalibrated radiocarbon date; the earlier one will be a calibrated radiocarbon date or the conventional historical date adjusted to be consistent with calibrated radiocarbon dates.²⁷ This avoids the problem

²¹ This region lies north-east of Canaan, but locating Noah's world in this direction does not contradict Genesis 2:8 since in Genesis this bearing is still called 'east' (see 29:1 referring to the people living around Haran).

²² Some scholars think that the numbers in the Genesis genealogies are symbolic, but this is doubtful [see my note, 'Numerology in Genesis,' *Perspectives on Science and Christian Faith* 60 (2008), 70–1]. Many of the numbers could be rounded, hence the non-random distribution of last digits [cf. Carol A. Hill, 'Response to P.G. Nelson's "Numerology in Genesis"', *ibid.* 60 (2008), 144]. If numbers ending in 0 and 5 are omitted, the chances of the remaining numbers ending with the digits they do are relatively high (one in only 4³ in the case considered by Hill).

²³ Driver, *The Book of Genesis*, xxv–xxxii.

²⁴ K.A. Kitchen, *Ancient Orient and Old Testament* (London: Tyndale, 1966), *On the Reliability of the Old Testament* (Grand Rapids: Eerdmans, 2003); David M. Rohl, *A Test of Time*, Vol. 1 (London: Century, 1995).

²⁵ See *Big Bang, Small Voice*, 65–7.

²⁶ See, e.g., Rohl, *A Test of Time*, Vol. 1, App. C. For a review of chronologies based on historical data, see John Bimson, *(When) Did It Happen?* (Cambridge: Grove, 2003).

²⁷ In this update, I have used the calibration at <http://c14.arch.ox.ac.uk/intcal09.14c>. I have rounded very approximate dates.

of inadvertently comparing dates on different scales. The dates in bold print are those given by authors.

Now a problem with all of the above dates for the Flood is that they fall in a period of history when a wide area of the ancient world was known, and no flooding of the whole area took place. There were repeated floods in Mesopotamia, including one that left deposits of clay at Shuruppak and Kish in about 3600/**2900** BC, near to the Biblical date.²⁸ There are also flood stories from the area, and a reference to a flood in a king list.²⁹ However, there are no signs of a widespread flood (a layer of clay or, where clay has been washed away, a break in culture) in the Middle East at this time.³⁰ The history of Egypt, for example, is unbroken from the beginning of the Naqada period (about **4000/3300** BC) onwards.³¹ The Nile overflowed annually, in some years more than others, but the population was never wiped out.

Many scholars resolve this problem by confining the Flood to Mesopotamia.³² The flood stories from this area are in some ways very similar to the one in Genesis.³³ A man builds a boat to escape from the flood, and takes on to it his family and animals ('two by two'). When the flood subsides, he sends out birds to see whether they return. However, there are also big differences. Besides the polytheism in the stories, the floodwaters take only seven days to rise, and seven or so days to fall (the Genesis flood lasted over a year). The boat has a different shape (circular or cubic), and grounds on 'Mount Nisir/Nimush', identified as a peak on the Turkish-Iranian plateau east of Mesopotamia.³⁴ The hero's descendents do not go on to become the nations listed in Genesis 10, some of which already existed in 3600/2900 BC [e.g. Mizraim (Egypt)]. The two events were evidently therefore different. If the Flood had been in Mesopotamia, the author could have stated this, as in 11:2.

Paul Seely resolves this problem by suggesting that the author of Genesis wrote about the Flood as having been bigger than it was because this is how people thought about it at the time.³⁵ He attributes this to divine accommodation. Dr. Arthur G. Fraser has suggested to me that God wanted the Flood to be seen as an eschatological event like

²⁸ M.E.L. Mallowan, 'Noah's Flood Reconsidered,' *Iraq* 26 (1964), 62–82.

²⁹ James B. Pritchard (ed.), *Ancient Near Eastern Texts* (Princeton University Press, 2nd edn., 1955), 42–4, 93–7, 104–6, 265–6; Samuel Noah Kramer, 'Reflections on the Mesopotamian Flood: The Cuneiform Data New and Old,' *Expedition* 9, No.4 (1967), 12–8; Irving Finkel, *The Ark before Noah: Decoding the Story of the Flood* (London: Hodder and Stoughton, 2014). [The fragment described by H.V. Hilprecht, *The Earliest Version of the Babylonian Deluge Story and the Temple Library of Nippur* (Philadelphia: University of Pennsylvania, 1910), is translated differently and dated later by George A. Barton, 'Hilprecht's Fragment of the Babylonian Deluge Story,' *Journal of the American Oriental Society* 31 (1911) 30–48, and corresponds to Finkel's 'Middle Babylonian Nippur' (*op. cit.*, 96).]

³⁰ See James Mellaart, *Earliest Civilizations of the Near East* (London: Thames and Hudson, 1965), 12; Seely, 'Noah's Flood,' 299–301.

³¹ Stephen Quirke and Jeffrey Spencer (eds.), *The British Museum Book of Ancient Egypt* (London: British Museum Press, 1992).

³² Among recent authors, Best, *Noah's Ark and the Ziusudra Epic*; Hill, 'A Time and a Place for Noah,' and other articles; Seely, 'Noah's Flood.'

³³ See note 29.

³⁴ See Ephraim A. Speiser, 'Southern Kurdistan,' *Annual of the American Schools of Oriental Research* 8 (1926/7), 1–42 (17–8). Best thinks the reference is to a sand bank in the Persian Gulf (*Noah's Ark and the Ziusudra Epic*, 277). Finkel thinks the Babylonian map of the world refers to the landing of the boat, and places this in the north east, beyond Mount Ararat (*The Ark before Noah*, Chap. 12). The reference is not, however, definite, and the map looks symbolic.

³⁵ 'Noah's Flood,' 303–11.

events in the book of Revelation (cf. 2 Pet. 3:3–7). As we have seen, however, the flood in the Mesopotamian flood stories only lasted two weeks or so. People will therefore have known that it had not been on the scale described in Genesis.

An alternative approach is to take the genealogy in Genesis 11 as selective, and dating the Flood earlier. Many genealogies in the Bible are selective, and use ‘X fathered Y’ to mean ‘X fathered the line that led to Y’.³⁶ However, those in Genesis 5 and 11 are exceptional in providing information (the age at which each man fathers a named son) that enables a chronology to be constructed from them if they are complete, but which serves no obvious purpose otherwise.

However, a possible indication that these genealogies are selective is the occurrence of an extra name (Cainan) in the ancient Greek version of Genesis 11 as compared with the Hebrew and the Samaritan version.³⁷ This could mean that all three versions are shortened versions of a longer one.³⁸ There is also a comment by an early Armenian scholar on Noah being the tenth from Adam in Genesis 5: ‘Some used to say that there were innumerable aeons from Adam to Noah’.³⁹ Moses, who compiled Genesis, was brought up in Egypt, and might have known from Egyptian history that there had not been total flooding of Egypt at the genealogical date.

Now there were floods in Mesopotamia before the genealogical date. There was one that left a layer of clay at Ur, which is dated about 4800/**4000** BC, and one that left a layer at Nineveh, dated about 5100/**4300** BC.⁴⁰ David Rohl associates the Genesis flood with the first (redating it to 3800/**3100** BC),⁴¹ and Victor Pearce with both (dating them to about **5000/4000** BC).⁴² Once again, however, while there may have been flooding elsewhere, there are no signs that this extended right across the ancient world.⁴³ Seely’s suggestion again does not help, because trade routes at this time were well established,⁴⁴ and people will have known that the flood did not affect neighbouring areas.

This suggests that the Flood was earlier than 5000/4000 BC. This is supported by the movement of population described in Genesis. As we have seen, the author gives the impression that Noah’s world was the area around Eden, which we have located on the plateau north of Mesopotamia. Then came the Flood, and the grounding of the ark on ‘the peaks of Ararat’ (8:4), in the same general region. After this, Noah’s descendents became the various nations known to the ancient Hebrews (10:1–32). The author explains that they ‘journeyed in the east [i.e. east of the land of Canaan]’ and ‘found a plain in the land of Shinar [Mesopotamia], and dwelt there’ (11:1–2). In Shinar, they built a city, with a very high tower (11:3–4). God responded to this

³⁶ Francis A. Schaeffer, *No Final Conflict* (London: Hodder and Stoughton, 1975), Chap. 4.

³⁷ Driver, *The Book of Genesis*, 138. Luke includes Cainan (3:36).

³⁸ Jude will have used a standard version in Jude 14.

³⁹ Insertion in Philo’s *Questions and Answers on Genesis* 1.87 (Loeb edn., 55, note *i*).

⁴⁰ William H. Stiebing, Jr., ‘A Futile Quest: The Search for Noah’s Ark,’ *The Biblical Archaeology Review* 2, No. 2 (1976), 1, 13–20. I am very grateful to Carol Hill for this reference.

⁴¹ Rohl, *A Test of Time*, Vol. 2, Chap. 5.

⁴² E.K. Victor Pearce, *Who Was Adam?* 3rd edn. (Walkerville, South Africa: Africa Centre for World Mission, 1987), Chap. 9; *Evidence for Truth*, Vol. 1 (Eastbourne: Evidence Programmes, 1993), Chaps. 12–5.

⁴³ See Mellaart, *Earliest Civilizations of the Near East*, 12; Seely, ‘Noah’s Flood,’ 299–301.

⁴⁴ Mellaart, *The Neolithic of the Near East*, 9, 40–1.

display of human arrogance by confusing their language and scattering them (11:5–9).

Now there is archaeological evidence for the movement of population from the Turkish-Iranian plateau on to the Mesopotamian plain.⁴⁵ Archaeologists date this to **6000/5000–4000/3300 BC**. This dates the Flood to before $(6000/5000 + x)$ B.C., where x is the time it took for Noah's family after the Flood to build up to the population that moved into Mesopotamia. If x was about 500 years, this dates the Flood to before about 6500/5500 BC.

At one time, archaeologists thought there were breaks in occupation at sites in the Middle East around 8300/**7300** and 6900/**6000** BC, the latter being attributed to a reduction in rainfall.^{46,47} According to recent work, however, there are no signs of contemporaneous breaks back to **12,300/10,300 BC**.⁴⁸ Abu Hureyra, on the upper Euphrates, was continuously occupied from 11,500/**9500** to 6000/**5000** BC.⁴⁹

This means that the Flood took place before 12,300/10,300 BC. This takes us back to a time before there is evidence of trade around the Middle East (9000/8000 BC).⁵⁰ This suggests that the Flood was confined to a relatively small area. This correlates with the impression Genesis gives that Noah's world was confined to the area around Eden, which we have located on the Turkish-Iranian plateau. This points to the Flood being in this region sometime before the above date.

How long before is difficult to establish. According to Pearce,⁵¹ there is a break at sites in the Middle East between about 13,000/**11,000** and 11,000/**9000** BC, but this is based on old data.⁵² Archaeological sites on the plateau are sparse.⁵³ In the discussion above, we supposed that it would take about 500 years for the human population to build up again after the Flood. This would date the Flood to before about 12,800/10,800 BC.

A problem with a date as early as this is that human culture at this time was less advanced than it was in the time of Noah. As we have seen, Genesis describes human

⁴⁵ Geoffrey Barraclough and Geoffrey Parker, *The Times Atlas of World History*, 4th edn. (London: Times Books, 1993), 40–1.

⁴⁶ Charles Keith Maisels, *The Emergence of Civilization* (London and New York: Routledge, 1990), 82.

⁴⁷ Patrick O'Connell arrived at a date of **7000/6000** BC for the Flood, but by conflating evidence of flooding in the ancient world [*Science of To-day and the Problems of Genesis* (Minnesota: Radio Replies Press Society, 1959), Book II, Part I]. On his explanation of the salt desert ('Great Kavir') on the Iranian plateau (57–9), compare M.H. Ganji, 'Post-Glacial Climatic Changes on the Iranian Plateau,' in William C. Brice (ed.), *The Environmental History of the Near and Middle East since the Last Ice Age* (London: Academic Press, 1978), Chap. 10.

⁴⁸ Steven Mithen, *After the Ice: a Global Human History 20,000–5000 BC* (London: Weidenfeld and Nicolson, 2003), Chaps. 3–11; Seely, 'Noah's Flood,' 301–2. Note that Seely's dates for Abu Hureyra are uncalibrated.

⁴⁹ A.M.T. Moore, G.C. Hillman, and A.J. Legge, *Village on the Euphrates: from Foraging to Farming at Abu Hureyra* (Oxford: Oxford University Press, 2000).

⁵⁰ Mellaart, *The Neolithic of the Near East*, 9, 40–1. The earliest trade was in obsidian, a dark volcanic rock found on the Turkish-Iranian plateau.

⁵¹ Pearce, *Who Was Adam?*, 83.

⁵² Cf. Mithen, *After the Ice*.

⁵³ *Ibid.*

beings before the Flood cultivating the ground, keeping flocks, and working metals (4:1–2, 20–22).⁵⁴ The earliest archaeological evidence for these activities is dated 11,000/**9000** BC (agriculture),⁵⁵ 9000/**7500** BC (pasturing),⁵⁶ and 9000/**7500** BC (metalworking).⁵⁷

We must remember, however, that the world Noah knew was confined to the area around Eden. Farming and metalworking could thus have been limited to where he lived and not practised elsewhere. Also, any remains could have been destroyed in the Flood.

We must remember too that there were only eight human beings on the ark (7:13). The human population would therefore have taken a long time to build up again.⁵⁸ Also, not all of Noah's descendants may have taken up farming and metalworking after the Flood, but may have opted to gather and hunt. The culture that existed in Noah's world before the Flood could therefore have taken many years to become re-established and leave remains. This may also explain the gap between Noah planting a vineyard (Gen. 9:20) and the earliest evidence of viticulture (7000/**6000** BC).⁵⁹

These considerations nevertheless suggest that the Flood will not have been very much earlier than 12,800/10,800 BC. My tentative conclusion, therefore, is that the Flood took place around 13,000/11,000 BC, on the Turkish-Iranian plateau, north of Mesopotamia. This early date stretches the genealogy of Genesis 11, but keeping to the genealogical date is very difficult as we have seen. At least the early date explains how the author of Genesis could describe the Flood as covering 'the face of all the *'erets*': it was 'all the *'erets*' known to Noah.

The early date for the Flood means that the flooding in Mesopotamia that gave rise to flood stories similar to the one in Genesis was much later. The reason for the similarity may be that the hero had some knowledge of Noah, and followed his example.

The ark

There is indirect evidence for the use of boats at the above date for the Flood.⁶⁰ Possible remains of boats have been found by the Persian Gulf dating from about **6000/5000** BC, and in the upper Euphrates valley dated **3800/3100** BC.⁶¹

⁵⁴ Pearce thinks that the building of cities also came before the Flood (*Who Was Adam?*, 78). He bases this on the RSV of 4:17, 'Cain built a city' (48). However, the Hebrew term '*ir*' denotes a settlement of any size. Seely ('Noah's Flood', 291–2) suggests that the Flood took place after the domestication of fruit trees (about **4000/3300** BC) because of the fruit trees in Genesis 2–3. However, these had been planted by God (2:8–9). Adam's punishment was to eat the plants of the field (3:17–19).

⁵⁵ Moore *et al.*, *Village on the Euphrates*, 478, 9.

⁵⁶ *Ibid.*, 478.

⁵⁷ Mellaart, *ibid.*, 52–4.

⁵⁸ A population of eight doubling in size every 30 years would take 500 years to reach one million.

⁵⁹ Patrick E. McGovern, Ulrich Hartung, Virginia R. Badler, Donald L. Glusker, and Lawrence J. Exner, 'The Beginnings of Winemaking and Viniculture in the Ancient Near East and Egypt,' *Expedition* 39, No. 1 (1997), 3–21; Rod Phillips, *A Short History of Wine* (London: Penguin, 2000), Chap.1.

⁶⁰ Seán McGrail, *Boats of the World: from the Stone Age to Medieval Times*, paperback edn. (Oxford University Press, 2004), vii–viii.

⁶¹ *Ibid.*, viii–ix.

According to Genesis, God told Noah to make the ark of *gopher* wood and cover it with *kopher* (6:14). These terms are used only here in the Old Testament. This is consistent with placing Noah on the edge of the Old Testament world. *Kopher* would have been some form of bitumen, sources of which occur all over the Middle East, including the Turkish-Iranian plateau.⁶² The ark was remarkably large (6:15), even by later standards.

Discussion

Christians who believe that the Flood was global, and caused the formation of most of the sedimentary rocks in the earth's crust, will be disappointed by my conclusion. Let me say at once, therefore, that it is still possible to explain the formation of these rocks within a literal understanding of Genesis, as I have shown elsewhere.⁶³

There are in any case problems with the idea that most sedimentary rocks were formed in the Flood. Quite apart from the geological difficulties,⁶⁴ the author of Genesis describes the rivers in Eden before the Flood as if his readers knew them (2:10–14). Today the Tigris and Euphrates flow through the Mesopotamian plain over layers of sedimentary rock thousands of feet thick.⁶⁵ Before these were laid, the rivers in the region would have been very different. Further, Noah correctly anticipated that a dove would find olive trees growing after the waters had subsided (8:8–11). There could not therefore have been a major reworking of the earth's crust in the Flood.

If anthropologists are right that, by 13,000/11,000 BC, *Homo sapiens* had colonized most of the earth,⁶⁶ the human world in Noah's time was much wider than he knew. This does not mean, however, that the Flood does not have a wider significance. What happened in the Flood seems to have been played out, at different times, in various parts of the world. There are an extraordinary number of flood stories from all over the globe.⁶⁷ Major flooding was doubtless a common phenomenon at the end of the last Ice Age. To this extent, the Genesis flood is a 'type' of all the others, in showing God's wrath at the behaviour of his creatures, while preserving a few to allow them to continue. Noah is picked out because he fathered the line that led to Abraham and the nation of Israel, from which would come the Messiah and 'Light of the World'.

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⁶² Z.R. Beydoun, 'Prehistoric, Ancient and Mediaeval Occurrences and Uses of Hydrocarbons in the Greater Middle East Region,' *Journal of Petroleum Geology* 20 (1997), 91–5.

⁶³ *Big Bang, Small Voice*, Part III.

⁶⁴ See, e.g., Young, *The Biblical Flood*.

⁶⁵ See Carol A. Hill, 'The Garden of Eden: A Modern Landscape,' *Perspectives on Science and Christian Faith* 52 (2000), 31–46, Fig. 3. (Her location of Eden is different from mine.)

⁶⁶ See, e.g., Mithen, *After the Ice*.

⁶⁷ Bernhard Lang, 'Non-Semitic Deluge Stories and the Book of Genesis: A Bibliographical and Critical Survey,' *Anthropos* 80 (1985), 605–16.