

‘Fountains’ and ‘Windows’ in Genesis 7:11: An Historical Survey

Kurt P. Wise

Truett McConnell University, Cleveland, GA*

Abstract. This paper represents an initial review of young-age creationist publications dealing with the meaning of ‘fountains’ and ‘windows’ in Genesis 7:11. Creationists over the last three hundred years have proposed a surprising number of physical models for the meaning of ‘fountains’ and ‘windows’. There seems to be no evidence of convergence on a single model—or even a few models. This, in part, seems to be due to a paucity of proper Biblical exegesis on Genesis 7:11. There is a great need for concentrated exegetical studies on this text to help guide creationist model-building in the future.

Key Words. rain, flood, rock, geology, physical, ocean, fountains, windows, geysers, water, mountains, causes, ice, comet, crust

1. Introduction

The ‘fountains of the great deep’ and the ‘windows of heaven’ are both mentioned in Scripture’s description of events of the first day of Noah’s Flood (Gn 7:11). They seem to play such an important role in the text that few people writing about the Flood fail to mention either the ‘fountains’ or the ‘windows’ of Genesis 7:11. Many speculate on what physical phenomena these phrases describe, and some try to extract an understanding from a deeper study of the text. Multiple scores of perspectives have been published concerning these phrases, with quite a surprising variety of interpretations.

This paper is a contribution to a scholarly project devoted to understanding the meaning of the ‘fountains of the great deep’ and the ‘windows of heaven’. Such a project should include—even begin with—a review of previous publications, and this paper is intended to contribute to such a review. Unfortunately, there are so many publications in so many fields, that it is beyond the scope of this paper to offer a complete review. This paper intends only to offer an initial review of creationist publications on fountains and windows. This review intentionally does not include Genesis commentaries¹ and publications in biblical studies

* Kurt P. Wise, M.A., Ph.D., is Professor of Natural Science and Director of Creation Research at Truett McConnell University in Cleveland, GA. kwise@truett.edu.

1. Commentaries are not included in this review with the exception of commentaries by creation scientists (e.g., Henry M. Morris, *The Genesis Record: A Scientific and Devotional Commentary on*

journals. This review has also focused on young-age creationist publications²—hereafter simply referred to as ‘creationist’ publications. This paper, then, offers an initial, though incomplete,³ review of creationist thought⁴ on the subject of the ‘fountains of the great deep’ and the ‘windows of heaven’.⁵

the Book of Beginnings [Grand Rapids: Baker, 1976] and Jonathan D. Sarfati, *The Genesis Account: A Theological, Historical, and Scientific Commentary on Genesis 1–11* [Powder Springs, GA: Creation Ministries International, 2015]) and a commentary by John Wesley (*Explanatory Notes Upon the Old Testament* [Bristol: William Pine, 1765]), because he also published a book-length contribution to ‘natural philosophy’ (science).

2. A systematic search of old-age creationist literature was not undertaken because 1) most old-age creationists reject a global flood and thus usually interpret ‘fountains’ and ‘windows’ within the constraints of modern earth structure, and 2) given its rare and scattered nature, the old-age creationist literature would require considerable effort to review properly. However, when this author encountered interpretations of ‘fountains’ and ‘windows’ that were not only interesting, but might have influenced young-age creationist interpretations, those interpretations were included in this review, even when those interpretations necessarily involved an ancient creation (e.g., those of Immanuel Kant, Isaac N. Vail, and C. Theodore Schwarze). Furthermore, it would be difficult (and of dubious value) to eliminate from consideration all those who believed some aspect of an ancient creation (e.g., George McCready Price, Robert Brown). Thus, although this review can rightly be considered a review of young-age creationist literature on the subject, it cannot be considered a review of old-age creationist literature on the subject.

3. Even considering young-age creationist views on ‘fountains’ and ‘windows’, this review is woefully incomplete. Several unfortunate truths make a complete review of young-age creationist literature unattainable at this time. First, reviews simply do not exist in young-age creationist literature, so this particular study could not take a previous review and update it and/or make it more complete. This study, then, is forced to review all the creationist literature. Second, young-age creationists have adopted the very unfortunate habit of rarely citing other creationists. This not only makes it difficult to trace ideas from one author to another, but it forces reviewers to search through voluminous literature to find needed sources. Third, creationist literature is scattered and difficult to obtain. Few libraries carry much young-age creationist literature, and the few that do, have very incomplete collections. In fact, creationist literature is so scattered that an accurate measure of how much literature this review failed to catch is impossible to determine. I strongly suspect, for example, I was able to access much less than one third of all creationist literature. It is the combination of these three factors—the lack of review articles, the paucity of citations, and the limited access to literature—that makes me believe this review is woefully incomplete. In spite of its incompleteness, I pray that it does offer a representative sample of the literature on the subject.

4. The lack of citations and reviews in creationist literature not only suggest reviews are needed, but that at least the initial reviews should list references in such a way as to aid readers’ tracing of the history of lines of thought. As such an aid, this paper’s formatting diverges from this journal’s house style by 1) citations including the year of publication with the abbreviated publication title, and 2) grouping together with ‘|’ in chronological order multiple citations of a given author, but otherwise arranging citations in order of publication date (placing authors with multiple publications in the position in that list of the date of their first publication).

5. With the exception of Kant’s *Allgemeine Naturgeschichte und Theorie des Himmels, oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes, nach Newtonischen Grundsätzen abgehandelt* (Leipzig: Königsberg, 1755). Trans., Ian Johnston as *Universal*

2. Physical Causes of the Flood

2.1 *Issues Affecting Both Fountains and Windows*

2.1.1 Number of Causes

Creationists very commonly interpret Genesis 7:11 as identifying for the reader the proximal physical causes for the Flood. Most claim the verse tells us there were two, and only two, physical causes for the Flood—'fountains' and 'windows'.⁶

Natural History and Theory of the Heavens, or An Essay on the Constitution and Mechanical Origin of the Entire Structure of the Universe Based on Newtonian Principles. [English translation; "Kant: Universal Natural History and Theory of the Heavens" (archive.org, 2008). Accessed July 14, 2021. <https://archive.org/details/universalnatural0000kant>]—which is included because it may have influenced later publications—only those publications that specifically mention 'fountains' and/or 'windows' are included. This paper is not intended as a review, for example, of all the Flood mechanisms that have been proposed.

6. Thomas Burnet, *Telluris theoria sacra: orbis nostri originem & mutationes generales, quas aut jam subiit, aut olim subiturus est, complectens: libri duo priores de diluvio & Paradiso* (London: Walter Kettilby, 1681) [non vide; the English version of Burnet 1697 was assumed in this article to reflect claims in this earlier Latin publication] | *The Theory of the Earth: Containing an Account of the Original of the Earth, and of all the General Changes Which it hath Already Undergone, or is to Undergo till the Consummation of all Things*, 3rd ed. (London: Walter Kettilby, 1697), 9, 54, 57; John Ray, *Miscellaneous Discourses Concerning the DISSOLUTION and CHANGES of the WORLD. Wherein The Primitive Chaos and Creation, the General Deluge, Fountains, Formed Stones, Sea-Shells found in the Earth, Subterraneous Trees, Mountains, Earthquakes, Vulcanoes, the Universal Conflagration and Future State, are largely Discussed and Examined* (London: Samuel Smith, 1692), 66–69, 130 | *Three Physico-Theological Discourses, Concerning I. The Primitive Chaos, and the Creation of the World. II. The General Deluge, its Causes and Effects. III. The Dissolution of the World, and Future Conflagration. Wherein are Largely Discussed, The Production and Use of Mountains; the Original of Fountains, of Formed Stones, and Sea-Fishes Bones and Shells Found in the Earth; the Effects of Particular Floods, and Inundations of the Sea; the Eruptions of Vulcano's; the Nature and Causes of Earthquakes. Also an Historical Account of those Two Late Remarkable Ones in Jamaica and England. With Practical Inferences*, 3rd ed. (London: William Innys, 1713), 73; William Whiston, *A New Theory of the Earth, From its Original, to the Consummation of all Things: Wherein the Creation of the World in Six Days, the Universal Deluge, and the General Conflagration, as Laid Down in the Holy Scriptures, are shewn to be Perfectly Agreeable to Reason and Philosophy, with a Large Introductory Discourse Concerning the Genuine Nature, Stile, and Extent of the Mosaick History of the CREATION* (London: Benjamin Took, 1696), 188–189; Patrick Cockburn, *An Enquiry into the Truth and Certainty of the Mosaic Deluge, Wherein the Arguments of the Learned Isaac Vossius, and Others, for a Topical Deluge are Examined; and some Vulgar Errors, Relating to that Grand Catastrophe, are Discover'd* (London: C. Hitch and M. Bryson, 1750), 258–259, 293; Granville Penn, *Remarks on Certain Parts of Mr. Granville Penn's Comparative Estimate of the Mineral and Mosaical Geologies and on other Geological Writings of the Present Day, which Affect the Right Interpretation of the Text of Scripture* (London: C. and J. Rivington, 1826), 33; George Bugg, *Scriptural Geology; Or, Geological Phenomena Consistent Only with the Literal Interpretation of the Sacred Scriptures, upon the Subjects of the Creation and Deluge; In Answer to an 'Essay on the Theory of the Earth,' by M. Cuvier, Perpetual Secretary of the French Institute, &c. &c. and to Professor Buckland's Theory of the Caves, as*

Burnet claims 2 Peter 3:5–6 confirms there were two, and only two, sources,⁷ and Hanson⁸ claims that the plurality of water sources is confirmed by the use of plural form of ‘water’ in Genesis chapters 1 and 6–9 (versus the singular form used

Delineated in his 'Reliquiae Diluvianae, &c. &c. &c., vol. 1 (London: Hatchard and Son, 1826), 165 | vol. 2 (1827), 58, 61–62, 169; John Murray, *The Truth of Revelation, Demonstrated by an Appeal to Existing Monuments, Sculptures, Gems, Coins and Medals* (London: Longman, Rees, Orme, Brown, & Green, 1831), 128 | 2nd ed. (1840), 215; George Young, *Scriptural Geology; Or, An Essay on the High Antiquity Ascribed to the Organic Remains Imbedded in Stratified Rocks: Communicated, in Abstract, to the Geological Section of the British Association, at the Annual Meeting Held in Newcastle* (London: Simpkin, Marshall, and Co., 1838), 44; Frank L. Marsh, *Studies in Creationism* (Washington, DC: Review and Herald, 1950), 326; Alfred M. Rehwinkel, *The Flood in the Light of the Bible, Geology, and Archaeology* (Saint Louis: Concordia, 1951), 96–97; Henry Morris, *Biblical Cosmology and Modern Science* (Philipsburgh, NJ: Presbyterian and Reformed, 1970), 31–32 | *The Remarkable Birth of Planet Earth* (San Diego: Institute for Creation Research, 1972), 28 | *Genesis Record*, 196 | *That You Might Believe* (Chicago: Good Books, 1946) | 2nd ed. (1978), 88 | *The Defender's Study Bible* (Grand Rapids: Word, 1995), 23; Gerhard Hasel, “Some Issues Regarding the Nature and Universality of the Genesis Flood Narrative,” *Origins* (GRI) 5, no. 2 (June 1978): 83–98; Harold G. Coffin and Robert H. Brown, *Origin by Design* (Washington, D.C.: Review and Herald, 1983), 23; Harold G. Coffin, Robert H. Brown, and L. James Gibson, *Origin by Design*, 2nd ed. (Hagerstown, MD: Review and Herald, 2005), 37; Bernard E. Northrup, “Identifying the Noahic Flood in Historical Geology, Part One,” in *Proceedings of the Second International Conference on Creationism Held July 30–August 4, 1990, Pittsburgh, Pennsylvania, Volume I: General Sessions*, eds. Robert E. Walsh and Christopher L. Brooks (Pittsburgh: Creation Science Fellowship, 1990), 173–179; Walter T. Brown, Jr., *In the Beginning: Compelling Evidence for Creation and the Flood*, 5th ed. (Phoenix: Center for Scientific Creation, 1989), 185, n. 5 | 8th ed. (2008), 356, n. 7, 363; Ken Ham, Andrew A. Snelling, and Carl Wieland, *The Answers Book: Detailed Answers at the Layman's Level to the 12 Most-Asked Questions on Genesis and Creation/Evolution* (Green Forest, AR: Master Books, 1990), 15, 117–119; Ken Ham and Mark Dinsmore, *Amazing Bible Facts About Noah's Ark, Including the True Account from Genesis* (Port Deposit, MD: Wellspring, 1997), 24; Ken Ham and Tim Lovett, “Was there really a worldwide flood?” in *A Pocket Guide to... The Global Flood: A Biblical and Scientific Look at the Catastrophe that Changed the Earth* (Hebron, KY: Answers in Genesis, 2009), 9–21; Dennis G. Lindsay, *The Genesis Flood: Continents in Collision*, Creation Science Series, vol. 5 (Dallas: Christ for the Nations, 1992), 325–328; Albert Sippert, *Evolution is Not Scientific: 32 Reasons Why* (N. Mankato, MN: Sippert Publishing, 1995), 69; Allen Roy, “Fountains of the Great Deep: The Primary Cause of the Flood,” *Creation Research Society Quarterly* 33, no. 1 (June 1996): 18–22; Max Hunter, “Scriptural Constraints on the Variation of Water Level during the Genesis Flood,” *CEN Technical Journal* 14, no. 2 (August 2000): 91–94; William D. Barrick, and Roger Sigler, “Hebrew and Geological Analyses of the Chronology and Parallelism of the Flood: Implications for Interpretation of the Geological Record,” in *Proceedings of the Fifth International Conference on Creationism Held August 4–9, 2003, Pittsburgh, Pennsylvania, USA: Technical Symposium Sessions*, ed. Robert L. Ivey (Pittsburgh: Creation Science Fellowship, 2003), 397–408; Don Batten, David Catchpoole, Jonathan Sarfati, and Carl Wieland, *The Creation Answers Book* (Eight Mile Plains, Queensland: Creation Ministries International, 2006), 171; Sarfati, *Genesis*, 190; and Danny Faulkner, “Global Catastrophes—Anywhere but Earth,” *Answers* 13, no. 4 (July 2018): 36–39.

7. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697).

8. James N. Hanson, “A simple geometrical model for comparing pre-Flood and post-Flood geomorphology,” *Creation Research Society Quarterly* 14, no. 3 (December 1977): 157–168.

elsewhere in Genesis). In contrast, Vail⁹ argues for one cause, claiming that the fountains fell through the windows to cause the rain. Cook,¹⁰ on the other hand, insists the 'rain' of Genesis 7:12 is a third and separate cause from the 'fountains' and 'windows'.

2.1.2 Equation of Phenomena

Of those who identify two physical causes for the Flood, some¹¹ claim the 'fountains' and 'windows' together, generated the forty days and nights of rain (of Gn 7:12). Many others, on the other hand, claim the forty days and nights of rain either fell out of¹² the 'windows of heaven' or are simply to be equated with¹³ the

9. Isaac N. Vail, *The Waters Above the Firmament; or, The Earth's Annular System: The Mosaic Record Scientifically Explained*, 2nd ed. [of *The Story of the Rocks* (1885), acc. to Jan. 1901 'introduction' in the 2nd edition of *Waters Above*] (Philadelphia: Ferris and Leach, 1902), 101, 103 | *The Deluge and its Cause: Being an Explanation of the Annular Theory of the Formation of the Earth, with Special Reference to the Flood and the Legends and Folk Lore of Ancient Races* (Chicago: Suggestion Publishing, 1905), 1st ed., 80–81 | *The Earth's Annular System; Or, The Waters Above the Firmament: The World Record Scientifically Explained*, 4th ed. [of *Waters Above*] (Pasadena, CA: Annular World Co., 1912), 101–103, 105.

10. Melvin A. Cook, *Noah's Flood, Earth Divided and Earthquakes at the Crucifixion* (n.p.; self-published, n.d. [c1995]).

11. Edmond Halley, "Some Considerations about the Cause of the universal Deluge" [read before the Royal Society of London 12 Dec. 1684; withheld from publication by request of the author; published as item VII in *Philosophical Transactions* 33 (January 1, 1723): 118–123]; and Bryan Hughes, Mark Amunrud, and Michael Oard, "The Real Flood" [CRS Conference Abstracts, July 30–August 1, 2015, Dallas, TX], *Creation Research Society Quarterly* 52, no. 1 (Summer 2015): 46–47.

12. George Young and (artist) John Bird, *A Geological Survey of the Yorkshire Coast: Describing the Strata and Fossils Occurring Between the Humber and the Tees, from the German Ocean to the Plain of York* (Whitby, England: George Clark, 1822), 313 | 2nd ed. (1828), 343; Morris, *Biblical Cosmology* (1970), 31–32 | *Remarkable Birth* (1972), 28 | *Genesis Record* (1976), 196 | *The Beginning of the World: A Scientific Study of Genesis 1–11* (Green Forest, AR: Master Books, 1977), 111 | *Might Believe*, 2nd ed. (1978), 88 | *The Biblical Basis for Modern Science* (Grand Rapids: Baker, 1984), 184, 282 | *The Remarkable Record of Job: The Ancient Wisdom, Scientific Accuracy, and Life-Changing Message of an Amazing Book* (Grand Rapids: Baker, 1988), 104 | *The Twilight of Evolution*, 2nd ed. (El Cajon, CA: Institute for Creation Research, 1998), 52; Joseph C. Dillow, "Earth's Pre-Flood Vapor Canopy," unpubl. Th.D. diss. (Dallas: Dallas Theological Seminary, 1978), 69–70 | *The Waters Above: Earth's Pre-Flood Vapor Canopy* (Chicago: Moody Press, 1981), 63–64 | 2nd ed. (1982), 63–64; Hasel, "Issues"; and Faulkner, "Global Catastrophes" (2018).

13. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 57; Ray, *Miscellaneous Discourses* (1692), 66–69, 130 | *Three Discourses* (1713), 73, 163; Whiston, *New Theory* (1696), 188–189; Bugg, *Scriptural Geology*, vol. 1 (1826), 165–166; Young, *Scriptural Geology* (1838), 44; Morris, *Biblical Cosmology* (1970), 31–32 | *Remarkable Birth* (1972), 28 | *Genesis Record* (1976), 196 | *Might Believe*, 2nd ed. (1978), 88 | *Defender's* (1995), 23; Bernard Northrup, "A walk through time: A study in harmonization," in *Proceedings of the First International Conference on Creationism Held August 4–9, 1986, Pittsburgh, Pennsylvania, Volume II: Technical Symposium Sessions and Additional Topics*, eds. Robert E. Walsh, Christopher L. Brooks, and Richard S. Crowell (Pittsburgh, PA: Creation Science

‘windows of heaven’. Some¹⁴ argue that the text requires the existence of a common cause¹⁵ for ‘fountains’ and ‘windows’.

2.1.3 Order

A few creationists believe the mention of both the ‘fountains’ and ‘windows’ in the same verse indicates the relative equivalence of the two phenomena. Robinson¹⁶ suggests they must have occurred simultaneously, and Ray¹⁷ that they must have contributed roughly equal amounts of water. It was a bit more common,¹⁸ however, for creationists to insist that the mention of ‘fountains’ prior to ‘windows’ in Genesis 7:11¹⁹ is significant. But three different types of order were claimed by different researchers: 1) a causal order (the fountains caused the windows) by

Fellowship, 1986), 147–156; Batten et al., *Answers Book* (2006), 171; and Michael J. Oard, and John K. Reed, *How Noah's Flood Shaped Our Earth* (Powder Springs, GA: Creation Book Publishers, 2017), 66, 75.

14. Murray, *Truth*, 1st ed. (1831), 128 | 2nd ed. (1840), 215; Frederick Nolan, *The Analogy of Revelation and Science Established in a Series of Lectures Delivered Before the University of Oxford, in the Year MDCCCXXXIII, on the Foundation of the Late Rev. John Bampton, M. A., Canon of Salisbury* (Oxford, England: Samuel Collingwood, 1833), 236–242; Young, *Scriptural Geology* (1838), 44; and Hamilton Duncan, “Volcanism, ‘Fountains of the great deep,’ and forty days of rain,” *Creation Research Society Quarterly* 47, no. 1 (Summer 2010): 9–19.

15. The single cause is identified as God Himself by George Fairholme (*A General View of the Geology of Scripture, in Which the Unerring Truth of the Inspired Narrative of the Early Events of the World is Exhibited, and Distinctly Proved, by the Corroborative Testimony of Physical Facts* [London: J. Ridgeway, 1833], 145–146, 166) and Joseph Holdsworth (*Geology, Minerals, Mines, and Soils of Ireland, in Reference to Amelioration and Industrial Prosperity of the Country* [London: Houlston & Wright, 1857], 149); ‘apparently’ God by Young (*Scriptural Geology* [1838], 44); ‘probably’ God by William Rhind (*The Age of the Earth Considered Geologically and Historically* [Edinburgh: Fraser & Co., 1838], 101–102); a moisture-dense antediluvian atmosphere by Murray (*Truth*, 1st ed. [1831], 128–130 | 2nd ed. [1840], 215–217); and volcanoes by Nolan (*Analogy* [1833], 236–242).

16. Steven J. Robinson, “Was the Flood initiated by catastrophic plate tectonics?” *Origins* (BCS) 21 (July 1996): 9–16.

17. Ray, *Miscellaneous Discourses* (1692), 67–68 | *Three Discourses* (1713), 73–74.

18. John C. Whitcomb, Jr. and Henry M. Morris, *The Genesis Flood: The Biblical Record and its Scientific Implications* (Phillipsburg, NJ: Presbyterian and Reformed, 1961), 9; Morris, *Genesis Record* (1976), 196; Brown, *In the Beginning*, 5th ed. (1989), 185 | 8th ed. (2008), 356; Ham, Snelling and Wieland, *Answers Book* (1990), 117; Ham and Lovett, “Was there Really” (2009); Roy, “Fountains” (1996); Batten et al., *Answers Book* (2006), 171; maybe according to Andrew A. Snelling, *Earth's Catastrophic Past: Geology, Creation, & the Flood*, vol. 1, (Dallas: Institute for Creation Research, 2009), 277; Duncan, “Volcanism” [paper] (2010); Beatta Smith, *Breaking the Ice Age Myth* (Enumclaw, WA: Pleasant Word, 2010), 69; Hughes, Amunrud and Oard, “Real Flood” (2015); Sarfati, *Genesis* (2015), 190; and Oard and Reed, *Noah's Flood* (2017), 71, 75.

19. The same order which is found in Gn 8:2, as pointed out by Brown (*In the Beginning*, 5th ed. [1989], 185, n. 5 | 8th ed. [2008], 356, n. 7, 363) and Duncan (“Volcanism” [paper] [2010]), as well as in Ps 104:7, as pointed out by Bugg (*Scriptural Geology*, vol. 1 [1826], 128).

Duncan, and later by Hughes, Amunrud and Oard²⁰; 2) an order of relative importance (fountains was a more significant water source) by Ham, Snelling and Wieland, and later by Roy²¹; and 3) a time order (fountains came before the windows) by others.²²

2.1.4 Unusual Phenomena

Almost universally,²³ creationists recognize that it is difficult to explain how the Flood occurred if the earth at the time of Noah was very much like the earth is today. It has long been recognized that 1) sea level does not change with rain that is derived from evaporation²⁴ nor with water that is somehow thrown out of the ocean²⁵ or out of continental aquifers,²⁶ 2) there is too little water in the atmosphere to substantially raise sea level²⁷ or even to create forty days and nights of

20. Duncan ("Volcanism" [paper] [2010]) and Hughes, Amunrud and Oard ("Real Flood" [2015]). Duncan argued for the fountains causing the windows, which in turn caused the rain. Hughes, Amunrud and Oard argued for the fountains and windows together caused the rain. Morris (*Genesis Record* [1976], 196) and Brown (*In the Beginning*, 5th ed. [1989], 185, n. 5 | 8th ed. [2008], 356, n. 7, 363) argued the time order suggested the 'fountains' caused the 'windows'.

21. Ham, Snelling and Wieland, *Answers Book* (1990), 117; and Roy, "Fountains" (1996). More particularly, these authors argued that the 'fountains' contributed more flood water than the 'windows'.

22. Whitcomb and Morris, *Genesis Flood* (1961), 9; Morris, *Genesis Record* (1976), 196; Brown, *In the Beginning*, 5th ed. (1989), 185, n. 5 | 8th ed. (2008), 356, n. 7, 363; Duncan, "Volcanism" [paper] (2010); Smith, *Breaking* (2010), 69; Sarfati, *Genesis* (2015), 190; and Oard and Reed, *Noah's Flood* (2017), 71, 75. Sarfati went so far as to say that Flood models were to be rejected that did not have 'fountains' before 'windows'.

23. Rehwinkel (*The Flood* [1951]) seems to be quite alone (among those who take a global flood seriously) to argue that a global flood can be explained by only slight modifications on present earth conditions (like a much moister atmosphere).

24. Whiston, *New Theory* (1696), 188, 191; and Andrew Ure, *A New System of Geology, in Which the Great Revolutions of the Earth and Animated Nature, are Reconciled at Once to Modern Science and Sacred History* (London: Longman, Rees, Orme, Brown, & Green, 1829), 476–477.

25. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 10–11; Ray, *Miscellaneous Discourses* (1692), 95–98 | *Three Discourses* (1713), 74–75, 163; and Whiston, *New Theory* (1696), 188–189.

26. Burnet, *ibid.*

27. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 9–10; Whiston, *New Theory* (1696), 188; Ure, *Geology* (1829), 475–476; Fairholme, *Physical Demonstrations*, 1st ed. (1837), 342, n. | 2nd ed. (1840), 342, n.; Rhind, *Age of the Earth* (1838), 99–100; Stephen A. Hodgman, *Moses and the Philosophers; Or, Plain Facts in Plain Words* [volume 1 of 3 volumes of Moses and the Philosophers] (Philadelphia: Ferguson Bros., 1881), 106; Vail, *Waters Above*, 2nd ed. (1902), 104 | 4th ed. (1912), 104; Donald W. Patten, *The Biblical Flood and the Ice Epoch: A Study in Scientific Prehistory* (Seattle: Pacific Meridian, 1966), 62–63; John C. Whitcomb, Jr. *The World that Perished: Biblical and Scientific Evidence for the Genesis Flood as a Global Catastrophe* (Grand Rapids: Baker, 1973), 34 | 2nd ed. (1988), 36; Dillow, "Vapor Canopy" (1978), 69 | *Waters Above*, 1st ed. (1981), 63 | 2nd ed. (1982), 63; Ham, Snelling and Wieland, *Answers Book* (1990), 120; Snelling, *Catastrophic Past* (2009), 471; Duncan, "Volcanism" [paper] (2010); and Philip G. Budd, *Earth in Cataclysm* (n.p.: self-published, 2014), 9.

torrential, global rain,²⁸ 3) even forty days and nights of torrential, global rain will not substantially raise sea level,²⁹ 4) there is insufficient water in continental aquifers to raise sea level enough to cover mountains,³⁰ and 5) there is not enough water in the oceans to cover present mountains.³¹ For some, this simply means that God directly created the water necessary for the Flood,³² but for the many creationists who believe Genesis 7:11 lists the physical causes of the Flood, this explanation is unacceptable.³³ Such creationists are forced to find imaginative ways to have the ‘fountains’ and ‘windows’ cause the Flood. Some argue that God supernaturally sustained the ‘fountains’ and/or ‘windows’.³⁴ Others argue for global catastrophe (and covering mountains) without raising average sea level.³⁵

28. Whiston, *New Theory* (1696), 188; Dudley J. Whitney, *The Case for Creation* [in 5 Parts:] *Part One: How Did the Earth Originate?: The Nature and History of Creation*; *Part Two: How Did is the Earth?: The Time Problem in Relation to Creation and Evolution*; *Part Three: The Noachian Deluge: Key to Earth’s History*; *Part Four: The Animals and the Ark: Or, the Problem of Life*; *Part Five: The Cause of the Deluge and Related Problems: Natural Processes in the Earth’s History* (Malverne, NY: Creation Evidence League, 1946), 5.17; Marsh, *Studies* (1950), 326; Whitcomb, *World*, 1st ed. (1973), 34 | 2nd ed. (1988), 36; R. L. Wysong, *The Creation-Evolution Controversy (Implications, Methodology and Survey of Evidence): Toward a Rational Solution* (Midland, MI: Inquiry, 1976), 388; Dillow, “Vapor Canopy” (1978), 69–71 | *Waters Above*, 1st ed. (1981), 63–65 | 2nd ed. (1982), 63–65; Dennis G. Lindsay, *The Original Star Wars and the Age of Ice*, Creation Science Series, vol. 6 (Dallas: Christ for the Nations, 1992), 325; Henry Morris, *Biblical Creationism: What Each Book of the Bible Teaches about Creation and the Flood* (Grand Rapids: Baker, 1993), 37; Snelling, *Catastrophic Past* (2009), 471; and Duncan, “Volcanism” [paper] (2010).

29. Vossius, in the 17th century (according to P. Cockburn, *An Enquiry* [1750]), 264; Halley, “Considerations” (1694); and Lindsay, *Star Wars* (1992), 328.

30. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 10.

31. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 9, 55; and Bugg, *Scriptural Geology*, vol. 1 (1826), 168 | vol. 2 (1827), 60.

32. E.g., according to Ray (*Miscellaneous Discourses* [1692], 62–66 | *Three Discourses* [1713], 69), Kirchner (1675) argued that God created (and later destroyed) the water for the Flood.

33. E.g., Burnet (*Telluris Theoria Sacra* [1681]; *Theory of the Earth* [1697], 12–13) and Ray (*Miscellaneous Discourses* [1692], 66; *Three Discourses* [1713], 70–73) both argued that since physical causes were listed in Gn 7:11, God must have somehow brought about the Flood by means of physical causes.

34. William Cockburn (*The Bible Defended Against the British Association: Being the Substance of a Paper Read in the Geological Section, at York, on the 27th of September, 1844*, 5th ed. [London: Whittaker, 1845]) argued that God supernaturally sustained the 40 days and 40 nights of rain. Penn (*Estimate*, 1st ed. [1822], 264–267; 2nd ed. [1825], 27–30, 330; *Remarks* [1826], 33–37), after arguing that no known natural cause could explain the Flood, claimed that God somehow sustained the ‘fountains’ and ‘windows’ throughout the duration of the Flood.

35. 1) To explain how the atmosphere could sustain 40 days and nights of rain, Whitney (*Case* [1946], 5.17) suggested non-uniform precipitation rates. To explain water running over the top of mountains without having to raise sea level that high, 2) Thomas Rodd (*A Defence of the Veracity of Moses, in his Records of the Creation and General Deluge; Illustrated by Observations in the Caverns of the Peak of Derby: by Philobiblos* [London: T. Rodd, 1820], 62–63, 76), William B. Galloway (*Science and Geology in Relation to the Universal Deluge* [London: Sampson Low, Marston, Searle, &

Another group of creationists argue that a water source other than that generated by normal processes of evaporation and condensation must be sought for the 'windows of heaven'.³⁶ Some argue that the biblical text indicates that the source of water is the 'waters above the heavens' of Genesis 1:6–8.³⁷ Some argue that such a celestial ocean above the atmosphere is the best way to explain 40 days and nights of torrential rain.³⁸ Still others argue that the intense rain is from water returning to the earth's surface after first being propelled up into the atmosphere—Snelling by means of rapidly vaporized water at spreading centers and Duncan by degassing volcanics.³⁹

Yet another group of creationists argue that there actually is enough water on the present earth to cover the mountains. Ray⁴⁰ suggests that God may have pressed down on the ocean surface, thus forcing water to flow through subterranean caverns to flood the land. He reasons that if God didn't allow the water back into the oceans until after the Flood, there was enough water in the antediluvian oceans to overflow the mountains. Cockburn, and later Bugg, reasoned that there must be enough water in the oceans to cover the mountains because Psalm 104:6–7 tells us that the present mountains were covered by water just previous to the

Rivington, 1888]; *The Testimony of Science to the Deluge* [London: Thynne & Jarvis, n.d. (c1896), 91], and George M. Price (*Some Scientific Stories and Allegories* [Grand Rapids: Zondervan, 1936], 60–61) argued that mountain-covering tsunamis sloshed water out of the oceans (caused by a crustal-collapse-caused change in the earth's moment of inertia for Rodd, a sudden change in axial tilt for Galloway, and an astral-visitor-induced rotational wobble for Price), 3) Halley ("Considerations" [1694]), Patten (*Biblical Flood* [1966], 62–63) and David C. C. Watson (*Myths and Miracles: A New Approach to Genesis 1–11*, 2nd ed. [Acacia Ridge D.C., Queensland: Creation Science Foundation, 1991], 59–60) argued for mountain-covering tides (caused by a comet's gravity for Halley and the gravity of an unknown astral visitor for Price).

36. Whiston, *New Theory* (1696), 188, 242; Whitcomb, *World*, 1st ed. (1973), 34 | 2nd ed. (1988), 36; Dillow, "Vapor Canopy" (1978), 69 | *Waters Above*, 1st ed. (1981), 63 | 2nd ed. (1982), 63; Ham, Snelling and Wieland, *Answers Book* (1990), 120; Snelling, *Catastrophic Past* (2009), 471; and Duncan, "Volcanism" [paper] (2010).

37. Whiston, *New Theory* (1696), 188–189; Whitcomb, *World*, 1st ed. (1973), 34 | 2nd ed. (1988), 36; Dillow, "Vapor Canopy" (1978), 69 | *Waters Above*, 1st ed. (1981), 63 | 2nd ed. (1982), 63; and Ham, Snelling and Wieland, *Answers Book* (1990), 120. Burnet (*Telluris Theoria Sacra* [1681]; *Theory of the Earth* [1697], 11), however, could not see how enough water could be held above the atmosphere, nor where all that water was on the present planet.

38. Donald W. Patten, "The pre-flood greenhouse effect (the antediluvian canopy)," in *A Symposium on Creation II* (Grand Rapids: Baker, 1970); Whitcomb, *World*, 1st ed. (1973), 34 | 2nd ed. (1988), 36; Wysong, *Controversy* (1976); Dillow, "Vapor Canopy" (1978), 69–71, 152 | *Waters Above*, 1st ed. (1981), 63–65, 136 | 2nd ed. (1982), 63–65, 136; Lindsay, *Genesis Flood* (1992), 325; and Morris, *Biblical Creationism* (1993), 37. Note, Wysong believes it was in the form of a water canopy whereas Dillow argues for a vapor canopy.

39. Snelling, *Catastrophic Past* (2009), 471; and Duncan, "Volcanism" [paper] (2010).

40. Ray, *Three Discourses* (1713), 73.

appearance of dry land on the Third Day of Creation.⁴¹ Burnet⁴² argues that there were no mountains on the antediluvian earth to cover. The remaining creationists who believe there is enough water on the present earth⁴³ argue that some combination of raising of the ocean floors and lowering of the continents would result in global inundation.

2.2 Fountains

2.2.1 When the Fountains Existed

Genesis 7:11 and 8:2 state unequivocally that the ‘fountains of the (great) deep’ were active in the earliest days of the Flood. However, creationists are not in full agreement on whether or not the ‘fountains’ were also active before the Flood—even at a much more reduced level of activity (or even in a different form). Either directly stated or implied from their physical models, many creationists⁴⁴ believe

41. P. Cockburn, *An Enquiry* (1750), 257–260, 267–271; and Bugg, *Scriptural Geology*, vol. 1 (1826), 128 | vol. 2 (1827), 59, 68.

42. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 45–47.

43. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 45–47; Fairholme, *Geology of Scripture* (1833), 143–145, 148, 154 | *Physical Demonstrations*, 1st ed. (1837), 342, n. | 2nd ed. (1840), 342, n.; Young, *Appendix to Scriptural Geology; Or, An Essay on the High Antiquity Ascribed to the Organic Remains Imbedded in Stratified Rocks; Communicated, in Abstract, to the Geological Section of the British Association, at the Annual Meeting Held in Newcastle: Containing Strictures on Some Passages in Dr. J. Pye Smith’s Lectures Entitled Scripture and Geology; Particularly his Theory of a Local Creation, and Local Deluge* (London: Simpkin, Marshall, and Co., 1840), 15; William E. Tayler, *Geology: Its Facts and Fictions; Or, The Modern Theories of Geologists Contrasted with the Ancient Records of the Creation and the Deluge* (London: Houlston & Stoneman, 1855), 153–155; Hodgman, *Moses* (1881), 106; Wyson, *Controversy* (1976), 388; Morris, *Might Believe*, 2nd ed. (1978), 88 | *Defender’s* (1995), 23; Max J. Hunter, “Is the pre-Flood/Flood Boundary in the Earth’s Mantle?” *CEN Technical Journal* 10, no. 3 (December 1996): 344–357; and Carl Wieland, ed., “Mountains and the Flood,” *Creation Ex Nihilo* 22, no. 2 (March–May 2000): 21.

44. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 9–13, 44–61; Halley, “Considerations” (1694); apparently Whiston, *New Theory* (1696), 303–307; apparently John Wesley, *A Survey of the Wisdom of God in the Creation: Or, A Compendium of Natural Philosophy*, [4th or later edition], 5 vols, London: Maxwell & Wilson and Williams & Smith, 1809), 29, adopting Whiston’s theory; apparently Thomas Gisborne, *The Testimony of Natural Theology to Christianity* (London: T. Cadell and W. Davies, 1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations on Modern Theories of Geology; and their Consistency or Inconsistency with the Scriptures* (London: T. Cadell, 1837), 56; apparently Rodd, *Defence* (1820), 62–63, 75, 77; Young, *Survey*, 1st ed. (1822), 312–313 | 2nd ed. (1828), 344 | *Scriptural Geology* (1838), 44–46 | *Appendix* (1840), 15; Bugg, *Scriptural Geology*, vol. 2 (1827), 60, 80–81; William Cockburn, *A Letter to Professor Buckland, Concerning the Origin of the World* (London: Hatchard and Son, 1838) | *Bible Defended* (1845) | *A New System of Geology* (London: Henry Colburn, 1849), 3, 50, 56, 61; Hodgman, *Moses* (1881), 97, 106; Byron C. Nelson, *The Deluge Story in Stone: A History of the Flood Theory of Geology* (Minneapolis: Augsburg, 1931), 1, 26; C. Theodore Schwarze, *The Harmony of Science and the Bible* (Grand Rapids: Zondervan, 1942), 71–72; | 2nd ed. (1942), 71–72 | 3rd ed. (1942) | *The Marvel of Earth’s Canopies: A Fascinating Book*

that the 'fountains' existed only during the Flood. A few others⁴⁵ believe that the 'fountains' did exist prior to the Flood, but in a completely different form (not just

on the Harmony of True Science and the Bible [published posthumously; condensed from a MS prepared by Schwarze before his death, according to the Forward] (Chicago: Good News, 1957), 14–15, 24, 33–35, 42–43; apparently Whitney, *Case* (1946), 5:11, 17–18; Patten, *Biblical Flood* (1966), 93–94 | "The Noachian flood and mountain uplifts," in *A Symposium on Creation* (Grand Rapids: Baker, 1968), 93–115; Hanson, "Simple Model" (1977); Brown, *In the Beginning*, 5th ed. (1989), 184–185 | 8th ed. (2008), 110, 118–122, 239–240, 354–355, 373; Douglas E. Cox, "Scripture and Geologic Discovery, in *Proceedings of the 1992 Twin-Cities Creation Conference* (Minneapolis-St. Paul: The Twin-Cities Creation-Science Association & Northwestern College & The Genesis Institute & The Creation Health Foundation, 1992), 53–56; Steven A. Austin, et al., "Catastrophic plate tectonics: A global flood model of earth history," in *Proceedings of the Third International Conference on Creationism Held July 18–23, 1994, Pittsburgh, Pennsylvania, USA: Technical Symposium Sessions*, ed. Robert E. Walsh (Pittsburgh: Creation Science Fellowship, 1994), 609–621; Andrew A. Snelling, "Plate tectonics: Have the continents really moved apart?" *CEN Technical Journal* 9, no. 1 (April 1995): 12–20 | "Can catastrophic plate tectonics explain Flood geology?" in *The New Answers Book 1: Over 25 Questions on Creation/Evolution and the Bible*, ed. Ken Ham (Green Forest, AR: Master Books, 2006), 186–197 | "Did meteors trigger Noah's Flood?" *Answers Magazine* 7, no. 1 (January 2012): 68–71; Kurt Wise, "A look at a global flood model of earth history: Catastrophic plate tectonics," in *Genesis Part 2: The Fall, the Flood, and the Nations* [Precept Upon Precept Bible Study Course], eds. Kay Arthur, Sheila Richardson, and Kurt P. Wise (Chattanooga, TN: Precept Ministries, 1999), 247–254 | *Faith, Form, and Time: What the Bible Teaches and Science Confirms about Creation and the Age of the Universe* (Nashville: Broadman & Holman, 2002), 189–190 | *Something from Nothing: Understanding what You Believe About Creation and Why* (Nashville: Broadman & Holman, 2004), 150–152; Jonathan D. Sarfati, *Refuting Compromise: A Biblical and Scientific Refutation of 'Progressive Creationism' (Billions of Years), as Popularized by Astronomer Hugh Ross* (Green Forest, AR: Master Books, 2004), 260–261 | *Genesis* (2015), 531–533; RoseAnn Salanitri, *GUTs All Tied Up with Strings: The Key to Understanding the Creation of the Universe* (Mustang, OK: Tate Publishing, 2005), 168–169; Paul Garner, *The New Creationism: Building Scientific Theories on a Biblical Foundation* (Welwyn Garden City, UK: EP Books, 2009), 189; Duncan, "Volcanism" [abstract] (2010); John T. Anderson, *In the Beginning: Everything I Needed to Know I Learned in Genesis* (n.p.: self-published, 2015), 63; and Marcus Ross et al., *The Heavens & the Earth: Excursions in Earth and Space Science*, 2nd ed. (Dubuque: Kendall Hunt, 2015), 108.

45. John Hutchinson, *Moses's Principia: Of the Invisible Parts of Matter; Of Motion; Of Visible Forms, and of their Dissolution, and Reformation, with Notes* [probably reprinted without alteration] in *The Philosophical and Theological Works of the Late Truly Learned John Hutchinson, Esq.*, Robert Spearman and Julius Bate, eds., Volume I: Preface [and] *Moses's Principia, Part I* (London: James Hodges, 1724) [quotes and page numbers in this article are from the 1748 reprint], 68–69 (remnant drains from the Creation Week that became nozzles for waterspouts during the Flood); Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91 (some were antediluvian springs, but the remainder were colliding ocean tsunamis); Vail, *Alaska, Land of the Nugget: Why?: A Critical Examination of Geological and other Testimony, Showing how and why Gold was Deposited in Polar Lands* (Pasadena, CA: G. A. Swerdfiger, 1897), 2, 14, 16–17, 19 | *Waters Above*, 2nd ed. (1902), 101–105 | *Deluge*, 1st ed. (1905), 16–19, 22–23, 25, 30 | *Waters Above*, 4th ed. (1912), 101–105; and Howard W. Kellogg, *The Canopied Earth: A Study of the World that Then was, the Heavens that Now are, the New Heavens and the New Earth* (Los Angeles: Research Science Bureau, n.d. [c1945]), 9, following Vail's theory (a canopy before the Flood and an ice dump during the Flood).

at lower levels of activity). Many others⁴⁶ believe that the activity of ‘fountains’ before the Flood was catastrophically enhanced at the beginning of the Flood. Northrup uses Job 38:4–9, Ham, Snelling and Wieland uses Revelation 14:7, and

46. Apparently Nicolaus Steno [Nicolai Stenonis], *De Solido intra Solidum Naturaliter Contento Dissertationis Prodomus* (Florence, 1669). [John G. Winter, trans. *The Prodomus of Nicolaus Steno’s Dissertation Concerning a Solid Body Enclosed by Process of Nature within a Solid*. University of Michigan Studies Humanistic Series, Vol. 11: Contributions to the History of Science, Part II: The *Prodomus* of Nicolaus Steno...] (New York: Macmillan, 1916), 205–277, 72–73; Ray, *Miscellaneous Discourses* (1692) | *Three Discourses* (1713), 72–73, 84, 117–120; Hutchinson, *Principia* (1724), 71; P. Cockburn, *An Enquiry* (1750), 294–295, 309–310; Alexander Catcott, *A Treatise on the Deluge. Containing 1. Remarks on the Lord Bishop of Clogher’s Account of that Event. II. A Full Explanation of the Scripture History of it. III. A Collection of all the Principal Heathen Account. IV. Natural Proofs of the Deluge, Deduced from a Great Variety of Circumstances, on and in the Terraqueous Globe. And Under the Foregoing General Articles, the Following Particulars will be Occasionally Discussed and Proved, viz. The Time when, and the Manner how America was First Peopled.—The Mosaic Account of the Deluge Written by Inspiration.—The Certainty of an Abyss of Water within the Earth.—The Reality of an Inner Globe or Central Nucleus.—The Cause of the Subterranean Vapour and of Earthquakes.—The Origin of Springs, Lakes, &c.—The Formation of Mountains, Hills; Dales, Vallies, &c.—The Means by Which the Bed of the Ocean was Formed.—The cause of Caverns or Natural Grottos; with a Description of the most Remarkable, Especially those in England,—Also an Explication of Several Less Phaenomena in Nature* (London: M. Withers, 1761), 7–8, 37–38, 42–43, 50, 54; Penn, *Estimate*, 2nd ed. (1825), 31–33 | *Conversations on Geology; Comprising a Familiar Explanation of the Huttonian and Wernerian Systems; The Mosaic Geology as Explained by Mr. Granville, Penn; and the Late Discoveries of Professor Buckland, Humboldt, Dr. Macculloch, and Others* (London: Samuel Mauder, 1828), 312–313; Morris, *Modern Science*, 2nd ed. (1956), 77 | 3rd ed. (1968), 77 | *Biblical Cosmology* (1970), 32 | *Remarkable Birth* (1972), 29 | *Scientific Creationism* | 1st ed. (1974), 211 | *Genesis Record* (1976), 194 | *Might Believe*, 2nd ed. (1978), 90 | *The Revelation Record: A Scientific and Devotional Commentary on the Book of Revelation* (Wheaton: Tyndale and San Diego: Creation-Life, 1983), 166, 266 | *Scientific Creationism*, 2nd ed. (1985), 211 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 23–24, 37 | *Defender’s* (1995), 5, 23 | *Twilight*, 2nd ed. (1998), 52; Whitcomb and Morris, *Genesis Flood* (1961), 77–78; Gerhard Hasel, “The fountains of the Great Deep,” *Origins* (GRI) 1, no. 2 (June 1974): 67–72; Everett H. Peterson, “How the Flood Altered the Earth,” *Creation Research Society Quarterly* 18, no. 2 (September 1981): 118–126; Douglas B. Sharp, *The Revolution Against Evolution* (Lansing: Mount Hope International Outreach Center, 1986), 32; Ham, Snelling and Wieland, *Answers Book* (1990), 117; Ham and Dinsmore, *Bible Facts* (1997), 23; Ham and Lovett, “Was there Really?” (2009); Lindsay, *Canopied Earth* (1991), 21; Max J. Hunter, “Archaean rock strata: Flood deposits – the first 40 days,” in *Proceedings of the 1992 Twin-Cities Creation Conference* (Minneapolis: The Twin-Cities Creation-Science Association & Northwestern College & The Genesis Institute & The Creation Health Foundation, 1992), 153–161 | “Is the pre-Flood/Flood Boundary in the Earth’s Mantle?” *CEN Technical Journal* 10, no. 3 (December 1996): 344–357 | “The pre-Flood/Flood boundary at the base of the earth’s transition zone,” *CEN Technical Journal* 14, no. 1 (April 2000): 60–74; Steven J. Robinson, “Can Flood geology explain the fossil record?” *CEN Technical Journal* 10, no. 1 (April 1996): 32–69 | “Plate Tectonics” (1996) | “The Flood in Genesis: What does the text tell geologists?” in *Proceedings of the Fourth International Conference on Creationism Held August 3 – 8, 1998, Pittsburgh, Pennsylvania: Technical Symposium Sessions*, ed. Robert E. Walsh (Pittsburgh: Creation Science Fellowship, 1998), 465–474; Roy, “Fountains” (1996); Fouts and Wise, “Blotting out and breaking up: Miscellaneous Hebrew studies in geocatastrophism,” in *Proceedings*

Robinson uses Proverbs 8:28, to argue that the fountains of the (great) deep were created in the Creation Week.⁴⁷ Northrup⁴⁸ even claims that Job 38:4–9 indicates that the 'fountains of the deep' were the source of the *tʰôm* (translated "deep" in the KJV) of Genesis 1:2. Several creationists⁴⁹ maintain that the *'ēd* ("mist" [KJV]) of Genesis 2:5–6 was a spring, and thus an example of a 'fountain' on the antediluvian earth. Scheven and Ham, Snelling and Wieland all argue that the Hebrew word *'ēd* in Genesis 2:5–6 suggests a geyser or spring,⁵⁰ and that a spring is required to explain how the Edenian river could have had enough water in it to divide into four other rivers that, in turn, watered four other land areas. Scheven⁵¹ maintains that the antediluvian 'fountains of the great deep' did for the pre-Flood water cycle what evaporation and rain does in the present (returning ocean water to the heads of rivers).

2.2.2 The Water Source for the Fountains

Creationists express considerable difference of opinion on where the water came from which flowed through the 'fountains' of Genesis 7:11. The primary rationale for this divergence of opinion hinges on how *tʰôm* is used elsewhere in Scripture.⁵²

of the Fourth International Conference on Creationism Held August 3–8, 1998, Pittsburgh, Pennsylvania, USA: Technical Symposium Sessions, ed. Robert E. Walsh (Pittsburgh: Creation Science Fellowship, 1998), 217–228; Barrick and Sigler, "Hebrew and Geological Analysis" (2003); and Snelling, *Catastrophic Past* (2009), 33, 277, 472, 474.

47. Northrup, "Identifying" (1990); and Ham, Snelling and Wieland, *Answers Book* (1990), 118.

48. Northrup, "Identifying" (1990).

49. Peterson, "Flood Altered" (1981); Robinson, "The Flood" (1998) | "The then world with water having been deluged perished," *Origins* (BCS) 29 (November 2000): 15–24; Ham, Snelling and Wieland, *Answers Book* (1990), 117; Joachim D. Scheven, "The geological Record & Biblical Earth History," *Origins* (BCS) 3, no. 8 (January 1990): 8–13; Snelling, *Catastrophic Past* (2009), 276; and Hunter, "Transition Zone" (2000).

50. Ham, Snelling and Wieland, *Answers Book* (1990), 117–118; and Scheven, "Geological Record" (1990). However, Fouts and Wise ("Breaking Up" [1998]) argue that although 'spring' is a possible translation, 'mist' is a better one; [*Editor's note*: Another understanding is that 𐤍 is from a Sumerian loan word *id* 'river'; thus, referring to an underground river.]

51. Scheven, "Geological Record" (1990).

52. 1) Creationists disagree about the frequency of oceanic versus terrestrial uses of *tʰôm*: (1a) Robinson ("Flood Geology" [1996]; "Plate Tectonics" [1996]; "World With Water" [2000]) arguing *tʰôm* most often refers to the continents; and (1b) Fouts and Wise ("Breaking Up" [1998]), William D. Barrick, "Noah's flood and its geological implications," in *Coming to Grips with Genesis: Biblical Authority and the Age of the Earth*, eds. Terry Mortenson and Thane H. Ury (Green Forest, AR: Master Books, 2008), 251–281), and Batten et al. (*Answers Book* [2006]), claiming *tʰôm* most often refers to the ocean. 2) Creationists differ on how *tʰôm* is used in different verses: (2a) everyone seems to agree with a terrestrial interpretation for some verses, such as Gn 49:24 (Dillow, *Waters Above*, 1st ed. [1981], 282 | 2nd ed. [1982], 282; Fouts and Wise, "Breaking Up" [1998]; Robinson, "World With Water" [2000]), Dt 8:7 (Northrup, "A Walk" [1986]; Roy, "Fountains" [1996]; Fouts and Wise, "Breaking

A Celestial Ocean. Whitcomb and Morris and Northrup argue⁵³ that because the ‘waters above’ were originally part of the *t³hôm* of Genesis 1:2, at least some of the water for the fountains of the *t³hôm* in Genesis 7:11 must have come from this celestial ocean. A few creationists⁵⁴ even claim that this celestial ocean was the main water source for the ‘fountains’ of the Flood.

The Earth’s Surface Oceans. Some of the uses of *t³hôm* in Scripture seem to refer to waters of the ocean. Apparently it is for this reason that many creationists⁵⁵ maintain that the earth’s oceans contributed at least some sort of

Up” [1998]; Robinson, “The Flood” [1998] | “World With Water” [2000]), Dt 33:13 (Cattcott, *On the Deluge* [1761], 42, n.; Northrup, “A Walk” [1986]; Fouts and Wise, “Breaking Up” [1998]; Robinson, “World With Water” [2000]), Ps 42:8[7] (Fouts and Wise, “Breaking Up” [1998]; Robinson, “World With Water” [2000]), Ez 31:3–4 (Cattcott, *On the Deluge* [1761], 42, n.; Roy, “Fountains” [1996]; Fouts and Wise, “Breaking Up” [1998]; Robinson, “The Flood” [1998] | “World With Water” [2000]; Batten et al., *Answers Book* [2006], 172; Ham and Lovett, “Was there Really” [2009]), and Ez 31:15 (Fouts and Wise, “Breaking Up” [1998]; Robinson, “World With Water” [2000]); and 2b) particular verses are interpreted differently by different creationists, such as Ps 36:7[6] (Fouts and Wise, “Breaking Up” [1998]: ocean; Barrick, “Noah’s Flood” [2008]: ocean; and Batten et al., *Answers Book* [2006], 172: ocean and terrestrial); Ps 71:20 (Fouts and Wise, “Breaking Up” [1998]: uncertain; Robinson, “World With Water” [2000]: terrestrial); Ps 78:15 (Fouts and Wise, “Breaking Up” [1998]: both; Robinson, “World With Water” [2000]: terrestrial; Barrick, “Noah’s Flood” [2008]: ocean); Pr 3:20 (Fouts and Wise, “Breaking Up” [1998]: ocean; Robinson, “The Flood” [1998] | “World With Water” [2000]: terrestrial); Is 44:27 (Fouts and Wise, “Breaking Up” [1998]: ocean; Robinson, “The Flood” [1998] | “World With Water” [2000]: terrestrial); Am 7:4 (Fouts and Wise, “Breaking Up” [1998]: both; Robinson, “World With Water” [2000]: terrestrial; Barrick, “Noah’s Flood” [2008] and Batten et al., *Answers Book* [2006], 172: ocean); Hb 3:10 (Fouts and Wise, “Breaking Up” [1998]: uncertain; Robinson, “World With Water” [2000]: terrestrial); and Rv 14:7 (Ham, Snelling and Wieland, *Answers Book* (1990), 118 and Robinson, “Flood Geology” [1996]: terrestrial; Fouts and Wise, “Breaking Up” [1998]: unclear). 3) In a very different kind of argument, Penn (*Estimate*, 2nd ed. [1825], 32) and Robinson (“World With Water” [2000]) claim there is an association of *t³hôm* with a bottomless abyss’ (Robinson points out that the LXX translates *t³hôm* with *abussos*, demanding a subcontinental water source for ‘fountains’).

53. Whitcomb and Morris, *Genesis Flood* (1961), 9, 242; and Northrup, “Identifying” (1990).

54. Halley, “Considerations” (1694); Vail, *Alaska* (1897), 2, 14, 16–17, 19 | *Waters Above*, 2nd ed. (1902), 101–106 | *Deluge*, 1st ed. (1905), 8, 65, 67, 77 | *Waters Above*, 4th ed. (1912), 101–106; Schwarze, *Harmony*, 1st ed. (1942), 71–72 | 2nd ed. (1942), 71–72 | *Marvel* (1957), 14–15, 24, 33–35, 42–43; and Kellogg, *Canopied Earth* (1945), 9, 11.

55. Gisborne, *Testimony*, 1st ed. (1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations* (1837), 56; Penn, *Estimate*, 1st ed. (1822), 262 | 2nd ed. (1825), 24–25, 330–331 | *Conversations* (1828), 313; Young, *Survey*, 1st ed. (1822), 312–313 | *Scriptural Geology* (1838), 44–45; W. Cockburn, *Letter* (1838) | *Bible Defended* (1845) | *New System* (1849), 3, 50, 56, 61; Tayler, *Geology* (1855), 157; Hodgman, *Moses* (1881), 97, 106; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; George M. Price, *Back to the Bible; Or, The New Protestantism* (Washington, DC: Review and Herald, 1916), 207 | 2nd ed. (1920), 227 | “Mistaken foundations of Darwinism: How evolution was built on a sequence of ‘scientific’ blunders,” *Signs of the Times* 76, no. 29 (August 2, 1949): 10–11, 14–15; Nelson, *Deluge Story* (1931), 1, 26; Kellogg, *Canopied Earth* (1945), 17; Morris, *Might Believe*, 1st ed. (1946), 75–76 | 2nd ed. (1956), 79 | *Twilight* 1st ed. (1963), 69 | *Modern Science* 3rd ed. (1968), 78 | *Might*

water to the 'fountains of the (great) deep'. Of those, a number of them⁵⁶ (explicitly or implicitly) suggest that oceans supplied the only water for the 'fountains'.⁵⁷ The few that explain why they thought subterranean waters were not involved usually base the argument on the use of *t'hôm* ('deep') elsewhere in

Believe 2nd ed. (1978), 91; Reu E. Hoen, *The Creator and His Workshop* (Mountain View, CA: Pacific Press, 1951); Rehwinkel, *The Flood* (1951), 100, 122; Whitcomb and Morris, *Genesis Flood* (1961), 9, 242; Patten, *Biblical Flood* (1966), 62 ('seemingly'); Hasel, "Fountains" (1974) ('possibly'); Hanson, "Simple Model" (1977); Dillow, "Vapor Canopy" (1978), 78; Coffin and Brown, *Origin* (1983), 23; Harold G. Coffin, Harold G., Robert H. Brown, and L. James Gibson, *Origin by Design*, 2nd ed. (Hagerstown: Review and Herald, 2005), 38; Northrup, "A Walk" (1986); Austin et al., "Catastrophic Plate Tectonics" (1994); Snelling, "Continents Really Moved" (1995) | "Explain Flood Geology" (2006) | *Catastrophic Past* (2009), 31, 33, 275–277, 474, 694, 697–698 | "Meteors" (2012) | "Geological Issues" (2014), 96 | "Geophysical issues: Understanding the origin of the continents, their rock layers and mountains," in *Grappling with the Chronology of the Genesis Flood: Navigating the Flow of Time in Biblical Narrative*, eds. Steven W. Boyd and Andrew A. Snelling (Green Forest, AR: Master Books, 2015), 111–143; Roy, "Fountains" (1996); Norm Sharbaugh, *Ammunition for Piercing the Armor of the Philosophy of Evolution*, 2nd ed. (Brownsburg, IN: Norm Sharbaugh Ministries, 1997), 104; Wise, "A Look" (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Kay Arthur and Janna Arndt, *Discover for Yourself Inductive Bible Studies for Kids: Digging Up the Past, Genesis 3–11* (Eugene, OR: Harvest House, 2001), 123; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 524, 531–533; Garner, *New Creationism* (2009), 189; and Ross et al., *Excursions* (2015), 108.

56. Gisborne, *Testimony*, 1st ed. (1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations* (1837), 56; Penn, *Estimate*, 1st ed. (1822), 262 | 2nd ed. (1825), 24–25, 31–33, 330–331 | *Conversations* (1828), 312–313; W. Cockburn, *Letter* (1838) | *Bible Defended* (1845); *New System* (1849), 3, 50, 56, 61; Hodgman, *Moses* (1881), 97, 106; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Price, *Back* (1916), 207 | 2nd ed. (1920), 227 | "Mistaken" (1949); Nelson, *Deluge Story* (1931), 1, 26; apparently Kellogg, *Canopied Earth* (1945), 17; Rehwinkel, *The Flood* (1951), 100, 122; Patten, *Biblical Flood* (1966), 62–63 | "Noachian Flood" (1968); Hanson, "Simple Model" (1977); R. Russell Bixler, "Does the Bible speak of a vapor canopy?" in *Proceedings of the First International Conference on Creationism Held August 4–9, 1986, Pittsburgh, Pennsylvania, Volume 1: Basic and Educational Sessions*, eds. R. R. Bixler, R. S. Crowell, H. A. Jackson III, R. E. Walsh, and C. L. Brooks (Pittsburgh: Creation Science Fellowship, 1986), 19–21; Northrup, "A Walk" (1986); Sharp, *Revolution* (1986), 32; implied in Jacqueline S. Lee, "Hydrothermal vents at deep sea spreading ridges: Modern-day fountains of the deep?" *Creation Research Society Quarterly*, 29, no. 1 (June 1992): 13–18; Roy, "Fountains" (1996); Sharbaugh, *Ammunition* (1997), 104; Arthur and Arndt, *Discover* (2001), 123; Snelling, *Catastrophic Past* (2009), 31, 33, 275–277, 472; and Sarfati, *Genesis* (2015), 524. Halley ("Considerations" [1694]) believed the primary source of oceanic water may have been augmented by ground water. Rodd (*Defence* [1820], 62–63, 75) believed an oceanic source was supplemented by water coming up through the crust.

57. When ocean water was the sole water source for the 'fountains', water was forced out of the ocean basins by 1) a sudden change in the earth's rotation (Halley, "Considerations" [1694]; Rodd, *Defence* [1820], 62–63, 76; W. Cockburn, *Bible Defended* [1845] | *New System* [1849], 3; Galloway, *Science and Geology* [1888], 136–137 | *Testimony* [c1896], 91; Price, *Scientific Stories* [1936], 60–61; Patten, *Biblical Flood* [1966], 62–63, 143–144; and Watson, *Myths* [1991], 59–60), caused in turn, by the earth's interaction with another astral body (according to Halley, Price, and Patten) or the sudden collapse of the crust of the earth to change its moment of inertia (according Rodd, 2) the raising of the ocean floor (Dillow, "Vapor Canopy" [1978], 76 | *Waters Above*, 1st ed. [1981], 71 | 2nd ed. [1982], 71), or 3) the raising of the ocean floor and dropping of continents caused in turn by some sort of

Scripture.⁵⁸ In opposition to this group, a few creationists⁵⁹ have argued against the oceans contributing any water at all to the ‘fountains’ of the Flood.

Aquifers of the Continental Crust. At least some of the uses of *tʰôm* refer to subterranean water sources. It appears to be for this reason that many creationists⁶⁰ argue that at least some of the water for the ‘fountains’ had a ‘subterranean’

expansive force inside the earth (Young, *Scriptural Geology* [1838], 44–46; *Appendix* [1840], 15; and Rhind, *Age of the Earth* [1838], 100).

58. Rehwinkel (*The Flood* [1951], 100, 122), Whitcomb and Morris (*Genesis Flood* [1961], 9), Northrup (“A Walk” [1986]), Arthur and Arndt (*Discover* [2001], 123), and Snelling (*Catastrophic Past* [2009], 31, 33, 275–277, 472) all claim that the ‘fountains of the great *tʰôm* (‘deep’) were all in the oceans because *tʰôm* elsewhere in Scripture refers to oceans. Northrup, Fouts and Wise (“Breaking Up” [1998]), and Ham and Lovett (“Was there Really” [2009]) claim ‘ocean’ is the most common meaning of *tʰôm*. Roy (“Fountains” [1996]) claims all but two occurrences of *tʰôm* refer to the ocean, and Northrup claims every non-metaphorical use of *tʰôm* refers to the ocean. On other hand, Robinson (“Flood Geology” [1996]) is only willing to affirm that *tʰôm* ‘sometimes’ refers to oceans. Verses offered as examples of the oceanic meaning of *tʰôm* are Gn 1:2 (Ray, *Miscellaneous Discourses* [1692], 152 | *Three Discourses* [1713], 8–9; Nelson, *Deluge Story* [1931], 26; and Northrup), Ex 11:5, 8 (Northrup), Jb 38:16 (Fouts and Wise; with Robinson, “World With Water” [2000] disagreeing), Job 38:30 (Batten et al., *Answers Book* [2006], 172), Jb 41:31 (Nelson; Batten et al.), Ps 42:7 (Batten et al.); Ps 51:10 (Fouts and Wise; Barrick, “Noah’s Flood” [2008]; Batten et al.); Ps 104:5–6 (Nelson; Northrup; Batten et al.); Ps 106:9 (Roy, “Fountains” [1996]); Ps 135:6 (Roy); Pr 8:24 (Fouts and Wise; with Robinson disagreeing); Is 51:10 (Batten et al.); Jon 2:5 (Roy); Hb 3:10 (Northrup); and 2 Cor 11:25 (Nelson).

59. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 55–56; P. Cockburn, *An Enquiry* (1750), 296; Bugg, *Scriptural Geology*, vol. 1 (1826), 167 | vol. 2 (1827), 58; Robinson, “World With Water” (2000); “There is no hint anywhere in the biblical flood narrative that the flood comes by means of the ocean” (Hasel, “Issues” [1978], 92); “There is no evidence in Scripture that the ‘fountains of the deep’ signified, even in a secondary way, springs under the oceans.” (Robinson, “World With Water” [2000], 21). Two specific arguments are: 1) since Gn 7:11 does not use the word for ‘seas’ from Gn 1:10, something other than seas supplied water for the ‘fountains’ of the Flood (Burnet, *Telluris Theoria Sacra* [1681] | *Theory of the Earth* [1697], 55–56; P. Cockburn, *An Enquiry* [1750], 296); and 2) since the only way to ‘break open’ a fountain is to break a solid seal that covers it, the lack of solid seal over the earth’s oceans suggests something other than oceans supplied water for the ‘fountains’ of the Flood (Burnet, *Telluris Theoria Sacra* [1681] | *Theory of the Earth* [1697], 56; and Bugg, *Scriptural Geology*, vol. 1 [1826], 167).

60. Ray, *Miscellaneous Discourses* (1692), 66–71 | *Three Discourses* (1713), 75–76, 84–85, 163; Hutchinson, *Principia* (1724), 46–50; P. Cockburn, *An Enquiry* (1750), 272–277; Catcott, *Remarks* (1756), 53, 77–80 | *On the Deluge* (1761), 41–42, n., 101; Bugg, *Scriptural Geology*, vol. 1 (1826), 126, 166–167 | vol. 2 (1827), 58–59, 169; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Morris, *Modern Science* (1956), 77–78 | *Twilight*, 1st ed. (1963), 69 | *Studies in the Bible and Science; Or Christ and Creation* (Grand Rapids: Baker, 1966), 133 | *Biblical Cosmology* (1970), 32 | *Remarkable Birth* (1972), 28 | *Many Infallible Proofs: Practical and Useful Evidences of Christianity* (San Diego: Creation Life, 1974), 287 | *Scientific Creationism*, 1st ed. (1974), 211 | *Genesis Record* (1976), 194 | *Beginning* (1977), 111 | *Might Believe*, 2nd ed. (1978), 90 | *Revelation* (1983), 166, 266 | *Biblical Basis* (1984), 282 | *Scientific Creationism*, 2nd ed. (1985), 211 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 23–24, 37 | *Defender’s* (1995), 5, 23 | *Twilight*, 2nd ed. (1998), 52; Whitcomb and Morris, *Genesis Flood* (1961), 9, 242; Hasel, “Fountains” (1974) | “Issues” (1978); Hanson, “Simple

origin.⁶¹ A few⁶² suggest that aquifer-like water sources in the continental crust supplied all the water for the 'fountains' of the Flood. Burnet⁶³ argues against an aquifer-like continental water source for the 'fountains' because modern aquifers are neither interconnected (whereas the 'waters under the firmament' were gathered together in one place in Gn 1:9), nor under pressure (whereas the 'fountains' of Gn 7:11 'burst open', as if under pressure).

Model" (1977); Dillow, "Vapor Canopy" (1978), 283–284 | *Waters Above*, 1st ed. (1981), 267, 282 | 2nd ed. (1982), 267, 282; Peterson, "Flood Altered" (1981); Coffin and Brown, *Origin* (1983), 23; Coffin, Brown and Gibson, *Origin* (2005), 38; Donald E. Chittick, *The Controversy: Roots of the Creation-Evolution Conflict* (n.p.: Creation Compass, 1984), 208; Nancy M. Darrall, "Survival of plant life during the Flood in the time of Noah," *Biblical Creation* 8 (Autumn 1986), no. 24: 81–96; Northrup, "A Walk" (1986); Sharp, *Revolution* (1986), 32; Ham, Snelling and Wieland, *Answers Book* (1990), 15 | Ham and Dinsmore, *Bible Facts* (1997), 24; Scheven, "Geological Record" (1990); Lindsay, *Canopied Earth* (1991), 21 | *Genesis Flood* (1992), 7, 331 | *Star Wars* (1992), 219; Trevor McIlwain and Nancy Everson, *Firm Foundations, Creation to Christ* (Sanford, FL: New Tribes Mission, 1991), 135, n. 8; Larry Vardiman, "The atmosphere above Grand Canyon," in *Grand Canyon: Monument to Catastrophe*, ed. Steven A. Austin (Santee, CA: Institute for Creation Research, 1994), 181–196; anon. [Robert Doolan, ed.], "Fountains of the Deep' on Mars?" *Creation Ex Nihilo* 18, no. 4 (September–November 1996): 9; Hunter, "In the Mantle" (1996) | "Transition Zone" (2000); Robinson, "Plate Tectonics" (1996) | "The Flood" (1998) | "World With Water" (2000); Barrick and Sigler, "Hebrew and Geological Analysis" (2003); Salanitri, *GUTs* (2005), 168–169; Snelling, *Catastrophic Past* (2009), 31, 275–276, 472; and Duncan, "Volcanism" [paper] (2010).

61. It must be noted that it is often unclear what an author means by such terms as 'subterranean' or 'subsurface' water sources. Sometimes they refer to intra-crustal water sources (similar to modern aquifers), whereas in other cases they refer to a global layer of H₂O in the crust or mantle. Some authors use the term 'subterranean' to only refer to water sources on the continents (i.e., sub-terrestrial) only, and others use term to refer to water sources anywhere within or under the crust, including under the oceans (i.e., sub-terra or sub-earth). Although this reviewer has tried to discern authorial intent, apologies to the authors for any mis-assignments.

62. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 9–13, 44–61; Ray, *Three Discourses* (1713), 72–73, 84, 117–120; P. Cockburn, *An Enquiry* (1750), 294–295, 309–310; Morris, *Biblical Cosmology* (1970), 32 | *Remarkable Birth* (1972), 29 | *Infallible* (1974), 211 | *Genesis Record* (1976), 194 | *Might Believe* (1978), 90 | *Revelation* (1983), 166, 266 | *Scientific Creationism* (1985), 211 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 23–24, 37 | *Defender's* (1995), 5, 23 | *Twilight*, 2nd ed. (1998), 52; Lindsay, *Genesis Flood* (1992), 328; Robinson, "Flood Geology" (1996) | "Plate Tectonics" (1996) | "World With Water" (2000). Burnet (*Telluris Theoria Sacra* [1681] | *Theory of the Earth* [1697], 9–13, 44–61), Ray (*Three Discourses* [1713], 72–73, 84, 117–120), P. Cockburn (*An Enquiry* [1750], 294–295, 309–310), Peterson, ("Flood Altered" [1981]) and Robinson ("Flood Geology" [1996]; "Plate Tectonics" [1996]; "World With Water" [2000]) argue for an exclusively continental origin for the water of the 'fountains'. Burnet does so because he believes there were no antediluvian oceans. Robinson argues 1) the Hebrew words of Gn 7:11 elsewhere in Scripture always—or almost always—refer to terrestrial venues (whereas for Fouts and Wise ["Breaking Up" (1998)] the same words refer to both land and sea venues); 2) the Flood account, being an eye-witness account of Noah, requires the fountains to be terrestrial or else Noah would never have seen them (whereas Fouts and Wise argue that the Flood account is not an eye-witness account of Noah); and 3) other arguments that are admittedly incomprehensible to this reviewer.

63. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 55–57.

Interconnected Continental Aquifers and Oceans. Two general arguments have been suggested for the ‘fountains’ being more widespread than what would be the case if they were only in the oceans or only on the land: (1) the ‘all’ in Genesis 7:11 suggests a global distribution of fountains⁶⁴; and (2) the apparently worldwide distribution of the ‘windows of heaven’.⁶⁵ And, since *tʾhôm* is used in some places to refer to oceanic sources and in other places to continental sources, Fouts and Wise⁶⁶ argue that the ‘all’ in Genesis 7:11 requires the ‘fountains’ of the Flood to be drawing water from both sources. It is probably for reasons like these that most creationists locate the fountains across both continental and oceanic areas of the earth, with water sources from both the oceans and the continental sub-surface.⁶⁷ In a manner that allows them to be identified with the waters ‘gathered together into one place’ in Genesis 1:9,⁶⁸ these chambers are often thought to differ from modern aquifers in being inter-connected with one another and connected to the oceans.⁶⁹

64. P. Cockburn, *An Enquiry* (1750), 303–304; Rodd, *Defence* (1820), 63; and Bugg, *Scriptural Geology*, vol. 1 (1826), 167 | vol. 2 (1827), 65.

65. Fouts and Wise, “Breaking Up” (1998).

66. *Ibid.*

67. Apparently Steno, *Prodromus* (1669), 72–73; apparently Whiston, *New Theory* (1696), 303–307; apparently Hutchinson, *Principia* (1724), 71 (apparently); Catcott, *On the Deluge* (1761), 7–8, 37–38, 42–43, 50, 54; apparently Wesley, *Survey* (1809), 29, following Whiston’s theory; Rodd, *Defence* (1820), 62–63, 73–75, 77; Young, *Survey*, 1st ed. (1822), 312–313 | *Survey*, 2nd ed. (1828), 344 | *Scriptural Geology* (1838), 44–46 | *Appendix* (1840), 15; Bugg, *Scriptural Geology*, vol. 2 (1827), 61, 309; Gallo-way, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Whitcomb and Morris, *Genesis Flood* (1961), 122, 242 (probably both); Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35; Morris, *Twilight*, 1st ed. (1963), 69; Patten, *Biblical Flood* (1966), 93–94; Coffin and Brown, *Origin* (1983), 23; Coffin, Brown and Gibson, *Origin* (2005), 38; Fouts and Wise, “Breaking Up” (1998); Batten et al., *Answers Book* (2006), 172 (oceans and possibly continental); Ham and Lovett, “Was there Really” (2009); and apparently Hughes, Amunrud, and Oard, “Real Flood” (2015).

68. John Woodward, *An Essay Toward a Natural History of the Earth: and Terrestrial Bodies, Especially Minerals: As also of the Sea, Rivers, and Springs, With an Account of the Universal Deluge: and of the Effects that it Had upon the Earth* (London: Ric Wilkin, 1695), 108–109, 117–118, 120–121, 164–165; Morris, *Defender’s* (1995), 5; and Robinson, “The Flood” (1998).

69. Ray, *Miscellaneous Discourses* (1692), 69–71 | *Three Discourses* (1713), 75–76; 84–85, 163; Woodward, *Essay* (1695), 108–109, 117–118, 120–121, 164–165; Hutchinson, *Principia* (1724), 46–50; P. Cockburn, *An Enquiry* (1750), 272–277; Catcott, *Remarks* (1756), 53, 77–80 | *On the Deluge* (1761), 41–42, n., 101; Bugg, *Scriptural Geology*, vol. 1 (1826), 126, 166–167; Whitcomb and Morris, *Genesis Flood* (1961), 9; Morris, *Biblical Cosmology* (1970), 32 | *Remarkable Birth* (1972), 29 | *Scientific Creationism*, 1st ed. (1974), 211 | *Genesis Record* (1976), 194 | *Might Believe*, 2nd ed. (1978), 90 | *Revelation* (1983), 166, 266 | *Scientific Creationism*, 2nd ed. (1985), 211 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 23–24, 37 | *Defender’s* (1995), 5, 23 | *Twilight*, 2nd ed. (1998), 52; Dillow, *Waters Above*, 1st ed. (1981), 282 | 2nd ed. (1982), 282; Brown, *In the Beginning*, 5th ed. (1989), 184, n. 1 | 8th ed. (2008), 110, 117, 355 n. 1 (but not including the ocean); and Robinson, “The Flood” (1998). Inter-connectedness among continental aquifers and oceans also allows the water cycle of Eccl 1:7 to work in a world without rain (e.g., Hutchinson, *Principia* [1724], 50; and Catcott, *Remarks* [1756], 79 | *On the Deluge* [1761], 25).

Ray,⁷⁰ on the other hand, claims that the 'gathered together' waters of Genesis 1:9 cannot include subterranean waters because they are explicitly called 'Seas' in Genesis 1:10. Finally, perhaps to explain how the fountains 'burst' at the beginning of the Flood, Morris⁷¹ suggests these interconnected chambers were under pressure.

Subcrustal Water. A number of creationists⁷² place the water source for the 'fountains' beneath the earth's crust.⁷³ Scripture marshalled in defense of this position includes: Genesis 49:25⁷⁴; Exodus 20:4⁷⁵; Deuteronomy 33:13⁷⁶; Job 26:7⁷⁷;

70. Ray, *Miscellaneous Discourses* (1692), 152 | *Three Discourses* (1713), 8–9.

71. Morris, *Biblical Cosmology* (1970), 32 | *Remarkable* (1972), 29 | *Scientific Creationism*. 1st ed. (1974), 211 | *Genesis Record* (1976), 194 | *Might Believe* (1978), 90 | *Revelation* (1983), 166, 266 | *Scientific Creationism*, 2nd ed. (1985), 21 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 23–24, 37 | *Defender's* (1995), 5, 23 | *Twilight*, 2nd ed. (1998), 52.

72. Apparently Steno, *Prodromus* (1669), 72–73; Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 44, 56–9; Woodward, *Essay* (1695), 109, 117–118, 121; Whiston, *New Theory* (1696), 163–164, 258–259; Hutchinson, *Principia* (1724), 69; P. Cockburn, *An Enquiry* (1750), 296; Catcott, *Remarks* (1756), 53, 77–80 | *On the Deluge* (1761), 25–26, 101; Parkinson, *Organic Remains*, 1st ed. (1804), 258 | 2nd ed. (1811), 253; Wesley, *Survey* (1809), 29 (following Whiston's theory); Rodd, *Defence* (1820), 63; Young, *Survey*, 1st ed. (1822), 312–313 | *Survey*, 2nd ed. (1828), 344 (possibly, along with the ocean); Bugg, *Scriptural Geology*, vol. 1 (1826), 166–167 | vol. 2 (1827), 58–59; Murray, *Truth*, 1st ed. (1831), 128 | 2nd ed. (1840), 215; Twemlow, *Facts and Fossils* (1868), 55, 57, 163; Whitcomb and Morris, *Genesis Flood* (1961), 242 (both within and below the crust); Peterson, "Flood Altered" (1981); Brown, *In the Beginning*, 5th ed. (1989), 184–185 | 8th ed. (2008), 110, 117–118, 239–240, 296, 354–356, 362, 366, 373; Cox, "Geologic Discovery" (1992); Smith, *Breaking* (2010), 69–70 (probably); and Budd, *Cataclysm* (2014), 4–5.

73. Not all subcrustal ocean claims postulate the water was in the liquid state. E.g., Cox ("Geologic Discovery" [1992]) argued for a subcrustal layer of ice, and Hunter ("In the Mantle" [1996]) argued that the water was in solution in mantle rock.

74. Catcott, *Remarks*, 53, 79 | *On the Deluge* (1761), 25; and Robinson, "World With Water" (2000).

75. Hutchinson, *Principia* (1724), 50; Catcott (1756), 79 | (1761), 25; and Cox, "Geologic Discovery" (1992).

76. Catcott, *Remarks*, 53, 79; Robinson, "World With Water" (2000).

77. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 59–60; and Robinson, "World With Water" (2000).

38:4–11⁷⁸; 30⁷⁹; Psalms 18:15⁸⁰; 24:2⁸¹; 33:7⁸²; 69:15⁸³; 88:6⁸⁴; 104:3⁸⁵; 104:9⁸⁶; 136:6⁸⁷; Proverbs 3:20⁸⁸; 8:24⁸⁹; 27–28⁹⁰; and 2 Peter 3:5–6.⁹¹ Extra-canonical literature marshalled in defense of this position includes: First Book of Adam and

78. Burnet, *Theory of the Earth* (1697), 60–61; Catcott, *On the Deluge* (1761), 26; Wesley, *Notes* (1765), regarding Gn 7:11; Brown, *In the Beginning*, 5th ed. (1989), 185 | 8th ed. (2008), 356; and Robinson, “World With Water” (2000). Fouts and Wise (“Breaking Up” [1998]), on the other hand, argue these are oceanic, not subterranean waters.

79. Cox, “Geologic Discovery” (1992); and Hunter, “In the Mantle” (1996).

80. Catcott, *On the Deluge* (1761), 53; and Brown, *In the Beginning*, 5th ed. (1989), 185 | 8th ed. (2008), 356. Fouts and Wise (“Breaking Up” [1998]) argue against this verse referring to subterranean waters.

81. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 56–59; Whiston, *New Theory* (1696), 164; Catcott, *On the Deluge* (1761), 26; Cox, “Geologic Discovery” (1992); Robinson, “The Flood” (1998) | “World With Water” (2000); and Brown, *In the Beginning*, 8th ed. (2008), 355. Robinson (“World With Water” [2000]) also responds to the claim of Fouts and Wise (“Breaking Up” [1998]) that this verse does not have to refer to subterranean waters.

82. Burnet, *Theory of the Earth* (1697), 59; Hutchinson, *Principia* (1724), 50; Wesley, *Notes* (1765), regarding Gn 7:11 (without specifically locating the abyss); Bugg, *Scriptural Geology*, vol. 1 (1826), 166; Hanson, “Simple Model” (1977); Robinson, “World With Water” (2000); Brown, *In the Beginning*, 8th ed. (2008), 355; and Budd, *Cataclysm* (2014), 5. Fouts and Wise (“Breaking Up” [1998]), on the other hand, argue that this verse does not have to refer to sub-crustal water.

83. Robinson, “World With Water” (2000).

84. *Ibid.*

85. Brown (*In the Beginning*, 5th ed. [1989], 84 | 8th ed. [2008], 355), but Fouts and Wise (“Breaking Up” [1998]) argue this refers to a place above earth, not below it.

86. Wesley, *Notes* (1765), regarding Gn 7:11.

87. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 56–59; Whiston, *New Theory* (1696), 164; Catcott, *On the Deluge* (1761), 26; Brown, *In the Beginning* 5th ed. (1989), 84 | 8th ed. (2008), 355–356; Cox, “Geologic Discovery” (1992); and Robinson, “Flood Geology” (1996). Fouts and Wise (“Breaking Up” [1998]) argue that although this could refer to a subterranean ocean, it might simply refer to the elevation of land above sea level on the 3rd day of Creation.

88. Brown, *In the Beginning* 5th ed. (1989), 18 | 8th ed. (2008), 356, but Fouts and Wise (“Breaking Up” [1998]) claim this verse does not specify that the depths are under the crust.

89. Cox, “Geologic Discovery” (1992).

90. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 61; Whiston, *New Theory* (1696), 164; Catcott, *On the Deluge* (1761), 26; and Bugg, *Scriptural Geology*, vol. 1 (1826), 166. Batten et al. (*Answers Book* [2006], 172), on the other hand, claim this verse does not clearly support a sub-crustal ocean.

91. Burnet, *Theory of the Earth* (1697), 56–59; Whiston, *New Theory* (1696), 164; Brown, *In the Beginning* 5th ed. (1989), 84 | 8th ed. (2008), 356; and Cox, “Geologic Discovery” (1992). Fouts and Wise (“Breaking Up” [1998]), on the other hand, claim this verse is too ambiguous to support a sub-crustal ocean.

Eve 70:15⁹²; 2 Enoch 47:5⁹³; 2 Esdras 6:41⁹⁴; 4 Esdras 6:42a⁹⁵; 4 Esdras 16:58⁹⁶; and Book of Treasures.⁹⁷ Other arguments for a sub-crustal ocean include (a) a whole creation day is devoted to ‘waters above’ and ‘waters below’, suggesting they must be of similar quantity⁹⁸ and (b) Scripture associates the underworld with water in Job 26:5f, 38:16; Psalms 69:15, 88:6, and Ezekiel 31:15.⁹⁹ Several¹⁰⁰ claim that the *rāqīa’* (“firmament,” KJV) of Genesis 1:9 refers to the earth’s crust, thus automatically locating the ‘waters below’ the firmament into the sub-crustal regions.

2.2.3 The ‘Break Up’ of the ‘Fountains’

In the KJV translation of Genesis 7:11, the “fountains of the great deep” were “broken up.” Based upon this translation, Vail, Schwarze, and Kellogg¹⁰¹ argue that since water (of ‘fountains’) cannot ‘break up’, the ‘break up’ must refer to the breakup of ice.¹⁰² In contrast, most creationists¹⁰³ believe the ‘fountains’ involved

92. Brown, *In the Beginning*, 8th ed. (2008), 365, n. 14.

93. Ibid.

94. Ibid.; Budd, *Cataclysm* (2014), 5.

95. Budd, *Cataclysm* (2014), 4, because it argues against deep oceans on the original earth.

96. Hutchinson, *Principia* (1724), 49–50; and Brown, *In the Beginning*, 8th ed. (2008), 365, n. 14.

97. Budd, *Cataclysm* (2014), 5.

98. Brown, *In the Beginning*, 8th ed. (2008), 365.

99. Robinson, “World With Water” (2000).

100. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 56; Hutchinson, *Principia* (1724), 8–12, 34–36, 46–53, 71; Catcott, *On the Deluge* (1761), 7–8, 29–38, 42–43, 49–50, 54, 64–67, 77–80; Brown, *In the Beginning*, 5th ed. (1989), 185 | 8th ed. (2008), 176–177, 355–356, 365–367; and Cox, “Geologic Discovery” (1992). Although Fouts and Wise (“Breaking Up” [1998]) argue that *rāqīa’* must refer to the atmosphere (and beyond), based upon verses 8 and 14–17 and 20 of Genesis 1, Brown (*In the Beginning*, 8th ed. [2008], 365, 367) argues that *rāqīa’* without the ‘of the heavens’ qualifier refers to earth’s crust. Brown (*In the Beginning*, 8th ed. [2008], 176–177, 355–356, 365–367) provides an extended defense of the *rāqīa’* being the earth’s crust. Brown’s defense for the equation of *rāqīa’* and the earth’s crust includes 1) considerable discussion of the meaning of *rāqīa’* in Scripture, 2) God ‘walking with Adam’ in Eden (in Gn 3:8–9) indicates that heaven was originally on the earth’s crust (366), 3) the ‘break up’ of the fountains of the great deep in Gn 7:11 can only have occurred in a solid (177)—this also having been argued by Burnet, *Theory of the Earth* [1697], 56; and 4) the opening of the *’arubbā* (‘windows’ [in the *rāqīa’* separating the ‘waters above’ and the ‘waters below’]) in Isa 24:18 is explicitly associated with the shaking of the earth’s foundations (356).

101. Vail, *Alaska* (1897), 21 | *Waters Above* 2nd ed. (1902), 101–103 | *Deluge* 1st ed. (1905), 16–17 | *Waters Above*, 4th ed. (1912), 101–103; Schwarze, *Harmony*, 1st ed. (1942), 71–72 | 2nd ed. (1942), 71–72 | *Marvel* (1957), 14–15, 24, 33–35, 42–43; and Kellogg, *Canopied Earth* (1945), 9, 11.

102. In these sources the ice was in the upper atmosphere or in orbit about the earth.

103. Steno, *Prodromus* (1669), 72–73; Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 44; Halley, “Considerations” (1694) (and/or from ocean); Whiston, *New Theory* (1696), 189–190; 303–307; Ray, *Three Discourses* (1713), 72–73, 117–120; Hutchinson, *Principia* (1724), 71; P. Cockburn, *An Enquiry* (1750), 294–295, 309–310; Catcott, *On the Deluge* (1761), 7–8, 37–38, 42–43, 50, 54;

upward eruptions—i.e., release of sufficient energy to exceed the force of gravity on the water. Brown¹⁰⁴ justifies this conclusion by the way in which *bāqa'* is used elsewhere in Scripture.¹⁰⁵ It is likely that the translation of *bāqa'* as “burst open” in the 1978 NIV translation contributes to why so many creationists favor this upward

Wesley, *Survey* (1809), 29; Gisborne, *Testimony*, 1st ed. (1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations*, (1837), 56; Rodd, *Defence* (1820), 62–63, 73–75; Penn, *Estimate*, 2nd ed. (1825), 31–33 | *Conversations* (1828), 312–313; Bugg, *Scriptural Geology*, vol. 2 (1827), 60, 69, 77–79, 170; Murray, *Truth*, 1st ed. (1831), 128 | 2nd ed. (1840), 215; Nolan, *Analogy* (1833), 236–242; W. Cockburn, *Letter* (1838) | *Bible Defended* (1845) | *New System* (1849), 3, 50, 56, 61; Ellen G. White, *Spiritual Gifts* (Battle Creek, MI: James White, 1864), 69 | *The Spirit of Prophecy: The Great Controversy Between Christ and Satan* (Battle Creek, MI, 1870), 73 | *Patriarchs & Prophets: Or, The Great Conflict Between Good and Evil as Illustrated in the Lives of Holy Men of Old*, Conflict of Ages Series, Vol. 1 (Battle Creek, MI: Review and Herald, 1890), 99; Hodgman, *Moses* (1881), 97; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Marsh, *Studies* (1950), 326; Patten, *Biblical Flood* (1966), 62–63 | “Noachian Flood” (1968); Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35; Hanson, “Simple Model” (1977); Dillow, “Vapor Canopy” (1978), 204 | *Waters Above*, 1st ed. (1981), 186 | 2nd ed. (1982), 186; Peterson, “Flood Altered” (1981); Chittick, *Controversy* (1984), 208; Bixler, “Vapor Canopy” (1986); Darrall, “Survival” (1986); Northrup, “A Walk” (1986); Brown, *In the Beginning*, 5th ed. (1989), 184–185 | 8th ed. (2008), 110, 118–122, 239–240, 296, 354–355, 373; Hunter, “Archaean” (1992) | “In the Mantle” (1996) | “Transition Zone” (2000); Lee, “Hydrothermal Vents” (1992); Lindsay, *Genesis Flood* (1992), 328 | *Star Wars* (1992), 219; Austin et al., “Catastrophic Plate Tectonics” (1994); Vardiman, “Atmosphere” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 694, 697–698 | “Did Meteors Trigger Noah’s Flood?” *Answers Magazine* 7, no. 1 (January 2012): 68–71 | “Geological issues: Charting a scheme for correlating the rock layers with the biblical record,” in *Grappling with the Chronology of the Genesis Flood: Navigating the Flow of Time in Biblical Narrative*, eds. Steven W. Boyd and Andrew A. Snelling (Green Forest, AR: Master Books, 2015), 77–109 | “Geophysical Issues” (2014); Robinson, “Flood Geology” (1996) | “Plate Tectonics” (1996); Ham and Dinsmore, *Bible Facts* (1997), 23–24 | Ham and Lovett, “Was there Really?” (2009); Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Ruth Beechick, *Adam and His Kin: The Lost History of their Lives and Times* (Fenton, MI: Mott Media, n.d. [2001?]), 76–77; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Salanitri, GUTs (2005), 168–170; Batten et al., *Answers Book* (2006), 172; Garner, *New Creationism* (2009), 189; Duncan, “Volcanism” [abstract] (2010) | [paper] (2010); Budd, *Cataclysm* (2014), 35; Hughes, Amunrud and Oard, “Real Flood” (2015); and Ross et al., *Excursions* (2015), 108. 104. Brown, *In the Beginning*, 5th ed. (1989), 185, n. 3 | 8th ed. (2008), 356, n. 5.

105. Brown’s argument appears selective, as he refers to Nm 16:31; Pr 3:20; Is 34:15, 59:5; Mi 1:4; and Zec 14:4 (*In the Beginning*, 5th ed. [1989], 185, n. 3 | 8th ed. [2008], 356, n. 5, 363), but not to at least two other *bāqa'* verses that do not support a breaking out of water under pressure, namely Is 63:11–12 (dividing the Red Sea) and Ps 74:15 (drying up of water sources: Barrick, “Noah’s Flood” [2008]). Furthermore, two of the references Brown did use (Nm 16:31 and Zec 14:4), refer to the opening up of a chasm in the earth without any associated gushing forth of water under pressure. Additionally, in Jb 12:15—another proof text of Brown (*In the Beginning*, 8th ed. [2008], 84)—Fouts and Wise point out that the verb *bāqa'* is not used, and the verse does not necessarily refer to the Flood (“Breaking Up” [1998]). Similarly, Whiston (*New Theory* [1696], 180), Hanson (“Simple Model” [1977]), and Morris (*Twilight*, 2nd ed. [1998], 29, 104) all use Jb 38:8 to argue for catastrophic release of high-pressure water during the Flood, but the verse does not use the verb *bāqa'*, and it refers to the creation, not the Flood.

eruption translation.¹⁰⁶ In turn, it seems that the ‘burst open’ sense of *bāqa’* in Genesis 7:11 indicates high-pressure fluid was suddenly released into lower pressure conditions.¹⁰⁷ Robinson¹⁰⁸ suggests that the bursting was so explosive as to shatter the ‘entire fabric’ of the earth—i.e., obliterate all organisms and rocks of the antediluvian world.

The sudden release of high-pressure fluid at the beginning of the Flood suggests to many creationists that something solid was broken up to effect that release. Brown¹⁰⁹ argues that most of the Scriptural uses of *bāqa’*—as well as of the words he considers morphologically similar (*bāqīa’*, *rāqa’*, and *rāqīa’*)—refer to

106. A ‘burst open’ translation was favored by Hutchinson (*Principia* [1724], 70) and Dillow (“Vapor Canopy” [1978], 283–284 | *Waters Above*, 1st ed. [1981], 267 | 2nd ed. [1982], 267). Fouts and Wise (“Breaking Up” [1998]) argue that the grammatical construction of Gn 7:11 favors the ‘burst open’ translation of the NIV, and Barrick (“Noah’s Flood” [2008]) concurred. Roy’s (“Fountains” [1996]) translation of *bāqa’*, ‘to split open’, was neither carefully done, nor based upon the specific context of Gn 7:11.

107. Ham, Snelling and Wieland, *Answers Book* (1990), 118; Batten et al., *Answers Book* (2006), 172; Budd, *Cataclysm* (2014), 5, 9. A variety of theories have been proposed to explain such an upward eruption of pressurized subterranean water (in chronological order): 1) the earth’s internal heat expanded an enclosed subterranean ocean until it burst (Burnet, *Telluris Theoria Sacra* [1681] | *Theory of the Earth* [1697], 49–50); 2) something pressing down on the ocean surface forced connected subterranean passages to burst open (Ray, *Miscellaneous Discourses* [1692], 67, 100–101 | *Three Discourses* [1713], 84, 117, 119); 3) a sudden change in the earth’s center of rotation caused some subterranean caverns in communication with surface oceans to burst (Ray, *Miscellaneous Discourses* [1692], 66–67, 98–99 | *Three Discourses* [1713], 84, 117, 119)—a theory Halley (“Considerations” [1694]) rejected because it produces only a local flood and the earth’s center of rotation is based on an earth composition which is a more or less unchangeable; 4) God suspended the forces of cohesion that hold rocks together so that all the rocks of the antediluvian earth dissolved—Gn 8:21–22 indicating that the Flood had a supernatural cause (Woodward, *Essay* [1695], 165–166); 5) a close pass of a comet caused a tide in the subterranean ocean which broke up and burst the brittle crust overlying it (Whiston, *New Theory* [1696], 303–305, 309); 6) God forced the air that was originally created in the earth’s center to return, forcing, in turn, the water that was in the center of the earth to burst out—Jb 14:11 and 2 Esdras 8:23 being offered as biblical evidence (Hutchinson, *Principia* [1724], 71–76, 103); 7) the internal heat of earth expanded an enclosed sub-crustal ocean until it collapsed the overlying crust, which, in turn, changed the center of mass of the earth, causing, in turn, a sudden change in the axial tilt of the earth, which, in turn, forced water out of the sub-crustal ocean (Rodd, *Defence* [1820], 62–63, 76–77); 8) a sudden tilt of the earth’s axis caused terrestrial aquifers to break out of their antediluvian apertures (Galloway, *Science and Geology* [1888], 136–137 | *Testimony* [c1896], 91); 9) the buildup of pressure in water trapped in the crust (Whitcomb and Morris, *Genesis Flood* [1961], 242 [perhaps]; Morris, *Genesis Record* (1976), 196 [most likely]) 10) God supernaturally burst the waters out (Whitcomb, *World*, 1st ed. [1973], 33–34 | *World*, 2nd ed. [1988], 35); and 11) antediluvian tides in the subterranean ocean heated the subterranean ocean until it broke open the crust that enclosed it (Brown, *In the Beginning*, 8th ed. [2008], 118–122).

108. Robinson, “World With Water” (2000).

109. Brown, *In the Beginning*, 8th ed. [2008], 367.

deformed solids.¹¹⁰ Brown¹¹¹ also claims that Scriptural uses of the word *bāqa*‘ refer primarily to the breaking of something solid. Fouts and Wise¹¹² take a different approach, claiming that the word *ma’yānôt* (KJV “fountains”) does not refer to the water of the fountain, but to the source-basin, aperture, or catch-basin of the fountain.¹¹³ Since the ‘fountains’ probably refer to some sort of physical restraints on the fountains, they can ‘burst’ open (unlike the water of a fountain).

Whether in the manner of ‘bursting’ or otherwise, the break-up of the ‘fountains’ has been widely believed to involve tectonic activity¹¹⁴—i.e., the break-

110. This forms part of Brown’s argument that the ‘firmament’ of Gn 1:9 is the earth’s crust.

111. Brown, *In the Beginning*, 5th ed. (1989), 185, n. 3 | 8th ed. (2008), 356, n. 5, 363.

112. Fouts and Wise, “Breaking Up” (1998).

113. Penn (*Estimate*, 2nd ed. [1825], 31–33) claims it refers to ‘the place where the waters of a fountain issue forth’ and Roy (“Fountains” [1996]) claims it refers to the reservoir, neither considering the other two options. Fouts and Wise (“Breaking Up” [1998]) favor the aperture among the three possibilities. Roy (“Fountains” [1996]) also believes that a better Hebrew word was available for ‘water jet’ if that was what these ‘fountains’ were; [*Editor’s note*: The absolute form *ma’yānôt* ‘springs’ does not occur in Gn 7:11b; rather, the construct form, *ma’y’nôt* “springs of,” is found.]

114. P. Cockburn, *An Enquiry* (1750), 239, 293–294; Gisborne, *Testimony*, 1st ed. (1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations* (1837), 56; Young, *Survey*, 1st ed. (1822), 313 | *Survey*, 2nd ed. (1828), 344 | *Scriptural Geology* (1838), 44–45; Penn, *Estimate*, 2nd ed. (1825), 31–33 | *Conversations* (1828), 314; Bugg, *Scriptural Geology*, vol. 1 (1826), 167 | vol. 2 (1827), 60–63, 67–68, 73–74, 77–81, 92–93, 160, 229, 231–232, 309; Fairholme, *Geology of Scripture*, (1833), 159; Henry Cole, *Popular Geology Subversive of Divine Revelation!: A Letter to the Rev. Adam Sedgwick, Woodwardian Professor of Geology in the University of Cambridge, Being a Scriptural Refutation of the Geological Positions and Doctrines Promulgated in his Lately Published Commencement Sermon, Preached in the University of Cambridge, 1832* (London: Hatchard and Son, 1834), 92; Hodgman, *Moses* (1881), 97; Nelson, *Deluge Story* (1931), 26; Whitney, *Case* (1946), 5.11, 17–18 (although not mentioning ‘fountains’ directly); Marsh, *Studies* (1950), 326; Rehwinkel, *The Flood* (1951), 100–106; Whitcomb and Morris, *Genesis Flood* (1961), 9, 122, 242; Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35, 56; Morris, *Twilight*, 1st ed. (1963), 69 | *Studies* (1966), 133 | *Modern Science* 3rd ed. (1968), 78 | *Biblical Cosmology* (1970), 31 | *Infallible* (1974), 287 | *Genesis Record* (1976), 196 | *Beginning* (1977), 111 | *Defender’s* (1995), 23; Hanson, “Simple Model” (1977); Dillow, “Vapor Canopy” (1978), 244–245 | *Waters Above* 1st ed. (1981), 246 | 2nd ed. (1982), 246 (in the form of mountain-building); Peterson, “Flood Altered” (1981); Coffin and Brown, *Origin* (1983), 24, 26 | Coffin, Brown and Gibson, *Origin* (2005), 28, 39; Chittick, *Controversy* (1984), 208; Darrall, “Survival” (1986); Northrup, “A Walk” (1986); Brown, *In the Beginning*, 5th ed. (1989), 184 | 8th ed. (2008), 110, 118–122, 239–240, 354–355, 373; Ham, Snelling and Wieland, *Answers Book* (1990), 119 | Ham and Dinsmore, *Bible Facts* (1997), 23–24 | Ham and Lovett, “Was there Really” (2009); Hunter, “Archaean” (1992) | “In the Mantle” (1996) | “Transition Zone” (2000); Lindsay, *Genesis Flood* (1992), 328 | *Star Wars* (1992), 219; Sippert, *Evolution* (1995), 70–71; Robinson, “Flood Geology” (1996) | “Plate Tectonics” (1996); Roy, “Fountains” (1996); Barrick and Sigler, “Hebrew and Geological Analysis” (2003); Salanitri, *GUTS* (2005), 169–170; Batten et al., *Answers Book* (2006), 172; David C. Read, *Dinosaurs: An Adventist View* (Keene, TX: Clarion Call Books, 2009), 155–156; Snelling, *Catastrophic Past* (2009), 276, 472, 684; Duncan, “Volcanism” [abstract and paper] (both 2010); Michael J. Oard, *Dinosaur Challenges and Mysteries: How the Genesis Flood Makes Sense of Dinosaur Evidence—Including Tracks, Nests, Eggs, and*

ing of crust.¹¹⁵ Faulkner (2018) goes so far as to say (incorrectly) that all creationist flood theories ‘suggest there was immense tectonic upheaval’. Marsh, and later Dillow,¹¹⁶ claim that *bāqa’* specifically refers to earthquakes—Marsh to high amplitude earthquakes, and Dillow because of the use of *bāqa’* in Zechariah 14:4. Hunter¹¹⁷ suggests that the break-up of all the fountains of the great deep on the same day indicates the Flood must have been a catastrophe of great magnitude. The result of this tectonic upheaval, according to Whitcomb¹¹⁸ was the sinking of continents and the uplifting of ocean floor. According to Hanson¹¹⁹ it was the sudden uplift of pieces of ocean crust 10s–100s of miles in radius. According to Morris¹²⁰ it was the collapse of crust into subterranean chambers, thus creating the current ocean basins.

2.2.4 The Nature of the ‘Fountains’

Whereas most creationists understand the ‘fountains’ to be something rising from the earth’s surface, a few creationists¹²¹ believe the ‘fountains’ to be a solid water source—i.e., ice—cascading down upon the earth. Kant¹²² suggests that it was an ice ring about the earth that collapsed. Vail, and later Kellogg,¹²³ suggest it was a tubular-shaped ice canopy open at the poles that collapsed (having previously

Scavenged Bones (Atlanta, GA: Creation Book Publishers, 2011), 114 | Michael J. Oard and John K. Reed, *How Noah’s Flood Shaped Our Earth* (Powder Springs, GA: Creation Book Publishers, 2017), 75; and Budd, *Cataclysm* (2014), 35.

115. A variety of theories have been proposed to explain what caused this tectonic disturbance (in chronological order): (1) God directly broke up the crust (Hodgman, *Moses* [1881], 107–108; Peterson, “Flood Altered” [1981]); (2) pressure from hot water inside earth minerals broke up crust (Whitney, *Case* [1946], 5.11, 17–18); (3) the cooling and shrinking of earth increased pressure on the earth’s interior until it cracked open (Chittick, *Controversy* [1984], 208); (4) the sudden decrease in atmospheric pressure that came with the collapse of the vapor canopy stressed the crust into fracturing (Lindsay, *Genesis Flood* [1992], 328); and (5) a supernatural change in gravitational constant caused mantle melting, differentiation, and upwelling, thus destroying the crust above (Hunter, “In the Mantle” [1996] | “Transition Zone” [2000]).

116. Marsh, *Studies* (1950), 326; and Dillow, “Vapor Canopy” (1978), 283–284 | *Waters Above* 1st ed. (1981), 267 | 2nd ed. (1982), 267.

117. Hunter, “Archaeon” (1992).

118. Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35, 56.

119. Hanson, “Simple Model” (1977).

120. Morris, *Defender’s* (1995), 24.

121. Kant, *Natural History* (1755), 2.5 (although he does not directly refer to either fountains or windows); Vail, *Waters Above*, 1st ed. (1874) | *Alaska* (1897) | *Waters Above*, 2nd ed. (1902) | *Deluge* 1st ed. (1905) | *Waters Above*, 4th ed. (1912); and Schwarze, *Marvel* (1957).

122. Kant, *Natural History* (1755), 2.5.

123. Vail, *Waters Above*, 1st ed. (1874) | *Alaska* (1897), 2, 14, 16–17, 19 | *Waters Above* 2nd ed. (1902), 101–105 | *Deluge* 1st ed. (1905), 16–19, 22–23, 25, 30 | *Waters Above*, 4th ed. (1912), 101–105; and Kellogg, *Canopied Earth* (1945), 9.

formed during the collapse of an ice ring). Schwarze¹²⁴ suggests it was an ice canopy supported at the poles that arched over the earth's lower and middle latitudes.

Some creationists¹²⁵ suggest that the 'fountains' represented non-pressurized subterranean and/or oceanic water rising above its resting level.¹²⁶ Hanson¹²⁷ claims that Psalm 104:6 indicates that oceanic water rose above its gravitationally 'normal' level during the Flood. Catcott believes that so much water was displaced from the oceans that 'the springs of water were seen' on what was previously the floor of the ocean.¹²⁸

In contrast, most creationists¹²⁹ understand the fountains to be locations on, or in, the crust from which eruptions arose. This seems to be primarily based upon

124. Schwarze, *Harmony*, 1st ed. (1942), 71–72 | 2nd ed. (1942), 71–72 | *Marvel* (1957), 24, 33, 35.

125. Halley, "Considerations" (1694); P. Cockburn, *An Enquiry* (1750), 294–295; Catcott, *On the Deluge* (1761), 38; Gisborne, *Testimony* 1st ed. (1818), 68–69 | 2nd ed. (1818), 68–69 | *Considerations* (1837), 56; Rodd, *Defence* (1820), 62–63, 73–75; Penn, *Estimate* 2nd ed. (1825), 31–33 | *Conversations* (1828), 312–313; Bugg, *Scriptural Geology*, vol. 2 (1827), 60, 69; Hodgman, *Moses* (1881):97; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; and Patten, *Biblical Flood* (1966), 62–63 | "Noachian Flood" (1968).

126. A variety of causes for this rise in water level have been proposed (listed chronologically): (1) a comet's interaction with the earth forced water out of the ocean basins (Halley, "Considerations" [1694]); (2) God supernaturally raised the water level (P. Cockburn, *An Enquiry* [1750], 294–295, 309–310; Bugg, *Scriptural Geology*, vol. 2 [1827], 69); (3) a sudden change in the earth's axial tilt sloshed continent-covering tsunamis out of the ocean (Galloway, *Science and Geology* [1888], 136–137 | *Testimony* [c1896], 91); (4) an astronomical body passing close to the earth raised continent-covering tides out of the ocean (Patten, *Biblical Flood* [1966], 62–63 | "Noachian Flood" [1968]); and (5) pieces of ocean crust 10s–100s of miles in diameter suddenly rose, lifting up the overlying ocean water (Hanson, "Simple Model" [1977]). Hanson argued that these suddenly raised columns of water are referred to in Ps 33:7 and 104:6, and the resulting isostatic adjustments that must have occurred in the crust are referred to in Ps 104:8.

127. Hanson, "Simple Model" (1977).

128. Catcott (*On the Deluge* [1761], 38) replaces the KJV translation of "channel" with "springs."

129. Steno, *Prodromus* (1669), 72–73; Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 44; Halley, "Considerations" (1694) (supplemented by fountains of ocean water); Whiston, *New Theory* (1696), 189–190; Ray, *Three Discourses* (1713), 72–73, 117–120; Hutchinson, *Principia* (1724), 71; P. Cockburn, *An Enquiry* (1750), 294–295, 309–310; Catcott, *On the Deluge* (1761), 7–8, 37–38, 42–43, 50, 54; Wesley, *Survey* (1809), 29; Rodd, *Defence* (1820), 62–63, 75 (supplemented by water from the oceans); Bugg, *Scriptural Geology*, vol. 2 (1827), 60, 69, 77–79, 170; Nolan, *Analogy* (1833), 236–242; W. Cockburn, *Letter* (1838) | *Bible Defended* (1845) | *New System* (1849), 3, 50, 56, 61; White, *Spiritual Gifts* (1864), 69 | *Spirit* (1870), 73 | *Patriarchs* (1890), 99; Marsh, *Studies* (1950), 326; Whitcomb and Morris, *Genesis Flood* (1961), 122 | Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35; Morris, *Twilight*, 1st ed. (1963), 69 | *Studies* (1966), 133 | *Biblical Cosmology* (1970), 31 | *Genesis Record* (1976), 197 | *Beginning* (1977), 111 | *Might Believe*, 2nd ed. (1978), 88–89 | *Biblical Basis* (1984), 282, 348 | *Biblical Creationism* (1993), 37–38 | *Defender's* (1995), 23 | *Twilight*, 2nd ed. (1998), 52; Dillow, "Vapor Canopy" (1978), 204, 283–284, 291 | *Waters Above*, 1st ed. (1981), 186, 267, 273 | 2nd ed. (1982), 186, 267, 273; Peterson, "Flood Altered" (1981); Chittick, *Controversy* (1984), 208; Bixler, "Vapor Canopy" (1986); Darrall, "Survival" (1986); Northrup, "A Walk" (1986); Brown, *In the Beginning*, 5th ed. (1989), 184–185 | 8th ed. (2008), 110, 118–122, 239–240, 296, 354–355, 373;

the fact that the primary meaning of *ma’yān* ‘fountain’ is a terrestrial water spring.¹³⁰ Not all of these creationists, however, argued that what was erupting was water. Schwarze¹³¹ argues that *ma’yān* refers to anything that springs up—not necessarily water.¹³² Many creationists,¹³³ in fact, believe ‘fountains’ refers to volcanic eruptions.¹³⁴ According to Dillow,¹³⁵ Psalms 18:4–15 and 104:1–6 refer to the

Ham, Snelling and Wieland, *Answers Book* (1990), 118–119 | Ham and Dinsmore, *Bible Facts* (1997), 23–24 | Ham and Lovett, “Was there Really” (2009); Hunter, “Archaean” (1992) | “In the Mantle” (1996) | “Transition Zone” (2000); Greg S. Jorgensen, “Fundamental physics of a water canopy atmosphere,” in *Proceedings of the 1992 Twin-Cities Creation Conference* (Minneapolis, MN: The Twin-Cities Creation-Science Association & Northwestern College & The Genesis Institute & The Creation Health Foundation, 1992), 40–45; Lee, “Hydrothermal Vents” (1992); Lindsay, *Genesis Flood* (1992), 328 | *Star Wars* (1992), 219; Austin et al., “Catastrophic Plate Tectonics” (1994); Vardiman, “Atmosphere” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 694, 697–698 | “Meteors” (2012) | “Geological Issues” (2014) | “Geophysical Issues” (2014); Robinson, “Flood Geology” (1996) | “Plate Tectonics” (1996); Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Beechick, *Adam* (2001), 76–77; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Salanitri, *GUTs* (2005), 169–170; Batten et al., *Answers Book* (2006), 172; Garner, *New Creationism* (2009), 189; Duncan, “Volcanism” [abstract and paper] (both 2010); Oard, *Dinosaur* (2011), 114; Budd, *Cataclysm* (2014), 35; Hughes, Amunrud and Oard, “Real Flood” (2015); and Ross et al., *Excursions* (2015), 108.

130. This is explicitly argued by Fouts and Wise (“Breaking Up” [1998]), especially in their argument that the form of the word argues that *ma’yān* refers to the ‘place’ of the spring, not the water of the spring.

131. Schwarze, *Marvel* (1957), 34–35.

132. Schwarze (*Marvel* [1957], 34–35) argues 1) *ma’yān* in Ps 87:7 does not refer to water, 2) *ma’yān* is derived from *‘ayin* which means ‘eye’ (not water), 3) the ‘breaking up’ of the ‘fountains’ must be of something solid (not water), and 4) water does not naturally spring up.

133. Nolan, *Analogy* (1833), 236–242; W. Cockburn, *Letter* (1838) | *Bible Defended* (1845) | *New System* (1849), 3, 50, 56, 61; Rehwinkel, *The Flood* (1951), 101–102; Whitcomb and Morris, *Genesis Flood* (1961), 122, 242 | Whitcomb, *World*, 1st ed. (1973), 33 | *World*, 2nd ed. (1988), 35; Morris, *Twilight* 1st ed. 1963:69 (with attendant tsunamis) | *Studies* (1966), 133 | *Biblical Cosmology* (1970), 31 | *Genesis Record* (1976), 197 | *Might Believe*, 2nd ed. (1978), 88–89 | *Biblical Basis* (1984), 282, 348 | *Biblical Creationism* (1993), 37–38 (probably) | *Defender’s* (1995), 23 | *Twilight*, 2nd ed. (1998), 52; Dillow, “Vapor Canopy” (1978), 204, 283–284, 291 | *Waters Above*, 1st ed. (1981), 186, 267, 273 | 2nd ed. (1982), 186, 267, 273; Chittick, *Controversy* (1984), 208; Bixler, “Vapor Canopy” (1986); Darrall, “Survival” (1986) (‘likely’); Ham, Snelling and Wieland, *Answers Book* (1990), 118–119 (‘quite appropriate’) | Ham and Dinsmore, *Bible Facts* (1997), 23–24 | Ham and Lovett, “Was there Really” (2009) (‘quite plausible’); Hunter, “Archaean” (1992) | “In the Mantle” (1996) | “Transition Zone” (2000); Jorgensen, “Fundamental Physics” (1992); Lindsay, *Genesis Flood* (1992), 328; Jobe Martin, *The Evolution of a Creationist: A Laymen’s Guide to the Conflict between the Bible and Evolutionary Theory* (Rockwall, TX: Biblical Discipleship, 1994), 143 (‘possibly’); Robinson, “Flood Geology” (1996); Batten et al., *Answers Book* (2006), 172 (‘probably’); Snelling, *Catastrophic Past* (2009), 474; Duncan, “Volcanism” [abstract] (2010) | [paper] (2010); Oard, *Dinosaur* (2011), 114 | Oard and Reed, *Noah’s Flood* (2017), 75; Budd, *Cataclysm* (2014), 35; and Hughes, Amunrud and Oard, “Real Flood” (2015).

134. Duncan (“Volcanism” [abstract] [2010] | [paper] [2010]) suggests that a bolide impact might have caused this volcanic activity.

135. Dillow, “Vapor Canopy” (1978), 204, 291 | *Waters Above*, 1st ed. (1981), 186, 273 | 2nd ed. (1982), 186, 273).

volcanic activity of the Flood. Several creationists¹³⁶ suggest that juvenile water released by this volcanic activity contributed to the waters of the Flood.

Many other creationists¹³⁷ believe that ‘fountains’ referred to vertically-upward eruptions of water. Most of those creationists believe the water came from subterranean water sources already present before the Flood. Others, however, believe the ‘fountains’ to be geysers of water vapor and entrained materials propelled into the atmosphere by flash-vaporization of Flood waters as they contacted magmas at rapidly diverging crustal plate boundaries.¹³⁸

2.3 Windows

2.3.1 The Nature of the ‘Windows’

A few creationists argue that ^a*rubbâ* ‘window’ refers to an opening or aperture in something solid.¹³⁹ Most of these believe that the ‘windows’ are in the (solid)

136. Ham, Snelling and Wieland, *Answers Book* (1990), 118–119 | Ham and Lovett, “Was there Really?” (2009); Lindsay, *Genesis Flood* (1992), 331; Hunter, “In the Mantle” (1996) | “Transition Zone” (2000); Batten et al., *Answers Book* (2006), 172; Snelling, *Catastrophic Past* (2009), 474; Duncan, “Volcanism” [abstract] (2010) | [paper] (2010); and Budd, *Cataclysm* (2014), 35.

137. Steno, *Prodromus* (1669), 72–73; Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 44; Halley, “Considerations” (1694) (and/or water rising from the ocean); Whiston, *New Theory* (1696), 189–190; Ray, *Three Discourses* (1713), 72–73, 117–120; Hutchinson, *Principia* (1724), 71; P. Cockburn, *An Enquiry* (1750), 294–295, 309–310; Catcott, *On the Deluge* (1761), 7–8, 37–38, 42–43, 50, 54; Wesley, *Survey* (1809), 29; Rodd, *Defence* (1820), 62–63, 73–75 (along with water rising from the oceans); Bugg, *Scriptural Geology*, vol. 2 (1827), 60, 69, 77–79, 170; White, *Spiritual Gifts* (1864), 69 | *Spirit* (1870), 73 | *Patriarchs* (1890), 99; Marsh, *Studies* (1950), 326; Whitcomb, *World*, 1st ed. (1973) (in the form of steam) | *World*, 2nd ed. (1988), 35; Morris, *Beginning* (1977), 111 (along with ocean-sourced tsunamis); Peterson, “Flood Altered” (1981); Northrup, “A Walk” (1986); Brown, *In the Beginning*, 5th ed. (1989), 184–185 | 8th ed. (2008), 110, 188–122, 239–240, 296, 354–355, 373; Hunter, “Archaean” (1992) “Transition Zone” (2000) | “Water Level” (2000); Lee, “Hydrothermal Vents” (1992) (implied); Lindsay, *Genesis Flood* (1992), 328 | *Star Wars* (1992), 219; Austin et al., “Catastrophic Plate Tectonics” (1994); Vardiman, “Atmosphere” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 697–698 | “Meteors” (2012) | “Geological Issues” (2014) | “Geophysical Issues” (2014); Robinson, “Flood Geology” (1996) | “Plate Tectonics” (1996); Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Beechick, *Adam* (2001), 76–77; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Salanitri, *GUTs* (2005), 169–170; Batten et al., *Answers Book* (2006), 172; Garner, *New Creationism* (2009), 189; and Ross et al., *Excursions* (2015), 108.

138. Austin et al., “Catastrophic Plate Tectonics” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 697–698 | “Meteors” (2012) | “Geological Issues” (2014), 96 | “Geophysical Issues,” (2014), 132; Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Garner, *New Creationism* (2009), 189; and Ross et al., *Excursions* (2015), 108.

139. Arranged chronologically, 1) ^a*rubbâ* in Hos. 13:3 is a hole in a wall and/or ceiling through which smoke exits (Jerome [acc. to Hutchinson, *Principia* (1724), 70–71]; Catcott, *On the Deluge*

rāqīaʿ, created to separate the ‘waters above’ from the ‘waters below’ in Genesis 1:6. Both Hutchinson, and later Catcott,¹⁴⁰ further identify the *rāqīaʿ* with the earth’s crust, thereby effectively equating the ‘windows of heaven’ with ‘fountains of the great deep’.¹⁴¹ In contrast, Salanitri¹⁴² places the ‘windows’ in a hollow, solid hydrogen sphere surrounding the earth, and Vail¹⁴³ places the ‘windows’ in an pole-openward tube of ice surrounding the earth.¹⁴⁴ Favoring another type of literal understanding of ‘windows’, Hunter¹⁴⁵ suggests that the water fell from a number of different isolated regions (‘windows’) of the sky.¹⁴⁶

[1761], 42, quoting Hutchinson); 2) ^a*rubbā* means ‘windows’, ‘floodgates’, or ‘bars’—all solid apertures in solid walls that can be opened and closed (Hutchinson, *Principia* (1724), 70–71.; Catcott, *On the Deluge* [1761], 42, quoting Hutchinson); 3) because ^a*rubbā* is derived from Hebrew verb אָרַב (and אָרַב means ‘to lie in wait’, ‘to lurk privily in a den’, ‘to watch in a hole under cover’, e.g., Ps 10:9; and אָרַב means ‘to lurk privily in a den’, e.g., Jb 38:40, and אָרַב means ‘a den’ in the rock, ‘a hole’ in the rock, ‘a cave’ in the rock, e.g., Jb 37:8), ^a*rubbā* refers to a hole or cave or passage or opening in something solid (as in 2 Ki 7:2; Ps 78:23–24; and Mal 3:10) (Catcott, *On the Deluge* [1761], 41, n.); 4) the LXX translation of is καταρραχται (‘place of rupture’ or ‘place of breaking through’ or ‘gate’), derived in turn from the verb καταρρασσω (‘to issue out’ or ‘to break through’), indicating a hole or cave or passage or opening in something solid (Catcott); 5) doves fly ‘to their windows’ (^a*rubbā*) in Is 60:8 (Dillow, ‘Vapor Canopy’ [1978], 75 | *Waters Above*, 1st ed. [1981], 68 | 2nd ed. [1982], 68); and 6) the ancient Hebrews considered the ‘firmament’ as a solid arch supporting waters above (Noble Vining, *A 6 Day’ Creation Week?: ‘Intelligent Design’—Who?* [Collegedale, TN: Worthwhile, 2006], 3); [*Editor’s note*: ^a*rubbā* is the singular ‘aperture’. The form in the text is the plural ^a*rubbōt* ‘apertures’ spelled defectively (i.e. without a vowel letter).]

140. Hutchinson, *Principia* (1724); and Catcott, *On the Deluge* (1761), 41–42. Catcott suggested that ‘heaven’ in the phrase ‘windows of heaven’ refers to air, regardless of where that air is located. Catcott suggested that the earth was originally created with air in the center of the earth, and that that air changed places with water on the earth’s surface three times in earth history, first on the 3rd day of Creation, to reveal the dry land, second in the early Flood to cover the earth with water, and third in the late Flood to drain the water off the continents. The ‘windows’ of heaven, then were the apertures in the earth’s crust through which the air passed on those three occasions.

141. Advocates for the ‘fountains’ in the *rāqīaʿ* were dealt with in the section “The ‘Break Up’ of the ‘Fountains’.”

142. Salanitri, *GUTs* (2005), 169–170.

143. Vail, *Waters Above*, 2nd ed. (1902), 101, 103 | *Deluge*, 1st ed. (1905), 80–81 | *Waters Above*, 4th ed. (1912), 101, 103, 105.

144. Salanitri (*GUTs* [2005]), following Carl Baugh, suggested that the windows were ‘opened’ by the eruption of the ‘fountains of the great deep’, and Vail (*Waters Above*, 2nd ed. [1902], 101, 103 | *Deluge*, 1st ed. [1905], 81, 83, 92 | *Waters Above*, 4th ed. [1912], 101, 103, 105) suggested that the windows were ‘opened’ by the piecemeal collapse of the ice canopy.

145. Hunter, “In the Mantle” (1996).

146. Hunter (*ibid.*) argued that since windows and floodgates are relatively small openings in much larger restraining structures, the plural form of ‘windows’ meant water fell through multiple small openings in the sky. Hunter further interpreted this as the simultaneous collapse of the vapor canopy at multiple locations.

A few creationists¹⁴⁷ suggest that something other than water fell through the ‘windows of heaven’—more specifically a shower of meteors, comets, and/or asteroids.¹⁴⁸ According to Dillow, and later Hughes, Amunrud and Oard,¹⁴⁹ ^{ʿa}*rubbâ* (sing. of KJV “windows”) can refer to the passage of something other than rain—a claim to which Dillow offers the supporting texts of 2 Kings 7:2, 19; Ecclesiastes 12:3; Isaiah 24:18, 60:8; Hosea 13:3; and Malachi 3:10. Northrup, and later Hughes, Amunrud and Oard,¹⁵⁰ suggest that the ‘windows of heaven’ requires a source from the atmosphere or space, but not necessarily of water. Robinson¹⁵¹ claims that astronomical events are suggested by analogy with events at the renewal of the heavens and the earth in Isaiah 24:18f, 65:17, Haggai 2:6, and Revelation 6:12–14. Finally, Hughes, Amunrud and Oard¹⁵² claim that the biblical use of ^{ʿa}*rubbâ* suggests something more devastating than rain.

Most creationists,¹⁵³ however, understand the ‘windows of heaven’ to refer to torrential rain. Dillow, and later Barrick and Sigler, and later yet,

147. Morris, *Biblical Basis* (1984), 184; Lindsay, *Genesis Flood* (1992), 335–336; Cook, *Noah’s Flood* (1995), 1, 5, 11, 49; Robinson, “World With Water” (2000); Hartnett, “Look-Back” (2003); Hughes, Amunrud and Oard, “Real Flood” (2015); and Oard and Reed, *Noah’s Flood* (2017), 71.

148. Morris (*Biblical Basis* [1984]) suggested cometary debris may have joined with the other water sources in the Flood. Lindsay (*Genesis Flood* [1992], 335–336) suggested the ‘windows of heaven’ was an influx of comets (also contributing a fifth water source to the Flood). Cook (*Noah’s Flood* [1995], 1, 5, 11, 49) suggested the ‘windows of heaven’ was a meteor shower, possibly from the breakup of a comet. Hartnett (“Look-Back” [2003]) suggested that the ‘waters above’ were variously-sized chunks of ice in a spherical orbital shell about the sun from about the orbit of Neptune to a few astronomical units beyond Pluto, and that some of these chunks of ice were the ‘windows of heaven’ of the Flood.

149. Dillow, “Vapor Canopy” (1978), 75 | *Waters Above*, 1st ed. (1981), 68 | 2nd ed. (1982), 68; and Hughes, Amunrud and Oard, “Real Flood” (2015).

150. Northrup, “A Walk” (1986); and Hughes, Amunrud and Oard, “Real Flood” (2015).

151. Robinson, “World With Water” (2000).

152. Hughes, Amunrud and Oard, “Real Flood” (2015).

153. Burnet, *Telluris Theoria Sacra* (1681) | *Theory of the Earth* (1697), 9; Ray, *Miscellaneous Discourses* (1692), 68–69 | *Three Discourses* (1713), 73, 116 (abnormal rain); Halley, “Considerations” (1694); Whiston, *New Theory* (1696), 164; P. Cockburn, *An Enquiry* (1750), 263; Wesley, *Notes* (1765), regarding Gn 7:11; Rodd, *Defence* (1820), 64, 74; Penn, *Estimate* 1st ed. (1822), 262 | 2nd ed. (1825), 24–25; Bugg, *Scriptural Geology*, vol. 2 (1827), 59, 77; Fairholme, *Geology of Scripture* (1833), 154; Young, *Scriptural Geology* (1838), 44; W. Cockburn, *New System* (1849), 3; Holdsworth, *Geology* (1857), 146; White, *Patriarchs* (1890), 99; Nelson, *Deluge Story* (1931), 1; Marsh, *Studies* (1950), 326; Schwarze, *Marvel* (1957), 35, 42–43; Whitcomb and Morris, *Genesis Flood* (1961), 9, 258; John C. Whitcomb, Jr., *The Early Earth*, 1st ed. (Grand Rapids: Baker, 1972), 118 | 2nd ed. (1986), 144; Morris, *Modern Science*, 3rd ed. (1968), 74–75 | *Biblical Cosmology* (1970), 31 | *Scientific Creationism*, 1st ed. (1974), 252 | *Genesis Record* (1976), 196 | *Beginning* (1977), 111 | *Biblical Basis* (1984), 184 | *Scientific Creationism*, 2nd ed. (1985), 253 | *Job* (1988), 104 | *Biblical Creationism* (1993), 37 | *Defender’s* (1995), 5; Hasel, “Fountains” (1974) | “Issues” (1978); Dillow, “Vapor Canopy” (1978), 76 | *Waters Above*, 1st ed. (1981), 66 | 2nd ed. (1982), 66; Coffin and Brown, *Origin* (1983), 27 | Coffin, Brown and Gibson, *Origin* (2005), 39; Chittick, *Controversy* (1984), 208; Brown, *In the Beginning*,

Snelling,¹⁵⁴ all claim that 'windows of heaven' is a figure of speech¹⁵⁵ that does not refer to literal windows, but instead evokes a graphic image of unrestrained rainfall. Dillow, and later Brown,¹⁵⁶ argue that the Hebrew word *geshem* ("rain," KJV) in Genesis 7:12 refers to an intense rain.¹⁵⁷ Patrick Cockburn, later Penn, and later yet, William Cockburn,¹⁵⁸ go as far as to say that the rainfall indicated by the phrase 'windows of heaven' indicates the rain of the Flood was un-natural (divinely caused).¹⁵⁹

2.3.2 Source of 'Windows' Water

A number of creationists¹⁶⁰ maintain that the water for the windows was sourced—at least proximally—in the earth's atmosphere. Some of

5th ed. (1989), 185 | 8th ed. (2008), 356, 363; Hunter, "Archaean" (1992) | "Transition Zone" (2000); Austin et al., "Catastrophic Plate Tectonics" (1994); Robinson, "Flood Geology" (1996) | "Plate Tectonics" (1996); Sharbaugh, *Ammunition* (1997), 102; Wise, "A Look" (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Barrick and Sigler, "Hebrew and Geological Analysis" (2003) | Barrick, "Noah's Flood" (2008); Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Snelling, "Explain Flood Geology" (2006) | *Catastrophic Past* (2009), 33, 276–277, 470–471, 474, 697–698 | "Geological Issues" (2014) | "Geophysical Issues" (2014); Batten et al., *Answers Book* (2006), 174; Garner, *New Creationism* (2009), 189; Ham and Lovett, "Was there Really" (2009); Duncan, "Volcanism" [paper] (2010); Oard, *Dinosaur* (2011), 114 | Oard and Reed, *Noah's Flood* (2017), 66; Budd, *Cataclysm* (2014), 35; Hughes, Amunrud and Oard, "Real Flood" (2015); and Ross et al., *Excursions* (2015), 10.

154. Dillow, "Vapor Canopy" (1978), 43, 72–73, 75–76 | *Waters Above*, 1st ed. (1981), 37–38, 66, 68–69 | 2nd ed. (1982), 37–38, 66, 68–69; Barrick and Sigler, "Hebrew and Geological Analysis" (2003); and Snelling, *Catastrophic Past* (2009), 276.

155. Dillow argues that since Jgs 5:4, Jb 36:29, and Ps 77:17 all directly teach that rain comes from clouds, the biblical author knows that rain does not fall through literal windows. Thus, Dillow argues, 'windows of heaven' in Gn 7:11 is a figure of speech. As Snelling (*Catastrophic Past* [2009], 470) claims, the figure of speech 'windows of heaven' is used in Gn 7:11 to make the description of torrential rain more graphic to the reader.

156. Dillow, "Vapor Canopy" (1978), 76 | *Waters Above*, 1st ed. (1981), 69 | 2nd ed. (1982), 69; and Brown, *In the Beginning*, 5th ed. (1989), 185 | 8th ed. (2008), 356, 363.

157. Dillow ("Vapor Canopy" [1978], 76 | *Waters Above*, 1st ed. [1981], 69 | 2nd ed. [1982], 69) offers the supporting texts of Ps. 68:10 ('pouring rain') and 1 Kings 18:41 ('heavy rain'). Brown (*In the Beginning*, 5th ed. [1989], 185 | 8th ed. [2008], 356, 363) adds Ez 13:11–13, which, accompanied by high winds & huge hailstones destroys mortared walls. Along the same lines, Duncan ("Volcanism" [paper] [2010]) claims *geshem* means 'violent shower'. [*Editor's note*: The Hebrew letter 'shin' is represented here and in *shāmāyim* 'heaven', 'sky' as 'sh'; but conventionally is represented by š.]

158. P. Cockburn, *An Enquiry* (1750), 263, 265–266; Penn, *Remarks* (1826), 34–36; and W. Cockburn, *Bible Defended* (1845).

159. Based on Jb 12:15 and 26:8, P. Cockburn (*An Enquiry* [1750], 263–266) suggested that for a number of years before the Flood, God may have evaporated more water than was precipitated, gradually building up the water that would be rained down upon the earth in the Flood.

160. Bugg, *Scriptural Geology*, vol. 1 (1826), 126; Murray, *Truth*, 1st ed. (1831), 128–130 | 2nd ed. (1840), 215–217; Nolan, *Analogy* (1833), 236–242; Rhind, *Age of the Earth* (1838), 100; Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Austin et al., "Catastrophic Plate

these¹⁶¹ believe the water somehow¹⁶² came from water vapor and/or clouds in the antediluvian atmosphere. Nolan¹⁶³ believes water in the antediluvian atmosphere was supplemented by juvenile water from erupting volcanoes. Budd¹⁶⁴ suggests that the juvenile water from volcanoes was actually the primary source of ‘windows’ water. The remainder of creationists arguing for an atmospheric origin for the water of the ‘windows’¹⁶⁵ believe the water fell out of the atmosphere after first being inserted into the atmosphere from the oceans below. Galloway¹⁶⁶ believes the ocean water was splashed into the atmosphere by colliding tsunamis.¹⁶⁷ Austin et al.¹⁶⁸ and others after them¹⁶⁹ suggest the ocean water was injected into

Tectonics” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 697–698 | “Meteors” (2012) | “Geological Issues” (2014) | “Geophysical Issues” (2014); Ross, *Genesis Question* (1998), 147–148; Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Garner, *New Creationism* (2009), 189; Budd, *Cataclysm* (2014), 35; and Ross et al., *Excursions* (2015), 108.

161. Rodd, *Defence* (1820), 63; Bugg, *Scriptural Geology*, vol. 1 (1826), 126; Murray, *Truth*, 1st ed. (1831), 128–130 | 2nd ed. (1840), 215–217; Rhind, *Age of the Earth* (1838), 100; and Ross, *Genesis Question* (1998), 147–148.

162. Rodd (*Defence* [1820], 63) thought the water came from the increased atmospheric vapor that comes after a ‘long Summer’s drought’. Murray (*Truth*, 1st ed. [1831], 128–130 | 2nd ed. [1840], 215–217) thought the antediluvian atmosphere was more ‘dense’ with water. Rhind (*Age of the Earth* (1838), 100) thought the heat from greater volcanic activity placed more water vapor in the antediluvian atmosphere. Ross (*Genesis Question* [1998], 147–148) thought God directly sustained the high precipitation rates.

163. Nolan, *Analogy* (1833), 236–242.

164. Budd, *Cataclysm* (2014), 35.

165. Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91; Austin et al., “Catastrophic Plate Tectonics” (1994); Snelling, “Continents Really Moved” (1995) | “Explain Flood Geology” (2006) | *Catastrophic Past* (2009), 33, 277, 474, 697–698 | “Meteors” (2012) | “Geological Issues” (2014) | “Geophysical Issues” (2014); Wise, “A Look” (1999) | *Faith* (2002), 189–190 | *Something* (2004), 150–152; Sarfati, *Refuting* (2004), 260–261 | *Genesis* (2015), 531–533; Garner, *New Creationism* (2009), 189; and Ross et al., *Excursions* (2015), 108.

166. Galloway, *Science and Geology* (1888), 136–137 | *Testimony* (c1896), 91.

167. The tsunamis caused by a sudden change in the earth’s axial tilt.

168. Austin et al., “Catastrophic Plate Tectonics” (1994).

169. Snelling (“Continents Really Moved” [1995] | “Explain Flood Geology” [2006] | *Catastrophic Past* [2009], 33, 277, 474, 697–698 | “Meteors” [2012] | “Geological Issues” [2014] | “Geophysical Issues” [2014]) and Wise (“A Look” [1999] | *Faith* [2002], 189–190 | *Something* [2004], 150–152) were authors on the original paper. Sarfati (*Refuting* [2004], 260–261 | *Genesis* [2015], 531–533), Garner (*New Creationism* [2009], 189), and Ross et al. (*Excursions* [2015], 108) adopted that model after them.

the atmosphere by the flash-vaporization of water.¹⁷⁰

Most creationists¹⁷¹ suggest the water for the 'windows' came from a source above the earth's troposphere. Of those, a great majority¹⁷² maintain¹⁷³ that the 'waters above' of Genesis 1:7 amounted to an ocean-

170. The flash-vaporization was thought to be caused when ocean water came into contact with rapidly emplaced basaltic magmas. The basaltic magmas were thought to be partially melted from mantle rock suddenly depressurized as ocean crustal plates above them rapidly separated as a result of rapid mantle convection.

171. Whiston, *New Theory* (1696), 301–302, 314–315; Kant, *Natural History* (1755), 2.5 (though never directly referring to either fountains or windows); Wesley, *Survey* (1809), 29; Murray, *Truth*, 1st ed. (1831), 128–130 | 2nd ed. (1840), 215–217; Vail, *Waters Above*, 1st ed. (1874) | *Waters Above*, 2nd ed. (1902), 101, 103, 105 | *Waters Above*, 4th ed. (1912), 101, 103, 105; Schwarze, *Harmony*, 1st ed. (1942), 71–72 | 2nd ed. (1942), 71–72 | *Marvel* (1957), 14–15, 24, 33–35, 42–43; Morris, *Might Believe*, 1st ed. (1946), 74 | *Modern Science*, 2nd ed. (1956), 75–76 | *Twilight*, 1st ed. (1963), 69 | *Modern Science*, 3rd ed. (1968), 74–75 | *Biblical Cosmology* (1970), 32 | *Scientific Creationism*, 1st ed. (1974), 287, 308 | *Genesis Record* (1976) 197 | *Beginning* (1977), 111 | *Might Believe*, 2nd ed. (1978), 88–89 | *Biblical Basis* (1984), 282 | *Job* (1988), 104 | *Biblical Creationism* (1993), 37 | *Defender's* (1995), 5, 23; Whitcomb and Morris, *Genesis Flood* (1961), 9, 77, 258; Dillow, "Vapor Canopy" (1978), 152 | *Waters Above*, 1st ed. (1981), 136–138 | 2nd ed. (1982), 136–138; Chittick, *Controversy* (1984), 208; Bixler, "Vapor Canopy" (1986) | *Earth, Fire and Sea: God's Story in Genesis*, 2nd ed. (Shippensburg, PA: Treasure House, 1999), 142–143; Northrup, "A Walk" (1986); Sharp, *Revolution* (1986), 32 (possibly); Ham, Snelling and Wieland, *Answers Book* (1990), 15, 117, 121; Scheven, "Geological Record" (1990); Lindsay, *Canopied Earth* (1991), 63–64, 175, 306 | *Genesis Flood* (1992), 325–327 | *Star Wars* (1992), 219; McIlwain and Everson, *Foundations* (1991), 135, n. 8, 239; Jorgensen, "Fundamental Physics" (1992); Martin, *Evolution* (1994), 142; Sippert, *Evolution* (1995), 69, 71; Hunter, "In the Mantle" (1996) | "Transition Zone" (2000); Sharbaugh, *Ammunition* (1997), 104; Salanitri, *GUTs* (2005), 169–170; and Anderson, *In the Beginning* (2015), 60–63.

172. Hutchinson, *Principia* (1724), 26–27; Vail, *Alaska* (1897), 17 | *Waters Above*, 2nd ed. (1902), 101–105 | *Deluge* 1st ed. (1905), 57–58, 82–85, 90–91 | *Waters Above*, 4th ed. (1912), 101–105 | *Deluge*, 2nd ed. (1921), 57; Schwarze, *Harmony*, 1st ed. (1942), 71 | 2nd ed. (1942), 71 | *Marvel* (1957), 14; Kellogg, *Canopied Earth* (1945), 17; Morris, *Might Believe* (1946), 74 | *Modern Science*, 2nd ed. (1956), 75–76 | *Biblical Cosmology* (1970), 32 | Remarkable (1972), 28–29 | *Infallible* (1974), 308 | *Genesis Record* (1976), 194 | *Might Believe*, 2nd ed. (1978), 87–88 | *Biblical Basis* (1984), 282 | *Job* (1988), 103–104 | *Biblical Creationism* (1993), 24–25 | *Defender's* (1995), 4–5 | *Twilight*, 2nd ed. (1998), 52 | Morris and Morris, *Infallible* (1996); Whitcomb, *World*, 1st ed. (1973), 33–34 | 2nd ed. (1988), 35–36; Dillow, "Vapor Canopy" (1978), 26 | *Waters Above*, 1st ed. (1981), 22 | 2nd ed. (1982), 22; Chittick, *Controversy* (1984), 208; Dennis R. Petersen, *Unlocking the Mysteries of Creation* (El Dorado, CA: Creation Resource Foundation, 1986), 1.18 (possibly); Northrup, "A Walk" (1986); Lindsay, *Canopied Earth* (1991), 23; McIlwain and Everson, *Foundations* (1991), 135, n. 8; Martin, *Evolution* (1994), 126–127; Sippert, *Evolution* (1995), 71; Hartnett, "Look-Back" (2003); and Anderson, *In the Beginning* (2015), 20–63.

173. The steps of reasoning leading to the conclusion of a celestial ocean are rarely spelled out, but when they are, they more or less proceed as follows: 1) the *t'hôm* of Gn 1:2 was divided (in Gn 1:6–7) by an expanse or openness into the 'waters above' (KJV 'firmament' means 'expanse' [Morris, *Might*

scale volume of water above the earth's atmosphere¹⁷⁴—a celestial ocean water

Believe, 2nd ed. (1978), 88 | *Defender's* (1995), 4] or, better, 'stretched-out thinness' [Morris, *Defender's* (1995), 4]) or the openness and the 'waters below' (Vail, *Alaska* [1897], 17 | *Deluge*, 2nd ed. [1921], 57; Whitcomb and Morris, *Genesis Flood* [1961], 77), 2) Since the openness was called 'heaven' in Gn 1:8 (e.g., Vail; Whitcomb and Morris, *Genesis Flood* [1961], 77), and birds fly in the openness in Gn 1:20 (e.g., Northrup, "A Walk" [1986]), and the 'waters below' the openness were called 'seas' in Gn 1:10, it follows that the openness of the heavens is the atmosphere (e.g., Brown, *In the Beginning*, 8th ed. [2008], 365, when *rāqia'* occurs with the qualifier 'of heaven'), 3) It follows, then, that the 'waters above' of Gn 1:7 refer to waters above the earth's atmosphere (Schwarze, *Harmony*, 1st ed. [1942], 71–72 | 2nd ed. [1942], 71–72 | *Marvel* [1957], 14; Morris, *Defender's* [1995], 4–5), as the preposition rendered 'above' can never be rendered 'in' or 'inside' (Hutchinson, *Principia* [1724], 26–27; Schwarze, *Marvel* [1957], 14; Morris, *Defender's* [1995], 4–5), and 4) An entire day in the Creation week devoted to the separation of the waters suggests that the 'waters above' are quite substantial in volume. From this reasoning it follows that God created a celestial ocean on the 2nd day of Creation. Other arguments for this position include: (a) because God's Spirit moved upon the waters in Gen 1:2, there are waters in heaven (Vail, *Alaska* [1897], 17 | *Deluge*, 1st ed. [1905], 79); (b) because God called the *rāqia'* in the midst of the waters 'heaven', there are waters in heaven (Vail, *Alaska* [1897], 17 | *Deluge*, 1st ed. [1905], 57–58; Whitcomb and Morris, *Genesis Flood* [1961], 77); (c) the name God gave to *rāqia'* in Gn 1:8 was *shāmayim* ('heaven'), which literally means 'there waters', thus directly identifying 'heaven' with water (Vail, *Alaska* [1897], 17 | *Deluge*, 1st ed. [1905], 58); (d) Vail (*Waters Above*, 2nd ed. [1902], 104 | *Waters Above*, 4th ed. [1912], 104) claims the verses Jb 26:7–17, 28:11, 24, 26, 36:30, 38:8–26, Ps 42:17, and 148:4 all point to water above the clouds of the earth, Morris (*Genesis Record* [1976], 194) claiming the same for Ps 148:4, and Whitcomb and Morris (*Genesis Flood* (1961), 77) claiming the same for 2 Pt 3:5–7; and (e) Bixler ("Vapor Canopy" [1986]; *Earth, Fire and Sea* [1999], 140–144) and Lindsay (*Canopied Earth* [1991], 63–64 | *Star Wars* [1992], 208–210) claim *mabbul* (KJV "flood," with a definite article in Gn 6:17, 7:6, 7, 10, 17; 9:11, 28; 10:1, 32, 11:11 and without a definite article in Gn 9:11, 15) refers to a celestial ocean (a claim denied by Hasel, "Issues" [1978]).

174. Brown (*In the Beginning*, 8th ed. [2008], 177, 365–366) argues against this interpretation by claiming there are two different *rāqia'*: the *rāqia'* 'of heaven' (as the atmosphere) and *rāqia'* without the 'of heaven' qualifier (as the earth's crust, separating ocean(s) of liquid water atop the crust from ocean(s) of liquid water beneath the crust). He justifies this claim with: 1) his claim that the first use of a Hebrew word in Scripture gives us its primary meaning, and subsequent usages define more specific applications of the word; and 2) the Hebrew phrases translated 'waters above' and 'waters below' refer to, and only to, liquid water. Claim 2 is justified by: (2a) 2 Pt 3:5–6 uses the same Greek word for the liquid water of the Flood as the water out of which the earth was formed, and (2b) The Hebrew text does not use better words that were available in Hebrew for 'canopy' or 'vapor' or 'ice'. And Claim 2 argues against the 'waters above' being a canopy of any sort, and being in the form of either ice or vapor.

Snelling (*Catastrophic Past* [2009], 276, 472) also argues against this interpretation, but in a completely different manner. He argues that since the birds fly in the face of the *rāqia'* of heaven and the lesser and greater lights were placed in the midst of the *rāqia'* of heaven, the *rāqia'* (KJV, 'firmament') must include both the 'inner space' of the atmosphere and the 'outer space' beyond that. If so, that would place the 'waters above' the *rāqia'* beyond the edge of the universe and presumably unavailable as a water supply for the Flood.

source for the ‘windows’ of Genesis 7:11.¹⁷⁵

175. A variety of physical phenomena have been identified as this celestial ocean: 1) the coma, then tail, of a comet through which the earth passed in its orbit (Whiston, *New Theory* [1696], 301–302, 314–315; Wesley, *Survey* [1809], 29), 2) ice rings about the earth that collapsed onto the earth during the Flood (Kant, *Natural History* [1755], 2.5 [although he does not directly refer to either the fountains or the windows]; Vail, *Waters Above*, 1st ed. [1874] | *Alaska* [1897], 2, 14, 16–17, 19 | *Waters Above*, 2nd ed. [1902], 101–109 | *Deluge*, 1st ed. [1905], 16–19, 22–23, 25, 30 | *Waters Above*, 4th ed. [1912], 101–109); 3) a dome of ice supported at the poles and arching over the lower and middle latitudes that collapsed during the Flood (Schwarze, *Harmony*, 1st ed. [1942], 71–72 | 2nd ed. [1942], 71–72 | *Marvel* [1957], 14–15, 24, 33–35, 42–43; Kellogg, *Canopied Earth* [1945], 9, 11); 4) a spherical canopy of water vapor in or on the earth’s outer atmosphere (Morris, *Might Believe* [1946], 74 | *Modern Science*, 2nd ed. [1956], 75–76 | *Twilight*, 1st ed. [1963], 69 | *Modern Science* [1968], 74–75 | *Biblical Cosmology* [1970], 32 | *Infallible* [1974], 287, 308 | *Genesis Record* [1976], 197 | *Beginning* [1977], 111 | *Might Believe*, 2nd ed. [1978], 88–89 | *Biblical Basis* [1984], 282 | *Job* [1988], 104 | *Biblical Creationism* [1993], 37 | *Defender’s* [1995], 23; Whitcomb and Morris, *Genesis Flood* [1961], 9, 77, 252 | Whitcomb, *Early Earth*, 1st ed. [1972], 118 | *World*, 1st ed. [1973], 34 | *Early Earth*, 2nd ed. [1986], 144 | *World*, 2nd ed. [1988], 35–37; Wysong, *Controversy* [1976], 388; Dillow, “Vapor Canopy” [1978], 152 | *Waters Above*, 1st ed. [1981], 136–138 | 2nd ed. [1982], 136–138; Peterson, “Flood Altered” [1981]; Chittick, *Controversy* [1984], 208; Bixler, “Vapor Canopy” [1986] | *Earth, Fire and Sea* [1999], 142–143; Northrup, “A Walk [1986]; Petersen, *Unlocking* [1986], 1.18 [possibly]; Ham, Snelling and Wieland, *Answers Book* [1990], 15, 117, 121, 123; Scheven, “Geological Record” [1990] [as ‘orbital water’]; Lindsay, *Canopied Earth* [1991], 63–64, 175, 306 | *Star Wars* [1992], 219; McIlwain and Everson, *Foundations* [1991], 135, n. 8, 239; Jorgensen, “Fundamental Physics” [1992]; Martin, *Evolution* [1994], 142; Sippert, *Evolution* [1995], 69, 71; Hunter, “In the Mantle” [1996] | “Transition Zone” [2000]; Sharbaugh, *Ammunition* [1997], 104; and Anderson, *In the Beginning* [2015], 60–63 [water in some form]); 5) ice of an astral visitor that broke up and fell on the earth during the Flood (Lindsay, *Genesis Flood* [1992], 333–334 | *Star Wars* [1992], 15 [one among several water sources]). In the case of the source no. 4 (a vapor canopy), a variety of mechanisms for why it collapsed have been proposed: 1) introduction of condensation nuclei (Whitcomb and Morris, *Genesis Flood* [1961], 258 | Whitcomb, *World*, 1st ed. [1973], 34 | 2nd ed. [1988], 37; Patten, “Ice Epoch” [1968]; Morris, *Genesis Record* [1976], 197 | *Might Believe*, 2nd ed. [1978], 88–89 | *Biblical Basis* [1984], 184 | *Biblical Creationism* [1993], 37 | *Defender’s* [1995], 23; Dillow, “Vapor Canopy” [1978], 154, 204, 283–284 | *Waters Above*, 1st ed. [1981], 186, 267, 273 | 2nd ed. [1982], 186, 267, 273; Chittick, *Controversy* [1984], 208; Ham, Snelling and Wieland, *Answers Book* [1990], 121; Jorgensen, “Fundamental Physics” [1992]; Martin, *Evolution* [1994], 142) [from either (1a) a meteorite swarm or volcanic dust (Whitcomb and Morris, *Genesis Flood* [1961], 258), (1b) ice crystals from the breakup of the ice of an astral visitor (Patten, “Ice Epoch” [1968] | “Greenhouse” [1970]), (1c) volcanic dust from the breakup of the fountains of the great deep (Whitcomb, *World*, 1st ed. [1973], 34–35 | 2nd ed. [1988], 36; Morris, *Genesis Record* [1976], 197 | *Might Believe*, 2nd ed. [1978], 88–89 | *Biblical Creationism* [1993], 37 | *Defender’s* [1995], 23; Dillow, “Vapor Canopy” [1978], 154, 204, 283–284 | *Waters Above*, 1st ed. [1981], 186, 267, 273 | 2nd ed. [1982], 186, 267, 273; Chittick, *Controversy* [1984], 208; Ham, Snelling and Wieland, *Answers Book* [1990], 121; Jorgensen, “Fundamental Physics” [1992]; Hunter, “In the Mantle” [1996]), and (1d) cometary debris (Morris, *Biblical Basis* (1984), 184); 2) directly disturbed by gravitational interaction with an astral visitor (Patten, *Biblical Flood* [1966], 153, 195); 3) shock waves from the collapse of large calderas or upwelling of the ‘fountains’ of the great deep (Hunter); and 4) a sudden change in the gravitational constant (Hunter, “Transition Zone” [2000]).

3. Discussion

This paper being a summary and already too long, I will only comment on the general state of creationist research suggested by this review. There are, I believe, a number of very unfortunate features of creationist literature that need to be addressed and reversed: 1) no literature review of this topic—or any other topic for that matter—was encountered in this research, so creationist literature lacks literature reviews; 2) a very small percentage of the sources mention the work of any other creationists, suggesting creationists tend to ignore the work of other creationists; 3) the extremely strong predominance of single-author works suggest creationists do not tend to work in community; 4) the vast percentage of the sources that did mention the work of other creationists mention only the works with which they disagree, suggesting creationists are not only not working in community, their research tends to tear down the research of others, not build it up, and 5) although the interpretation of the Hebrew is critically important in understanding the meaning of ‘fountains’ and ‘windows’, very few Hebrew scholars have been included in these studies, suggesting creationists do not start with the biblical text to create their physical models. There is also little evidence in this review of any convergence in the creationist community on any one model—or even on a few models. This reviewer believes part of the reason for this lack of convergence is a lack of proper biblical exegesis of Genesis 7:11. This review reinforces the need for a systematic study of the Hebrew of Genesis 7:11 to determine what constraints the Bible lays out before we develop scientific models. At the very least, we need to determine from the Hebrew what past speculations by creationists are not permitted in a proper understanding of the biblical text. Then, we need to encourage similar studies across creationism, and encourage future creationist research to begin with cooperative research with biblical scholars.

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176. [Editor's note: At variance with the convention in journals, this article has a source list appended, so that within the thicket of footnotes of this article, readers can identify the works documented by short citations.]

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