



The Genesis Flood: 50 Years On

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At the 1959 Darwin Centennial Celebration in Chicago, Sir Julian Huxley confidently announced the triumph of evolution and the death of creationism. But with hindsight his declaration was premature. For only two years later, a book was published that was to reinvigorate biblical creationism on a worldwide scale. That book was *The Genesis Flood* by John C. Whitcomb and Henry M. Morris, a publication which celebrates its fiftieth anniversary this year.

In this article we will trace the history of Christian thought that led to *The Genesis Flood* being written and seek to evaluate its impact over the last five decades.

Belief in a worldwide flood with geological effects was not a twentieth-century innovation. From the earliest days of the Christian church, the universality of the Flood was accepted on the testimony of the biblical text, and fossils were sometimes regarded as evidence of the cataclysm.

Church fathers

Tertullian (c.160-c. 225) may well have had the Flood in mind when he spoke of fossils in the mountains testifying to a time when the globe had been covered by water (Young 1995, p.26). There are hints that other Church Fathers had similar views.

Procopius of Gaza (c. 465-c. 528) was explicit: 'It can be shown clearly in many other ways that a universal flood came upon the earth, by which those people are persuaded who believe with difficulty that these things were explained by Moses. For even today, in mountains that are lofty and difficult to climb, marine remains are found, that is, shells and fragments of tortoise shells and other such things, which even we ourselves have seen' (Young 1995, p.26).

Likewise the Reformers accepted that the Flood had been worldwide in its extent and effects. Martin Luther (1483-1546) devoted a substantial part of his lectures on Genesis to the Flood account. He attributed the present configuration of the mountains and oceans to the agency of the Flood, and spoke of fossil fish and other animals as the remains of creatures that perished during the catastrophe (Young 1995, p.48).

The Genevan Reformer, John Calvin (1509-1564), commenting on Genesis 7:17 wrote: 'Moses continues to insist on this fact, to show that the whole world was immersed in the Flood' (Calvin 2001, p.79)

The pioneering naturalists of the seventeenth century also sought to build their thinking on the historical accounts recorded in the early chapters of Genesis.

Thomas Burnet (1635?-1715) argued that the present surface of the earth had been shaped by the worldwide Flood (Rudwick 1972, p.78), while John Woodward (1665-1728) thought that the fossils enclosed in the rock layers were animals and plants that had been overwhelmed by the cataclysm (Rudwick 1972, p.82). Both men saw the rocks and fossils as a silent testimony to the events of creation and the Flood.

Enlightenment thinking

But over the next few decades there was a growing separation in people's minds between 'scientific' and 'religious' truths. The Bible came to be regarded as a source of moral and religious instruction, but not as a reliable source of knowledge about the physical world. The biblical events of creation and the Flood were sidelined in favour of increasingly speculative ideas about the earth's past.

These trends ultimately paved the

way for the 'Age of Enlightenment'. This period of intellectual history was marked by the wilful rejection of biblical revelation and the triumph of 'scientific' rationalism. The Scottish geologist James Hutton (1726-1797) was one of the champions of this new worldview (Hutton 1959 [1795]).

While working on his family farm in Berwickshire, Hutton observed the way in which erosion gradually wore away at the rocks, and sediments slowly accumulated in streams, lakes and rivers.

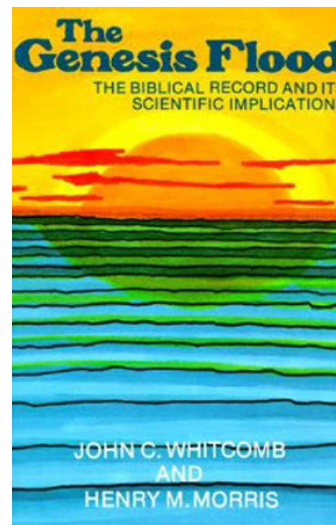
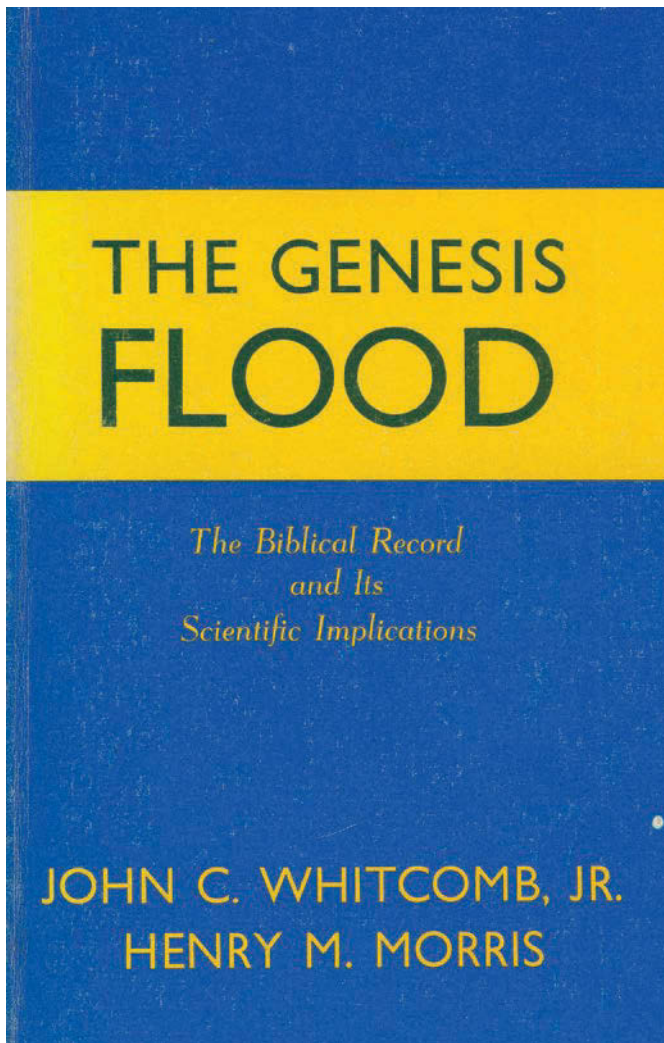
He came to believe that these same slow processes, operating over vast periods of time, were sufficient to explain how the earth's rock layers had formed in the more distant past. There was no place in his thinking for catastrophic global floods like the one described in the Bible.

In the nineteenth century, Hutton's views were taken up and popularised by Sir Charles Lyell (1797-1875) (Lyell 1970 [1830-1833]). Lyell is credited with developing the principle of uniformitarianism, which can be summed up in the phrase: 'the present is the key to the past'. Indeed, Lyell went even further than Hutton in assuming the strict uniformity of geological rates.

Barren years

By the mid-nineteenth century, uniformitarianism had been adopted by the majority of geologists. There was some opposition to the new geological theories from a group of naturalists and clergymen who became known as the Scriptural (or Mosaic) geologists.

Largely overlooked by modern historians, they defended Genesis 1-11 as a reliable historical account, including Noah's Flood as a unique global catastrophe, and challenged the idea of long geological ages (Mortensen 2003). However, they





were effectively marginalised by the geological community of their day.

The next fifty years were barren ones for 'Flood geology'. But in the early twentieth century, a challenge to the geological consensus came from a surprising source. George McCready Price (1870-1963) was a Seventh-Day Adventist and prolific author on science and the Bible.

He set out to revive the idea that the fossil-bearing portion of the geological record was a testimony to Noah's Flood. His magnum opus was *The new geology* (Pacific Press, 1923), a 726-page textbook on Flood geology.

One of Price's students at Pacific Union College in Angwin, California, was Harold W. Clark (1891-1983). Clark went on to publish two books of his own on Flood geology, *The new diluvialism* (Science Publications, 1946) and *Fossils, flood, and fire* (Outdoor Pictures, 1968). However, Price and Clark did not see eye to eye on a number of geological issues – differences of opinion that have continued to resonate in the creationist community to the present day.

Other lonely voices for Flood geology during the early to middle part of the twentieth century were Clifford Burdick (1894-1992), a consulting geologist; Byron C. Nelson (1893-1972), a Lutheran minister and author of *The deluge story in stone* (Augsburg, 1931); and Alfred M. Rehwinkel (1887-1979), a professor at Concordia Seminary who published a book in 1951 entitled *The Flood in the light of the Bible, geology, and archaeology* (Concordia).

The Genesis Flood

In 1943, a young scientist called Henry M. Morris (1918-2006) came across George McCready Price's name in a book and looked up *The new geology* in the library of the institution where he was teaching at the time (Morris 1993, p.88).

Morris was a Baptist with a doctorate in hydraulic engineering from the University of Minnesota, and deeply interested in issues of science and faith. Price's book was to have an enormous influence upon him, for he soon

abandoned his efforts to harmonise the Bible with old earth thinking.

Ten years later, in September 1953, Morris visited Grace Theological Seminary in Winona Lake, Indiana, to present a paper to a meeting of the American Scientific Affiliation, an organisation for Christians in the sciences.

His subject was 'Biblical evidence for a recent creation and universal deluge.' Present at the meeting was John C. Whitcomb (b.1924), a lecturer in Old Testament at the seminary.

Whitcomb was so inspired by Morris' lecture that he devoted four years to the writing of a doctoral dissertation entitled 'The Genesis Flood: An investigation of its geographical extent, geological effects, and chronological setting', which he completed in 1957 (Whitcomb 2006).

As a result of this providential meeting, the two men became friends. In due course they agreed to work together on the book that eventually became *The Genesis Flood*.

They decided that a project of this kind required the perspectives of both a scientist and a theologian. During the writing process, they also co-opted 21 scientists, nine theologians and two grammarians to review all or part of their manuscript.

The book was finally published by Presbyterian and Reformed in February 1961, although Whitcomb and Morris probably had little inkling of the extraordinary impact it would have on the evangelical world.

Looking back today, one cannot help but be impressed by the courage of these two men. This was a lonely time to be a creationist and there were virtually no resources to help. Yet Whitcomb and Morris were prepared to swim against the tide, at potentially great cost to their academic careers and personal reputations.

Following its publication, reviews of *The Genesis Flood* appeared in a number of periodicals, although it was mostly ignored by the secular media and mainstream scientific community.

Mixed reactions

In the Christian world, reactions ranged from fulsome praise to outright hostility. An article by the Dutch Reformed geologist J. R. van de Fliert in the *Journal of the American Scientific Affiliation* attacked the book as pseudoscience (van de Fliert 1969). But *The Genesis Flood* was widely read in evangelical circles and proved enormously influential.

Much to the dismay of its critics, it helped to spark a global revival of creationism, with new movements being established in many countries.¹ One recent book attacking Flood geology has referred to the 'stunning and baffling explosion' of young-age creationism in the second half of the twentieth century (Young and Stearley 2008, p.21).

One of the first of the new creationist organisations was the Creation Research Society (CRS), established by Henry Morris and nine others in 1963. It was founded partly as a reaction to the perceived capitulation of the American Scientific Affiliation to theistic evolution. The CRS continues to disseminate the research of its members through a quarterly journal.²

In 1969, Morris resigned from his departmental position at the Virginia Polytechnic Institute and a year later helped to found Christian Heritage College (now San Diego Christian College) in Santee, California. This was to lead to the establishment of the Institute for Creation Research (ICR), which began as the research division of Christian Heritage College, but became independent in 1972.

Morris served as the president of ICR until his retirement in 1996. During his presidency, Henry Morris, with his biochemist colleague Dr Duane Gish, engaged evolutionists in hundreds of public debates on university campuses across the United States, and occasionally further afield.

Inspiration

Since its first appearance, *The Genesis Flood* has been reprinted 29 times and sold more than 260,000 copies in English. Translations into German, Spanish and Korean have also been undertaken.

Two sequels by John Whitcomb, *The early earth* (Baker, 1972) and *The world that perished* (Baker, 1973), expanded on the arguments of *The Genesis Flood* and addressed some of the earlier published criticisms.

The pioneering work of Whitcomb and Morris also inspired a new generation of creationists to gain degrees in relevant fields and to get involved in research. Steven Austin graduated from Pennsylvania State University in 1979 with a PhD for his studies on a coal bed in western Kentucky.

He soon joined the staff at ICR, and has become well known for his field research at Mount St Helens and in the Grand Canyon.

Kurt Wise gained his PhD in invertebrate palaeontology in 1989 from Harvard University, where he studied under the leading evolutionist, Stephen Jay Gould.

He subsequently established the Center for Origins Research at Bryan College in Dayton, Tennessee, which has become the world's leading hub for biological research in creationism.³

In Australia, Andrew Snelling was awarded his doctorate in geology by the University of Sydney for research on the Koongara uranium deposit in the Northern Territories. After six years working as a field and mine geologist, he entered full-time creationist ministry and currently serves as Director of Research with Answers in Genesis (USA).

Research into Flood geology also continues to be supported within Adventist circles. The Geoscience Research Institute, located on the campus of Loma Linda University, was actually founded in 1958, before the publication of *The Genesis Flood*.

Its staff continue to study the scientific evidence concerning origins from a creationist perspective, and publish a scholarly journal, *Origins*, which reports research from the earth sciences and other fields.⁴

Evaluation

How should we evaluate *The Genesis*

Flood, fifty years on? Here are a few thoughts.

One of the book's greatest strengths is the way in which it carefully sets out the biblical case for the universality of the Flood. Its first chapter addresses basic arguments (the depth and duration of the Flood, the size and necessity of the ark, the testimony of the apostle Peter and the total destruction of a widely distributed human race).

Chapters two and three deal with objections to an anthropologically universal Flood and efforts to harmonise the Flood account with conventional geology (such as the local and tranquil Flood theories).

Although some of the arguments are stronger than others (Clough 1968), the overall case has stood the test of time and is one of the book's most enduring legacies. Indeed very few have even tried to refute the points Whitcomb and Morris made.

Modern opponents of creationism often ignore the flood,⁵ even though it is crucial to any assessment of the compatibility of evolution with the Bible. Today there is a need to re-emphasise the arguments set out in *The Genesis Flood* and to develop them further.

One area that would repay close attention is the pivotal role that the Flood plays in the overall biblical storyline as a counterpart to the Second Coming.⁶

The book also helpfully focuses on the geological implications of the biblical account, drawing the reader's attention to some important scientific observations. In chapters four and five it highlights the inadequacy of the uniformitarian principle ('the present is the key to the past') to explain the record in the rocks.

The authors point to the extraordinary extent of the sedimentary rock layers, the pervasive evidence of catastrophism and remarkable fossil graveyards that document the death, burial and preservation of millions of fossil organisms.

These data suggest processes operating on a scale and at rates unlike those of the present day, and remain an important part of the overall scientific case for Flood geology.

Synthesis

But most significantly, *The Genesis Flood* represents an ambitious attempt to construct a comprehensive and innovative synthesis of the biblical and scientific data. Reviewing the book's impact, Don Carson (1980) pointed out, 'For the first time in years, creationists were not poking away at isolated problems and scoring points in narrow areas of conflict.' Rather, there was an effort to build a wide-ranging model that could operate as an alternative framework for interpreting the scientific data.

Of course progress was limited at first because the right range of experts and the required research structures were not in place, but that does not take away from the fact that Whitcomb and Morris were sufficiently far sighted to recognise the need for this kind of work.

There is an important lesson for us today. Too often creationism lapses into mere anti-evolutionism; becomes negative rather than positive; tears down but fails to build up. We can learn from the vision and ambition of *The Genesis Flood* by focusing our efforts on building an overarching model of the Flood with robust theological and scientific foundations. Whitcomb and Morris pointed the way.

Like any book dealing with scientific matters, some of the arguments in *The Genesis Flood* have had to be reconsidered based on further study. The book was published before the theory of plate tectonics revolutionised the earth sciences in the late 1960s, which means that much of its geology is out of date. Here are five other areas in which *The Genesis Flood* has needed reassessment.

Fossil order

One of the areas of contention between George McCready Price and Harold Clark concerned the sequence of rocks and fossils (often summarised in textbooks as 'the geological column'). Price argued that this sequence was an artificial construct based on the assumption of evolution.

But Clark was persuaded that there really was a consistent sequence, and sought to explain the order of the fossils as the order in which different ecosystems



were inundated and buried during the Flood.

Whitcomb and Morris (1961, pp.270-288) questioned whether the order of the fossils was as consistent as most geologists had assumed, but appealed to the ecological zones of the pre-Flood world as one explanation of any order that did exist.

Today there is still debate within creationism about these matters, although it is probably fair to say that most of the creationist geologists with field experience have sided with Clark.

Sequence

One of the arguments marshalled by Whitcomb and Morris (1961, pp.180-200) against the geological column concerned places where the rock layers were found in the 'wrong order'.

Conventional geologists attributed these 'out of order' layers to earth movements, in which faults or slides have displaced older rocks over the top of younger rocks. The arguments of Whitcomb and Morris notwithstanding, close inspection leaves little doubt that these 'out of order' sequences were truly caused by earth movements and cannot be considered exceptions to the geological column (Wise 1986).

The Flood geologist should not be discouraged by this, however, for it is virtually impossible to explain how such extraordinary movements occurred unless rapidly and catastrophically.

Recent studies suggest that the Heart Mountain Slide of Wyoming (one of the examples discussed in *The Genesis Flood*) must have moved 45 km down a 2° slope in a single cataclysmic event (Anders *et al.* 2010).

Misplaced fossils

Another argument used by Whitcomb and Morris (1961, pp.172-176) against the geological column was the phenomenon of 'misplaced' fossils.

Specifically, they referred to the alleged discovery of human footprints alongside those of dinosaurs in the bed of the Paluxy River in Texas. But

subsequent investigations by creationists (Neufeld 1975) and evolutionists (Milne and Schafersman 1983) have shown that the so-called human tracks are a combination of misidentified dinosaur tracks, random erosional marks and carvings made during the Great Depression.

Consequently the Institute for Creation Research stopped promoting the Paluxy 'man tracks' long ago (Morris 1986), although they still crop up in some popular books, articles and websites.

Vapour canopy

Whitcomb and Morris (1961, pp.255-258) suggested that the rain during the Flood might have come from the collapse of a vapour canopy that surrounded the earth before the deluge.

They identified this canopy with the 'waters above the firmament' described in Genesis 1:7. However, biblical and scientific problems with the canopy theory have since caused many creationist researchers to abandon this idea.

Computer models have shown that any canopy able to hold enough water for forty days and nights of rain would have raised temperatures on the earth's surface to such an extent that life could not have survived (Rush and Vardiman 1990; Vardiman and Bousset 1998; Vardiman 2003).

It is also noteworthy that the writer of Psalm 148:1-4 refers to 'the waters above' long after the Flood, which implies that they cannot have constituted a canopy that collapsed in the days of Noah.

Rock record

Another proposal by Whitcomb and Morris (1961, pp.288-326) was that the Flood was responsible for essentially all the fossil-bearing sedimentary rocks in the geological record, with the exception of the ice age deposits which were laid down immediately after the Flood.

Today, while most creationists agree that much of the rock record is from the Flood, there are many different opinions about precisely where the beginning and the end of the Flood are located in the geological record.

In all likelihood, some of the uppermost layers of the geological column were deposited over a period of decades to centuries, between the end of the Flood and the beginning of the ice age.

Similar debates take place concerning which rocks mark the beginning of the Flood, especially since well-preserved fossils have now been discovered lower down in the rock record.

Scientific models

These areas of reassessment remind us that we do not rest our faith in the details of scientific arguments. Nevertheless, we do recognise the power of scientific models.

The work of Whitcomb and Morris had such an extraordinary impact, precisely because they were not content merely to point out problems in uniformitarian geology. Instead, they wanted to develop their own scientific model in the light of the biblical Flood.

That was the right approach. Criticising someone else's theory is nearly always easier than coming up with your own, but it almost always has less impact in the long run.

Since the 1960s, many creationists have followed Whitcomb and Morris in reinterpreting the geological record in the light of the biblical Flood. Several scientific models of the Flood have been proposed, the most promising of which is known as Catastrophic Plate Tectonics (Austin *et al.* 1994).

This model explains how the earth came to be inundated with water when the continents rapidly separated during the Flood. It also leads naturally to an explanation of the ice age.

The sea floor upheaval associated with this episode of catastrophic tectonics would have caused the temperature of the oceans to be raised significantly.

Research has shown that this would have generated heavy snowfall after the Flood, leading to the rapid build up of continental ice sheets (Oard 1990). Progress has also been made in some of the 'problem areas' for biblical geology discussed by Whitcomb and Morris (1961, pp.331-453).

Further research

Consider, for example, the multi-million year ages of rocks and minerals based on radioactive decay. An in-depth study by creationist researchers found evidence suggesting that decay rates had been accelerated during the Flood, thus inflating the true age of these geological materials (Vardiman *et al.* 2005).

Significant work has also been done on rock formations that seem to imply slow deposition, such as reef limestones (Whitmore 2009) and fossil forests (Coffin 1997). There have been studies of the rapid origin of metamorphic rocks (Snelling 1994a; Snelling 1994b) and large igneous bodies (Snelling and Woodmorappe 1998). There have even been efforts to reconstruct what the world was like before the Flood, based on careful studies of the fossil record (Wise 2003a; Wise 2003b).

That is not to suggest that all the problems have been resolved. Far from it. *The Genesis Flood* proposed a framework in which these questions might be addressed rather than answering all of them; and much more research remains to be done.

For instance, I am currently working with two colleagues on a study of a rock layer found in the Grand Canyon and across central and northern Arizona. This sandstone has been used to challenge Flood geology, because it is usually interpreted as the product of the slow accumulation of windblown dunes in an arid desert. But we have discovered a great deal of evidence that it was laid down rapidly underwater (Morris 2010).

Research of this kind is invaluable in continuing to build and strengthen the Flood model of geology.

The future

What does the future hold for creationist geology? There are some causes for optimism. In 2008 there was the formation of the Creation Geology Society (CGS), a professional body for creationists in the earth sciences.

The society's board is comprised of seven creationists, all with doctoral

degrees in the earth sciences. The society holds an annual conference and the proceedings are available on the Cedarville University website.⁷

This is a significant development because it offers a forum for the kind of professional interaction that needs to take place as Flood geology matures as a discipline.

Furthermore, Flood geologists are increasingly seeking engagement with the conventional scientific community through mainstream meetings and publications. Creationists regularly participate in the annual conferences of the Geological Society of America, and have even led GSA field trips to sites of geological interest (Austin 2009).

Where possible, they try to publish the results of their research in standard geological journals. One example is the work of creationist Leonard Brand and his colleagues on the remarkable preservation of fossil whales in Peru. This research even made the cover of *Geology*, one of the leading journals in that field (Brand *et al.* 2004).

There is, of course, a pressing need to train the next generation. An exciting development in this regard is the recent launch of an undergraduate degree majoring in geology at Cedarville University in Ohio.⁸ Cedarville is a Baptist college with a commitment to biblical creationism.

The geology course, led by Dr John Whitmore, will teach students both the naturalistic and young-age perspectives on earth history, and will emphasise rigorous coursework and hands-on field experience. It has the potential to become an important source of creationist geologists of the future.

Finally, in 2009, the long awaited update and revision of *The Genesis Flood* was published (Snelling 2009). Its author, Dr Andrew Snelling, is one of the world's leading creationist geologists and was personally commissioned by Henry Morris some years ago to undertake the assignment.

Entitled *Earth's catastrophic past* (ICR: ISBN: 978-0-932766-94-6), this massive two-volume work expands upon

and significantly revises the original book, upon which it was based. For today's reader it offers a modern creationist approach to the science of geology.

Conclusion

There is little doubt that the worldwide revival of creationism in the latter half of the twentieth century owed a great deal to the publication of *The Genesis Flood* and the remarkable vision of its authors, John Whitcomb and Henry Morris.

This one book has done so much to cause Christians to reconsider the biblical teaching about the Flood and its implications for our scientific understanding of earth history. Since the book's first appearance, much progress has been made in building upon the foundations that it laid.

Encouraging progress can be perceived even in areas that might first have appeared intractably problematic. These advances ought to give us confidence that ongoing research will yield further significant insights.

Of course, not all the scientific arguments in *The Genesis Flood* have stood the test of time and some have had to be updated or abandoned. We must always be aware of the dangers of fossilised creationism!

Nevertheless, the Flood geology model shows great promise and a new generation of creationist scholars is urgently needed to develop the biblical and scientific arguments further. Our challenge is to encourage and nurture that new generation. ■

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Footnotes

- ¹ Among them the UK's Biblical Creation Society: <http://www.biblicalcreation.org.uk>
- ² <http://www.creationresearch.org>
- ³ <http://www.bryancore.org>
- ⁴ <http://www.grisda.org>
- ⁵ For instance, Alexander (2008) barely mentions the Flood.



- ⁶ See for instance Lloyd (2009).
⁷ <http://www.cedarville.edu/event/geology>
⁸ <http://www.cedarville.edu/Academics/Science-and-Mathematics/Geology.aspx>

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