

## A PROPOSAL FOR A CREATIONIST GEOLOGICAL TIMESCALE

CARL R. FROEDE JR.\*

Received 29 March 1994; Revised 9 November 1994

### Abstract

*The uniformitarian framework for the origin and age of the earth began over 200 years ago with the writings of Scottish geologist James Hutton. Since that time uniformitarians have been defining and refining their model in an effort to reconstruct earth history from purely physical processes. Many young earth creation scientists have attempted to integrate the Biblical record with that proposed by the uniformitarians. This has resulted in confusion and disbelief in the Biblical account provided in Genesis one. This author proposes that an integration between the uniformitarian model and the creationist model will not work; rather, it is proposed that a framework be constructed which is based squarely on the Biblical young earth Creation/Flood model. By creating our own timescale we can then follow the timeframes outlined in the Biblical account. Field work should be performed and all relevant and appropriate geologic information should be examined to further substantiate the creationist timescale. Using our own timescale will then allow creationists to examine the stratigraphic record without unrealistic presuppositions, and should result in a more accurate account of the earth's geologic history.*

### Introduction

The philosophy of uniformitarian geology began in 1788 with the publication of James Hutton's *Theory of the Earth* (Albritton, 1986, p. 96). Hutton's concepts grew from his examination of rock outcrops found in various areas around Great Britain. In the succeeding years additional rock outcrops across the continent of Europe were used to better define and refine a rudimentary geological timescale. However, this timescale did not serve to "date" the sediments and fossils which were found. Initially, the rock layers were correlated using lithologic (lithostratigraphy) composition and their stratigraphic position compared to each other (Law of Superposition). It was later noted that certain types of flora and fauna were found in particular types of rocks, and hence this was another way of dividing the rocks into units, resulting in biostratigraphy (Law of Faunal Succession). This biostratigraphic division of rock types was later used to construct the evolutionary progression of life and show support for Charles Darwin's theory of evolution. Additionally, it was postulated that first and last appearances of specific flora and fauna found in the strata could define the possible time boundaries of each rock unit. This led to the concept of chronostratigraphy. Eventually all of the chronostratigraphic strata were pieced together to reconstruct the events of earth's past. Today's uniformitarian geologic timescale has been approximately 150 years in the making and continues to be refined within the framework of their model (e.g., North American Commission on Stratigraphic Nomenclature, 1983; Snelling, 1985; Harland, Cox, Llewellyn, Pickton, Smith and Walters, 1982; Cohee, Glaessner and Hedberg, 1978).

### Dangers of The Uniformitarian Timescale

Many creationists have used the uniformitarian geologic timescale without realizing the dangers that it holds. The uniformitarian geologic timescale is built on the premise of biological evolution. ALL dating of strata is based on the flora and fauna contained in it at a "Type" locale. The type locale is exposed in outcrop at a single location or only at a few places on earth, and is extrapolated outward to other formations based on

their containing the same flora and fauna. Additionally, any formation can be dated in relation to the formations either above or below it by comparing the fossils contained in them (using the Laws of Superposition and Faunal Succession). *The use of the uniformitarian timescale is based on more than just lithology.* Lithology can and will change, however, flora and/or fauna contained either in, above or below the formation will serve to date the formation in question. While this author is not totally against the use of the uniformitarian geologic timescale, its unqualified use by creationists can create misunderstanding. However, creationists should seek out and use all uniformitarian information where applicable and appropriate (incorporating it into the Flood model) in describing or studying the area under investigation. Because of the many differences between the uniformitarian model and that of the young earth creationists, this author proposes that young earth creationists construct and follow their own timescale.

Many young earth Flood geologists have wrestled with the correlation of the uniformitarian geologic timescale within the framework of a young earth model (Figure 1). Many ideas have been proposed in an effort to unite the two scales (Whitcomb and Morris, 1961, p. 276; Hedtke, 1971; Woodmorappe, 1980; Coffin, 1983, p. 74; Scheven, 1990; Rugg, 1990; Northrup, 1986, 1990a, 1990b). However, none have proved satisfactory for broad based use. One specific point of confusion lies with the correlation of the Flood event with the uniformitarian timescale Eras, Epochs and Stages.

The geologic history, within the context of the creationist framework, contains several basic distinctions from the uniformitarian system: 1) the biblical record of time contradicts the uniformitarian record of time, 2) the key to interpreting geologic history is the interpretation of event-effect relationships, rather than chronological ones, and 3) the biblical record of time suggests that the rock record is much more complete than the uniformitarian interpretation would allow (i.e., unconformities, disconformities, non-conformities, etc., might not really exist). These issues, along with many others, serve to define specific differences in the two models. As this timescale is further developed these differences will become key points in defining and refining the creationist geological timescale.

\*Carl R. Froede, Jr., B.S., P.G., 2895 Emerson Lake Drive, Snellville, Georgia, 30278-6644.

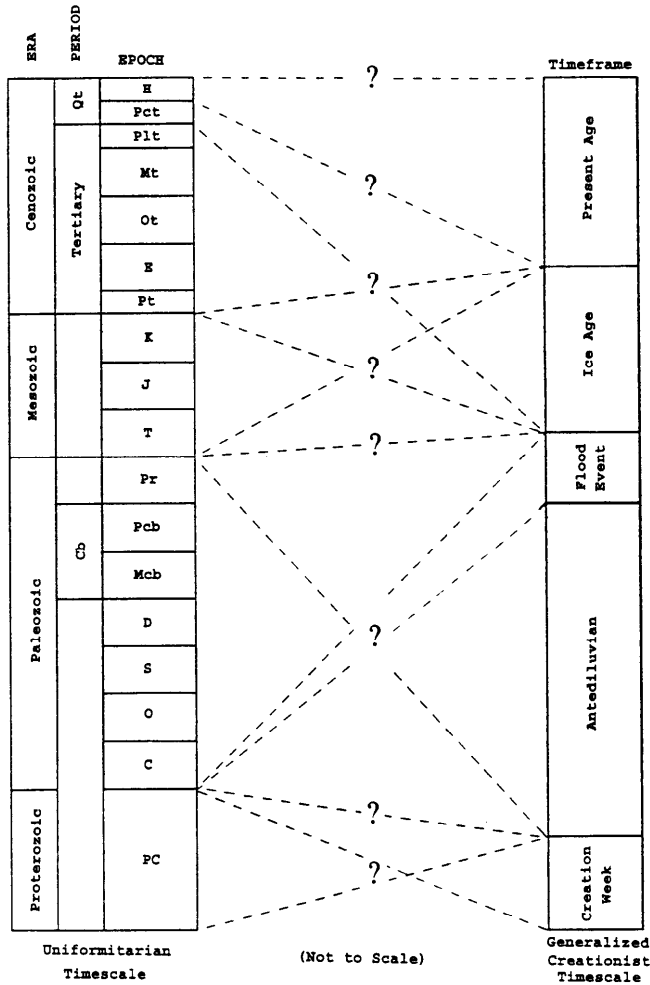


Figure 1. The modern uniformitarian timescale (left side) [modified from Bennison, 1975]: PC-Precambrian, C-Cambrian, O-Ordovician, S-Silurian, D-Devonian, Ch-Carboniferous, Mcb-Mississippian, Pcb-Pennsylvanian, Pr-Permian, T-Triassic, J-Jurassic, K-Cretaceous, Pt-Paleocene, E-Eocene, Ot-Oligocene, Mt-Miocene, Pit-Pliocene, Qt-Quaternary, Pct-Pleistocene, H-Holocene. Generalized creationist timescale (right side). Lines of correlation do not correspond between the two scales. This leads to confusion and frustration regarding how the young earth Creation/Flood model “fits” in relation to the uniformitarian timescale. The creationist’s timescale will allow the user the flexibility to evaluate individual sites and large areas without confusing evolutionary geology with the stratigraphic record.

**Creation Geology**

Because creationist geologists are starting to investigate the earth within the framework of the young earth Creation/Flood model, this author believes that creationist geology is in its infancy. Many creationists have theorized that the Flood caused most geologic features seen in the rock record. However, little fieldwork has been performed to validate these theories. Hence, this has led to confusion regarding how the Flood model might “fit” with local geology. Theories are only as good as the specific field evidence and assumptions used to support them. **It is time to go into the field and examine the rocks found at specific sites.** Following field examination and literature re-search, a possible reconstruction of a particular site could be proposed within the Flood model. Eventually these local sites

could be combined into a small region and the region could then be reconstructed within the young earth Flood model. The opposite would also hold true; a regional study could be initiated, with the focus ultimately culminating on a small area or specific site.

The author recognizes that the creationist timescale/stratigraphic column will suffer the same limited lateral expression that the uniformitarian timescale/stratigraphic column suffers. The site or area specific stratigraphic column will depend on the local lithology and the regional timeframe in which those sediments occurred (i.e., Antediluvian, Flood Event, Post Flood/Ice Age or Present Age). The timescale/stratigraphic boundary lines will move based on the “Timeframe” in which the sediments were deposited and the thickness of those sediments. For example, the creationist timescale/stratigraphic column (CTSC) found in the John Day Country see Nevins, 1974—Post Flood/Ice Age) will not directly compare to the CTSC found in the Grand Canyon (see Austin, 1994) or to that found at Mount St. Helens (Austin, 1991—Present Age deposits) because the time, types, and amounts of deposits have varied. Hence the time of deposition along with the lithology, paleontology, sedimentology, and stratigraphy will vary as the rocks and sediments change in their lateral extent. A determination as to when certain sediments were deposited within the creationist timescale will require a site, area, or regional investigation. Every attempt should be made to examine the entire stratigraphic column (both surface outcrops and subsurface cores and well logs) to accurately determine the “Timeframe” for smaller time/strata section) in which the strata in question were deposited.

**Subsurface Characterization**

Subsurface examination of strata can be performed using geophysical techniques (i.e., well logs, seismic lines, etc.), and should be utilized to add the third dimension to creationist geologic studies. Correlation of seismic data to control wells would allow large scale stratigraphic interpretation, otherwise known as seismic stratigraphy (see Froede, 1994). This information could be used to postulate the formation of the strata within the Flood model. Current techniques of geologic investigation should be applied as appropriate in the reconstruction of the subsurface.

**Sources of Information**

Any work previously done by uniformitarian geologists should be examined to determine its usefulness in the reconstruction of a given study site within the Creation/Flood model. While uniformitarian geologists talk about “events” or catastrophes, they are usually addressing what they see as small scale incidents to explain their model for the formation of certain deposits (e.g., storm deposits, localized volcanic eruptions, etc.). This author believes that the stratigraphic record more accurately reflects catastrophic events which occurred as a result of the Flood event and subsequent Ice Age, and that “uniformitarian” physical processes essentially began with the close of the Ice Age Time frame. Additionally, many of the uniformitarian interpretations fit well within the “big picture” of the Flood model, the difference being the time factor involved in generating the deposit. Where uniformitarians propose millions of

Timeframe	Division	Group	Unit
Present Age <sup>3</sup>	Upper		
	Middle		
	Lower		
Ice Age <sup>2</sup> (Gen 8:15-?)	Upper		
	Middle		
	Lower		
Flood Event (Gen 7:11-8:14)	Upper		
	Middle		
	Lower		
Antediluvian (Gen 2:6-7:10)			
Creation Week <sup>1</sup> (Gen 1:1-2:3)	Day 7		
	Day 6		
	Day 5		
	Day 4		
	Day 3		
	Day 2		
	Day 1		

General Framework For A Creationist Timescale

Figure 2. The generalized creationist's timescale. This timescale is intended to be dynamic and flexible. Much field work exists in constructing this timescale. Additionally, this timescale should serve as a springboard to further define and refine the young earth Creation/Flood model. Our own timescale should become the central focus of every field investigation from this point forward it is only through a consistent approach to the stratigraphical record that young earth catastrophists can move forward in our science. Footnotes: 1) Each day is a literal 24 hour period of time. 2) Ice Age is not directly reflected in the Biblical record, however, the geological record does reflect its occurrence and creationists generally agree that a single Ice Age has occurred in earth past (see Oard 1986; 1990). 3) This Timeframe reflects "uniformitarian processes" (2 Pet 3:3-7).

years for the formation of various strata, catastrophists can reconstruct the same site within a much shorter timeframe. Many well respected uniformitarian geologists have acknowledged that "events" (i.e., catastrophes) better explain much of the stratigraphical record (Dott, 1983, pp. 5-23; Seilacher, 1984, pp. 49-54; Miall, 1990, p. 169; Einsele, Ricken and Seilacher, 1991, pp. 1-19; Ager, 1993, pp. 55-70).

**Conclusion**

With a dynamic creationist timescale we can approach stratigraphic outcrops and attempt to reconstruct them within the young earth Flood model timeframe (Figure 2). Not every formation is a "Flood" deposit and much field work is necessary to determine where they fit within our young earth Creation/Flood model. With the basic shell of a creationist timescale now proposed, we can move into the field, perform the necessary investigations, and eventually fill-in the various stratigraphic units within the framework of the Biblically based young earth Creation/Flood model.

**Appendix Introduction**

This appendix provides a brief summary of some of the terms and ideas that young earth creation geologists, need to refine in order to create our own timescale. These terms are not meant to define everything necessary to use our model, rather this paper is meant to stimulate open discussion between creation geoscientists and to serve as a beginning point for the construction of a creationist geological timescale. The author solicits input into defining and refining the young earth Flood model and envisions the eventual formation of a Commission of Creationist Stratigraphy (Pr 11:14; Pr 15:22; Pr 24:6). This group will serve to guide and define the creationist timescale, including its units, groups, divisions, and timeframes, as well as the concepts of stratigraphy, within our catastrophic model.

**Terms**

**Timeframe** — A specific period of time from the Genesis record, which provides a basis for the creationist's geological timescale. The Timeframe section could include the grouping of several uniformitarian Eras and Epochs, more or less depending on the site under investigation.

**Division** — Divisible sections within the Timeframe which reflect different sedimentary or depositional conditions and which can be defined within a certain portion of the Timeframe. This section could include the grouping of one or more uniformitarian Eras, Epochs and possibly Periods.

**Group** — A subset within the Division which reflect different sedimentary or depositional conditions and can be defined within a certain portion of the Division. This section could include the grouping of one or more uniformitarian formations, sequences, etc. I envision the creationist's "Group" as similar to what the uniformitarian "group" serves, that being a compilation of formations, sequences, etc., which reflect a certain period of time.

**Unit** — A subset within the Group which reflects different sedimentary or depositional conditions (i.e., lithologic variation) and can be defined within a certain

portion of the Group. This section can include the uniformitarian formations, groups or members as is determined based on field evidence. The use of the term unit is the equivalent to that currently used by uniformitarians in designating the lithostratigraphic unit (i.e., a lithostratigraphic unit defined by a body of sedimentary, extrusive igneous, metasedimentary, or metavolcanic strata which is distinguished and delimited on the basis of lithic characteristics and stratigraphic position [North American Commission on Stratigraphic Nomenclature, 1983, p. 855]). Units will vary over areal extent, however, the timeframe in which they were deposited could be time equivalent. This issue will be resolved through field work and stratigraphic comparison.

Additional sections can be created based on the need to further "split" the stratigraphical record and hence further refine our timescale. The author has deliberately selected different terms to define our timescale so as to eliminate any confusion when discussing the two models. However, some confusion could ultimately develop. This can be minimized if we keep to our own timescale and work to eliminate any confusion which might arise.

### Concepts

The creationist geological timescale will allow the user to investigate various sites globally, and place those sites within a timescale which reflects the Biblical record. Various interpretations will be resolved as this timescale is developed. The author has deliberately not defined any specific Timeframe, Division, Group or Unit so as not to lead the reader into any preconceived ideas (e.g., possible creation of single celled life on Day three, spreading of the continents, origin of granite, origin of coal, first rain event, eustasy, tectonics, etc.). These issues can be addressed and discussed as we further develop and refine our timescale and model.

This timescale will allow the young earth creationist scientist to perform field work at specific sites and present it in a manner which would then be understood by all creation scientists. This should eliminate confusion when field work is performed. For example a study performed on "Cretaceous" deposits could in fact reflect several timeframes within our timescale. One site might be interpreted as Flood deposits, and at another Ice Age deposits, etc. By creating and maintaining our own timescale we can determine how local sites "fit" into our young earth Flood model.

A major consideration in any investigation will be the determination of a "scour" level which is defined as the bottom most level of erosion caused by the Flood. Some sites might still contain "original" rock which was created during the first week and was not removed during the Flood. Other sites might have the entire stratigraphic section represented as Flood and Ice Age deposits. This determination could be one of the most complex questions to answer.

Another consideration is the deposition and/or erosion timeframe which relate to energy levels necessary to account for that event. For example for many years it was suggested that the Grand Canyon strata formed during the Flood event and the canyon itself formed with the receding of the Flood waters. This is because the amount of erosion which was necessary to account

for the erosion of the canyon was thought to only have come from the high erosion associated with the Flood event (Whitcomb and Morris, 1961, p. 153). However, catastrophic geologic processes are now known which can form the canyon well after the Flood event (probably during the Ice Age Timeframe), via breached dams (Austin, 1994, p. 92-107). These depositional/erosional energy levels directly affect the placement of the strata within certain "Timeframes." So a clear understanding as to event/effect relationships must be attempted when determining where certain strata fit within the creationist timescale/stratigraphic column.

Another issue to be addressed in stratigraphic interpretation is the concept of local versus global stratigraphic markers. Ager (1993) describes the global extent of some lithologic units, but he presents no real explanation as to how they formed. Platinum group metals (e.g., iridium, osmium, etc.) along with other materials have been found along certain strata boundaries around the world. Presently these "impact" materials are reported at six geologic horizons other than the K/T boundary (Raup, 1991, p. 172; see also Stanley, 1987; Donovan, 1989; Dao-Yi, Zheng, Qin-Wen, Zhi-Fang, Yi-Yin, Jin-Wen, 1989). Many scientists suggest that more of these materials remain to be found at other stratigraphic boundaries. These stratigraphic markers might prove useful in further defining worldwide boundaries within the creationist geologic timescale. Additional study is required to determine the usefulness of these stratigraphic markers and their significance within the Flood/Ice Age Timeframes.

This author hopes to present specific sites within possible creationist stratigraphic "timeframes" in future issues of the *Creation Research Society Quarterly*. However, much work remains to be done and the author believes that at this early stage of establishing a timescale, it would be inappropriate to "force" additional interpretations on fellow scientists without further evidences or discussion. This is a dynamic flexible beginning point for the development of the young earth Creation/Flood model. It is now up to us to further develop, define, and refine our model.

### Glossary

**Biostratigraphic unit** — is a body of rock defined and characterized by its fossil content. The basic unit in biostratigraphic classification is the biozone, of which there are several kinds (North American Commission on Stratigraphic Nomenclature, 1983, p. 862).

**Chronostratigraphic unit** — is a body of rock established to serve as the material reference for all rocks formed during the same span of time. Each of its boundaries is synchronous. Chronostratigraphy provides a means of organizing strata into units based on their age relations. A chronostratigraphic body also serves as the basis for defining the specific interval of geologic time, or geochronologic unit, represented by the referent (North American Commission on Stratigraphic Nomenclature, 1983, p. 868).

**Formation** — is the fundamental unit in lithostratigraphic classification and is defined as a body of rock identified by lithic characteristics and stratigraphic position; it is prevailing but not necessarily tabular and is mappable at the Earth's surface or traceable in the

subsurface (North American Commission on Stratigraphic Nomenclature, 1983, p. 858).

Law of Faunal Succession — different strata each contain particular assemblages of fossils by which the rocks may be identified and correlated over long distances; and that these fossil forms succeed one another in a definite and habitual order (Allaby and Allaby, 1990, p. 213).

Law of Superposition — strata are deposited sequentially, so that in an undisturbed sedimentary succession each layer of rock is younger than the layer beneath it. Subsequent earth movements may overturn and invert the sequence (Allaby and Allaby, 1990, p. 213).

Lithostratigraphic unit—is a defined body of sedimentary, extrusive igneous, metasedimentary, or meta-volcanic strata which is distinguished and delimited on the basis of lithic characteristics and stratigraphic position. A lithostratigraphic unit generally conforms to the Law of Superposition (youngest on top) and commonly is stratified and tabular in form (North American Commission on Stratigraphic Nomenclature, 1983, p. 955).

Storm bed (event deposit) — A bed of sediment deposited by a storm event (Allaby and Allaby, 1990, p. 356).

#### Acknowledgments

The author thanks Dr. George Howe for his review of the initial draft along with Dr. John K. Reed who provided excellent comments and discussions regarding the philosophical aspects of both the uniformitarian and creationist timescales. Additionally, John Reed provided much needed editing to this document. A special thanks to my wife Susan, who gave me the time to research and write this document. Glory to God in the highest (Proverbs 3:5-6).

#### References

- CRSQ*—*Creation Research Society Quarterly*.
- Ager, D. V. 1993. The nature of the stratigraphical record. Third edition. John Wiley, New York.
- Albritton, Jr., C. C. 1986. The abyss of time: Changing conceptions of the earth's antiquity after the sixteenth century. St. Martin's Press, New York.
- Allaby, A. and M. Allaby. 1990. The concise Oxford dictionary of earth sciences. Oxford University Press, New York.
- Austin, S. A. 1991. Mount St. Helens: A slide collection for educators. Geology Education Materials, El Cajon, CA.
- \_\_\_\_\_. 1994. Grand Canyon: Monument to catastrophe. Institute for Creation Research, Santee, CA.
- Bennison, A. P. 1975. Geological highway map of the Southeastern Region: Map No. 9. American Association of Petroleum Geologists, Tulsa.
- Coffin, H. G. and R. H. Brown. 1983. Origin by design. Review and Herald Publishing, Washington, D.C.
- Cohee, G. V., M. F. Glaessner and H. D. Hedberg (editors). 1978. Contributions to the geologic time scale. Studies in geology No. 6. American Association of Petroleum Geologists, Tulsa.
- Dao-Yi, X., Y. Zheng, Z. Qin-Wen, C. Zhi-Fang, S. Yi-Yin, H. Jin-Wen. 1989. Astrogeological events in China. Van Nostrand Reinhold, New York.
- Donovan, S. K. (editor). 1989. Mass extinctions: Processes and evidence. Columbia University Press, New York.
- Dott, Jr., R. H. 1983. 1982 SEPM Presidential address: Episodic sediment—How normal is average? How rare is rare? Does it matter? *Journal of Sedimentary Petrology* 53:5-23.
- Einsele, G., W. Ricken and A. Seilacher. 1991. Cycles and events in stratigraphy—basic concepts and terms. Springer Verlag, New York.
- Froede, Jr., C. R. 1994. Sequence stratigraphy and creation science. *CRSQ* 31:138-147.
- Harland, W. B., A. V. Cox, P. G. Llewellyn, C. A. G. Pickton, A. G. Smith and R. Walters. 1982. A geologic time scale. Cambridge University Press, New York.
- Hedtke, R. 1971. A geo-ecological explanation of the fossil record based upon divine creation. *CRSQ* 7:214-221.
- Miall, A. D. 1990. Principles of sedimentary basin analysis. Second edition. Springer-Verlag, New York.
- Nevins, S. E. 1974. Post-Flood strata of the John Day Country, Northeastern Oregon. In Howe, G. F. (editor). Speak to the Earth: Creation studies in geoscience. Creation Research Society Books, Ashland, OH. pp. 221-252.
- North American Commission on Stratigraphic Nomenclature. 1983. North American Stratigraphic Code. *American Association of Petroleum Geologists Bulletin* 67:841-875.
- Northrup, B. E. 1986. A walk through time: A study in harmonization. In Walsh, R. E., C. L. Brooks and R. S. Crowell (editors). Proceedings of the First International Conference on Creationism. Volume II. Pittsburgh, PA. pp. 147-156.
- \_\_\_\_\_. 1990a. Identifying the Noahic Flood in historical geology: Part one. In Walsh, R. E. and C. L. Brooks (editors). Proceedings of the First International Conference on Creationism. Volume I. Pittsburgh, PA. pp. 173-179.
- \_\_\_\_\_. 1990b. Identifying the Noahic Flood in historical geology: Part two. In Walsh, R. E. and C. L. Brooks (editors). Proceedings of the First International Conference on Creationism. Volume I. Pittsburgh, PA. pp. 181-188.
- Oard, M. J. 1986. An ice age within the Biblical time frame. In Walsh, R. E., C. L. Brooks and R. S. Crowell (editors). Proceedings of the First International Conference on Creationism. Volume II. Pittsburgh, PA. pp. 157-166.
- \_\_\_\_\_. 1990. An ice age caused by the Genesis Flood. Institute for Creation Research, El Cajon, CA.
- Raup, 1991. Extinction: Bad genes or bad luck? W. W. Norton and Company, New York.
- Rugg, S. H. 1990. Detachment faults in the southwestern United States—Evidence for a short and catastrophic Tertiary Period. In Walsh, R. E. and C. L. Brooks (editors). Proceedings of the Second International Conference on Creationism. Volume II. Pittsburgh, PA. pp. 217-229.
- Scheven, J. 1990. The Flood/Post-Flood boundary in the fossil record. In Walsh, R. E. and C. L. Brooks (editors). Proceedings of the Second International Conference on Creationism. Volume II. Pittsburgh, PA. pp. 247-266.
- Seilacher, A. 1984. Storm beds: Their significance in event stratigraphy. In Seibold, E. and J. D. Meulenkamp (editors). Stratigraphy Quo Vadis? American Association of Petroleum Geologists. Studies in geology No. 16. Tulsa. pp. 49-54.
- Snelling, N. J. 1985. (editor). The chronology of the geological record. The Geological Society Memoir No. 10. Blackwell Scientific Publications, Boston.
- Stanley, S. M. 1987. Extinction. Scientific American Library, New York.
- Whitcomb, Jr., J. C. and H. M. Morris. 1961. The Genesis Flood: The Biblical record and its scientific implications. Baker Book House, Grand Rapids.
- Woodmorappe, J. 1980. The essential nonexistence of the evolutionary uniformitarian geologic column: A quantitative assessment. *CRSQ* 18:46-71.

#### Quote: On the Judiciary

If in France the tribunals were authorized to disobey the laws on the ground of their being opposed to the constitution, the supreme power would in fact be placed in their hands, since they alone would have the right of interpreting a constitution. . . . They would, therefore, take the place of the nation, and exercise as absolute a sway over society as the inherent weakness of judicial power would allow them to do.

Tocqueville, Alexis de. 1851. American institutions and their influence. A. S. Barnes, New York. p. 97.