

Dino Ridge

Geology Tour

Notes!

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Grand Canyon Forming & Eroding Review

Radioisotope Dating

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-Lava Flow of Uinkaret Plateau vs.
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-Bad Date Examples

Fossils

-1 Billion Found ; Amount of Fossils

-Are Fossils in Order?

Rock Layers

-Thickness of Layers

-Similar Layer Sequences – Worldwide

-Patterns involving Sedimentary Rock

-Great Denudation–Grand Staircase

-Coconino Sandstone (275 mya)

-Crossbedding

-Fossil Tracks

-Moving Sand

-Layers around it

-Widespread

-Bent Layer

-Tonto Group / Transgression / Regression

-fining upward, formed at the same
time, erosion on top (Temple Butte –
quickly filled in, not mature)

-Yo-Yo Seas – 6 Megasequences

-Regional Metamorphism

Volcanic History

Black Canyon of the Gunnison

-Steps of the Grand Staircase

-Chinle and Shinarump Conglomerate

Agate, Chert, and other Concretions!

Dino Ridge Notes

-History

- National Natural Landmark
- Maintained by the Friends of Dino Ridge – founded in 1989
 - Associated also with Triceratops Trail in Golden, CO
- Voted #1 Dino Trackway in the US
- 250,000 visitors each year
- First Discovered due to Road Construction
 - Dynamite drill holes are still visible in places
- Then by Colorado School of Mines Professor Arthur Lakes in March 26, 1877
- He worked with Othniel Charles to discover
 - Allosaurus, Camarasaurus, 1st Stegosaurus, 1st Apatosaurus
- There were bone wars (like with Edward Drinker Cope) to find more

-Dino Footprints (Trace Fossils)

- 300 - And you can volunteer for different things including staining the prints.
- Underwater or on coastal sand?
- Rapidly filled in
- Most are Hadrosaurs (duck-billed dinos) like Iguanodon
 - Possibly in Family herds
- Also Therapod Dinosaurs
- Crocodile Tracks
- Courtship Scratches – like groundnesting birds in Western Colorado
- Turtle scoots
- pterydactyl
- lungfish teeth
- Stegosaurus – Colorado State Fossil – named that by elementary school students in Denver in 1982.

-Paluxy River

- Bias
- Criticism
- Fossils have to be interpreted
- Discernment
- God of the Gaps vs Science of the Gaps
- Science
 - Observable or Experimental
 - Historical Science like Crime Scene Science
- Evidences Overview – What would it take...?
- What you are going to hear...
- Did God really say...?
- Spiritual Issue (willful) – not from a lack of evidence

Rom 1:16 For I am not ashamed of the gospel of Christ: for it is the power of God unto salvation to every one that believeth; to the Jew first, and also to the Greek.



17 For therein is the righteousness of God revealed from faith to faith: as it is written, The just shall live by faith.

18 For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who hold the truth in unrighteousness;

19 Because that which may be known of God is manifest in them; for God hath shewed it unto them.

20 For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse:

21 Because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened.

22 Professing themselves to be wise, they became fools,

23 And changed the glory of the uncorruptible God into an image made like to corruptible man, and to birds, and fourfooted beasts, and creeping things.

24 Wherefore God also gave them up to uncleanness through the lusts of their own hearts, to dishonour their own bodies between themselves:

25 Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed for ever. Amen.

-If the Big Bang and Evolution are true, then...does God really exist?

-If the first chapters of the Bible are not true, then why believe the rest of it?

-If I am just an evolved animal, does my life have...value?? Does it matter?

-My experience with a pastor in the Grand Canyon...

-If there is evidence pointing to the Truth of God & the Bible, then should you Trust Him?

-If the Bible is God's Word, then we can trust what it says – 100% - especially regarding Jesus?

-Challenge to You: How Big is Your God? Do you really Trust Him at His Word??

-If you are still unconvinced, do more research just like:

-My Book in Progress: For the Skeptic, the Doubting, and the Questioning

<https://www.discovercreation.org/for-the-skeptic-the-doubting-and-the-questioning/>

-Cold Case Christianity by J. Warner Wallace

-The Case for Christ by Lee Strobel

-Evidence that Demands a Verdict by Josh McDowell

-What color were the Dinos? What was their diet?...What environment did they live in?

-How old are the Dinos?

-Mangrove Swamp – broken up, moved in (from a storm or hurricane like)

-Wood chips

-like Kaibab Limestone "Coral Reef"

-like Yellowstone Petrified Forest

-What huge Earth-moving events had to happen to tilt the layers up so much?!?!

-Evidence of the Worldwide Flood

Grand Canyon Forming and Eroding Overview/Review

Quickly Deposited, not Slowly Deposited <ol style="list-style-type: none"> 1. Flat Contacts – No Evidence of Erosion 2. Widespread and Flat 3. Transport over Long Distances 4. Cross Bedding and other Evidence of Quick Formation 5. Bent or Curved Rock Layers 	Quickly Eroded, not Slowly Eroded <ol style="list-style-type: none"> 1. Steep Cliffs 2. Very Little Tallus 3. Barbed Side Canyons 4. U Shaped Canyons 5. Erosional Remnants
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

-No Erosion between layers (usually) – Flat Contacts – Had to happen QUICKLY!

- Some stream cuts – had to be filled rapidly
- usually no soil layers
- No Bioturbation (plant roots/vegetation, soils, animal burrowing)
- Flat leaf fossils
- Often Missing Layers in between
 - Current Erosion Rates
 - The Moon was closer
 - meteorites during the flood – numbers, quarry, moon
- Ripple Marks – Algae

-Widespread Layers

- Morrison Formation & Dakota Sandstone
 - Morrison – Ashy, water-worked from central California Volcanics (near Yosemite)
 - Huge volcanic events in the past

-Similarity of Layers? – Hula Model!

- Morrison – Chinle
 - Shinarump Conglomerates (Cobbles like found here)
- Entrada – Wingate
- Navajo – Cedar Mesa – Coconino
 - Coconino
 - Cross-bedding waves – height, speed, continental, source of sand,
- Surges of Water – 6 Megasequences – Transgression/Regression

-Iron Concretions

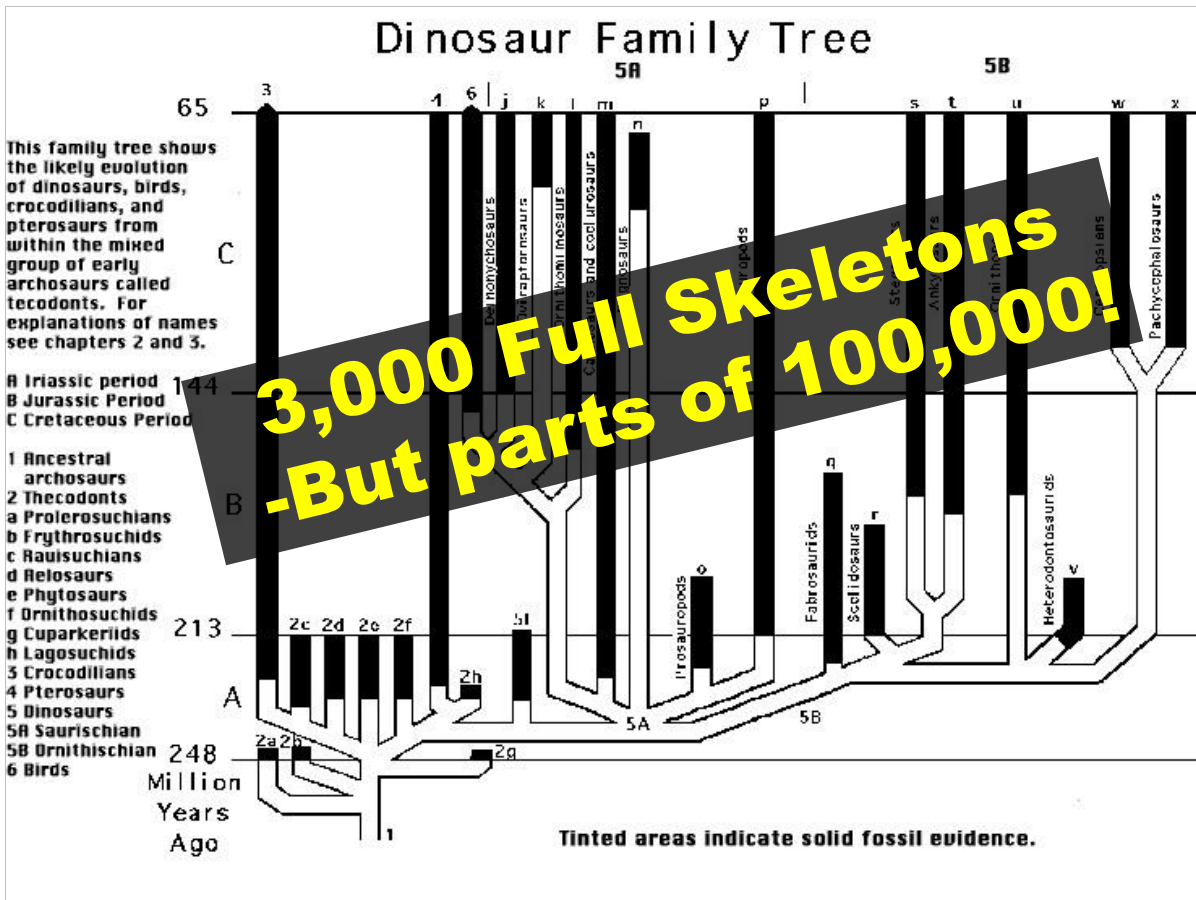
-Layers above our heads

-Regional Metamorphism

-Design Features

-Radiometric Dating Problems

-Radioactive Dino Bones?????



-Dinosaur Diamond

-Dinosaur Peninsula

-Death Throe Position

-Dino → Bird Evolution??

-Genetics – Human/Ape Change

-Soft-Tissue in Dinos

-If it wasn't millions of years, then there is evidence that the Bible is True and that we should Trust Jesus.

-Dinos in Art & Legends

-Petroglyphs

-Europe

-Acambaro & Ica Stones

-China

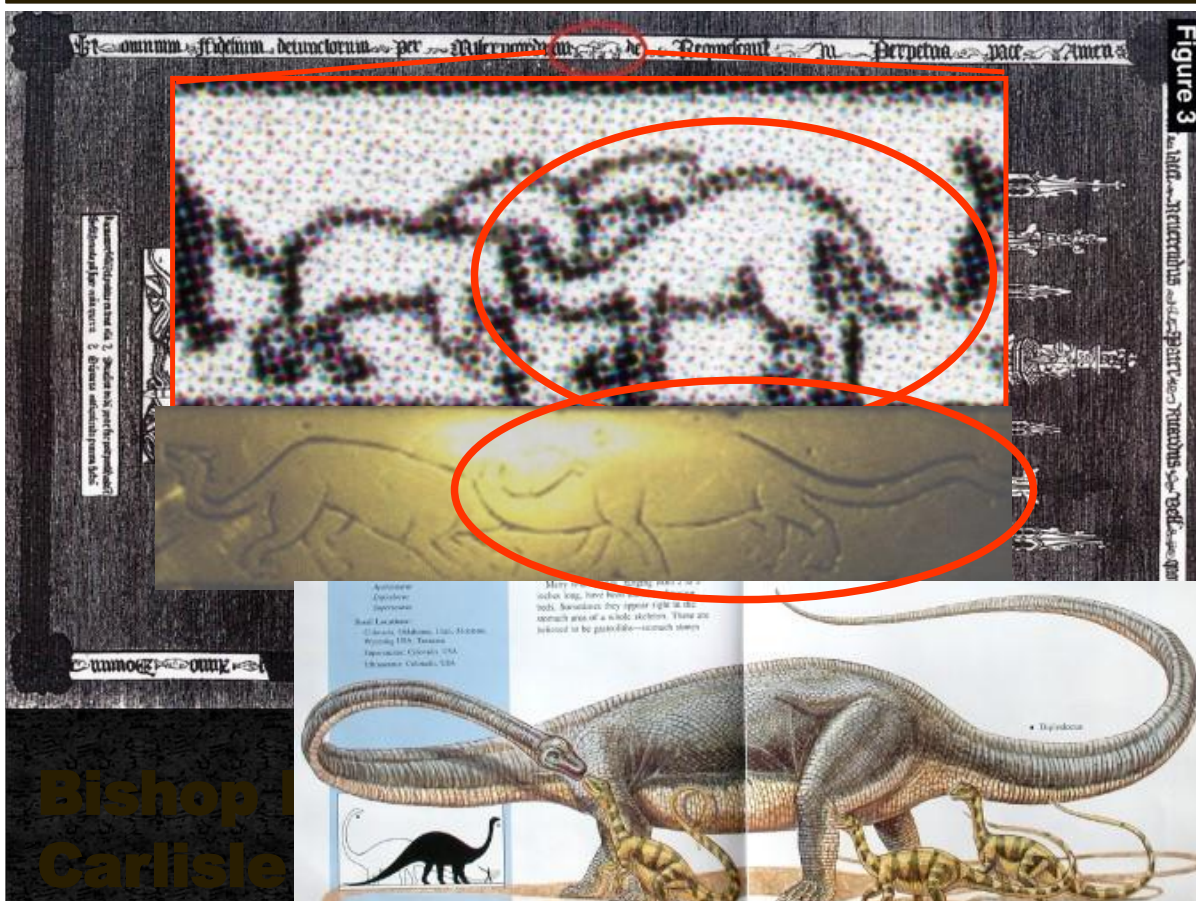
-The Zodiac

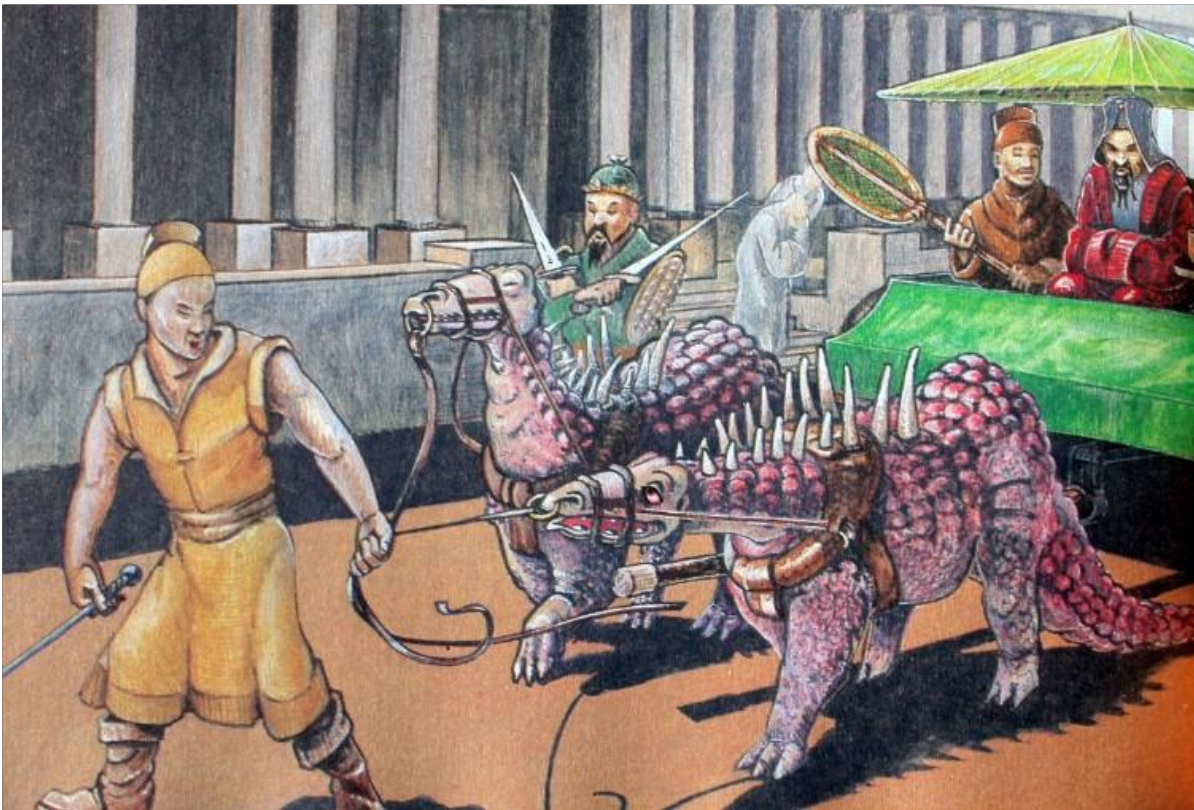
Artifact from Mexico



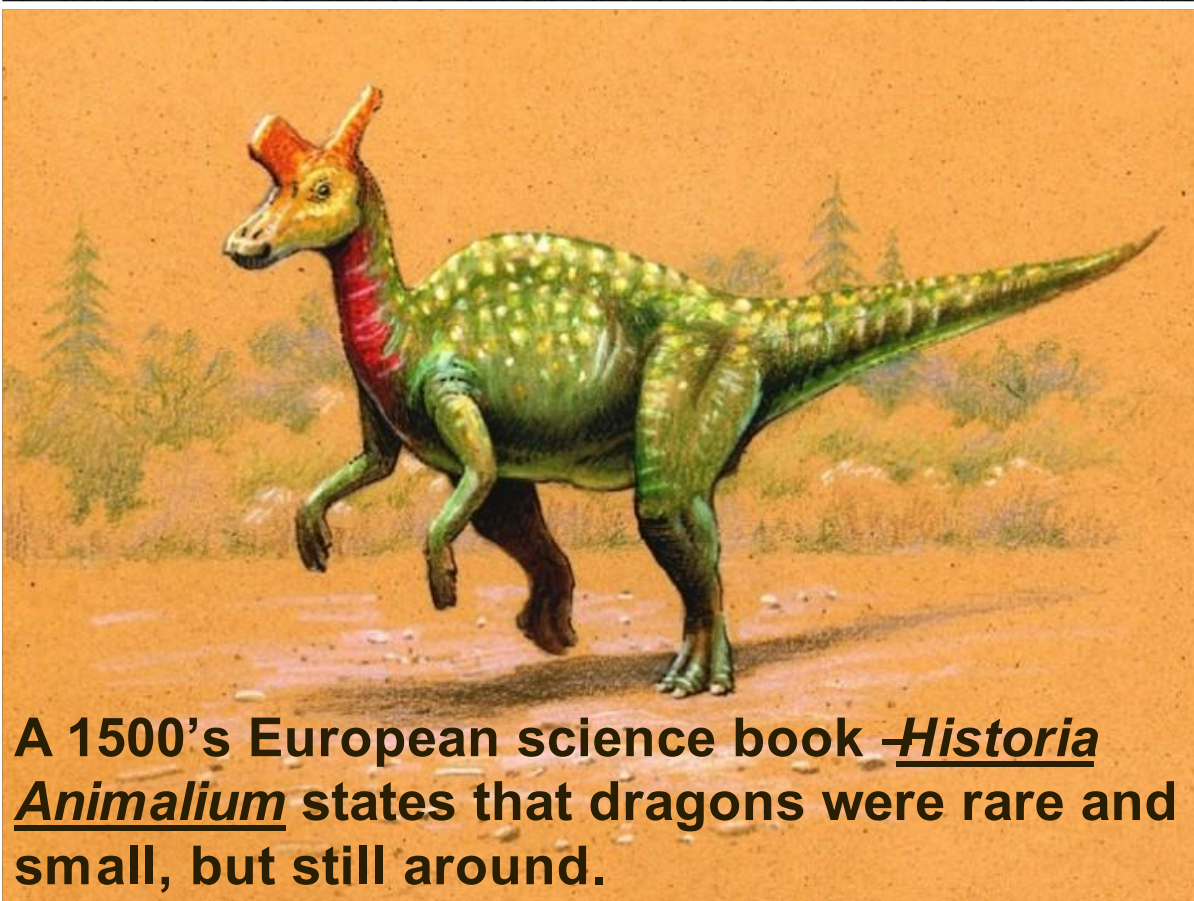
***Creation ex nihilo,
"Messages in Stone",
p.20-23***







Dragons used in China



A 1500's European science book *Historia Animalium* states that dragons were rare and small, but still around.

are believed to be about things that really did happen, although all the details in the story may not be true.

This is one of those legends that probably has a lot of truth in it. We know St. George was a real man who lived during that time period, and unfortunately we have the record of his martyrdom (put to death because of his faith) on April 23, 303.

St. George was held in the highest regard by the crusaders, and in 1350 was made patron saint of England. Great churches were named after him all over the world. We may never know the exact truth, but you can be sure he did something very special and brave.

The "dragon" in this illustration is the meat-eating Baryonyx, a dinosaur whose fossil remains were discovered in Great Britain in 1983.

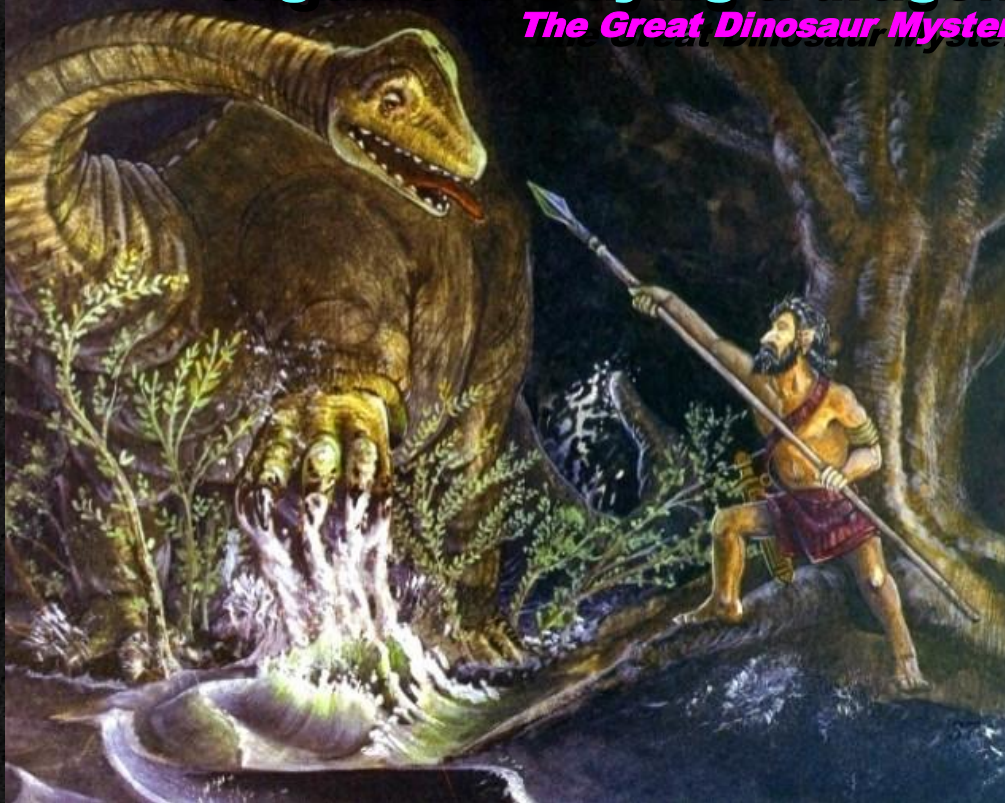


Knights and dragons

Dinosaurs by Design

Gilgamesh slaying a dragon

The Great Dinosaur Mystery



-Behemoth & Leviathan

-“Behold Behemoth, which I made with thee . . . He moveth his tail like a cedar . . . He is the chief of the ways of God . . .” - Job 40: 15,17,19

-Job 41:18-21 - ²¹ “His breath kindles coals, And a flame goes forth from his mouth.

-If there is evidence pointing to the Truth of God & the Bible, then should you Trust Him?

-If the Bible is God’s Word, then we can trust what it says – 100% - especially regarding Jesus?

-Challenge to You: How Big is Your God? Do you really Trust Him at His Word??

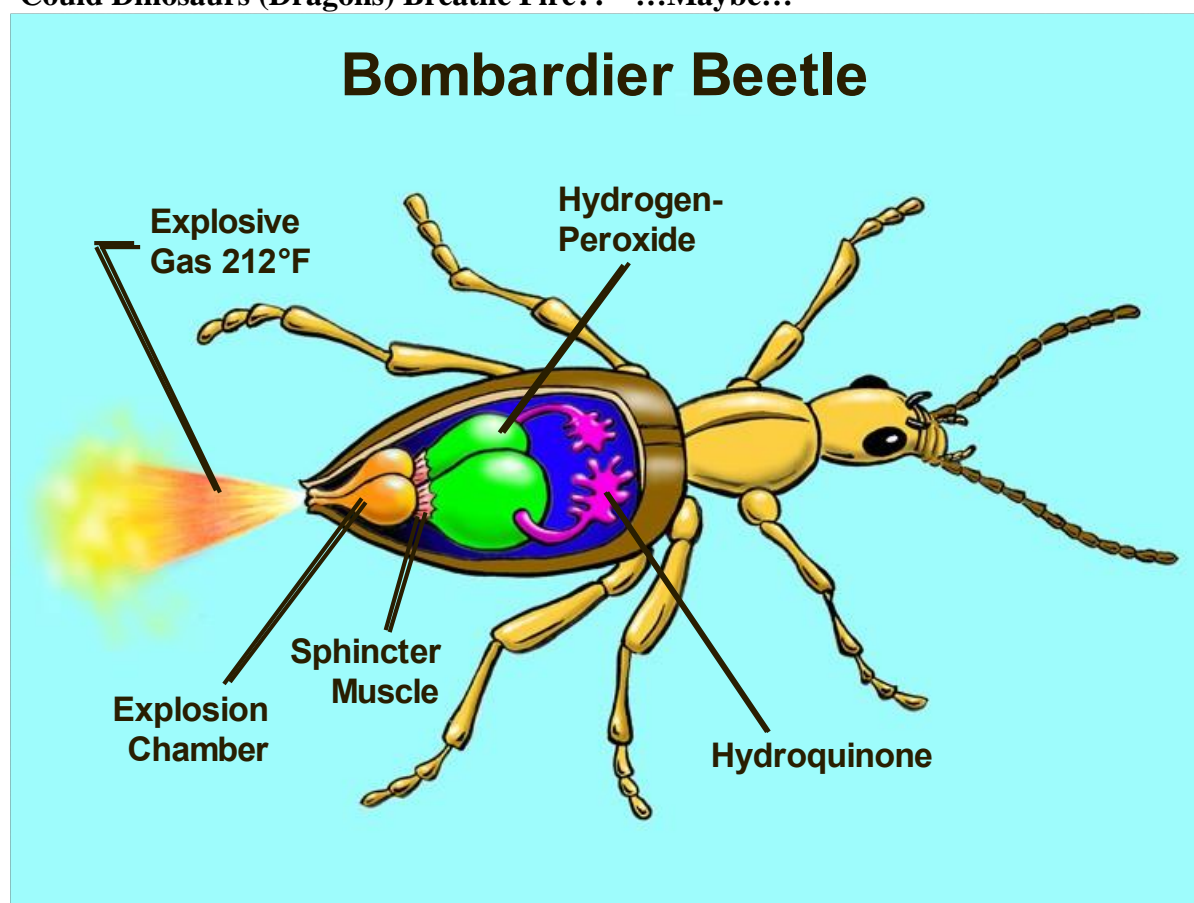
-If you are still unconvinced, do more research just like:

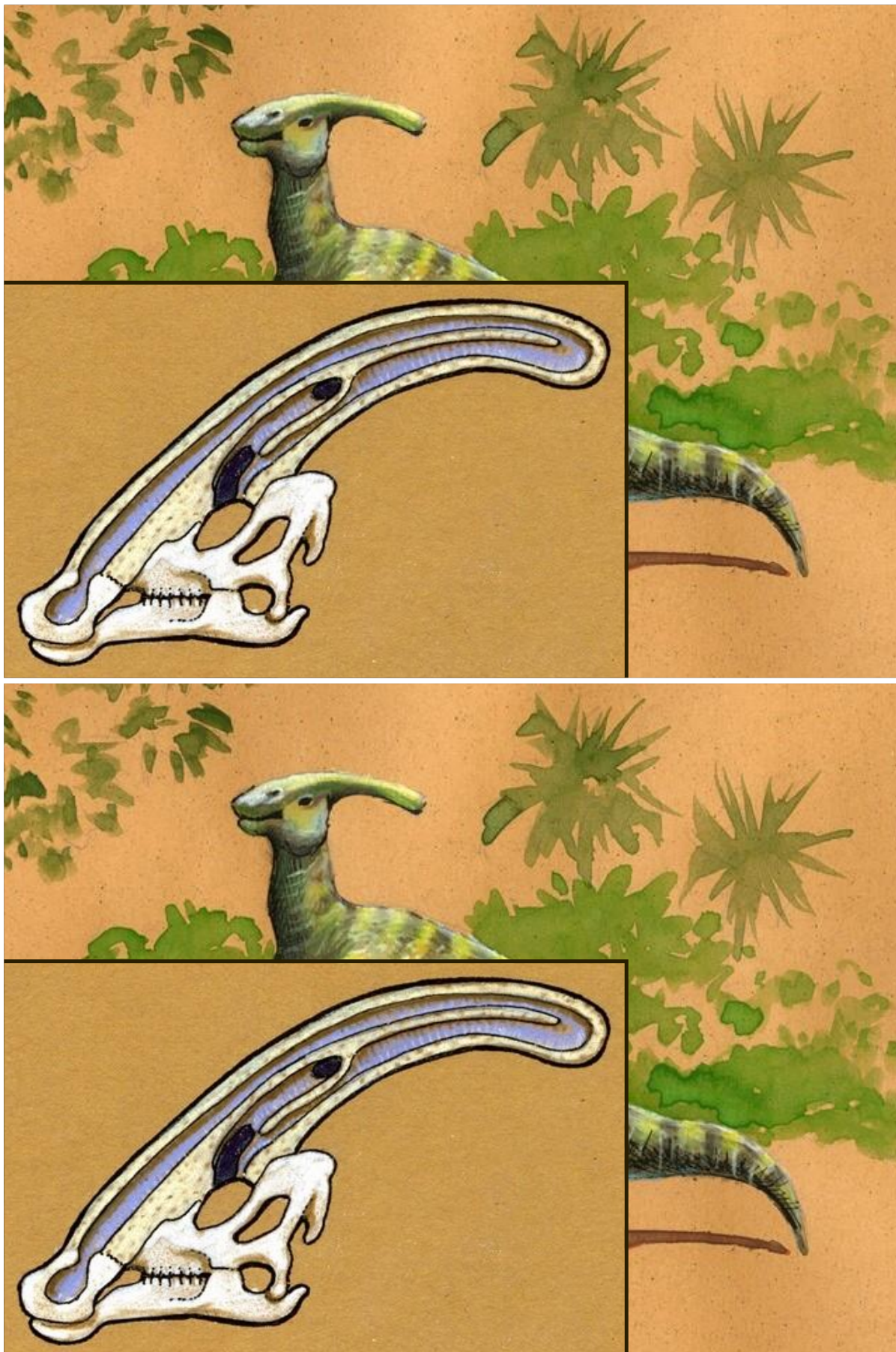
-Cold Case Christianity by J. Warner Wallace

-The Case for Christ by Lee Strobel

-Evidence that Demands a Verdict by Josh McDowell

-Could Dinosaurs (Dragons) Breathe Fire?? - ...Maybe...





-How Could Dinosaurs Fit on the Ark??

-How Did Dinosaurs Go Extinct??

For More Info, I Love these Videos:

Noah's Flood and Catastrophic Plate Tectonics (from Pangea to Today) by Genesis Apologetics

<https://www.youtube.com/watch?v=zd5-dHxOQhg>

Dinosaurs and the Bible ("Debunking the 7 Myths that Deny Biblical Truth" Series)

<https://www.youtube.com/watch?v=m3vQvgfwvbc>

Jesus said to him, "I am the way, and the truth, and the life. No one comes to the Father except through me. John 14:6

The Sweet 16 Significant Things (to Observe)

1. What do I see here and why is it important to me?
2. What was it like throughout its history or in the past?
3. Terrain?
 - a. Flat, rolling hills, mountainous, etc.
 - b. Anything unusual or out of place?
 - c. Any monuments?
 - d. Boulders out of place?
4. Types of Rock?
 - a. Sedimentary, Igneous, Metamorphic?
5. Layers of Rock?
6. Colors of Rock?
 - a. Has the color changed?
7. Lines in Rock?
8. Curves in Rock?
9. Shape of Canyons?
 - a. U-shaped or V-shaped walls?
10. Any Evidence of Erosion?
 - a. Rate of erosion?
11. Any Evidence of Faulting?
 - a. Folded, slanted, broken layers or rocks?
12. Any Fossils?
12. Any Evidence of Past Water?
13. Any Existing Water?
14. Region and Climate?
 - a. Latitude/Longitude?
 - b. Altitude?
15. Vegetation types?
16. Existing Wildlife?

Simplified!

1. Important?
2. History?
3. Terrain?
4. Rock Types?
5. Layers?
6. Colors?
7. Lines?
8. Curves?
9. Canyon Shape?
10. Erosion?
11. Faulting?
12. Fossils?
12. Past Water?
13. Current Water?
14. Climate?
15. Vegetation?
16. Wildlife?

75 Biggest Challenges to Evolution – General Overview

To learn more about each of these more in-depth, visit: <http://www.discovercreation.org/blog/category/articles/the-biggest-challenges-to-evolution-2/>

Geology/Paleontology/Archaeology

1. Dinosaurs – Unfossilized Dinosaur bone. Dragon legends and depictions all over the world. Too many Missing Links.
2. The Cambrian Explosion – Too many Missing Links. Totally different organisms before and after. No time for evolution.
3. Missing Links – Transitional fossils are just not found. (Maybe more transitional fossils should exist as compared to real fossils.) No transitions for Giraffe, Elephant, Horse, Trilobite, etc.
4. Index Fossils – Coelacanth and Ginkgo Tree were used to date rock layer to millions of years old, but are living today. Often the rock layer dates the fossil. (Circular reasoning)
5. Large Fossils – Different environment back then. Fossils are the same as current animals just bigger then → no evolution over supposed millions of years.
6. Evolution of Feathers – Feathers are very complex. No way they could evolve from reptile scales.
7. Human Ancestors – Many have been proven hoaxes. Many are pieced together by tiny shards sometimes from separate individuals in separate places. Not solid enough evidence.
8. Rock Layers – huge worldwide sediment layers rapidly covering the fossils found today. More evidence for flood than slow additions over millions of years (Ex. Consistent, curved layers, injectites, polystrate fossils, etc.)
9. Underwater Ruins – Worldwide examples indicate remnants of advanced costal civilizations built only 4000 years ago during ice age when water levels were lower.
10. Mt St Helens – Observed examples of the effects of a cataclysmic event (Ex. New canyons, rock layers, trees submerged in sediments, etc.)
11. Mass Rapid Fossil Beds – Evidence of rapid, flood-like burial (Ex. whole schools of fish, fish eating another fish, unopened clams, position of fossils, etc.)
12. Silt/Salt Deposits – Large, pure layers of salt appear to have chemically come out of flood water vs. from evaporative accumulation.
13. Erosion Examples – Worldwide examples of geologic flood erosion. (Ex. Large, water-carved areas; at current erosion rates, the continents would erode in 100 million years???, etc.)
14. Cave Formation and Structure – Many modern examples of cave structures forming rapidly under the right conditions. (Ex. Stalactites under Lincoln Memorial, Tipi Fountain, bat in stalagmite, etc.)
15. Petrification – Under the right conditions, things can quickly turn into rock. (Ex. Petrified, Ham, bowler hat, Cowboy leg in boot, etc.)
16. Radiometric Dating – Inaccurate results on things of known age (Ex. Mt. St. Helens, Hawaii, New Zealand, etc.) Dating relies on many assumptions.
17. Ice Age – Evidence for only one ice age; the flood model gives best reasonable explanation for cause of ice age.

Biology/Genetics/Anatomy

18. Irreducible Complexity (Impossibly Complex) – Many examples of complex systems that basically could not evolve slowly. (Ex. Flagellum, eye, blood clotting process.)
19. Symbiotic Relationships – Multiple organisms living dependent on each other for survival. How could they have evolved together? (Ex. Yucca plant/moth, ants/fungi, bees/flowers, etc.)
20. Natural Selection and Microevolution – no evidence of this process leading to macroevolution.
21. Mutations – Most if not all are harmful, and usually lose genetic information rather than gaining it.
22. Homology – Similar body structures are based on function, and thus are not evidence for similar evolutionary ancestry.
23. Junk DNA & Vestigial Organs – Not “evolutionary leftovers,” scientists are finding functions for most “vestigial organs,” and that “junk DNA” is used in coding for proteins.
24. Why are there 2 genders? – Since early ancestors are supposed to have been asexual, what was the cause of the change to two genders, and how is it beneficial?
25. Mitochondrial Eve – From genetics, scientists can trace lineages back to a common mother about 6,000 years ago, based on current mutation rates.
26. Pregnancy – How could such a complex process, with so many intricate and detailed steps, have slowly evolved from a simpler one?
27. World Population Studies – Why did civilizations all advance and grow at basically the same time in history?
28. Probability of Abiogenesis – The probability of evolving a protein is practically zero, let alone evolving a simple cell.
29. The Simplest Organism Known – The more you study any organism, the more complex it is. What is the simplest organism alive today? Are simple organisms still evolving? Can we evolve a simple organism?

Astronomy/Earth Science

30. Comets – Comets should burn up within a short amount of time, and there is no evidence of the Oort cloud or the Kuyper belt throwing more comets into our solar system.
31. Creation of the Moon – There are many mathematical and physics problems with the four modern evolutionary explanations.
32. Dust on the Moon – Over billions of years space dust should accumulate on the moon, and yet very little is found.
33. Our Receding Moon – The moon moves away from the earth about 4 cm. each year, which limits the age of the moon.
34. Finely Tuned Constants of the Universe – In order for the universe to exist, mathematics demands very precise numbers for certain constants. (Ex. Gravitational constant, electromagnetic constant, etc.)
35. Perfect Placement for Life – Everything about the earth is perfect for life. (Ex. Distance from sun, distance to moon, place in the galaxy, etc.)
36. Star and Planetary Formation – No solid explanation or evidence for star formation, as gas particles want to spread out and gravity is a very weak force.
37. Tight Spiral Galaxies – Over billions of years the spiral arms should have flown away from the center. There is no solid evidence for why this would be.

38. Strong Magnetic Fields – Over long periods of time magnetic fields get weaker, so earth's and other magnetic fields should be weaker than they are.
39. Red Shift – There may be evidence that this observable phenomenon of moving objects may not be completely reliable.
40. Our Sun – It is the perfect brightness, temperature and age for the earth. How has that changed throughout the history of the earth?
41. Rotation and Revolutions of Moons – As the sun, the planets, and the moon formed, they should all revolve and rotate in the same direction, but there are many that do not.
42. Speed of Light – Has the speed of light changed over history, and how would that affect the universe?
43. Canopy Theory – This could be a possible explanation for why earth's climate was so different in the past, to allow for larger organisms with longer life spans.
44. The Big Bang – There are a lot of assumptions to this theory, and less and less is known the closer they get to the "bang."
45. Aliens – According to the Bible, there are huge theological implications to the existence of aliens.
46. Oldest Trees – The oldest trees are debatably only as old as 10,000 years old. When a tree gets so big, what can kill it?
47. Ocean Sediments and Salt – Over time, more sediment and salt are washed into the oceans, but the limited amount would suggest a young age for the ocean.

Chemistry/Physics

48. Nucleus of an Atom – Like charged particles repel, opposites attract. So why do protons stay together in the nucleus? Why are the electrons not pulled toward the protons?
49. Elements of Life – Stars can only create the lightest few elements. Supernovas supposedly create the heavier elements. How do we still have so much radioactive elements on earth if the earth is so old.
50. Quantum Physics – There are some weird unknown properties of quantum physics. In Particle Physics, what particles have we really observed? What do we really know and what is just conjecture?
51. Dark Matter – Does it exist? It is supposedly about 21% of the universe, because there has to be more matter in the universe based on observations. Is there a better young age explanation?
52. Dark Energy – Does it exist? It is supposedly about 74% of the universe, better something has to accelerate the expansion of the universe as is observed. Is there a better young age explanation?

Mathematics

53. Fibonacci Sequence in Nature – This famous mathematical pattern is the basis behind spirals and can be found in many places throughout nature (ex. Shells, flower petals, tree limb growth).
54. The Impossible Probability – Some things are incredibly improbable. How improbable does something have to be to be impossible? Is evolution impossible?
55. The Infinite – How do we comprehend infinity? Is it a natural concept or a God-based concept?
56. Fractals – These are mathematical patterns, often getting infinitely complex. Why are there fractals? Are they God-designed beauty?

History, Language and Culture

57. Evolution of Languages – Linguistics can trace languages back to a few common language families all near the same time. How did they begin? What is the evidence?
58. Legends of Creation – All over the world, there are different legends of creation, many are similar in aspects to Genesis. Why are many so similar?
59. Legends of a Global Flood – All over the world, there are different legends of a great flood, many are similar to the Genesis account. Why is this legend so pervasive?
60. Legends of Babel – All over the world, there are different legends of their civilized culture building up to the sky and a great confusion of languages. Why is this legend spread around the world?
61. Connections to Babel – Many worldwide cultures have similar pyramid like structures, henges or dolmens and even have similar legends and worship customs. Is this coincidence or due to trade or from a common ancestry?
62. Legends of Dragons – All over the world, there are stories and depictions of dinosaur-like creatures called dragons. (European knights slaying dragons, training dragons in China, Native American legends and depictions, etc) There seem to be too many to discount.
63. Religions in Every Culture – People all over the world seem to have a need for God or the supernatural or worship of something. Why is it an innate desire of man?
64. Pyramids, Ziggurats, Mounds, Henges, and Dolmens – These similar formations appear all over the world. Is this evidence of common heritage or a coincidence?
65. Constellations – Who developed the constellations and what does it mean? Is the gospel displayed in the stars?
66. Music – How is music so complex and so beautiful? Why is it so pleasurable? Is there any evolutionary advantage of music?
67. Art and Beauty – Why is art so complicated and what makes it beautiful and pleasurable to us? What is the evolutionary advantage?
68. The Trustworthiness, Portrayal, and Interpretation of History – How do we know if history is passed down correctly? Do we really have to have faith in what someone tells us?
69. Oldest Records and Objects – What are the oldest things? How do we know how old they are? Is there enough evidence of thousands of years of the evolution of man?
70. Truth – What is Truth? Who determines Truth? Are they correct? Is Truth relative or fixed? Is it evolutionary or innate rules built or designed within us or within the universe?
71. Morality – What is morality? Who determines it? Are they correct? Is Morality relative or fixed? Is it evolutionary or innate rules built or designed within us or within the universe?
72. Laws of Logic – Why are there laws of logic? Are they naturally occurring or did someone create them?
73. Information Theory – Does information need a cause, mind or a creator? Can information come from chaos or randomness?
74. Who Are You? – How did consciousness evolve? Why are we different than animals and how did that evolve? What happens when we die? If it is all chemical/physical causes, do we have control of how we think or what we do?

75. Religion – All over the world, people have a desire for something more, a greater purpose, a greater connection. Why do we all have this desire? Is it evolutionary or are we designed with the knowledge of God (Rom 1).

5 Common Deceptions

1. The Bible is not completely reliable.

Answer: The Bible is Consistent and Confirmed through archaeology, prophecies and more. It is GOD's Word.

2. Evolution is proven science and Creation is religious belief.

Answer: Both have faith and use science.

3. Science has proven evolution and an old earth.

Answer: Evidence has to be interpreted by the naturally biased observer. It depends on how you look at it.

4. The Definition of Science cannot allow for God.

Answer: God created science for us to use. Science is based on natural laws, but God is not limited to natural laws.

5. Evolution and the Bible are compatible.

Answer: Evolution means Death before sin which contradicts the doctrine of Jesus. .

Our Online Resources

Alpha Omega Institute:	www.DiscoverCreation.org
Alpha Omega Institute Blog:	discovercreation.org/blog
Facebook Ministry:	facebook.com/AlphaOmegaInstitute
YouTube Ministry:	youtube.com/c/alphaomegainstitute
Twitter Ministry:	@DscvrCreation
Brian's Email:	bmariani@discovercreation.org

See Also

Some of the Favorite Scientific Evidences for God – www.DiscoverCreation.org/Evidence

www.proofthatGodexists.com

R.C. Sproul – Christ the only way (Video) - www.youtube.com/watch?v=jxX3kEJT88g

Evidence for God & the Bible from the Sciences?

(To Click All of these Links, Go To: www.DiscoverCreation.org/Evidence)

Astronomy – An overview (www.youtube.com/watch?v=1IN6xeeLcxM) as well as:

1. Naturalism cannot explain the origin, cause, source, and mechanisms for the **Big Bang and Inflation**.

-Reference: <http://www.discovercreation.org/blog/2014/09/30/the-big-bang-theory-creation-perspective/>

2. Naturalism cannot explain **Star, Planet, and Moon Formation**.

-Reference: <http://www.discovercreation.org/blog/2014/08/12/star-and-planetary-formation-creation-perspective/>

-Bonus Reference: <https://www.youtube.com/watch?v=Gr8Az3QQZdI>



Geology



3. **Rock Layers** are better evidence of a Worldwide Flood than slow accumulation because layers are flat on top of one another – no erosion in between, they are smoothly bent or curved in many places.

-Reference: This is a generic list of articles - <https://answersingenesis.org/evidence-for-creation/the-10-best-evidences-from-science-that-confirm-a-young-earth/>

4. **Fossils**: With more than an estimated billion fossils discovered, the transitions between different kinds are still missing. (Ex. 750,000,000 Invertebrates and 500,000 Fish but no links.)

-Reference: (He lists his research in his book, but some of it is in this video:

<https://www.youtube.com/watch?v=u49J72gb164&index=1&list=PLEC79013204BA5EF7>)

5. **Soft Tissue in Dinosaur Bones** – This is evidence that it is much more reasonable to believe that fossils are a few thousand years old as opposed to millions of years old.

-Reference: <https://www.youtube.com/watch?v=T9rl6uxSC9A>

-Bonus Reference: <https://www.youtube.com/watch?v=2phFPZfy4S0>

Biology



6. **Origin of Life** – Chemistry does not want to start the first cells. Very interesting article - <http://creation.com/origin-of-life>

7. **Mutations and Natural Selection** are not enough to correctly change the complex DNA code. (Especially considering **Genetic Entropy**: <https://www.youtube.com/watch?v=eY98io7JH-c>)

-Reference: <http://www.discovercreation.org/blog/2014/04/17/great-evidences-for-creation/>

Anthropology & Sociology

8. **The Laws of Logic** are an evidence that there is a God.

-Reference: <http://www.discovercreation.org/blog/2014/11/13/laws-of-logic-creation-perspective/>

9. **Morality** is Evidence of God.

-Reference: <https://creation.com/cultural-relativism>

-Bonus References:

<https://www.youtube.com/watch?v=OxiAikEk2vU>

<https://www.youtube.com/watch?v=OSH0m37lqZs>

10. **The Historicity & Reliability of the Bible** – There is evidence that you can trust God and the Bible.

-Reference: <https://www.youtube.com/watch?v=nvOsR1-YHTQ>

-Bonus Reference: <https://www.youtube.com/watch?v=MsO8JI9mmQc&list=PL1440A16CB619C264&index=33>



Bonus: What is Evidence?

Do we need direct evidence for God or is circumstantial evidence enough? <http://coldcasechristianity.com/2017/why-its-important-to-teach-skeptics-about-the-nature-of-circumstantial-evidence/>

Bonus: See arguments regarding the **Age of the Earth**: <https://creation.com/age-of-the-earth>

Bonus: www.proofthatgodexists.org

Bonus: Have you ever thought about this – “Wouldn’t it be unfair if Jesus is the only way to Heaven?”
www.youtube.com/watch?v=jxX3kEJT88g

Contact us if you have more questions:
aoi@discovercreation.org 970-523-9943

Best Evidences from Geology for a Young Earth

1. Bent Rock Layers
2. Widespread Rock Layers
3. Soft Tissue in Fossils
4. Very Little Sediment on the Seafloor
5. Carbon-14 in Fossils, Coal, and Diamonds



Read more here: <https://answersingenesis.org/evidence-for-creation/the-10-best-evidences-from-science-that-confirm-a-young-earth/>

More on Age of the Earth: www.creation.com/age-of-the-earth

For Chemistry and Biology: www.creation.com/origin-of-life

For Astronomy: www.youtube.com/watch?v=Gr8Az3QQZdl

For Logic and Reasoning: www.proofthatgodexists.org/

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Is there sufficient evidence for a worldwide flood or for billions of years of Earth History? What are the biggest problems with both viewpoints?

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Are You Open-Minded??

I was challenged recently with a student who asked something to the effect of “Are you open-minded?” That question sparked a conversation regarding the question of “what would it take to change my mind?” Let’s think about this for a little bit.

This was stated as an argument from someone I suspect is an evolutionary atheist: “The creation model flouts the evidence, and simply is not possible given what we do know about the history of the Earth.”

I would be curious to see what evidences they think the creation model flouts and I think much of the opposite is happening – that much evidence presented for the creation model and against the evolutionary model is flouted or disregarded by the evolutionist. And notice the word “know” in the above claim, what is “known” is what we *think* is proven based on evidence, much of which *relies on assumptions and interpretations* of the evidence.

So...Creation or Evolution?

To the Creationist, what would it take to change your mind?

1. If scientists, starting with chemical reactions, could show the highly detailed and systematized progression of the production/evolution of a simple fully-functioning (metabolizing) cell capable of reproduction. (Note: I am not just asking for the theoretical progression but an actual newly evolved creature.) See Problems with Abiogenesis Here: <http://creation.com/origin-of-life>
 - a. This is thought to have happened in natural environments that would often have destructive reactions to this chemical build-up.
 - b. Based on current laboratory technology, we can isolate chemicals in so many ways and can then mix them with the right concentrations of other isolated chemicals – thus speeding up the supposed process of evolution as has been theorized to have happened in natural environments.
2. If scientists could show a highly detailed and systematized progression (actually observed/documentated) of the origin of the simplest DNA chain and then through its build-up of useful DNA from simple to forming machines.
 - a. See More Here: <https://www.icr.org/article/chemistry-by-chance-formula-for-non-life/>
<https://www.icr.org/article/evolution-hopes-you-dont-know-chemistry-problem-wi/>
<https://www.icr.org/article/evolution-hopes-you-dont-know-chemistry-problem-co/>
3. Give examples of 500 fossils of critical transitions between small mammals to bats (If there are thousands of small mammal fossils and more than 1,300 fossil bats, which there are, then we should expect to find thousands of critical intermediates. Source: <https://paleobiodb.org/navigator/>, accessed November 16, 2018.)
 - a. Reference: (He lists his research in his book, but some of it is in this video: <https://www.youtube.com/watch?v=u49J72gb164&index=1&list=PLEC79013204BA5EF7>)
4. Give examples of 1000 fossils of critical transitions leading directly to the modern whales. (There have been some creatures proposed as intermediates, but are controversial. If there are thousands of land mammal fossils and more than 5,800 whale fossils, which there are, then we should expect to find thousands of critical intermediates. Source: <https://paleobiodb.org/navigator/>, accessed November 16, 2018.)
5. Show me that Radiometric Dating is accurate even though it is based on assumptions about the past that are at least extremely difficult if not impossible to know.
 - a. Reference: <https://answersingenesis.org/evidence-for-creation/the-10-best-evidences-from-science-that-confirm-a-young-earth/> (Specifically see the sections #6 Helium in Radioactive Rocks and #7 Carbon-14 in Fossils, Coal and Diamonds)
6. Show me sufficient observation and sufficient physics to adequately explain the problems with the Big Bang, Inflation, Dark Matter, Dark Energy, Galaxy Formation, Star Formation, Planet Formation, and Moon Formation
 - a. See the Problems Here: <https://www.youtube.com/watch?v=Gr8Az3QQZdI>
 And Here: <https://www.youtube.com/watch?v=E66409i-yn4>
 - b. If the Big Bang is true, the question still would remain – what started the Big Bang?
7. Show me a more reasonable explanation of Morality without God.
 - a. Reference: <https://creation.com/cultural-relativism>
<https://www.youtube.com/watch?v=OxiAikEk2vU>

<https://www.youtube.com/watch?v=0SH0m37lqZs>

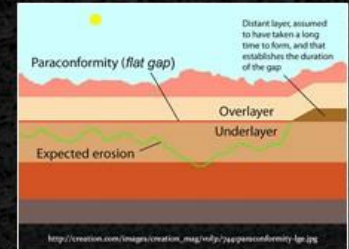
8. Show me a more reasonable explanation of the Fine-Tuning Argument – where the fact that everything appears so designed and fine-tuned for life is more likely (from probability) just natural consequences rather than due to a designer.
 - a. See the argument and others on the list here:
<https://www.youtube.com/watch?v=EE76nwimuT0&list=PL3gdeV4Rk9Efl-NyraEGXXwSjDNeMaRoX&index=7>
9. Show me reasonable evidence for me to gain the belief that there is no free will.
 - a. If we are all just chemical reactions, then it is an illusion that we make choices. It is simply our chemical bodies using our genetic DNA code to interact with the chemical/physical world around us.
10. Show me reasonable evidence to gain the belief that consciousness and reasoning can come through evolution.
 - a. See the Problems Here: <http://www.discovercreation.org/blog/2014/11/13/laws-of-logic-creation-perspective/>
11. Show me how information that is orderly and with specified complexity is more likely (from probability) to come about naturally rather than due to a designer.
 - a. Reference: <https://creation.com/information-science-and-biology>

To the Evolutionary Naturalist, what would it take to change your mind?

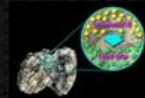
What if we find...

1. Unfossilized tissue of creatures supposed to have lived millions of years ago?
 - a. References: <https://www.youtube.com/watch?v=T9rl6uxSC9A>
<https://www.youtube.com/watch?v=2phFPZfy4S0>
2. Contradictory results from Radiometric Dating? (See Reference Above in #5)
3. Out-of-Place Fossils?
 - a. References: <http://creation.com/fossils-out-of-order>
<https://www.msn.com/en-us/video/wonder/97-million-year-old-teeth-found-in-germany-have-scientists-baffled/vi-AAAtMvly?ocid=spartandhp>
4. Contradictory Astronomical Objects and Evidence that doesn't match Big Bang Predictions? (See References Above in #6)
5. Genetics that shows too much negative changes and not enough possible change?
 - a. Reference: Genetic Entropy - <https://www.youtube.com/watch?v=eY98io7JH-c>
 - b. Ape and Human Similarity - <https://creation.com/refuting-evolution-chapter-6-humans-images-of-god-or-advanced-apes> and see also - <https://creation.com/1-percent-myth>
6. Things that cannot be explained by slow Evolution? (Irreducibly Complex Biological Machines and Systems)
 - a. Reference: <https://creation.com/refuting-evolution-2-chapter-10-argument-irreducible-complexity>

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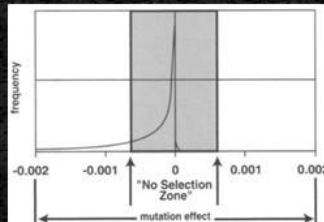
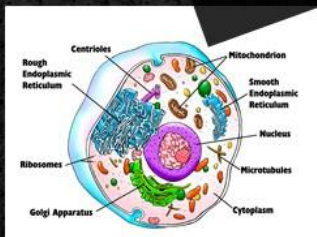
- Initial Conditions
- Constant Rate of Change
- Closed System



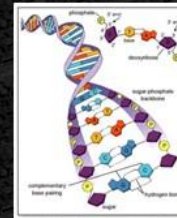
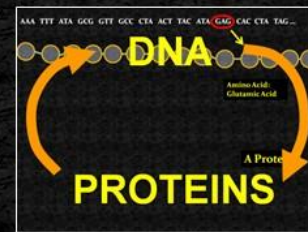
Observations from Biology

- DNA is Information
- Questionable First Life – DNA, RNA, or Proteins?
- Chemicals build up and break down
- Change happens
- Mutations are usually harmful
 - Not creating new ordered information
- Natural Selection mutations can't create new information
- Many Examples of Irreducible Complexity

Evidences for Design not Evolution!



I love my family!
- Brian



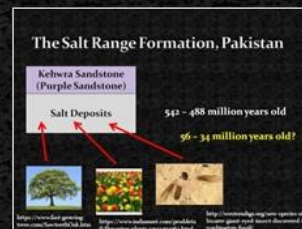
Sugars have Carbonyl that reacts destructively with Amino Acids!

Don Batten, Origin of Life, Creation Ministries International, <http://www.creationministries.org.au/originoflife>, accessed October 19, 2008.

Fossil Observations

- Fossils Smashed, Buried Quickly and Fossilized Quickly
- Out of Place Fossils
- Complexity
- Living Fossils - same as today
- No Transitions
- Soft Tissue

Evidences for a Worldwide Flood!

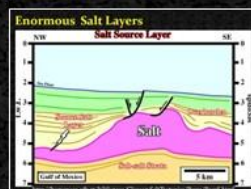
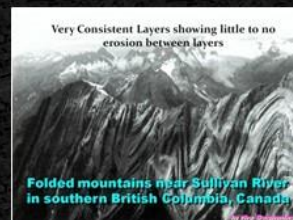
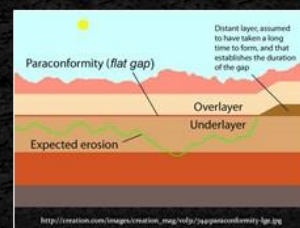


200,000 fossils!



Observations from Geology

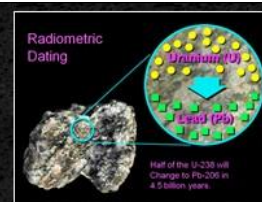
- Water and Catastrophes Involved
- Flat contacts between layers
 - No erosion – No time
- Curved/Bent rock layers
- Widespread rock layers
- Thick, pure salt deposits
- Great Denudation and sheet erosion
- Layers and canyons observed to form quickly



Evidences for a Worldwide Flood!

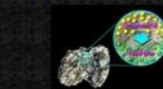
Radiometric Dating

- Current rates can be measured
- But Assumptions must be made:
 - Initial Conditions
 - Constant Rate of Change
 - Closed System
- Many Examples of Wrong Dates
- C-14 in Coal and Diamonds
- Helium in Zircon Crystals



Assumptions:

- Initial Conditions
- Constant Rate of Change
- Closed System

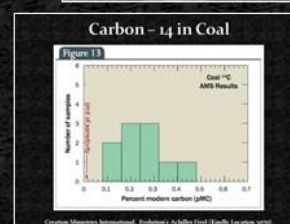
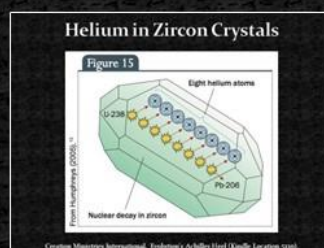


Hair of a mammoth dated at about 26,000 years



Robert H. Boyum, "Radiocarbon Age Measurements Re-examined," in Review and Herald, October 26, 1975, pp. 7-8.

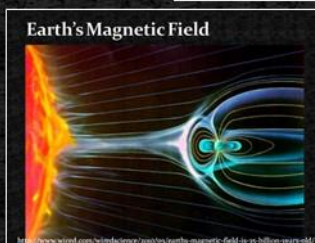
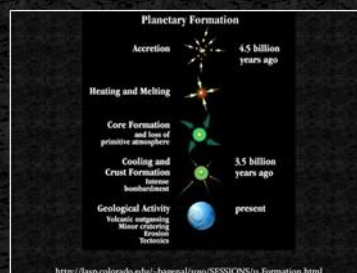
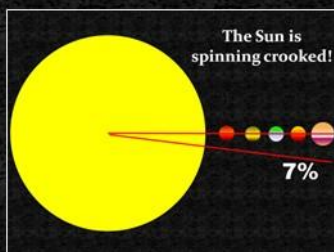
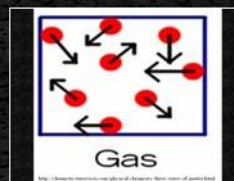
Evidences for a Young Earth!



Observations from Astronomy

- Problems with the Big Bang
- Problems with Star Formation
- Problems with Planet Formation
- Magnetic Fields are too Strong
- Funny spinning objects
- Galaxies formed too soon

"Nothing" is the first cause
 And as it got bigger, it became filled with even more stuff that came from absolutely nowhere. How is that possible?
 Ask Alan Guth. His theory of inflation helps explain everything.

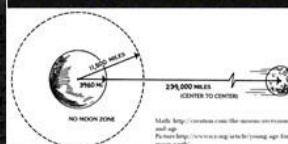


Observations from Astronomy

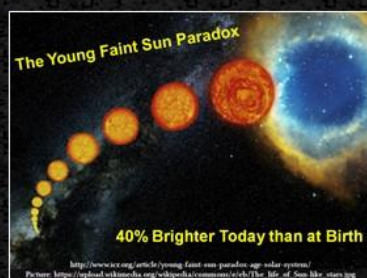
- Comets should be burned up
- Problems with Moon Formation
- The Moon is receding
- Water on Earth (and Mars)
- Young Faint Sun Paradox



Moving away at about 4.4 cm per year.
 Maximum age = 1.3 billion years old

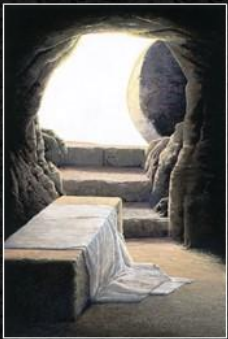


Evidences for a Created Universe!

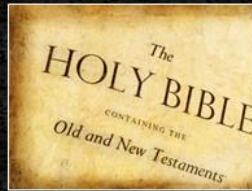


Observations from Anthropology

- Archaeology continually confirms the Bible as true including people and places
- Legends of Creation, the Flood, and the Tower of Babel
- Lineage
- Reliability of the Bible
- Evidence for Jesus' Life, Death and Resurrection



**Evidences for God
and the Bible!**



Other Evidences

- Cosmological Argument
- Teleological Argument
- Design Argument
- Laws of Logic
- Morality
- Conscience (Mind-Body Duality)
- Personality and Creativity



**Evidences for the God
of the Bible!**

What's Impossible Worksheet

Name: _____

*When asked to read scripture, write the truths described in the passages.

What is impossible in your life right now?

Read Psalm 37:1-11, 17, 23-25, 34, 37, 39

1.

2.

3.

Read 2 Cor 3:5 God is our _____.

Read Luke 22:42, Rom 12:1-2

Does God answer prayer? If so, how? Give some examples if possible.

Read Is 40:31 and Rom 8:28

Read Matt 6:10, Luke 22:42, Rom 12:1-2

How Big is Your God?

Are there areas in our life where we are not trusting God? Why do we not believe Him? Who do we believe/trust more?

Read Matt 6:25-34, 7:7-17

What is impossible in your life right now?

Read Matt 17:20

Read Matt 19:26

Do you really believe the Bible? Do you really believe God? How Big is Your God?

What is impossible in your life right now?

Worldview Survey Sheet		1	2	3	4	5
Questions	Names:					
1	Do you believe in God or a higher power? (Why or why not... and if so, what is that God like?)					
2	How did the Universe come into being? (Is it eternal, was it a big bang, or was it created?)					
3	Do you believe in such a thing as objective (absolute) morality? (That there are things that are right or wrong that everyone should follow.)					
4	What happens when you die? (Do you believe in an afterlife, or do you just return to dust and that's the end?)					
5	With Depression & Suicide Being So Common, Do People Today Have Hope? (If so, then hope in what or who?)					
6	What are the most serious problems the world is facing today, and how can they be fixed? (What bothers you about the world around you?)					
7	Is there a meaning to life and what is it? (How did you come to that answer, and where does meaning come from?)					
8	What is a human being? (Are we any different from animals, and should we have any additional rights that they don't have... and why?)					
9	Do you believe that Truth exists? If so, how do we know the Truth? (Is it absolute and unchanging, or is it subjective and changeable? - <i>May be true for you, but it is not true for me.</i>)					
10	If you could ask one question about the Christian faith, what would it be?					
11	What are CMU students most in need of? How can we best help them?					
12	How can I help you or how can I pray for you?					

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Think & Believe

Discover Creation...Worship the Creator

A Publication of Alpha Omega Institute

May/June, 2012; Vol. 30, No.3

Visiting Our National Parks

by Dave Nutting

In this issue of Think & Believe, our articles focus on Yellowstone National Park and the adjoining Grand Tetons. With over 3 million visitors to the area each year, I suspect that many of our readers will be venturing there even this year. If not, you will likely visit another one of our parks or museums this summer if you take a road trip vacation.

On the negative side of going to the parks or museums is the plain fact that you and your family will likely be inundated by evolutionary and anti-Biblical philosophy. It is hard to escape the evolution and all those "millions of years" that is so prevalent unless you never go into a visitor center or gift shop. Since there is a slim chance of that happening, I really recommend that you prepare your family well for the trip and the vain philosophies they will get. Remember the warning in Col. 2:8 not to be taken captive by philosophies!

On the positive side of going to the national parks is the tremendous teaching opportunity you have to point out the problems with evolution and the other philosophies

that permeate those museums and national parks. If you don't want to miss this opportunity, make sure you are prepared to help your family understand the evolutionary bias and contrast that to the Truth of God's Word.

We mention the Yellowstone Guide in this issue, but there are also guides available through our office or website (DiscoverCreation.org) for the Grand Canyon and for Bryce Canyon

and Zion National Parks. Not only that, but we also have guide books to prepare your family before you go to zoos (Complete Zoo Adventure),

for museums (Museum Guide) and for aquariums (Complete Aquarium Adventure). With all of these resources at your fingertips, you can make this year's vacation a real vacation with a purpose!

Almost 20 years ago, we ran an article entitled Vacation Alert (T&B, volume 10 No.3). In it, we mentioned a trend in the parks to embrace and teach new age

philosophies, pantheism, spiritism, reincarnation, and nature worship. As you go to most of the parks, you will note that the trend has now become the norm. Much of this has crept in by the park's extolling of the Native American cultures. You will want to point this out to your family as well. Go to our website articles section and look in the back issues of **Think & Believe** to read that article.

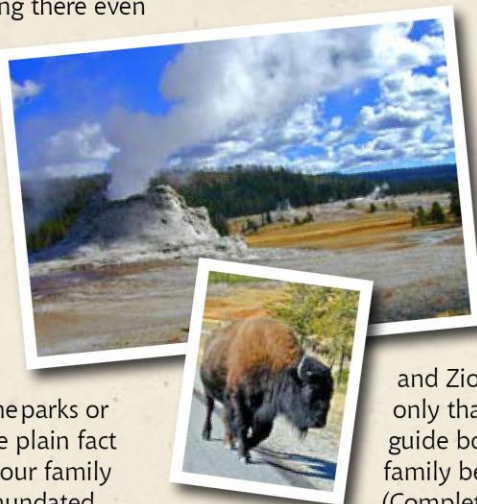
Mary Jo & I have recently returned from leading a group of 39 (besides us) on an extensive excursion through the American Southwest. This included several national parks as well as other sites. It was exciting for us to see the students begin to recognize the evidence for the Truth of God's Word while visiting those parks. You can have the same impact with your own family.

We reiterate what we have said before: When you pack for vacation this summer,

don't leave your mind at home! Enjoy what you see, but be alert! Vain philosophies are lurking out there. As you enter the "secular temples," teach your family to

use their minds and their hearts to evaluate what they hear.

Have a great summer family vacation with a purpose! **AOI**



Think Believe

Discover Creation...Worship the Creator

A Publication of Alpha Omega Institute

September/October, 2013; Vol. 31, No.5



Ready for the Universities?

by Dave Nutting

The fall season is here. Unlike the warriors of old who went out to do battle in the spring of the year and came home during the harsh winter months, AOI continues to launch out. Why? For Mary Jo & I, the church seminars are still very important, but schools have started and the universities are in their new semester with a new crop of impressionable students.

Having spoken on the college campus for many years, my heart grieves to think about comments from so many students. Comments like: **"I used to go to church, but not anymore."** **"I used to believe, but evolution is a fact so I gave up those religious myths."** **"I can't believe the Bible, because it has so many errors."** **"There is no proof that Jesus ever existed."**

First of all, these reasons that students usually give for rejecting God and the Bible have huge flaws. Evolution is certainly not a fact and has serious problems. Also, contrary to what they have been taught, the Bible is not full of errors. About the existence of Jesus, let's get real. There is much more historical evidence that Jesus existed, than

there is for the professors who are making those claims that He didn't.

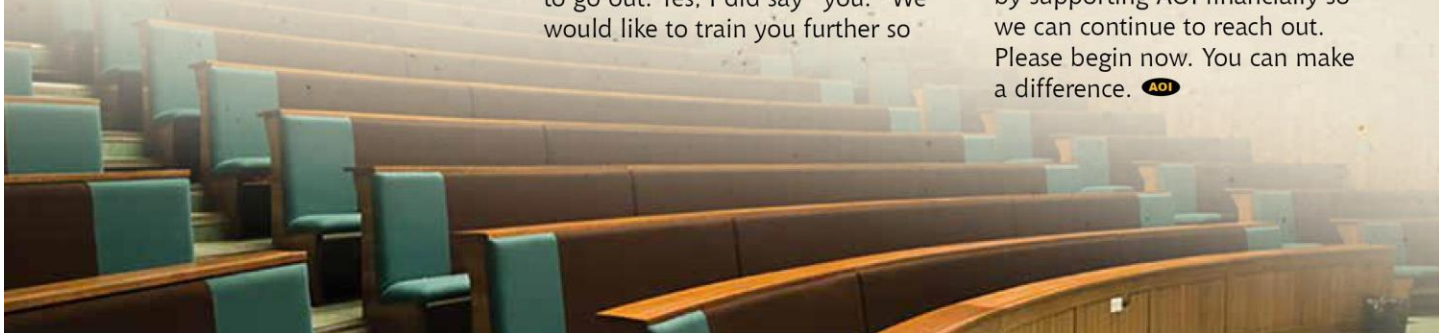
So we go out to do battle – battle for the hearts and minds of the students who are being fed a lot of misinformation. Many times, we encounter quite a contingency of atheists who come to our presentations to protect their turf. Others, including some professors, come out to "roast a creationist." True, some of those die-hard, committed atheists might come around to the Truth, but a big reason to be at those universities is to come alongside the Christian students to encourage them to stand on the Truth and keep them from becoming casualties. We are also there for those students who are basically teetering on the edge of the fence. They are not sure yet what they believe. Many of these, for the first time in their life, actually see that there is evidence for creation and a reason to believe in the Lord Jesus Christ.

The problem is, we can only reach a few campuses. There are thousands of others. In order to make a bigger dent, we need more of you who have studied this topic to go out. Yes, I did say "you." We would like to train you further so

that you can have an impact on your church and community. You may not be able to tackle a university professor or student, but can you talk to a middle school or an elementary school child? Please write to us and tell us of your interest in getting more training.

A second option for you is to register your teens and college students in one of our creation action boot camps to bolster their faith and skills in defending themselves in the classrooms. So grab your youth leaders and Go to www.DiscoverCreation.org/BootCamps and begin planning for next summer's 5-day camps. If you want to sponsor one of these boot camp events in your region or can put us in contact with a camp where we can offer our program in place of the normal teen week, let us know. The more of these our staff can conduct, the more young people can be fortified in their faith.

Please get involved in this battle for the minds of our young people by actively promoting these activities and by supporting AOI financially so we can continue to reach out. Please begin now. You can make a difference. **AOI**



Dinosaur Skin Found: The Big Assumption by Dave Nutting

In a recent blog on our website ("Question Your Assumptions"), I related how Mary Jo & I were on a speaking trip and couldn't locate on our map what appeared to be a major road we had just crossed or the towns that the road signs were pointing to. Assuming we were traveling on the correct highway, we came to the erroneous conclusion that the map was very inaccurate. Consequently, we proceeded down the wrong highway. After encountering another road sign, we discovered that we were heading toward a city where we did not want to go and that we had gone a considerable distance out of our way. At that point, we finally realized that we must sometimes question our assumptions and make a U-turn to get back on track.

An April 26, 2013 article (<http://www.lightsource.ca/media/>

[media_release_20130426.php](http://www.lightsource.ca/media/media_release_20130426.php)) reported on a find that should call some assumptions into question. Dinosaur skin was found intact. In fact the skin could actually be peeled off! This is an amazing find! In the article, the discoverer asked the question of just how in the world the dinosaur skin survived intact for 70 million years and said that he was planning to undertake more research to figure that out. We have previously mentioned research showing that red blood cells were found in Tyrannosaurus Rex bones. Still other articles reported that soft tissue has been found in many petrified dinosaur bones as well as strands of DNA.

In each case, researchers asked the puzzling question: How in the world

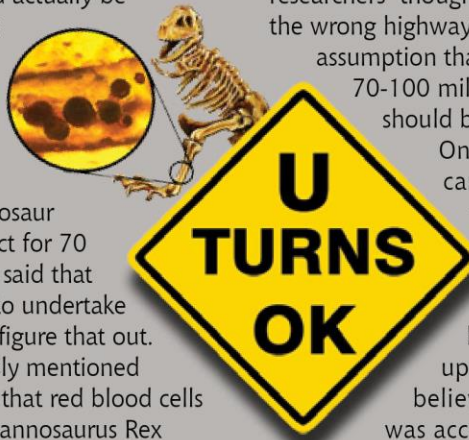
could those features remain intact over 100 million years?

Do you see the big assumption in all of these cases? Perhaps the researchers' thought process is on the wrong highway and the huge assumption that the bones are 70-100 million years old should be questioned.

Once I turned my car around on the highway mentioned above, everything began to clear up. Can you

believe it? The map was accurate after all.

Similarly, if we realize that the Biblical roadmap is correct and that there really was a global flood not too long ago, these geologic "mysteries" can finally be solved. **AOI**



Book Review: Chronicles of Dinosauria

by Mark Sonmor

Dave Woetzel has personally travelled to locations all over the world to investigate reports of living dinosaurs and record their sightings. The information he relates is current and may surprise you.

For instance, you may have heard of Mokele Mbembe but did you know that research teams have made casts of what they believe to be its footprints and have photographed possible nesting sites? Did you know that more human footprints and dinosaur tracks have been found together in Texas giving new evidence that the two coexisted?



Many of us are familiar with the biblical and historical references to dragons related in numerous books of this type. By now, most people understand the significance of the Coelocanth discovery and have seen pictures of artifacts and depictions of dinosaurs from many cultures and continents. Although Chronicles of Dinosauria is no exception, it is unique for two reasons.

First, As an explorer and as director of Genesispark.com, Dave Woetzel has years of first-hand interaction with the newest historical finds that indicate

the contemporary existence of man and dinosaurs.

Second, it is Dave Woetzel's willingness to delve into the area of Cryptozoology (the science of hidden creatures) and relate his primary research that makes this book refreshing and thought-provoking.

This is not just another dinosaur book. Although children will enjoy it – especially the illustrations, it is truly a chronicle of one man's passion and investment in support of the Biblical account of history and thereby helping to intellectually clear the way for others to come to a restored relationship with their Creator through faith in Christ. An extensive resource and great gift. Available from AOI for \$17 + shipping & handling. **AOI**

Favorite Evidences that Contradict Evolutionary Deep Time

We asked some of our staff and a few volunteers to write a very brief nugget of what they consider to be their favorite indicator that the earth is much younger than what is demanded for evolution to occur.

1. Where's the Salt?

– Lanny Johnson

The input of salt into the sea is greater than the output causing the saltiness to increase steadily. Using input and output rates from secular sources, geologist Dr. Steve Austin and physicist Dr. Russell Humphreys calculated that the sea must be less than 62 million years old – much less than evolutionists suggest. Note that this is a maximum age. However, major floods including Noah's Flood would drastically reduce the time frame!

2. Radioactive Decay Dating

– Steven Thornberg

Evolutionists rely on radiometric dating for determining the ages of rocks and fossils; however, recent scientific studies raise questions about their reliability. For example, lava rocks from the 1980s Mt. St. Helens' eruptions were radiometrically dated at 340,000 to 2,800,000 years! Another example is from Australia: fossilized wood encased in basalt rock was carbon-13 dated at ~45,000 years, but the encasing rock was dated at ~45,000,000 years. These are only two of many such examples. Conclusion: we cannot rely on radiometric dating!

3. Population Density

– Dave Nutting

Evolutionists say Neanderthals lived 40,000 years ago, and modern humans occupied North America 15,000 years ago. However, using conservative rates of population increase (1.5%) and wars or disease killing 50% of the world's population every 75 years, in

only 15,000 years, the human population would be 10^{37} . This would greatly over-fill a sphere whose radius reaches from Earth to our sun. In 40,000 years, the population would be 10^{98} . This would be more than the number of marbles that could fit inside our known **universe**. Evolutionary time-scales don't work!

4. Recession of Our Moon

– Brian Mariani

The moon is currently moving away from the Earth about 1½ inches each year, about as fast as your fingernails grow. If we calculate backward, the moon would have been touching the Earth 1.37 billion years ago. Naturalists try to solve this problem by claiming that the recession rate was lower in the past, but it really should have been greater in the past, because a greater proximity would increase tidal activity. This would transfer more energy to the moon adding to its recession. Besides that, these tremendous tides would wreak havoc over the

surface of the earth and be extremely challenging for the supposed start of evolution.

5. Soft Tissue in Dinosaurs

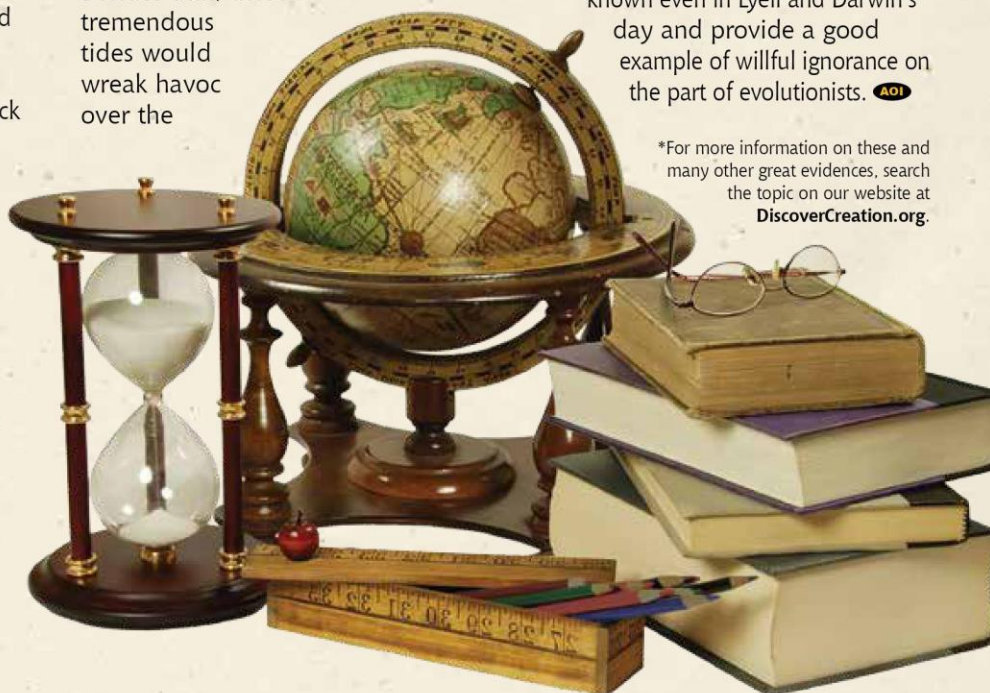
– Richard Stepanek

The amazing discovery of soft tissue found in some dinosaur fossils challenges the belief that they are millions of years old. Observations of tissue breakdown in decaying animals, plus the effects of scavengers, etc., underscore this great problem. Scientists have also discovered carbon-14 still remaining in the soft tissue. The very fact they detected carbon-14 is further evidence questioning the idea of deep time. A young earth and a huge flood to preserve these remains is the answer.

6. Polystrate Fossils – Dave Demick

A young-earth evidence that should be known to everyone is polystrate fossils. These are fossil tree trunks that protrude vertically in sedimentary rock, usually going through many layers of strata. This kills the idea that these layers took millions, thousands, or even hundreds of years to form. For the tree to remain intact and fossilize in this way, the whole column of strata must be laid down quickly. These polystrate tree fossils are found all over the earth. They were known even in Lyell and Darwin's day and provide a good example of willful ignorance on the part of evolutionists. **AOL**

*For more information on these and many other great evidences, search the topic on our website at **DiscoverCreation.org**.



Introduction – Getting the Big GRAND Picture of it all!

The Big Question: What do I see here and why is it important to me?

Ps 24:1 – “The earth is the LORD’s and the fullness thereof, the world and those who dwell therein,”

Starting Points:

- For more on these introductory topics, read (and help me edit and publish) this potential Apologetics book: [*For the Skeptic, the Doubting, and the Questioning*](#)
- Everyone has a **Bias**.
 - The question is, which bias is the best bias to be biased with?
- Everyone **believes** something.
 - See how [*Atheists Just Lack Beliefs...or Do They Believe?...*](#)
- **Everyone has a worldview** – We all wear **different glasses** of different colors – so we all see the world in our own way. Our glasses affect the way we view the world.
 - Our Philosophy affects our conclusions and our behavior. (Carl Sagan, Hitler, Stalin, Mao, Abortion, etc)
 - **“Ideas Have Consequences. Bad Ideas Have Victims.” -John Stonestreet**
 - This is why we do this ministry: Col 2:8-10 - 8 See to it that there is no one who takes you captive through philosophy and empty deception in accordance with human tradition, in accordance with the elementary principles of the world, rather than in accordance with Christ. 9 For in Him all the fullness of Deity dwells in bodily form, 10 and in Him you have been made complete, and He is the head over every ruler and authority;
- The Struggle is over the **Interpretation of the Data**.
 - Just like **two lawyers in a court room**, we both live in the same world with the same evidence, but both sides interpret the evidence in different ways – including by highlighting certain evidence and downplaying (or disregarding) other evidence.
 - Whose Evidence Makes the Most Sense of the Evidence? (Which is more reasonable, more logical, more consistent, and more plausible?)
 - **Occam’s Razor** – The simplest answer is often the correct one?
 - Ex. Imagine that you left your fancy brand new smart phone on the front seat of your car. So you go back to grab it – only to find that the window is smashed – glass everywhere...but no phone...Obviously, a disoriented pelican crashed through your car window, accidentally swallowed up your phone, got scared and flew away. Case solved! (You can hire me as a personal detective for only \$88/hr.) 😊
 - This is often more of an historical/origins (crime scene science) rather than an experimental/observational science.
 - Everyone (including Creation Scientists and Evolutionists) is forced to make a lot of **Assumptions**.
 - Some of the assumptions are okay and necessary and reasonable – but remember that assumptions are unavoidable!
- **How do you prove how something formed?**
 - You collect evidence and try to develop (make assumptions) about the simplest and most reasonable way that that would have happened.

- The more evidence you get – the stronger your hypothesis will become and will with overwhelming evidence be promoted to the Theory status – the strongest hypothesis based on the evidence.

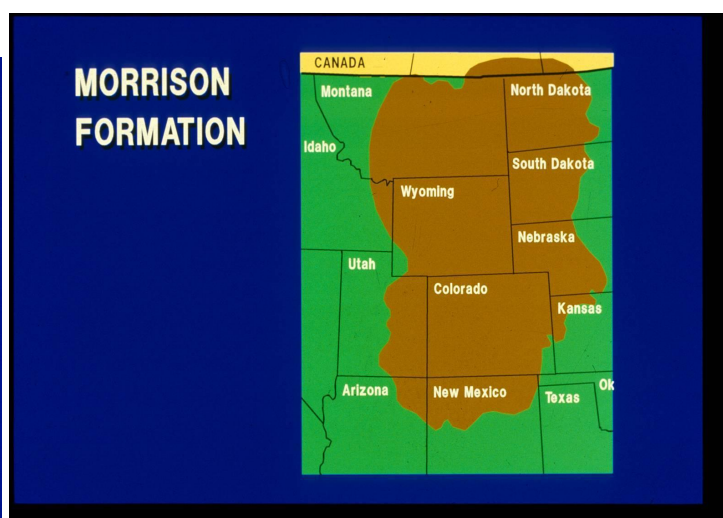
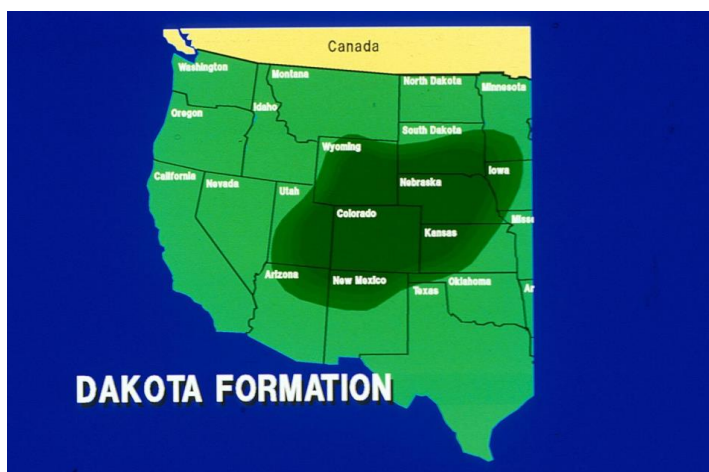
- **How do you prove something 100%?**

- **YOU CAN'T!!**
 - We can be pretty sure, but as finite creatures of limited knowledge, there is always a possibility that we will be wrong!
- We are given the scientific laws to do science, but science cannot prove everything, especially not philosophies. In fact, “prove” is a tricky word. Science gives evidence that helps prove something as True. Ultimately you cannot prove something 100% True, but you can have a lot of evidence that makes you 99% confident that your conclusion is 100% True. Some people may say, “I cannot believe until I am 100% convinced,” and those people will never be 100% convinced of anything. No one can be 100% convinced of anything. We cannot even be 100% convinced of gravity. We may be 99% confident that our understanding of gravity (on a basic level) is 100% True, but because we don't know everything, maybe in the future, we will have new theories about other forces that make the idea of gravity foolish. Scientific theories do change as we learn more. Even if it is super small, there is always a tiny element of faith involved in “proving” something to be True.
- **Many people say that evolution is basically proven science and creation is religious belief.** I beg to differ. Just like I said, “prove” is not complete. An evolutionist has to believe that evolution is True. That belief is faith. We all have faith. Faith doesn't have to mean blind faith without any evidence, but it does mean that one has to trust in something based on the evidence they are presented. It is impossible to not have faith or live by no faith, one has to at least trust or have faith in themselves and their own judgments and that may be putting their own self up as their own god.
- **If the Bible is True** (which I think there is good evidence for that), then God is an eyewitness and a faithful recorder of HisStory! (Because he is a good God – He cannot lie.)
 - So His Word is Trustworthy!
 - Therefore Let's Stand Firm on the Authority of the Bible!
- **The Earth and Universe are Young (Relatively).**
 - Evidences: Weakening magnetic field, Comets, Moon Recession, rising salt content in the oceans, human population and recorded history, etc.
- **Can Creationists Do Science? Can Creationists Make Predictions?**
 - Young Earth Creationist-Flood Model Prediction: “If there really was a worldwide flood, what would the evidence be? [Prediction] Billions of dead things, buried in rock layers, laid down by water, all over the Earth.” -Ken Ham & Buddy Davis
 - From Biology: Regarding so-called Junk DNA and Vestigial Organs – Prediction: As we study more, (We are not against science, keep studying!) we will find more and more uses for these supposed evolutionary leftovers that have been assumed to have no more current use or only limited use. And we predict that we will see more and more complex biological features that will be difficult to describe using gradual, slow processes.
 - From Fossils – Prediction: We predict that we will continue finding similar creatures as we have today without evidence of previous transitional forms.
 - These fossils will show evidence of being buried quickly and recently.

- Compare the Secular (Uniformitarian) Worldview with the Biblical (Flood Catastrophe) Worldview
 - See chart on p. 149 of Grand Canyon Guide.

GEOLOGIC WORLDVIEW EXPECTATION TABLE			
If the geologic record were the result of processes acting over a long/short period of time, the following would be expected:	EVOLUTION (Uniformitarian)		CREATION (Flood Catastrophe)
	long period of time		short period of time
The extent of sedimentary rock layers would:	be small, with local origin and distribution		be massive, often almost continent-wide in distribution
The type of rock layers and erosional features would:	reflect gradual rates of deposition and erosion		reflect rapid rates of deposition and erosion
Sheer cliffs and canyon walls would:	be broken down by erosion		still exist
Erosion between layers would:	be deep and found frequently		be shallow and seldom found
Time gaps (missing ages) between layers would:	be found often, representing large gaps		be nonexistent
The geologic column with its imbedded fossils would:	show repeated uplift and erosion of the land		remain intact in many areas

Rock Layers Cover a Large Part of the Earth



<http://sciencesandscriptures.com/ppt/Word%20Docs/FIELD%20GUIDES%201998-2016/2007%20FIELD%20GUIDE%20US%20THEOX%20red.pdf>

<https://grisda.files.wordpress.com/2014/07/morrison-map.jpg>

HUGE VOLCANICS!! (More on this later!)



<https://www.instagram.com/p/9D7qfRpyXF/>

17-14 Million Years Ago

Speed of flood basalt emplacement[\[edit\]](#)

[Yaquina Head Lighthouse](#) sits atop erosion-resistant Ginkgo flow basalt over 500 km (310 mi) from its origin.

The Columbia River Basalt Group flows exhibit essentially uniform chemical properties through the bulk of individual flows, suggesting rapid placement. Ho and Cashman (1997) characterized the 500 km (310 mi)-long Ginkgo flow of the Columbia River Basalt Group, determining that it had been formed in roughly a week, based on the measured melting temperature along the flow from the origin to the most distant point of the flow, combined with hydraulics considerations. The Ginkgo basalt was examined over its 500 km (310 mi) flow path from a Ginkgo flow feeder dike near [Kahlotus, Washington](#) to the flow terminus in the Pacific Ocean at [Yaquina Head, Oregon](#). The basalt had an upper melting temperature of 1095 ± 5 °C and a lower temperature to 1085 ± 5 °C; this indicates that the maximum temperature drop along the Ginkgo flow was 20 °C. The lava must have spread quickly to achieve this uniformity. Analyses indicate that the flow must remain laminar, as turbulent flow would cool more quickly. This could be accomplished by sheet flow, which can travel at velocities of 1 to 8 metres per second (2.2 to 17.9 mph) without turbulence and minimal cooling, suggesting that the Ginkgo flow occurred in less than a week. The cooling/hydraulics analyses are supported by an independent indicator; if longer periods were required, external water from temporarily dammed rivers would intrude, resulting in both more dramatic cooling rates and increased volumes of [pillow lava](#). Ho's analysis is consistent with the analysis by Reidel et al. (1994), who proposed a maximum Pomona flow emplacement duration of several months based on the time required for rivers to be reestablished in their canyons following a basalt flow interruption. ^{[1][12]}

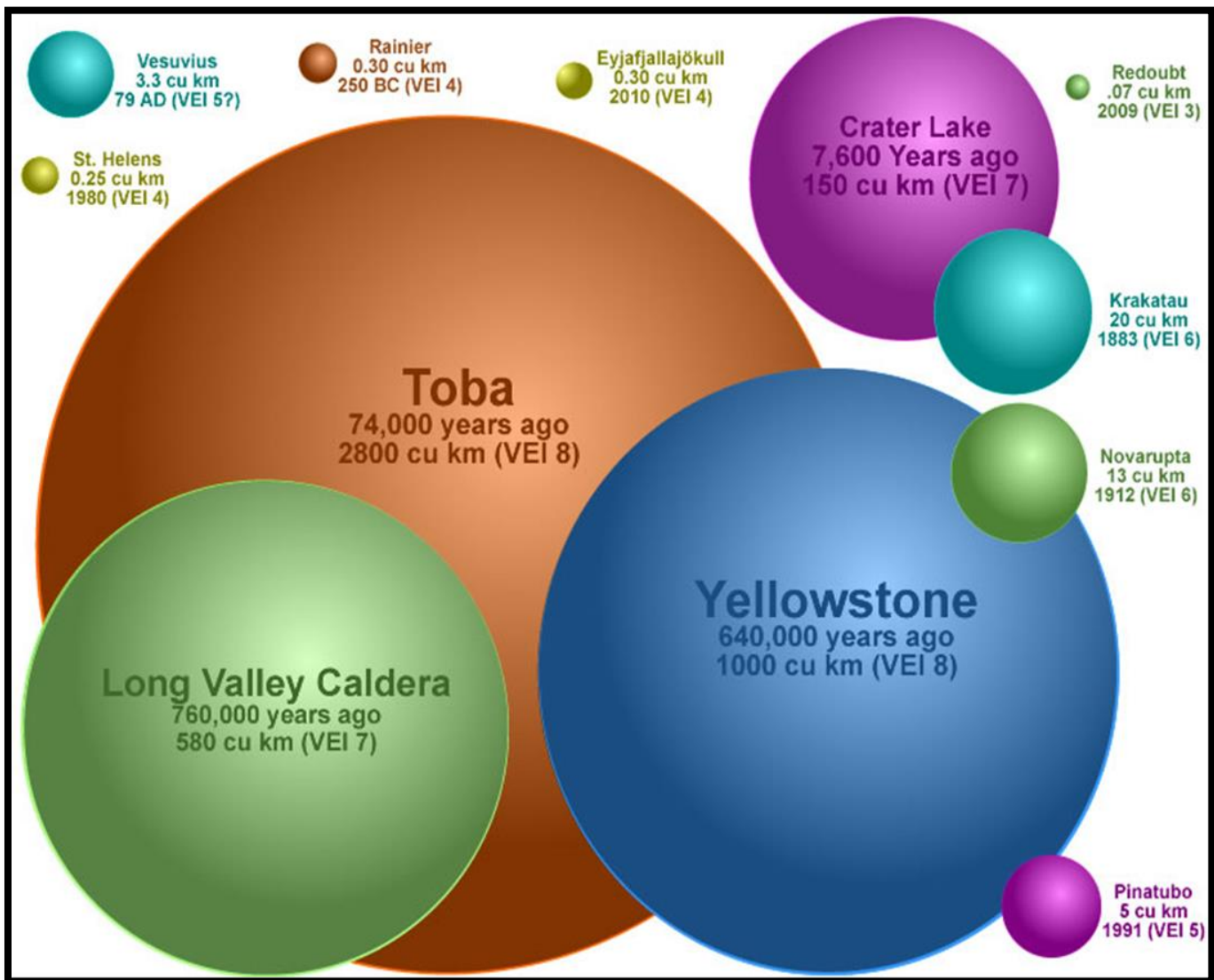
Columbia River Basalts: Rate of Emplacement

Rate of Emplacement

Any model for the emplacement of the Columbia River Flood Basalts must explain how [lava](#) that travels 600 km can still be hot enough to be chilled to glass as it entered the Pacific Ocean.

Shaw and Swanson (1970) proposed that high [eruption](#) rates were required. Great volumes of turbulent lava would reach the ocean in only a few days, thus staying hot. The fronts of these flows might be 50 m high and 100 km long. They would move at rates of 3 to 5 km per hour, down the gentle slope to the west. The eruption rate would need to be high, 1 cubic km/day/linear kilometer of fissure, about 1000-10,000 the eruption rates of Hawaiian and Iceland eruptions (mid-ocean ridges produce only 3 cubic km of lava each YEAR)(Swanson et.al., 1975). The flows would pond in depressions, making lava lakes 30-40 meters thick and 200-400 kilometers in diameter. A few years to a few tens of years would be need for the lava to cool completely (Long and Wood, 1986). <http://volcano.oregonstate.edu/book/export/html/486>

Other Volcanic Events:





Recent Mountain Building

“The most controversial aspect of the authors’ geomorphological deductions is their contention that practically all the uplift occurred in the Pliocene and Pleistocene, the last two epochs of geological time! The huge Andes Mountains (p. 127) are but one example. Another is the Tibetan Plateau, which is considered to be one vast erosion surface that uplifted in the Pliocene-Pleistocene (pp. 128–129, 137–138). Furthermore they present an impressive table of mountains from all over the world that uplifted during this time frame (pp. 304–306)...

...Do the authors, or anybody else, know the cause of such recent vertical tectonics? Does the lack of a mechanism nullify the authors’ field deductions? The answer is no. They provide a list of 20 possible mechanisms for vertical tectonics, none of which can be demonstrated to be occurring today (p. 308).”¹

MOUNTAIN CHAIN/ PLATEAU/RIFT	YEARS SINCE MAIN UPLIFT
EUROPE	
Swiss Alps	<2 million
Apennines Mountains	1–2 million
Pyrenees Mountains	2–5 million
Baetic Cordillera	2–5 million
Carpathian Mountains	2–5 million
Caucasus Mountains	<2 million
Ural Mountains	1–2 million
Sudeten Mountains	1–5 million
ASIA	
Tibetan Plateau	<3.4 million
Himalaya Mountains	<3.4 million
Kunlun Mountains	<4 million
Tien Shan Mountains	<2 million
Shanxi Mountains	<3 million
Japanese Mountains	<5 million
Taiwan Mountains	<5 million
NORTH AMERICA	
Sierra Nevada Mountains	<2 million
Main Colorado Plateau	<3 million
Bighorn Mountains	<3 million
Later Rocky Mountains	<5 million
Canadian Cordillera	2–5 million
Cascade Range	4–5 million
SOUTH AMERICA	
Chilean Andes	<5 million
Bolivian Andes	<5 million
Ecuadorian Andes	<5 million
AFRICA	
Ethiopian Rift	<2.9 million
Western Rift	<3 million
Ruwenzori Mountains	<3 million
OTHER	
New Guinea Mountains	2 million
New Zealand Mountains	<5 million
Virtually all the mountains of the entire world rose up in the last episode of earth’s geologic history, just as expected from creation thinking. While some fine points	

From *The Global Flood* by John D Morris

¹ Michael J. Oard, The Mountains Rose, *Journal of Creation* 16(3):40-43, December 2002, <https://creation.com/mountains-rose>, accessed March 25, 2022.

The Flood was a big deal – Global!

An approximate listing of Ark travelers could be pared down to:

CLASSIFICATION	NUMBER OF KNOWN SPECIES ⁶	PROBABLE NUMBER ON ARK
Mammals	3,700	<3,700
Birds	8,600	<8,600
Reptiles	6,300	<6,300
Amphibians	2,500	<2,500
Fishes	20,600	0
Tunicates	1,400	0
Echinoderms	6,000	0
Arthropods	838,500	0
Mollusks	107,250	0
Worms	34,700	0
Coelenterates et al	9,600	0
Sponges	4,800	0
Protozoans	28,350	0
Total # of Species	1,072,300	21,100

For fairness, in this hypothetical worst-case scenario of species on the Ark, we should add extinct species, bringing the (generous) rough approximation to 25,000 or so. Double this number to account for both genders and you arrive at only about 50,000 animals for the Ark's passenger list. (Allowing for seven of the few "clean" kinds doesn't add much.) This number represents the outside maximum number of individual animals that needed to be on board. Working with



THE MESSAGE OF THE FOSSIL RECORD

1. Sudden appearance of basic types
2. Basic types show stasis
3. Complexity at the start
4. Extinction, not evolution
5. No ancestor / descendant relationships
6. The fossil record is complete
7. All phyla present at the start
8. Many fossils found throughout the column
9. Most fossils are marine invertebrates
10. Fossils found in catastrophic deposits
11. Indications of violent death
12. No complete ecosystem
13. Animals and plants from mixed habitats
14. Fossils found mostly on continents

Dinosaur National Monument

- The Yampa River and the Green River come together here.
- This dinosaur site was discovered in 1909.
- There were 350 tons of bone removed from the area.
 - At least 12 species of dinosaur.
 - Crocodiles, turtles, frogs, and freshwater clams as well.
- The Sandstone of a former river channel would cause the gradual addition of silica.
- Faulting areas – There is a 2000 ft fault drop.
- So much sediment washed off continent – Uinta Mountains were almost completely buried!!
- Then supposedly 5 million years ago, this area was uplifted!
- How do you find Dino Bones?!
 - Remember, it is illegal to take anything from a National Park or Monument, but also remember that unless you have permission from the private landowner, it is illegal to take any vertebrate (including dinosaur) fossil that you find.
 - Look for a real grainy pattern – often darker and discolored from the rest of the rock around it. The grainy pattern is evidence of the bone cells. Sometimes you can see the surface shape of the bone or the overall shape of the joints.
 - Do we ever find human and dinosaur fossils together?
 - I have a theory that dinosaur bone might fossilize better than human bone because of the larger bone cell size, which might be easier replaced with minerals.
 - Also, remember both dinosaur fossils and human fossils are rare.
 - I expect that human fossils are even more rare, because humans are created in the image of God and are thus smarter – where we could swim and hang on to rafts/floating logs, etc. In fact, it is my personal belief (though I can't back it up with Scripture or evidence), I hope that during the flood that although the people did not get on Noah's ark, as they are in their last days hanging onto logs, I hope that they trusted God and that we may be able to see many of them in Heaven someday!
 - Also remember that if you are running from the rising floodwaters, you will still also avoid running alongside dinosaurs that could squash you or eat you.
 - There is always the possibility too, that some people have found evidence of humans and dinosaurs together, but possibly these fossils are disregarded or hidden because they don't fit the secular paradigm. This may be more of a conspiracy theory, but it is possible.

DAKOTA FORMATION

<http://sciencesandscriptures.com/ppt/Word%20Docs/FIELD%20GUIDES%201998-2016/2007%20FIELD%20GUIDE%20US%20THEOX%20red.pdf>

MORRISON FORMATION



<https://grisda.files.wordpress.com/2014/07/morrison-map.jpg>

What are Sapping Structures?

(Like this: <https://www.youtube.com/watch?v=sVM2w6jeI-g>)

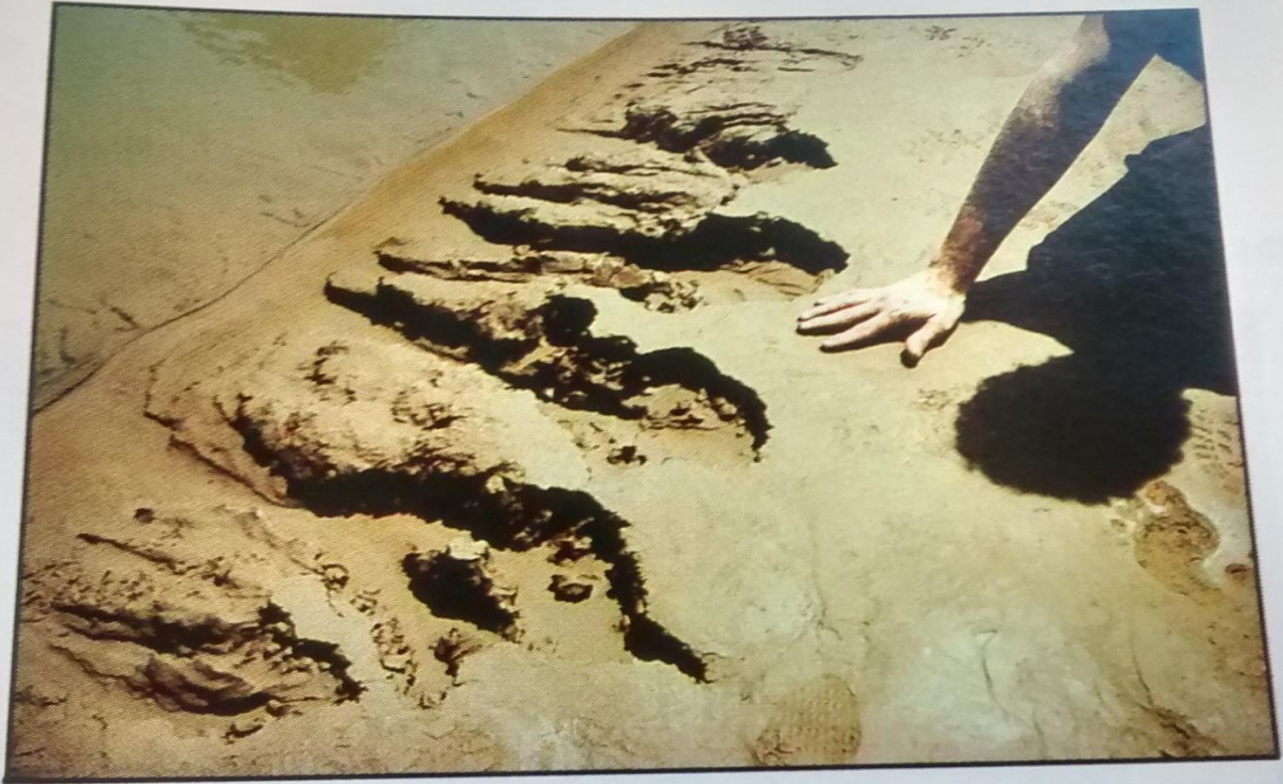


Figure 5.17 *Sapping structures eroded rapidly in sand. These modern structures resemble many larger side canyons on the Colorado Plateau. (Photo by Steven A. Austin.)*

shows a cross-sectional view of a tank used to produce sapping structures in the laboratory. ⁵¹ Sand is accumulated against a wire screen built by Alan Howard. The reservoir on the opposite side of the screen is filled with water, and a drain is opened at the base of the

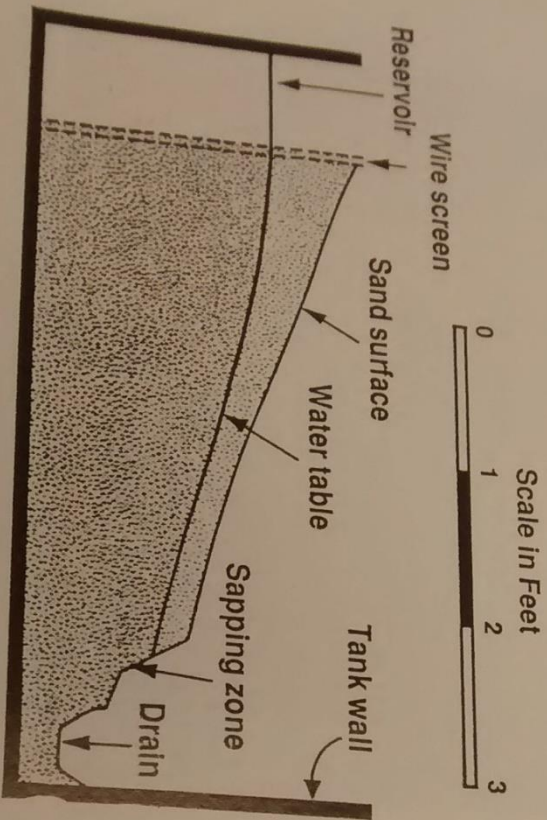


Figure 5.18 Cross-section view of a tank used to produce sapping structures in the laboratory. (After A. D. Howard, 1988.)

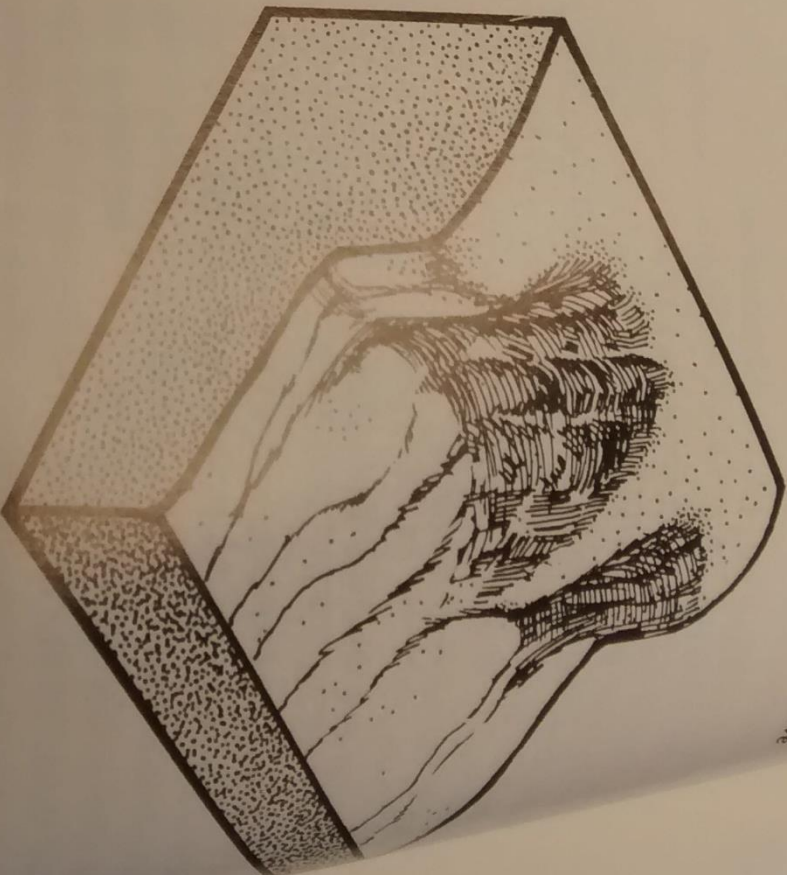
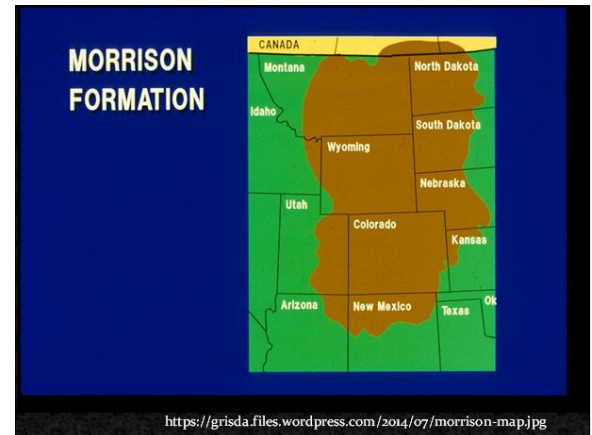


Figure 5.19 Example of experimentally produced sapping structures made in the laboratory. These resemble theater-headed canyons of the Colorado Plateau.

Rabbit Valley's "Trail Through Time"

- This is a quarry where scientists are actively digging up dinosaur bones!
- Notice that the sediment is very ashy and volcanic – and water laid sediment. The ash within this layer has been traced to volcanic eruptions from California...wait – that's a lot of sediment transported a long distance from California – these are huge events!!
- Dave Nutting tells stories about his adventures going out nearly every weekend to go fossil hunting and rockhounding.
 - I actually say that it is his fault (among others) for the fact that there are such limitations on what fossils and rocks can be collected. And he likely got a lot of the good stuff so that it is harder to find now! (Woe is me!)
 - When trying to find a dinosaur, Dave Nutting says to look for scraps of dino bone and walk uphill and when the bones are no longer findable, go back and you may be able to dig out bigger pieces of the dinosaur.
 - Dave said that he wanted to be a paleontologist and find dinosaurs (which he did as a kid), but then found that you have to tediously pick the surrounding rock away from the dinosaur bone (rather than use an excavator and scooping it out), he gave up on that dream!
 - Dave and his Dad would actually make jewelry out of dinosaur bone. Dave tells the story as a young man (and an evolutionist at the time – simply because that was all he was ever taught), every so often while grinding and polishing dino bone, he would get a rotten egg smell. Hmmm...that's funny. And he simply continued working on not thinking anything of it.
 - He could have been famous! He probably had discovered without knowing about it, fresh-ish tissue that was still decaying – and thus the rotten egg smell.
 - Mary Schweitzer discovered Dinosaur soft tissue in 2004 and have since been trying to figure out how the Dinosaur tissue has not rotted away or turned to stone in at least 65 million years.
 - I think that she is asking the wrong question. I think a better question to ask is "Are we sure that that bone is at least 65 million years old?"
 - See also a chart below (and more notes) of other soft tissues that have been found – giving more reasonable evidence that these fossils are not millions of years old!
 - That was the case for Dave and his Dad and for so many that they just accept what they are taught and develop evolutionary assumptions and never think deeper about much of the evidence that turns out to be very significant!
 - Evolutionists are often very intelligent people and often duped by very intelligent people, but have never considered the evidence from a Creationist viewpoint.
- Enjoy the hike shortly up the hill to view some Dino bones in the rock.
- Some of those dinosaur bones have not been excavated, because they are in the Dakota sandstone layer, which even has a lot of Quartzite rock. Quartzite is a very hard rock made up of a high concentration of silica and thus is a lot more work to dig fossils out as opposed to the soft, ashy Morrison formation.
 - Could that have formed simply within a sand dune?
 - Would it be possible to get that much silica to form in one clump?
 - It could likely form that high of a mineral concentration due to an underwater vent that is spewing out a lot of minerals.
- Having found a brontosaurus with no head, scientists put a Camosaurus skull on it. When they realized the



mistake the Yale Peabody Museum which housed the 65 ft long skeleton had a beheading ceremony and then put a new and different head on!²

- Small heads could easily break off the neck in a mudflow!
- There are also a lot of new discovery of larger sauropod (long-neck) dinosaurs, but are the larger ones possibly just older dinosaurs? (After all, reptiles keep growing as they age.)
- If you have time, the full walk around this area is a good hike!

Dinosaur Journey Museum in Fruita, CO

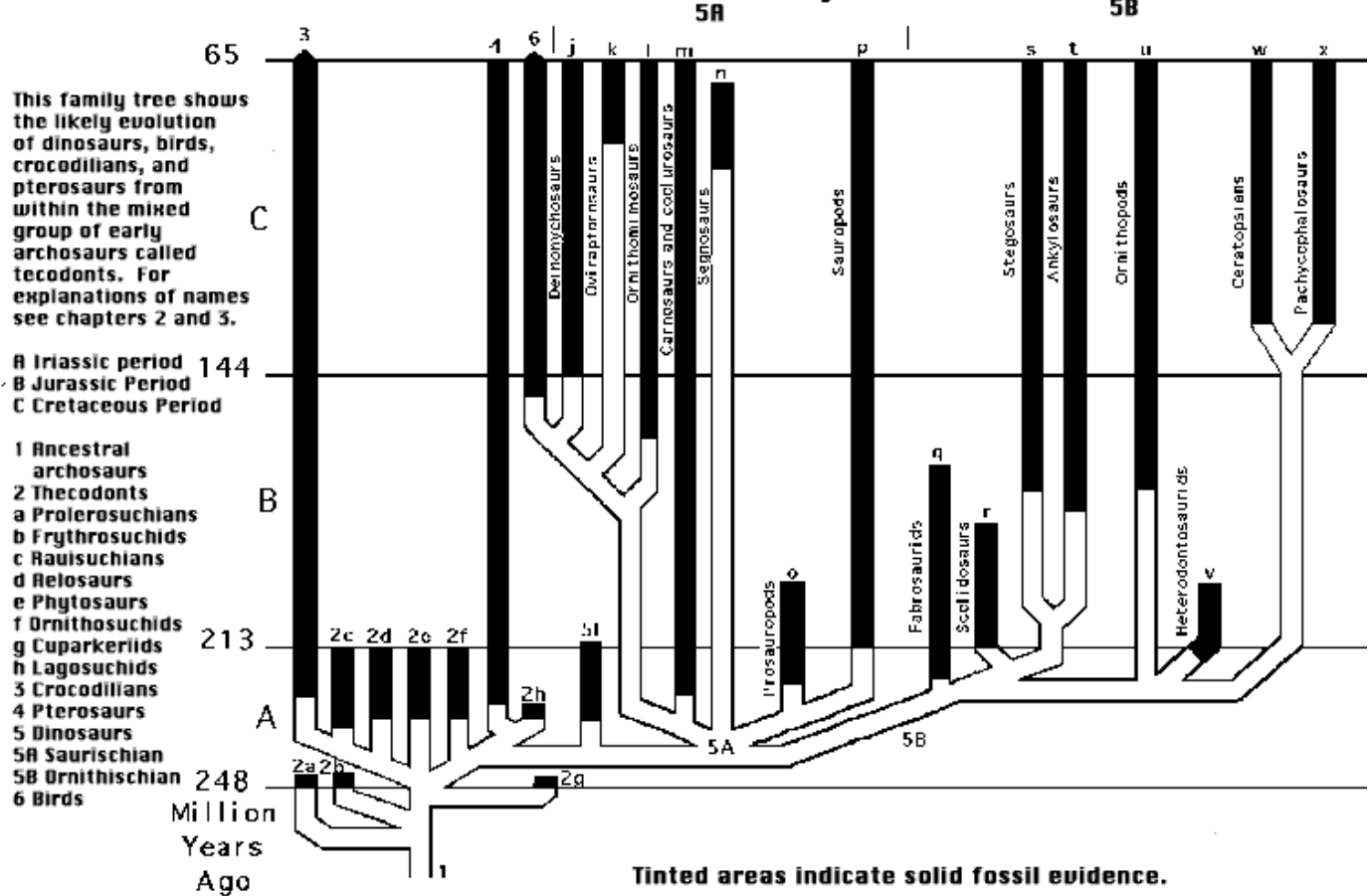
- Take a look the museum and record your observations and then plan to compare your notes to the discussion to follow. Watch the Dino Video and consider “What’s the Evidence?”
- **A Lot of Assumptions!**
 - Upon entrance to the museum, one will be drowned in evolutionary dogma and opinion. Evolutionary scientists claim to be able to determine skin color, behavior, age, diet, anatomy, physiology, climate and environment from fossil remains. Many skeletons are pieced together from more than one specimen, some found miles apart. Few facts can actually be determined from a skeleton, and many things evolutionists espouse as fact are merely assumptions.
 - And to be fair, assumptions aren’t always bad – Creationists make assumptions, but they should be supported by evidence.
- **Dino-to-Bird Evolution is Highly Questionable!**
 - Contrary to evolutionary teaching, no dinosaur remains have been found with any evidence of feathers or other crucial bird-like structures, other than a few questionable cases.
 - There are similarities between some dinosaurs and birds, but there are also some huge challenges for that evolution.
 - Simply consider the evolution of the lungs from a reptilian closed-lung system to an avian open-lung system – how did that happen?



- **Missing Transitional Forms:** Evolutionary dogma relies heavily on transitional forms, however no evidence of such forms have been found. In fact, many museums never present or even mention transitional forms, or lack thereof. It is estimated that there are 3,000 nearly full dinosaur skeletons and parts of at least 100,000 specimens. If evolution were a true phenomenon, we should expect to find more transitional species than we have known species. Notice on the representation below, what has been found and what hasn’t been found:

² Beheading-Reheading Ceremony Features Museum Brontosaurus, Jan 10, 1982, The Oklahoman, <https://www.oklahoman.com/story/news/1982/01/10/beheading-reheading-ceremony-features-museum-brontosaurus/62897728007/>, accessed April 13, 2022.

Dinosaur Family Tree



<http://philarcher.org/diary/2010/carlkerby/>

- **An Asteroid??** - Could the dinosaurs have gone extinct in a giant asteroid impact? Or could it have been a worldwide flood? Or both? (See [Did Meteors Trigger Noah's Flood?](#))
- Evolutionists now claim that there have been multiple extinctions throughout the last billion years. That may be possible, but it is very much based on a lot of assumptions.
- The museum is extremely biased, even in its definition of the word 'fossil'. One thing to keep in mind when visiting museums such as this is that there is a lot of good artwork, but ask "What's the evidence?"

The Late Heavy Bombardment may have triggered the Worldwide Flood

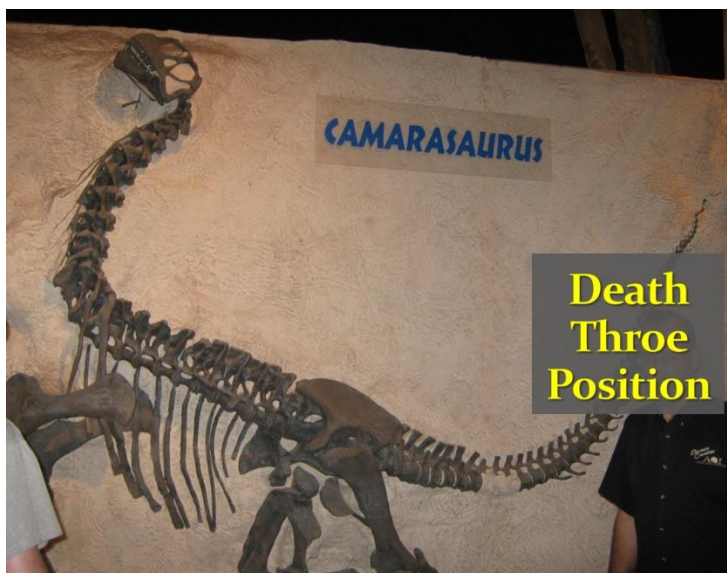
- "Evidence in support of this view is the large number of craters preserved in the earth's fossil record from the time of the year-long Flood (see ["Did Meteors Trigger Noah's Flood?"](#) p. 68). We must conclude that a heavy bombardment struck the earth at the time of the Flood."

Danny R. Faulkner, *Ghost Craters – Evidence of a Young Moon*, January 1, 2012, *Answers in Genesis*, <https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>, accessed March 16, 2017.

fossil (fòs´el) n.

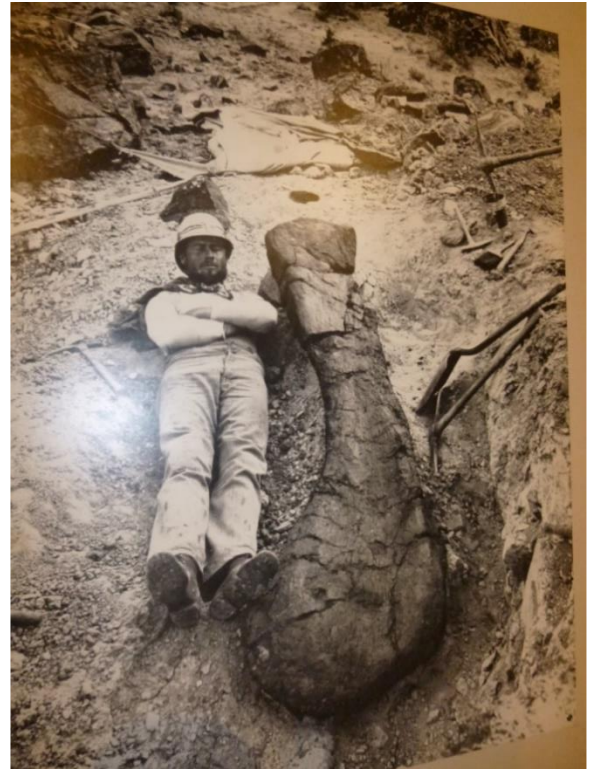
Any evidence of life more than 7,000 years old.

- Many Dinosaurs (and birds) have been found in this **“Death Throe” Position** – research studies have been done and dead chickens submerged in cool, fresh water arched their necks and heads back “within seconds.”³ This is evidence that there was a lot of water and mud burying these guys really quick – like a big flood would do.



³ Emil Silvestru, Water and death throes, January 8, 2012, Creation Ministries International, <https://creation.com/water-death-throes>, accessed April 13, 2022.

See also: <https://www.jstor.org/stable/4500148>



ELMER RIGGS' DISCOVERY

In 1900, a field crew led by Elmer Riggs of the Field Museum in Chicago excavated a new type of dinosaur from a hill just southwest of Grand Junction. The dinosaur, a 43-ton plant-eating giant with long forelimbs and a long neck, was named *Brachiosaurus altithorax* ("deep-chest arm lizard") by Riggs in 1903. This was the first *Brachiosaurus* found anywhere, and it later turned up at several other sites in the Late Jurassic age Morrison Formation as well as in other parts of the world.

The hill from which the dinosaur was excavated is now known as Riggs Hill and is just off of South Broadway near downtown Grand Junction.

FOSSIL ANALYSES WITH VERIFIED ORIGINAL SOFT TISSUES

Publication Date	Brief Description	Evolutionary Age	Publication
Articles Published in Peer-Reviewed Journals			
1 5/30/1977	Catfish fatty fin in Green River	50MY	H. P. Buchheim and R. C. Surdam, <i>Geology</i> , 5: 198.
2 6/14/1992	Osteocalcin in a seismosaur bone	150MY	Muyzer, G. et al, <i>Geology</i> , 20: 871-874.
3 9/25/1992	DNA in amber	30MY	Morell, V. et al, <i>Science</i> , 257: 1860.
4 6/16/1994	Unaltered amino acids in amber insects	130 MY	Bada, J. L. et al, <i>Geochemica et Cosmochemica Acta</i> , 58 (14): 3131-3135.
5 6/16/1994	Dinosaur DNA from hadrosaur bone	65MY	Woodward, S. R., N. J. Weyand and M. Bunnell, <i>Science</i> , 266 (5188): 1229-1232.
6 5/19/1995	Live bacteria spores from amber	25-40MY	Cano, R. J. and M. K. Borucki, <i>Science</i> , 268 (5213): 1060 - 1064.
7 6/10/1997	Hemoglobin fragments in <i>T. rex</i> bone	67MY	Schweitzer, M. et al, <i>PNAS</i> , 94 (12): 6291-6296.
8 6/2/1999	Live bacteria from halite deposit	250MY	Vreeland, R. H. et al, American Society for Microbiology, 99th General Meeting, June 2, 1999, Chicago.
9 6/21/1999	Live bacteria from separate rock salts	250MY	Stan-Lotter, H. et al, <i>Microbiology</i> , 145 (12): 3565-3574.
10 6/21/1999	Ichthyosaur skin	190MY	Linghan-Sollar, T. et al, <i>Proc. Royal Soc. B</i> , 266 (1436): 2367-2373.
11 6/21/1999	Keratin in Madagascar Cretaceous bird	65MY	Schweitzer, M. H. et al, <i>J. Vert. Paleol.</i> , 19 (4): 712-722.
12 9/1/2001	<i>T. rex</i> collagen SEM scans	65MY	Armitage, M., <i>Creation Research Society Quarterly</i> , 38 (2): 61-66.
13 6/26/2004	Live (non-spore) bacteria in amber	120MY	Greenblatt, C. L. et al, <i>Microbial Ecology</i> , 48 (1): 120-127.
14 3/24/2005	<i>T. rex</i> soft tissue	68MY	Schweitzer, M. et al, <i>Science</i> , 307: 1952-1955.
15 7/25/2006	Soft frog, intact	10MY	McNamara, M. et al, <i>Geology</i> , 34: 641-644.
16 6/30/2007	<i>T. rex</i> collagen	68MY	Schweitzer, M. et al, <i>Science</i> , 316: 277-280.
17 8/1/2007	Bloody frog bone marrow	10MY	McNamara, M.E. et al, <i>Geology</i> , 34 (8): 641-644.
18 4/7/2008	<i>Psittacosaurus</i> skin	125MY	Linghan-Sollar, T. et al, <i>Proc. Royal Soc. B</i> , 275: 775-780.
19 7/8/2008	Feather melanocytes	100MY	Vinther, J. et al, <i>Biology Letters</i> , 4: 522-525.
20 4/30/2009	Hadrosaur blood vessels	80MY	Schweitzer, M. et al, <i>Science</i> , 324 (5927): 626-631.
21 8/26/2009	Purple Messel feather nanostructure	40MY	Vinther, J. et al, <i>Biology Letters</i> , 6 (1): 128-131.
22 5/19/2009	Primate "Ida" soft body outline	40MY	Franzen, J. L. et al, <i>PLoS ONE</i> , 4 (5): e5723.
23 7/1/2009	Hadrosaur skin cell structures	66MY	Manning, P. et al, <i>Proc. Royal Soc. B</i> , 276: 3429-3437.
24 10/2/2009	Fungal chitin ubiquitous in Permo-triassic	250MY	Jin, Y. G. et al, <i>Science</i> , 289 (5478): 432-436.
25 8/18/2009	Squid ink	150MY	Whilby, P. R. et al, <i>Geology Today</i> , 24 (3): 95-98.
26 11/5/2009	Salamander muscle, whole	18MY	McNamara, M. et al, <i>Proc. Royal Soc. B</i> , 277 (1680): 423-427.
27 2/25/2010	<i>Sinosauropteryx</i> melanosomes	125MY	Zhang, F. et al, <i>Nature</i> , 463: 1075-1078.
28 3/10/2010	<i>Psittacosaurus</i> skin color	125MY	Linghan-Sollar, T. G. and Plodowski, <i>Naturwissenschaften</i> , 97: 479-486. (Same sample analyzed in <i>Proc. Royal Soc. B</i> , 275: 775-780.)
29 5/14/2010	Mammal hair in amber	100MY	Vullo, R., <i>Naturwissenschaften</i> , 97 (7): 683-687.
30 5/18/2010	<i>Archaeopteryx</i> original tissue	150MY	Bergmann, U., <i>PNAS</i> , 107 (20): 9060-9065.
31 8/9/2010	Mosasaur blood, retina	65-68MY	Lindgren, J., <i>PLoS ONE</i> , 5(8): e11998.
32 11/12/2010	Penguin feathers	36MY	Clarke, J. A. et al, <i>Science</i> , 330: 954-957.
33 11/18/2010	Shrimp shell and muscle	360MY	Feldman, R. M. and C. E. Schweitzer, <i>J. Crustacean Biology</i> , 30 (4): 629-635.
34 2/7/2011	Chitin and chitin-associated protein	417MY	Cody, G. D. et al, <i>Geology</i> , 39 (3): 255-258.
35 4/1/2011	C-14 date of mosasaur (24,600 Yrs)	70MY	Lindgren, J. et al, <i>PLoS ONE</i> , 6 (4): e19445.
36 3/23/2011	Lizard tail skin, Green River	40MY	Edwards, N. P. et al, <i>Proc Royal Soc B</i> , online.
37 6/8/2011	Type I Collagen, <i>T. rex</i> and hadrosaur	68MY	San Antonio, J. D. et al, <i>PLoS ONE</i> , 6 (6): e20381.
38 6/30/2011	Bird feather pigment	120MY	Wogellus, R. A. et al, <i>Science</i> , online.
Preliminary Reports Published Elsewhere			
39 8/10/2009	Live yeast in amber	45MY	<i>Wired Science</i>
40 4/10/2010	<i>Australopithecus sediba</i> brains	1.9MY	<i>Discovery News</i>
41 9/27/2010	Lobster shell	"millions"	<i>Keighley News</i>
42 10/22/2010	Mosasaur cartilage	80MY	Buchholz, C. C., <i>Rapid City Journal</i>

Table 1. Published Reports of Original Soft Tissue Fossils

Papers that were excluded from the list include those with dubious verbiage, especially those which discussed "soft tissues" but failed to specify whether or not the tissues were "original" or chemically altered to a more resistant material. Those papers which specified the latter were also excluded, to the best of the author's ability to discern. The chart demonstrates that a multitude of verified original soft tissue "clocks" have set maximum ages of thousands of years to samples which had all been assigned ages of millions of years.

Soft Tissue:

- This would have to be a Dry burial without the presence of water (that would cause more decay).
- It is assumed that iron can help preserve soft tissue, but you couldn't get enough iron even if you concentrated the hemoglobin.
 - There have been studies done on preserving tissues with iron, and with the limited testing times, they have had some decent results, but the question really is "Can that stuff survive 65+ million years???"

Echoes of the Jurassic (DVD Notes)

- Horn w/ soft tissue (even very detailed osteocytes) found by Creationists in Montana was found in the top of the rocks – not very isolated from weathering
 - How many did you try before getting soft tissue?
- It's good to look for alternative explanations
 - Mary Schweitzer countered the alternative explanations
 - Bacteria Biofilm/contamination or just now a mold – not viable
 - the mold could not be retained over 65 million years old.
 - Mechanism/process for extreme preservation
 - Radical disbelief to no big deal – we will find the means for preservation
 - Iron – contrived experiment – not a reasonable natural situation
 - Freezing/Thawing destroys proteins –
- Many other soft tissues are recorded in the scientific literature over the decades.
- Soft Tissue destroys the millions of years and therefore the evolutionary model. "A different history comes into play." –If God got history right, what else is important to God.
- C-14 Dating
 - Diamonds – molecules can't get into diamonds to contaminate it
 - Coal
 - Evolutionists won't use C-14 to date it.
 - Shows bias
- Fossilization has to happen fast.
 - Good details of fish scales.
- Crossbedding – pebbles, sharp contacts – no erosion
- large – widespread layers – no modern analogs
- planation surfaces, curved rock, water gaps,
 - All Worldwide
- Science is not compatible with Naturalism (Lisle) – shouldn't be patterns
- Worldview issue
- "divine foot in the door" – not science – ideology
- Scientific evidence – implies thousands of years – not millions
- We have the evidence we need for people to believe.
- Conclusion of Soft Tissues – clear that it is the way we view the evidence – "Worldview"
- God likes and uses Evidence
- Most reasonable explanation – every other alternative is like grasping at straws.

Good Bonus Features

- Cold-blooded
 - goal to be warm-blooded so they can show that birds evolved from them
 - Dino-Bird – but birds found lower
 - Nasal passages not big enough to be warm blooded
 - Big Bone Cells – similar to warm blooded – or it could be that they were just active
 - Warm-blooded would have to eat a lot more – not feasible for these big animals
 - Diaphragm muscles look more like crocodile.

Meteorites in Fossil record

The Moon: Ghost Craters

- Enormous impacts evidently caused the large and lava flows within those craters, and this lava partly buried other, smaller impact craters within the larger craters, leaving 'ghosts'. But this means that the smaller impacts can't have been too long after the huge ones, otherwise the lava would have flowed into the larger craters before the smaller impacts. This suggests a very narrow time frame for all this cratering, and by implication the other cratered bodies of our solar system. They suggest that the cratering occurred quite quickly.

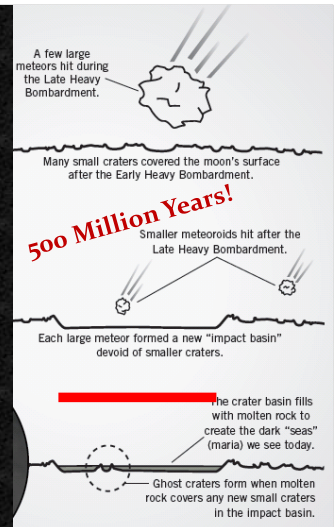
See Fryman, H., Ghost craters in the sky, *Creation Matters* 4(1):6, 1999, <https://creationresearch.org/index.php/creation-matters-newsletter/newsletter-archive?task=document.viewdoc&id=609>, accessed March 16, 2017.



The Moon: Ghost Craters

- Craters form
- Huge impacts cause the large maria
 - Smaller Craters form
 - Maria fills in with lava – making the smaller Craters now Ghost Craters

Danny R. Faulkner, Ghost Craters – Evidence of a Young Moon, January 1, 2012, *Answers in Genesis*, <https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>, accessed March 16, 2017.



The Moon: Craters and Maria

- Craters form
- Huge impacts cause the large maria

See Fryman, H., Ghost craters in the sky, *Creation Matters* 4(1):6, 1999, <https://creationresearch.org/index.php/creation-matters-newsletter/newsletter-archive?task=document.viewdoc&id=609>, accessed March 16, 2017.



The Moon: Craters in the Maria

What do we see?

- A lot of Ghost Craters
- "Very few craters in the maria. This means that the rate at which new craters formed must have diminished rapidly after the late heavy bombardment."

Danny R. Faulkner, Ghost Craters – Evidence of a Young Moon, January 1, 2012, *Answers in Genesis*, <https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>, accessed March 16, 2017.

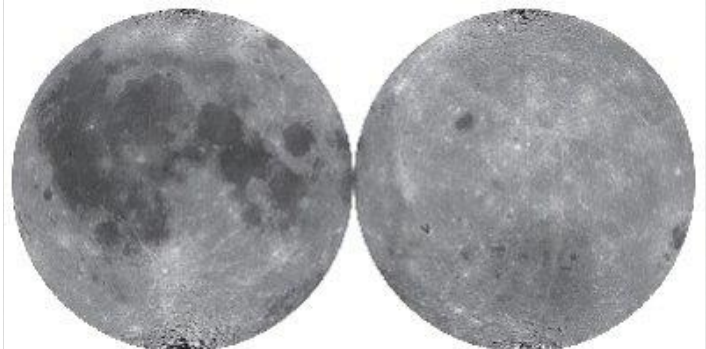
<http://creation.com/lunar-solar-panels-rock-landing-site-time-frame>

The Moon: Ghost Craters

Ghost craters are the faint circular rim of craters that have been covered by molten rock.

<http://creation.com/lunar-volcanoes-rock-long-age-timeframe>
<https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>

The Moon



Near Side of Moon

Far Side of Moon

<https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>

The Moon: More Cratered on one side

- “This distribution suggests a rapid and/or non-random process. It looks as though the meteorites struck the northern part of the moon in just a few days, before the moon had time to rotate far (it rotates once every thirty days). If the maria were the result of random processes over a long time, they would be more equally distributed over the moon’s surface.”

Danny R. Faulkner, Ghost Craters – Evidence of a Young Moon, January 1, 2012, Answers in Genesis, <https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>, accessed March 16, 2017.

110 Impact Craters in the Fossil Record



Acraman Impact Crater

- Southern Australia
- 56 mile-wide
- 2.5 mile-wide asteroid?
- Debris is 16 inches thick of earliest Flood Deposits

- 71 impacts in 600 million years
- 39 impacts in last 30 million years
- OR
- 71 impacts in 1 year (Noah’s Flood)
- 39 impacts in last 4,500

Andrew A Snelling, Did Meteors Trigger Noah’s Flood?, January 1, 2012, Answers in Genesis, <https://answersingenesis.org/the-flood/did-meteors-trigger-noahs-flood/>, accessed March 16, 2017.

The Late Heavy Bombardment may have triggered the Worldwide Flood

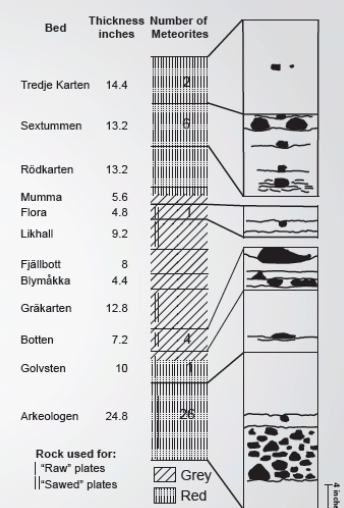
- “Evidence in support of this view is the large number of craters preserved in the earth’s fossil record from the time of the year-long Flood (see “Did Meteors Trigger Noah’s Flood?” p. 68). We must conclude that a heavy bombardment struck the earth at the time of the Flood.”

Danny R. Faulkner, Ghost Craters – Evidence of a Young Moon, January 1, 2012, Answers in Genesis, <https://answersingenesis.org/astronomy/moon/ghost-craters-evidence-of-a-young-moon/>, accessed March 16, 2017.

40 Fossil Meteorites

- In Southern Sweden
- Marine Limestone
 - Layer is 100,000 sq miles
- 1.75 million years or .08 inches per 1000 years
- 12 different meteorite events?

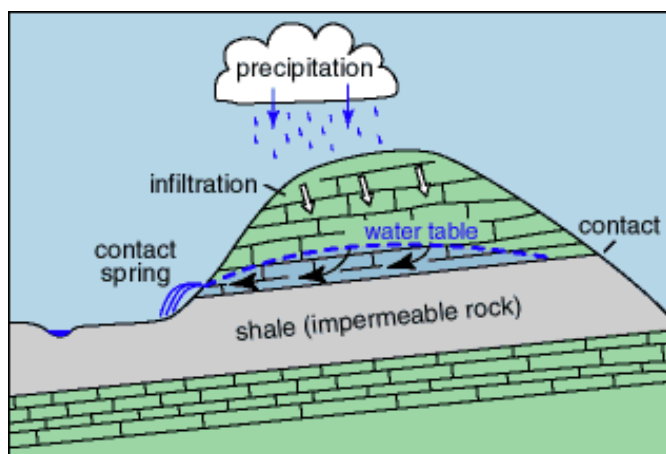
Andrew A Snelling, Did Meteors Trigger Noah’s Flood?, January 1, 2012, Answers in Genesis, <https://answersingenesis.org/the-flood/did-meteors-trigger-noahs-flood/>, accessed March 16, 2017.



EARTH'S LARGEST ASTEROID IMPACT CRATERS

Name/Location	Crater Diameter (Km)	Asteroid Diameter (Km)
Ishim/Kazakhstan	350	20.8
Aredefort/South Africa	140	7.4
Sudbury/Ontario, Canada	140	7.4
Popigia/Tayrmyr, Siberia	100	5.0
Puchezh-Katunk, Russia	80	3.9
Manicouagan/Quebec, Canada	70	3.4
Siljan, Sweden	52	2.4
Kara/Nenetsia, Russia	50	2.3
Charlevoix/Quebec, Canada	46	2.1
Araguainha/Dome, Brazil	40	1.8

A listing of sub-surface impact craters that struck earth during the Flood, recognized by remote sensing.²⁷



Spring Sapping:

- Evidence of water permeating the more porous Navajo sandstone above the more impervious formation below. This causes sapping — removal of sand grains at the base of the slope resulting in overlying chunks breaking out in arch-like shapes. Sketch here:

Grand Canyon Forming and Eroding Overview/Review

Quickly Deposited, not Slowly Deposited

- 6. Flat Contacts – No Evidence of Erosion
- 7. Widespread and Flat
- 8. Transport over Long Distances
- 9. Cross Bedding and other Evidence of Quick Formation
- 10. Bent or Curved Rock Layers

Quickly Eroded, not Slowly Eroded

- 6. Steep Cliffs
- 7. Very Little Tallus
- 8. Barbed Side Canyons
- 9. U Shaped Canyons
- 10. Erosional Remnants

- **Cooperation not Competition**

- “Even in a fallen world, one would expect to see evidence of the original “goodness” (Genesis 1:4,10,12,18,21,25), if not the original “very goodness,” of Genesis 1:31.

But what does the evidence show? Because, as Darwin proposed, the driving force of evolution is this struggle for survival, we must either find this struggle or seriously question the evolutionary concept which predicts it. Numerous excellent studies that have been made over the last 50 years have shown conclusively that cooperation, not competition, is the rule of nature. Entomologist P.S. Messenger states, “Actual competition is difficult to see in nature.” Daniel Simberloff says, “It is rare to see two animals, particularly animals of different species, tugging at the same piece of meat.” Another group states, “Instances of direct mutual harm between species are not known to us.” The story is much the same for plants. Frits Went, a plant physiologist, reports:

There is no violent struggle between plants, no warlike mutual killing, but a harmonious development on a share-and-share basis. The cooperative principle is stronger than the competitive one.”

From Steven A. Austin, *Grand Canyon: Monument to Catastrophe*, Institute for Creation Research, 1994.

- “Having looked at *passive* cooperation achieved by means of avoiding competition, what about *active* cooperation between organisms? Do living organisms of different species join forces and work together in a way that benefits each other? Despite Darwin’s statements to the contrary, active cooperation is the *rule*, not the *exception* in nature. And, because the hallmark of any good scientific idea is how well it can make predictions that will later be proven by observations, we can only conclude that Darwin’s concept of evolution is poor science.

Visitors to the desert of the southwestern United States can observe one of the most imposing of plants, the yucca (see figure 8.3). This plant is composed of a rosette of stiff, sword-shaped leaves at the base and clusters of white, waxy flowers on a stem. Less well-known is the alliance of the yucca plant to the yucca moth (*Tegeticula*), a relationship indicating remarkable mutualism and cooperation. The flower of the yucca can be fertilized by no other insect, and the larva of the moth has no other source of food. The female moth gathers pollen from one yucca flower with special mouth parts constructed for the job, flies to another yucca flower, and inserts the pollen mass into the opening where four or five eggs are laid. Larvae of the moth eat about half of the 200 seeds produced. In this way, the plant benefits from seeds produced by the fertilization, and the moth larvae benefit from the surplus food supply.

A classic example of cooperation is one between the various types of cleaner fish or cleaner shrimp and the normally aggressive fish they “clean.” Large predator fish line up, wait their turn, and then allow the tiny fish (or shrimp) to swim in and out of mouth and gills in order to pick them clean of the pieces of food debris that collect in the larger fish. Why don’t these larger fish eat the small cleaners? Why don’t the larger predator fish push the smaller ones out of line? Evolution’s insistence on the theory of struggle for survival would never be able to rationalize such behavior.”

From Steven A. Austin, *Grand Canyon: Monument to Catastrophe*, Institute for Creation Research, 1994.

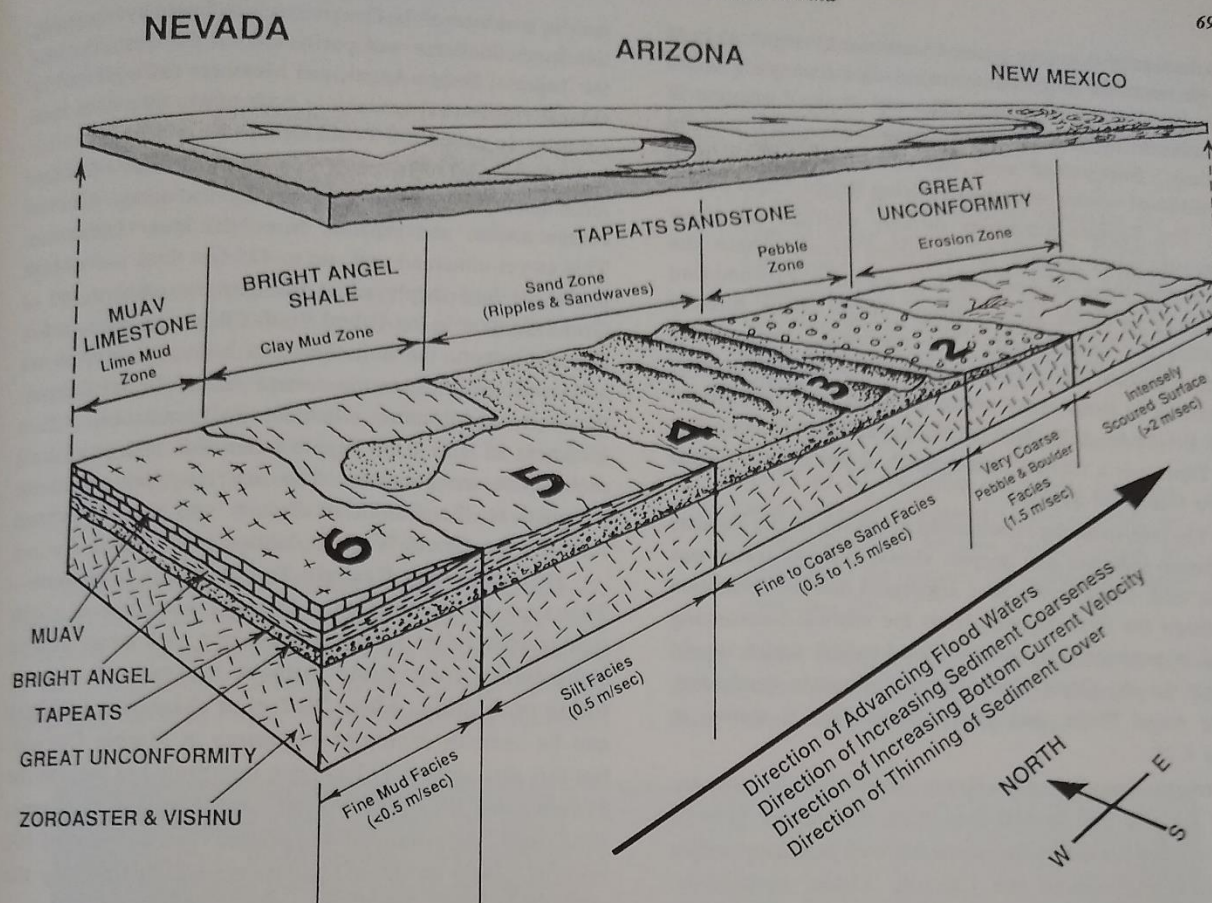


Figure 4.12 A model for the formation of sedimentary deposits beneath advancing floodwaters in Nevada, Arizona, and New Mexico. The water mass advancing eastward over Arizona has been "lifted" off the surface of the earth to reveal, underneath, the erosion and sedimentation occurring during the Flood. The Flood model explains erosion of the Great Unconformity and simultaneous deposition of the Tapeats Sandstone, Bright Angel Shale, and Muav Limestone. The waters from the Flood have advanced eastward through Nevada (lower left of diagram), finally reaching the more elevated area in Arizona and New Mexico (upper right of diagram). As the Flood advances eastward, it produces horizontally segregated deposits (facies) and vertically stacked sediments (strata).

Zone 1 is the highest elevation area of the continent, where shallow, fast floodwaters are causing intense scouring and erosion of the pre-Flood rocks.

Zone 2 is the adjacent shallow-water area, where coarse pebbles and lag boulders are accumulating at the base of the Tapeats Sandstone. All finer sand, silt, and mud are being winnowed from Zone 2, and moved westward into Zones 3 and 4 by intense bottom-surfing current (velocity about 1.5 meters per second).

Zone 3 is composed of sand waves forming thin cross-bedded sands, which compose the middle of the Tapeats. Here, the water velocity is about 1.0 meter per second.

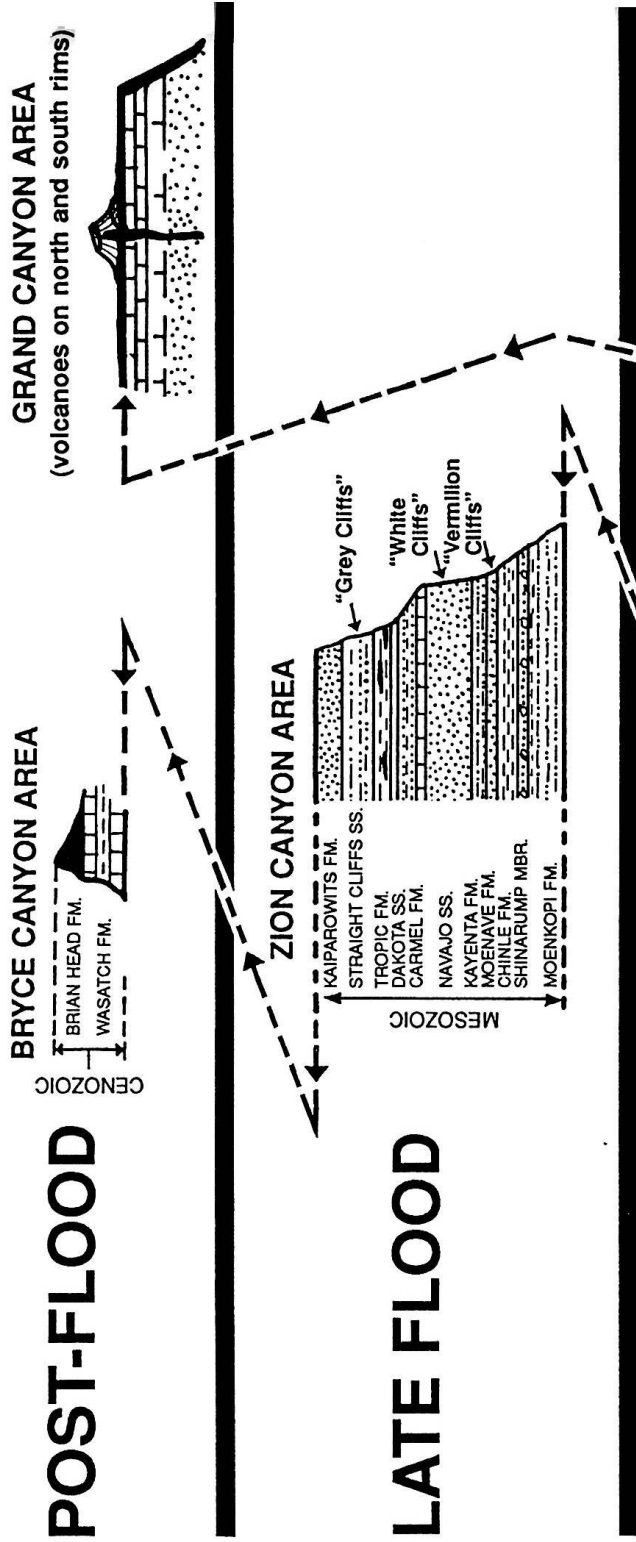
Zone 4 is plane beds of sand, with ripples representing the deepest and lowest-velocity waters depositing the uppermost Tapeats.

Zone 5 is located in still deeper and slower-moving waters. The silicate clay- and silt-size particles are accumulating as graded silt and clay beds. These deposits are the residue winnowed from Zones 1 through 4, and compose the Bright Angel Shale. Here, the water velocity is about 0.5 meter per second.

Zone 6 is farthest to the west, in the deepest and slowest-moving water, where there is a deficiency of silicate clay and silt-sized particles. Lime mud, apparently the dominant type of pre-Flood sediment to the west, is accumulating, in Zone 6, as rhythmically laminated and bedded flat strata, where the water current velocity is less than 0.5 meter per second.

The continuous advance of the Flood over Arizona caused the deeper-water, slower-velocity sediment facies to be stacked above the shallower-water, faster-velocity sediment facies. The result is the vertical sequence, consisting of the Great Unconformity, Tapeats Sandstone, Bright Angel Shale, and Muav Limestone. Each has enormous horizontal extent, which can be measured in hundreds of miles. (Diagram by Steven A. Austin.)

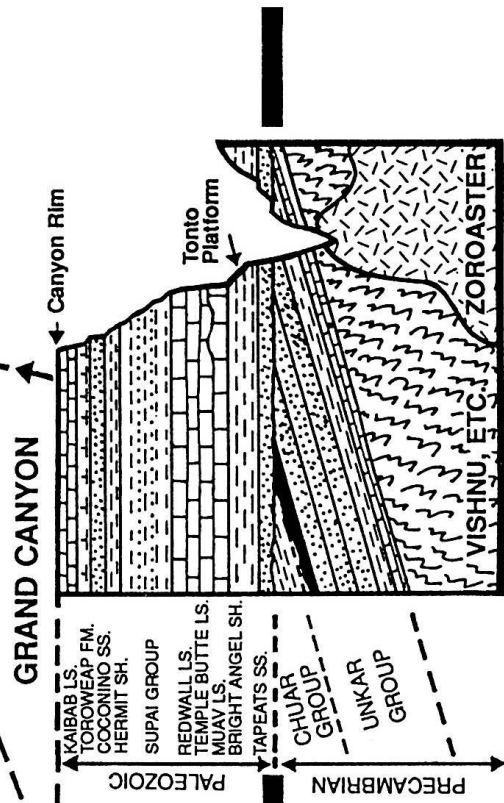
POST-FLOOD

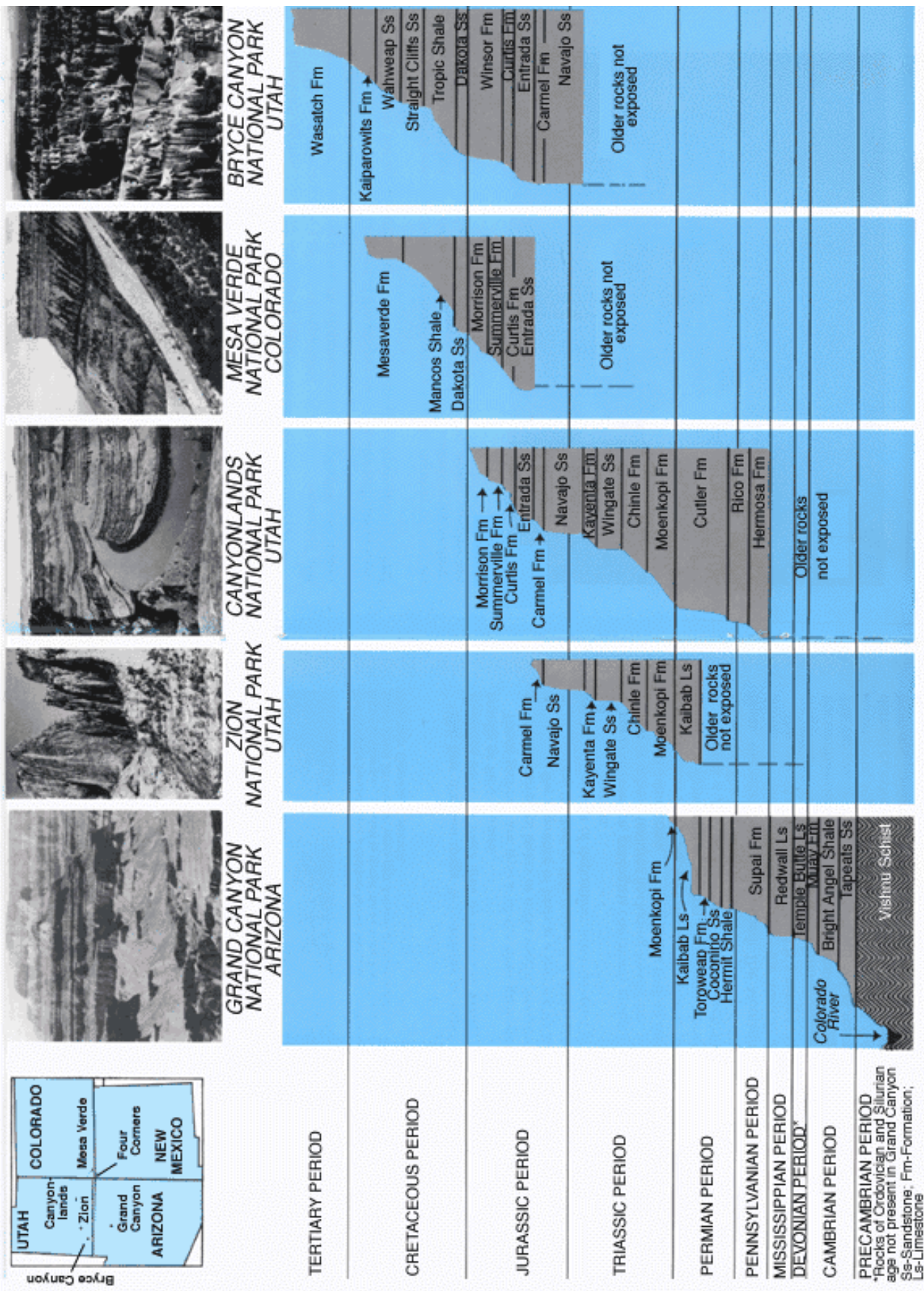


LATE FLOOD

EARLY FLOOD

PRE-FLOOD & CREATION WEEK



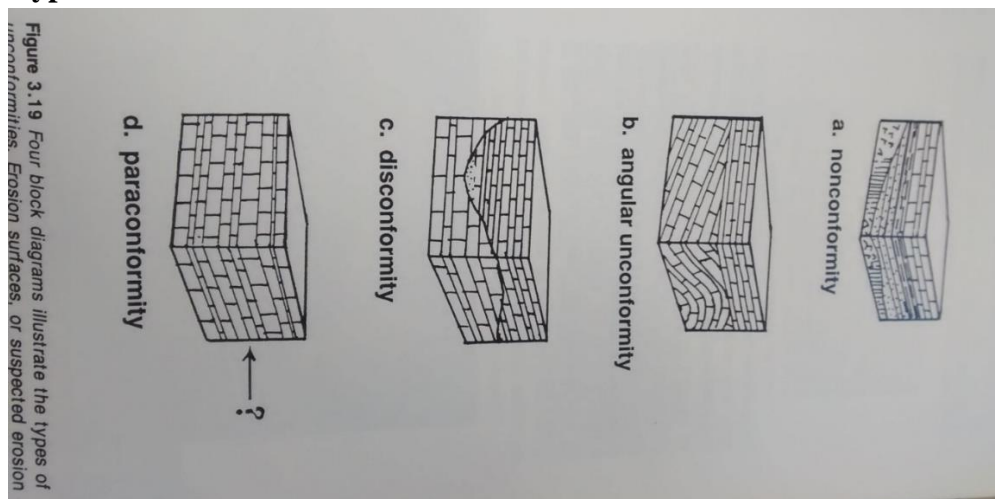


Evidence for Rapid Deposition, not Slow Deposition

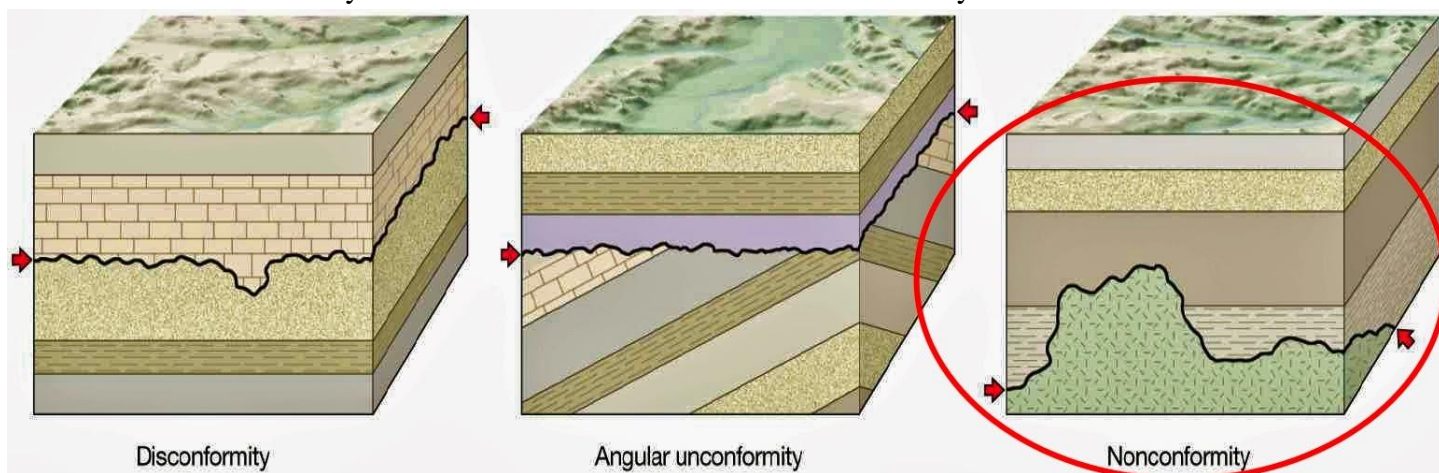
• Flat Contacts = No Erosion

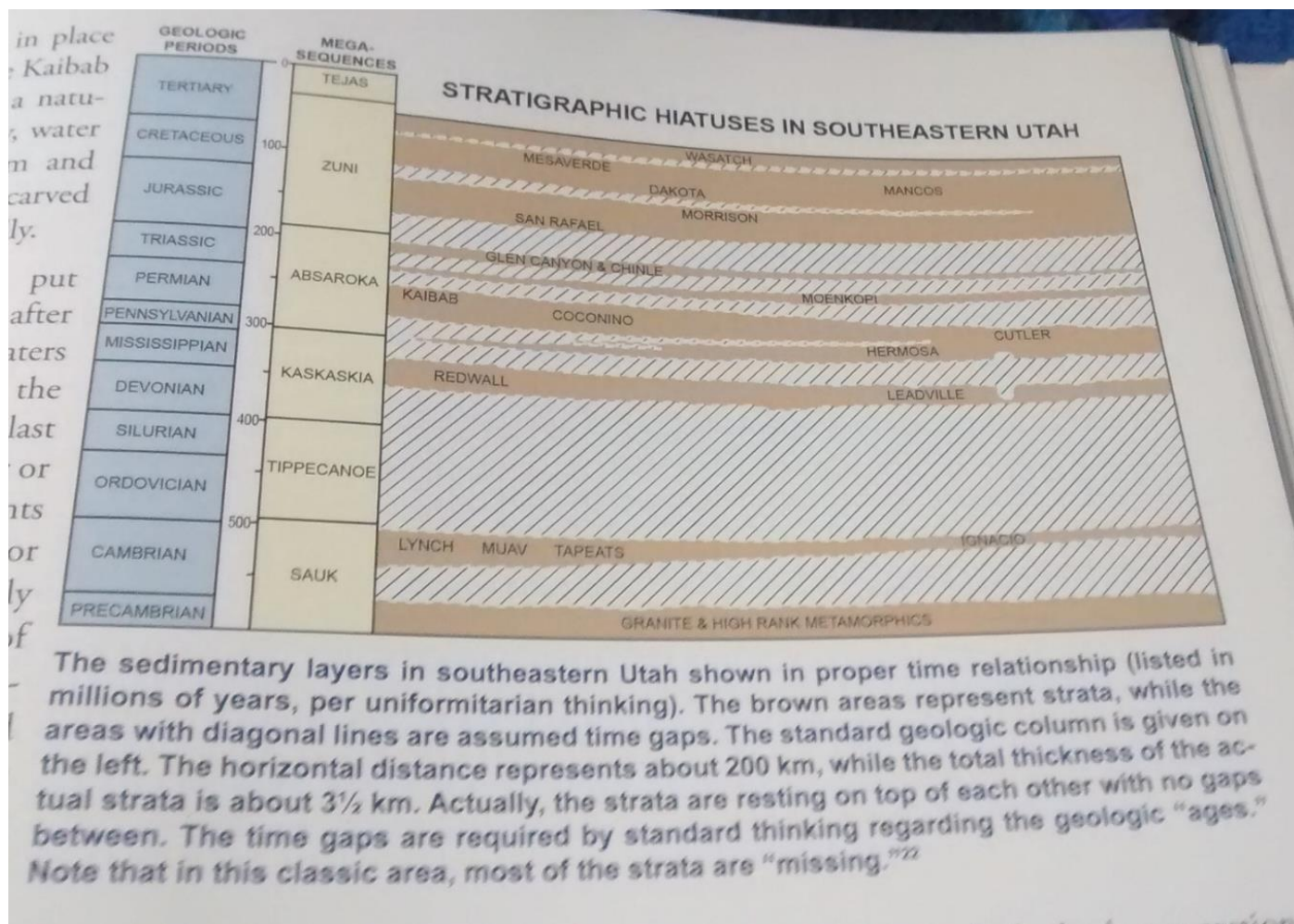
- If millions of years or even a few hundred years, we should see a jagged, ragged line dipping down and up – this would happen naturally with wind erosion, freezing and thawing that could cause erosion and living creatures creating paths up and down on the ground.
- We should see evidence of bioturbation – plants leaving roots or root holes and living creatures leaving their burrows and marks.
- But instead where there are assumed millions of years between layers, we very often find flat contacts. There is not enough evidence for the supposed Time!
 - The Toroweap and Kaibab rock layers show no evidence of time in between them.
 - For example, it is assumed that the topography of the land changes from a desert (the Supai group because it's Sandstone) to a muddy coastal area (the Hermit Formation made up of Sandstone, siltstone and shale), but with a significant topography change, we should see more erosion, but instead we see a slow grading between the two.
- There is also no chemical erosion at the Great Unconformity!

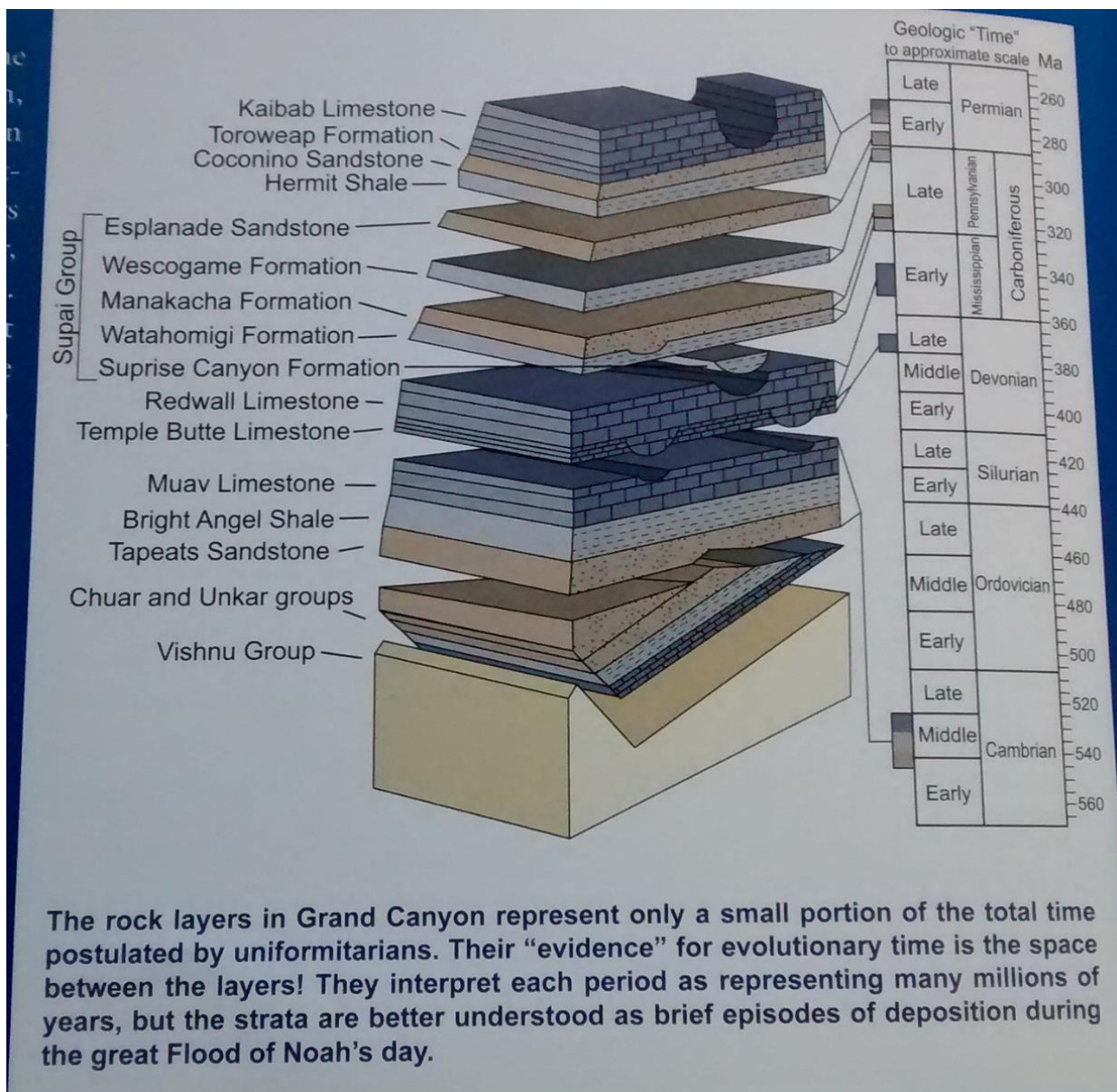
○ 3-4 Types of Unconformities:



- Paraconformity – “it looks conformable, but a time gap is called for to satisfy uniformitarianism” (Global Flood, p. 158)
- The only difference between a contact and unconformity is assumed time.







Do we really see Time in between the Rock Layers??

Three scientists studying [the] thick layers of sedimentary rocks in Teton National Park admitted The regularity and parallelism of the layers in well - exposed sections suggest that all these rocks were deposited in a single uninterrupted sequence. (Oard - Location 1053)

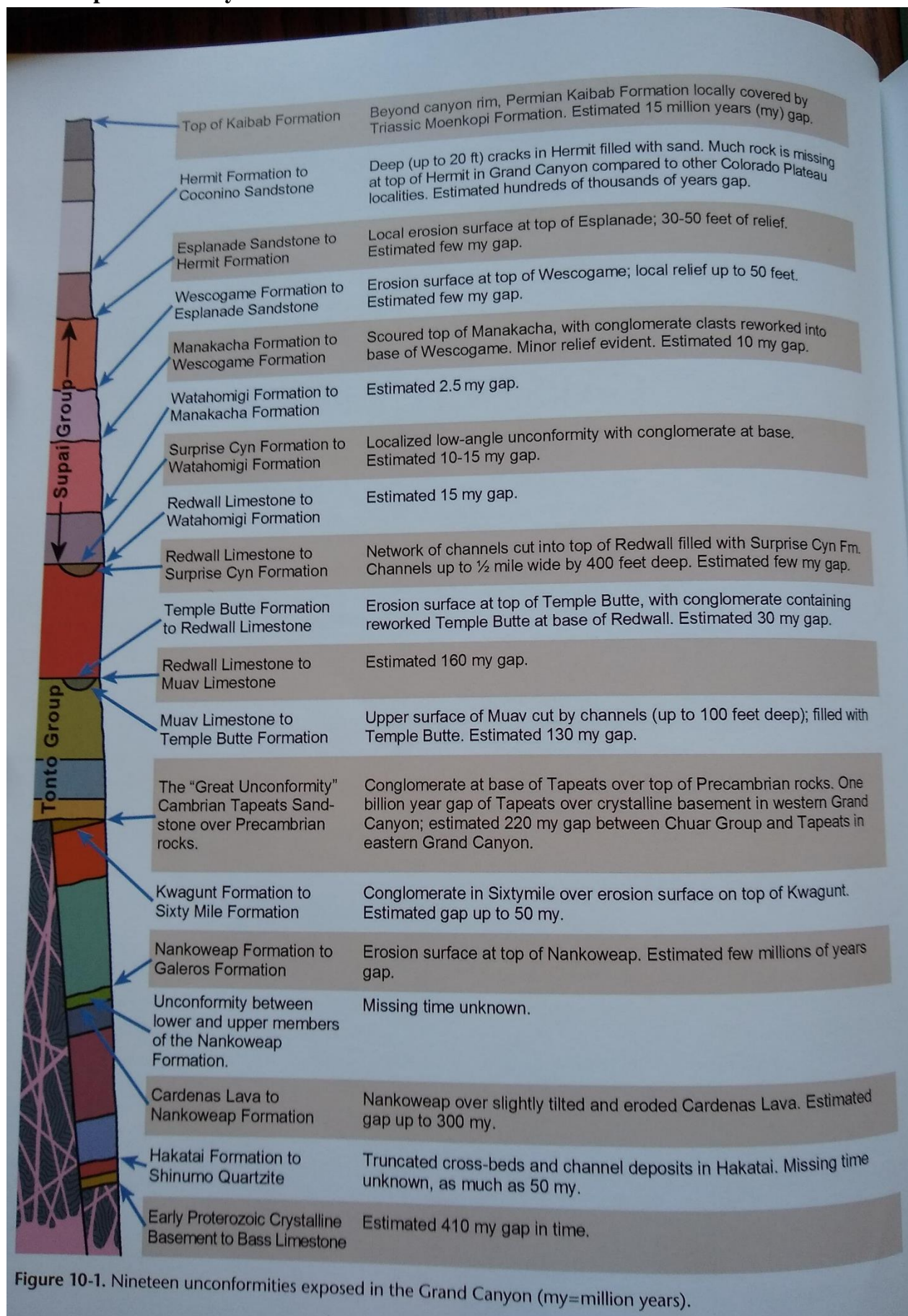
Oard - Location 1060

Consider this : the western Grand Canyon, a mile - deep chasm, was supposedly incised through solid rock in only 6 million years, according to uniformitarian reckoning. 18 Do we see multiple Grand Canyon - sized cut and fill structures in the sedimentary rocks in the walls of the canyon? No, we see none — not even close.

Oard - Location 1065

Sediments today are deposited over small areas, such as in rivers or flood plains, beaches, barrier islands, or in small, extended bodies such as deltas and submarine fans. Moreover, the sediments deposited today change quickly from one type to another, such as silt to gravel. Nowhere today do we see sedimentary layers of roughly the same thickness and type of sediment deposited uniformly over hundreds, or even thousands, of miles.

Time Gaps between layers:



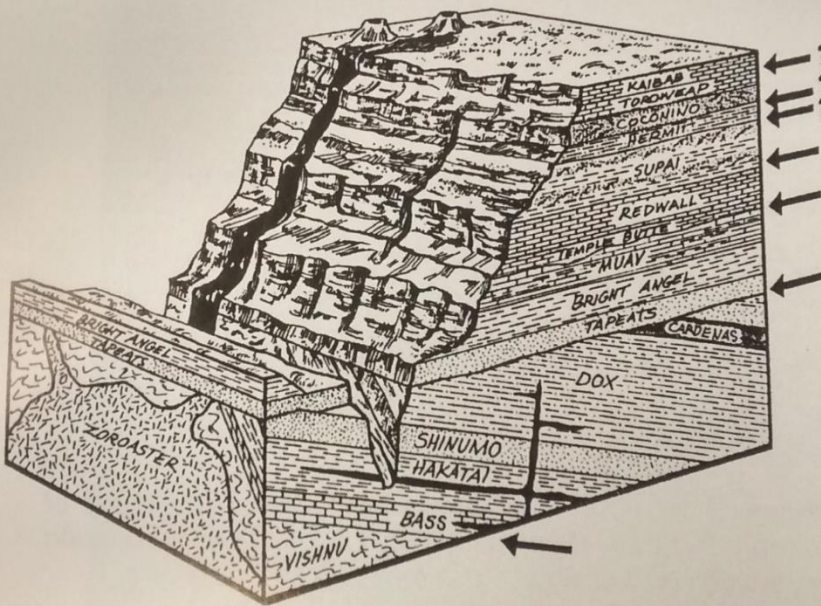


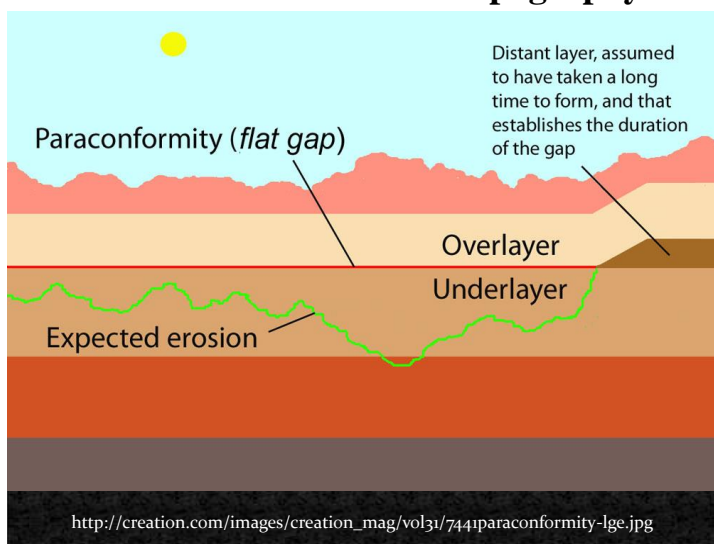
Figure 3.20 Block diagram of Grand Canyon rocks, showing the positions of important unconformities. Some of these unconformities are real, but others remain doubtful.



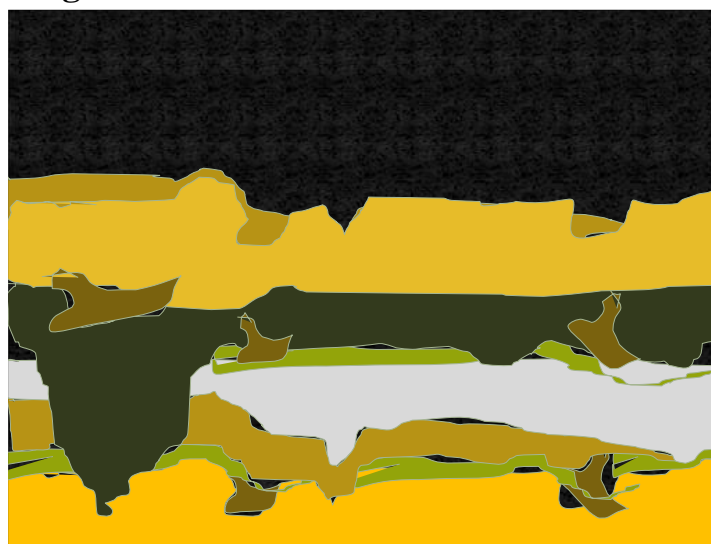
The sketch on the left illustrates how the layers of the Grand Canyon actually appear. The sketch on the right illustrates what would be expected if significant time had elapsed between the deposition of one layer and the next on top of it.

SECTION SEVEN ► GEOLOGY

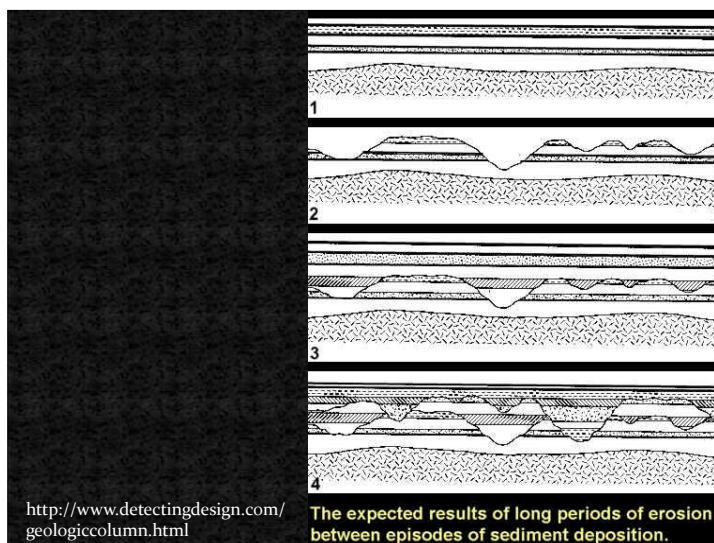
Modern Topography Shows Rough Erosion Patterns



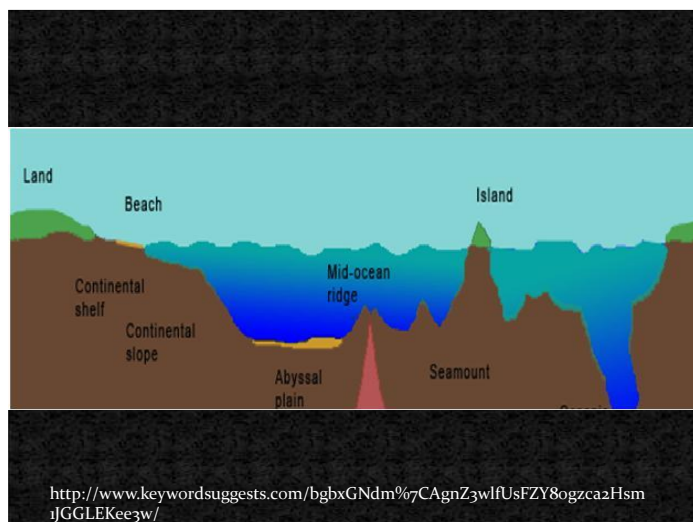
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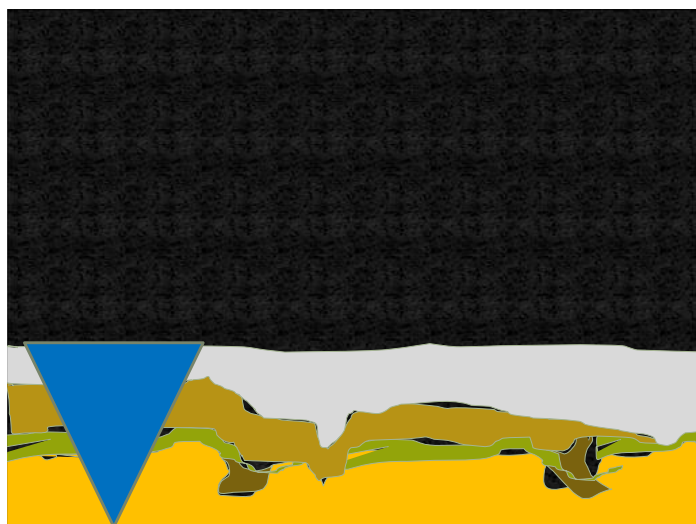
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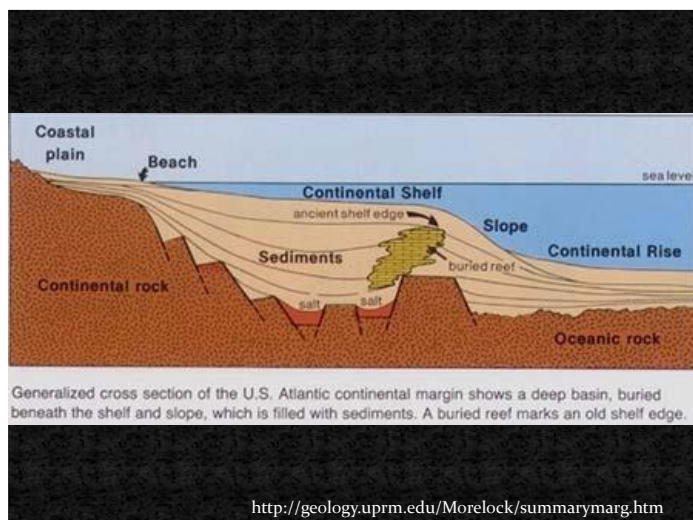
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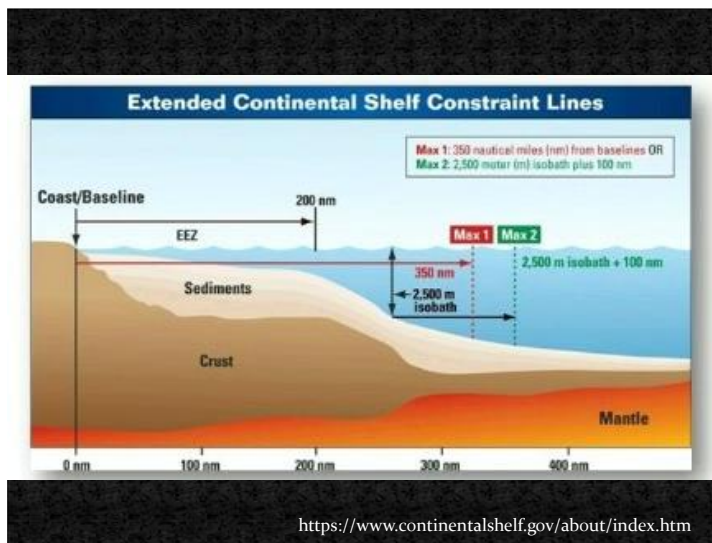
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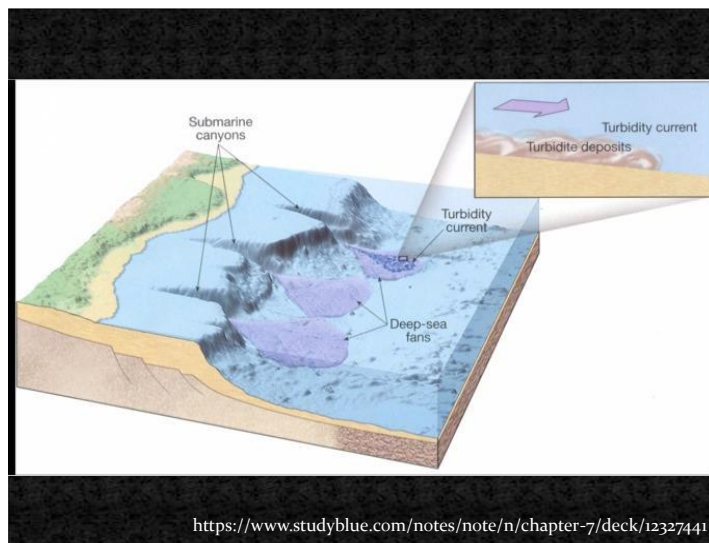
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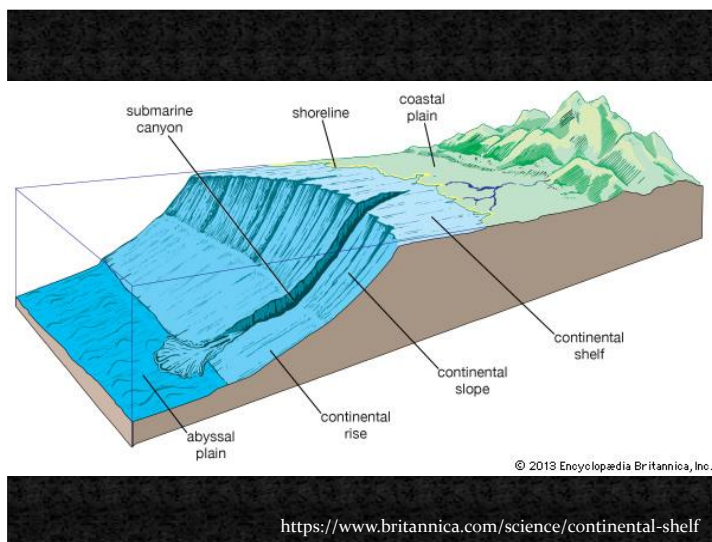
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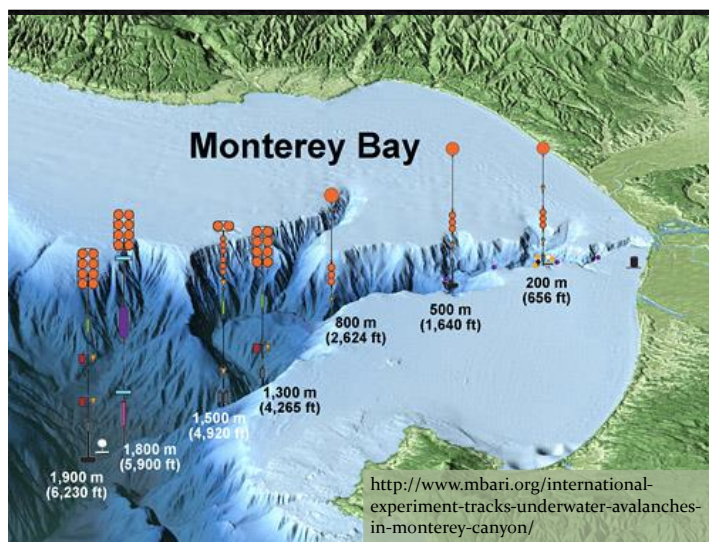
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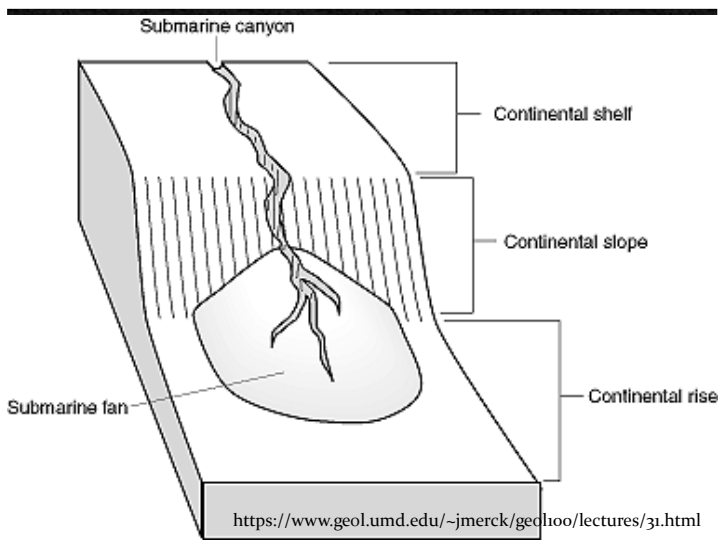
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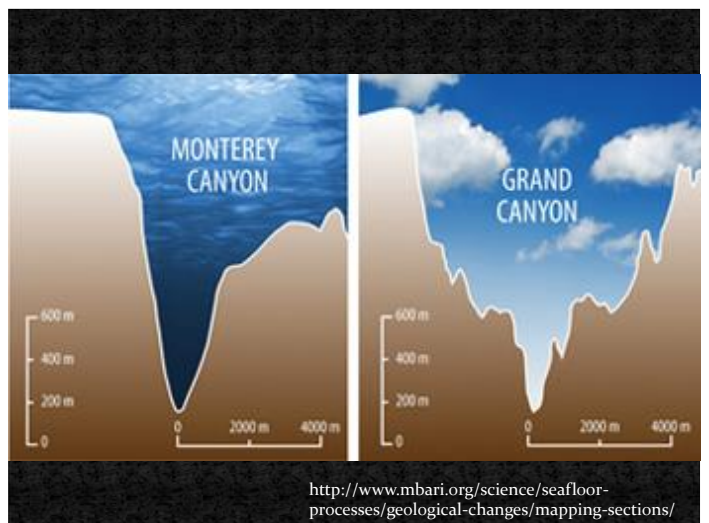
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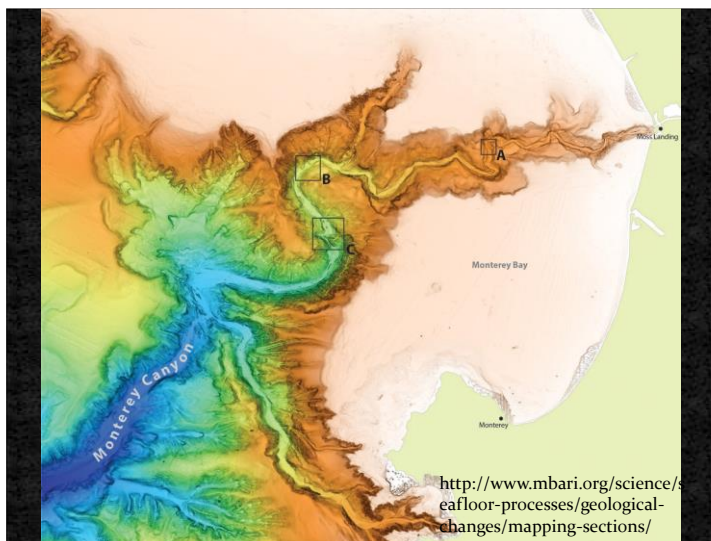
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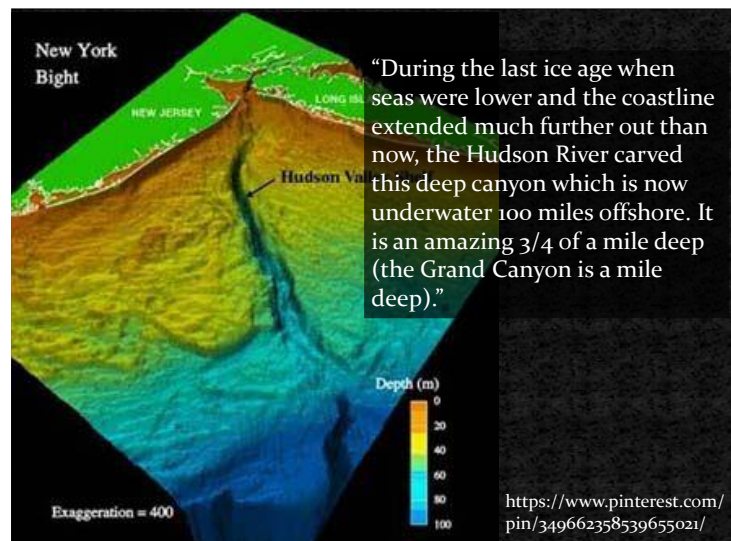
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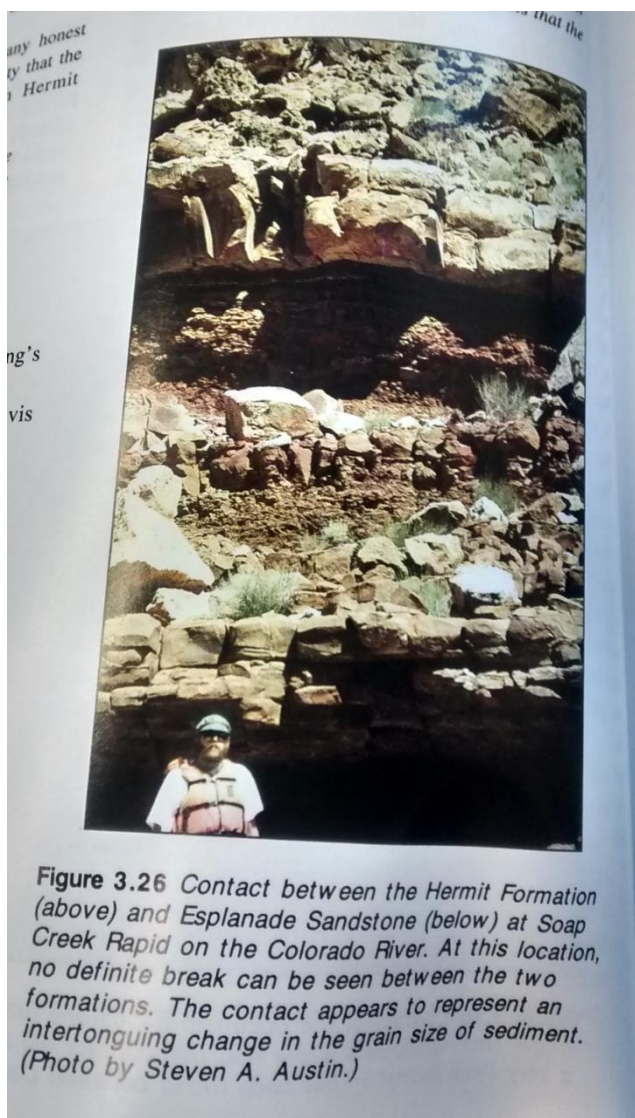
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13



14



- Lenses of mudstone in sandstone or limestone or vice versa?
- No evidence of channeling, canyons, or valleys (present day geology)

-“Wouldn’t there have been a gradational change between one formation and the next, especially if it took long ages?”
(Global Flood, p. 120)

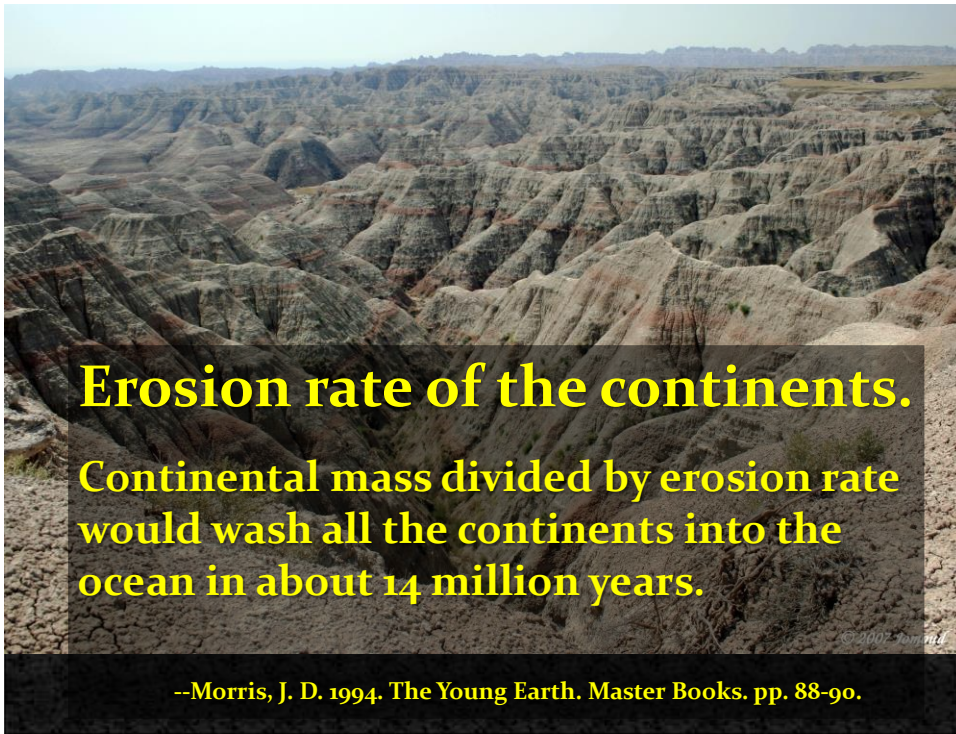
- Current rate of erosion – 10 million years – erosion rate decreases as continents level – so give it a maximum of 40 million years

Erosion of Continents (John Morris, The Young Earth, 2008, Master Books, Green Forest, AR, p. 92-93.)

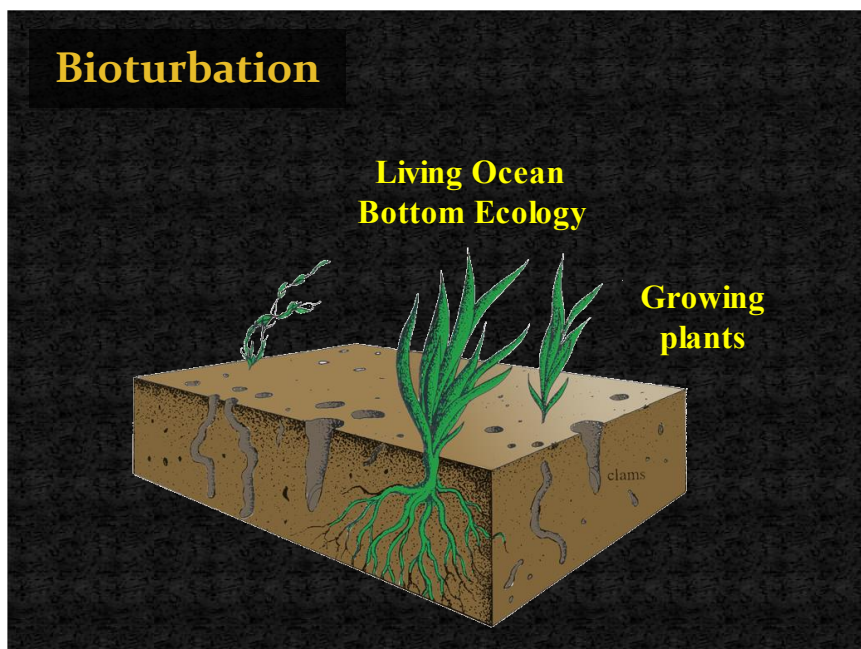
Vol. of Continents above sea level = 383 million billion tons
 $\div 27.5$ billion tons per year
 = Less than 14 million years

Oard - Location 1031

Therefore, we should see copious evidence of widespread erosion during the supposed 300 million years of deposition claimed for the horizontal layers of Grand Canyon. The continent could have eroded to sea level six times at the minimum rate, and 30 times for the maximum rate of erosion, yet very little evidence of erosion is seen in the walls of the Grand Canyon!

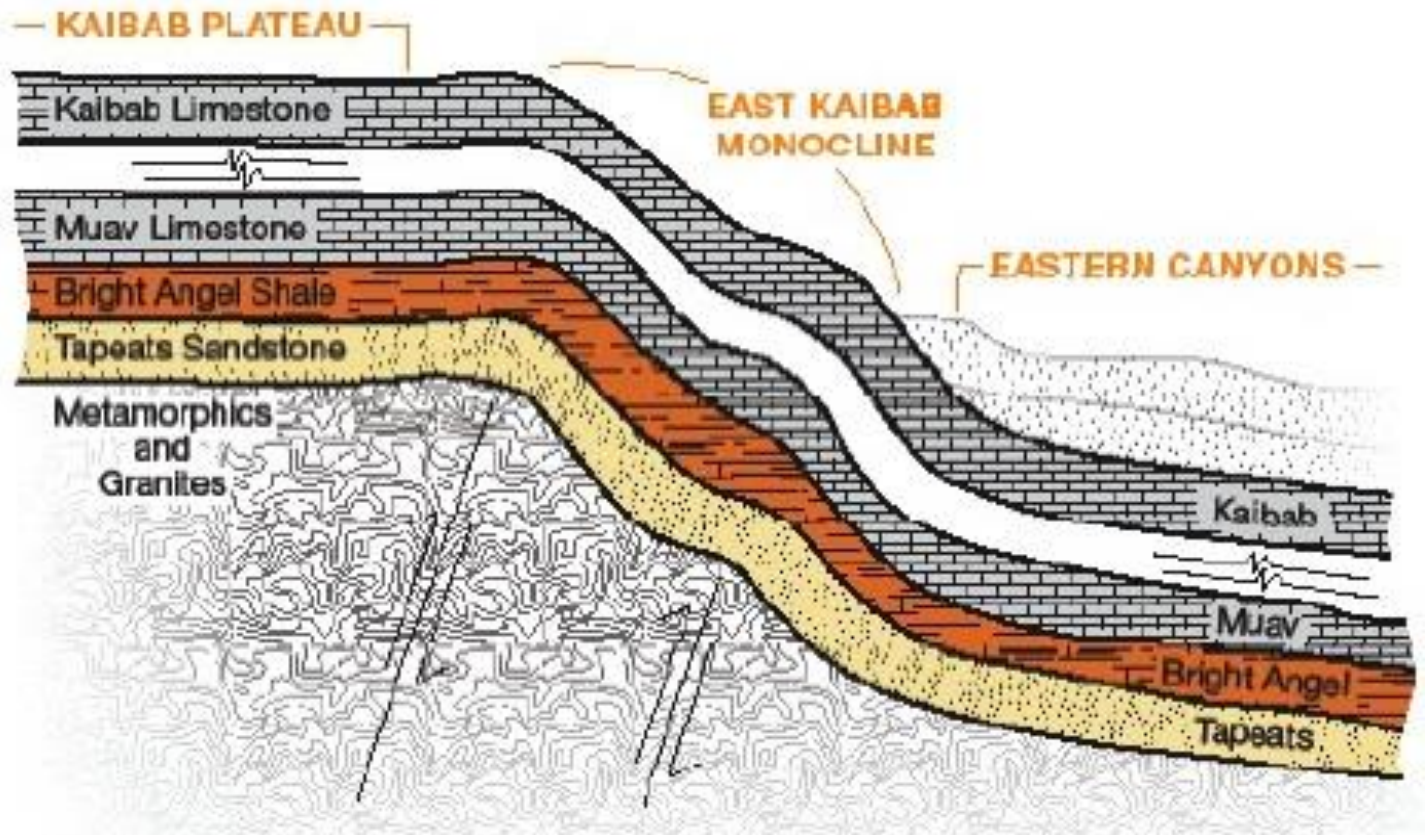


- 120 my gap – Temple Butte and Muav (below)
 - smooth folds or bends of the two layers together
 - Sometime they fold or bend at or near faults.
 - Rocks normally crack and break when forced to bend because they are brittle.
 - Heat and pressure might be able to bend rock without breaking, but most often, there is no sign of internal mineral structure change
 - This is evidence that they rock layers must have happened been folded or bent when wet or soft or pliable together and rapidly buried or accumulated.



Oard - Location 2943

Conversely, one would expect, if the strata of Grand Canyon and elsewhere were deposited over hundreds of millions of years, all the strata would be extensively churned by worms and other organisms, a process called bioturbation, as can be seen in sediments at the bottom of today's oceans. However, bioturbation has rarely occurred in the sedimentary rocks, indicating that those millions of years do not exist. 9



Bent/Folded/Curved Rock Layers

- See Picture Above: “Herein lies an insurmountable dilemma for uniformitarian geologists. They maintain that the Tapeats Sandstone and Muav Limestone were deposited 500–520 million years ago³; the Redwall Limestone, 330–340 million years ago⁴; then the Kaibab Limestone at the top of the sequence (Figure 2), 260 million years ago.⁵ Lastly, the Kaibab Plateau was uplifted (about 60 million years ago), causing the folding.⁶ That’s a time span of about 440 million years between the first deposit and the folding. How could the Tapeats Sandstone and Muav Limestone still be soft and pliable, as though they had just been deposited? Wouldn’t they fracture and shatter if folded 440 million years after deposition?”

Snelling, Andrew A, Rock Layers Folded, Not Fractured, April 1, 2009, Answers in Genesis, <https://answersingenesis.org/geology/rock-layers/rock-layers-folded-not-fractured/>, accessed April 9, 2016.

- “Many geologists and geophysicists assume that the mountain building process of horizontal compression caused the folds we see in the mountains today. But the authors [of a secular geology book] state:

“There is no direct evidence that folding was accompanied by mountain building” (pp. 274–275).
The main reason for this radical deduction is “the certain knowledge that the strength of rocks is insufficient to permit folds to be created by lateral compression” (p. 275).

The authors believe that most folds, as well as thrusts, were caused when huge masses of rock slid down slope under the influence of gravity, an idea denied by most geologists today. To back up their contention, they provide some impressive modern analogues from the continental slope and rise, including the huge Agulhas Slump off southeast Africa, the distal Bengal Fan, and the Niger Delta. Tensional and compressional structures, similar to those found in mountains, have formed in these areas during downslope mass movement. Seismic sections of ancient folded sediments from all over the world, especially along convergent plate margins, look similar to these modern marine sediments found along the continental margins.”⁴

Widespread Layers (Pancakes) are evidence of rapid deposition!

- Picture eating the biggest plate of pancakes!
- These rock layers often cover large parts of the country!

3. WIDESPREAD LAYERS

A challenge to the idea that these layers represent millions of years is the highly varied environments of deposition for the various formations as proposed by most geologists. Can you have plate tectonics movements, and the environmental changes proposed and still maintain such flat formations over such wide areas? For instance note some of the proposed environments for the formations:

Kaibab: Marine shelf

Toroweap: Marine to desert dunes

Coconino: Wind deposited desert dunes

Hermit: River

Esplanade (top of Supai Group): Mainly desert

Rest of Supai: General increase in marine environment as you go down through the group

Layers below Supai: Marine, except Tapeats that also has rivers

The many formations are too flat, too thin, and too widespread to fit the ordinary depositional environments suggested above. In a Flood perspective, they would come from varied sources and would be laid down quite rapidly, one on top of the other, in a broad depositional basin.

<https://www.slideshare.net/arielroth/gc-1-reading>

⁴ Michael J. Oard, The Mountains Rose, Journal of Creation **16**(3):40-43, December 2002, <https://creation.com/mountains-rose>, accessed March 25, 2022.

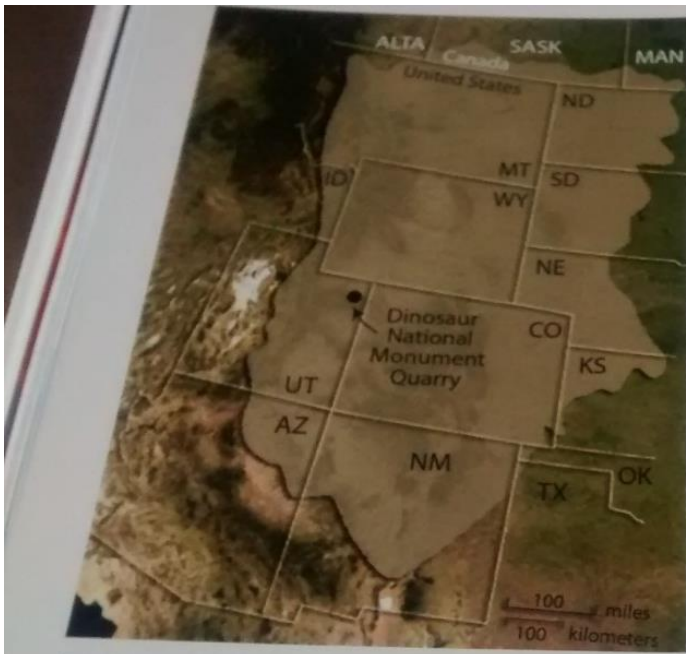


The Chattanooga Black Shale covers a large fraction of the continental United States (at least as much as shown in this map) and is underlain by a flat, featureless erosional surface. Consisting of tiny clay-size particles, and seldom more than 20 feet thick, it baffles uniformitarians, who propose slow settling of particles out of standing water. There is no modern analogy for this type of deposition.

is distributed and individual beds don't extend very far, seldom more than 20 feet thick, the Chattanooga Shale



Area covered by the St. Peter Sandstone and correlating strata, the basal sandstone deposited at the beginning of the Tippecanoe Megasequence.



The Morrison Formation exhibits volcanic ash flowing along as mud. Animals and plants from varied environments—marine, terrestrial, mountainous, coastal—are mixed together in its well-known dinosaur fossil sites. This deposit is not a snapshot of life, but a record of violent death and transportation.¹⁵



The Shinarump Conglomerate covers about 125,000 square miles and averages 50 feet thick. Large boulders and coarse grains require rapid water flow, following extensive erosion. Abundant petrified wood is present. No modern process can account for this.

erosion and deposition wholly unlike any we currently experience. Water movement carried along remains of an extensive forest, along with large cobbles. The size of the boulders and cobbles contained within would take rapid water movement on a regional scale to move them. What process operating today can do this?

Exotic Blocks Moved by Debris Flow: Landslides and slumps occur today on a local scale and are well-studied, but past events require regional forces that take one's breath away. In numerous places worldwide, large blocks of rock that were transported long distances are found. Geologists have measured the dimensions of

Mudrock is a
up of tiny silt-
uninteresting
ous flat-look
though they
ary record,
are obvious
sist settling
whisked a
calm water
fall by g
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sedime
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ex

Widespread and Flat

"The layers you see in the Grand Canyon are very widespread. The top formation, the Kaibab, is also found in California, Nevada, Utah, and New Mexico. The Redwall layer that forms the vertical cliff half way up is spread over the top half of Arizona, well beyond the Grand Canyon Plateau.

The layers had to be spread over incredibly flat areas to produce such widespread relatively thin layers of sediment. There is **no way** you could deposit these widespread flat layers on most of our present irregular continental topography. This represents entirely different depositional conditions than what we find now, and is more like what we would expect from a worldwide flood."

<https://www.slideshare.net/arielroth/gc-1-reading>

"The realization that much of the geologic record, particularly in shallow water environments, actually accumulates as **a series of catastrophic events** (as expressed in Derek Ager's eloquent analogy to the lives of soldiers: **"long periods of boredom and brief periods of terror"**) goes a long way toward explaining the persistence of certain layers. Distinctive, thick storm beds (tempestites), turbidites, deformed ("seismite") beds and, above all, widespread volcanic ash layers may provide isochronous markers. **Such beds may persist over areas of many hundreds to thousands of square kilometers precisely because they are the record of truly extraordinary, oversized events."**

Brett, C.E., 2000. A slice of the "layer cake": The paradox of "frosting continuity." Palaios 15:495-498 (<http://www.grisda.org/2003-FSC-open/Roth-RecentCreation.htm#18>)

"The accumulation of the permanent stratigraphic record in many cases involves processes that have not been, or **cannot be observed in modern environments...there are the extreme events...with magnitudes so large and devastating that they have not, and probably could not be observed scientifically...** I would also argue that many successions show far more lateral continuity and similarity at a far finer scale than would be anticipated by most geologists."

Not Anticipated!

Brett CE. 2000. A slice of the "layer cake": The paradox of "frosting continuity." *Palaios* 15:495-498.

3

"I hope I have convinced you that the sedimentary record is largely a record of episodic events rather than being uniformly continuous. **My message is that episodicity is the rule, not the exception. . . We need to shed those lingering subconscious constraints of old uniformitarian thinking.**"

Dott, Robert H., Presidential Address to the Society of Economic Paleontologists & Mineralogists, *Geotimes*, p. 16, Nov. 1982; Robert H., Presidential Address to the Society of Economic Paleontologists & Mineralogists, *Geotimes*, p. 16, Nov. 1982.

6

"...contemporary geologists and paleontologists now generally accept **catastrophe as a 'way of life'** although they may avoid the word catastrophe... The periods of relative quiet contribute only a small part of the record. The days are almost gone when a geologist looks at such a sequence, measures its thickness, estimates the total amount of elapsed time, and then divides one by the other to compute the rate of deposition in centimeters per thousand years. The nineteenth century idea of uniformitarianism and gradualism still exist in popular treatments of geology, in some museum exhibits, and in lower level textbooks....one can hardly blame the creationists for having the idea that the conventional wisdom in geology is still a noncatastrophic one."

Raup, David M., Chicago Field Museum, Univ. of Chicago, Field Museum of Natural History Bulletin, Vol. 54, p. 21, March 1983.

4

"Of course, the **belief** is that between these catastrophic events were very long periods of relative calm. However, if there were these very extensive periods of non-catastrophic change, **where is the evidence** of uneven erosion that would leave its mark after such extended periods of time?"

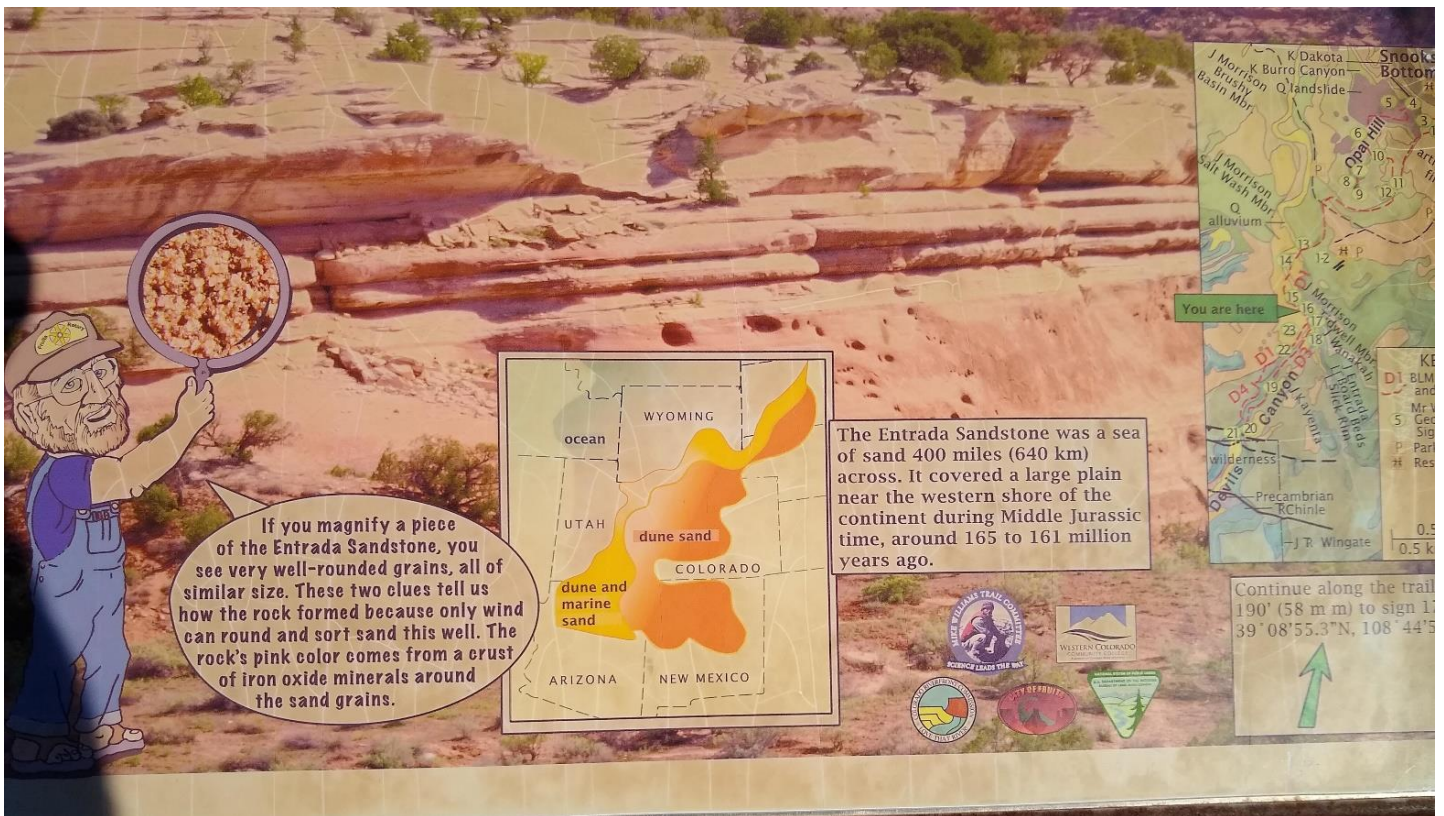
Pitman, Sean D., The Geologic Column, August 2005, updated March 2010, <http://www.detectingdesign.com/geologiccolumn.html>, accessed May 1, 2017.

7

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Dott, Robert H., Presidential Address to the Society of Economic Paleontologists & Mineralogists, *Geotimes*, p. 16, Nov. 1982; Robert H., Presidential Address to the Society of Economic Paleontologists & Mineralogists, *Geotimes*, p. 16, Nov. 1982.

5



-Huge Changes: Such current and tectonic movements could cause wobbles to the spin of the earth and would cause currents to change causing sharp contacts between layers and possibly even polar wandering or reversals.

Limestone Development – Slow or Fast??

- Lime mud has been shown to **clump and form quickly in the Bahamas due to storm and tides**
- Two scientists report these new discoveries that "mandate caution when using these features as indicators of shoreline or quiet water in ancient carbonate deposits."
- **"The "world's most perfect fossils" may come from the fine-grained limestone of the Santana Formation of northeast Brazil.** One geologist, describing the fossil fish of the Santana Formation wrote, **instantaneous and fossilization may even have been the cause of death.**"¹⁹ Clearly, catastrophic processes are needed to make these fine-grained limestones."

Source: *Earth's Catastrophic Past* by Andrew A. Snelling

"The observation of lime mud deposits within environments of rapid accumulation has created a mystery. How can such fine mud particles settle quickly, from turbulent, fast-flowing waters? Our normal observations of modern mud-sized particles show that they settle very slowly, and only in quiet water.

The mystery appears to have been solved recently by microscopic study of modern lime muds. Muds from the tidal channels in the Bahamas were washed by a gentle stream of water revealing mud particles aggregated into pelletoids.¹ Evidently, pelletoids of flocculated aragonite particles exhibit the hydraulic characteristics of sand, which allows aggregates of particles to settle quickly. Two scientists report these new discoveries that "mandate caution when using these features as indicators of shoreline or quiet water in ancient carbonate deposits."

The evidence of rapid accumulation of lime mud in modern sedimentary environments helps to interpret many ancient limestone deposits. Probably most significant are the so-called "lithographic limestones" with extremely fine texture, but with extraordinary fossil preservation. These limestones appear to have formed as animals were smothered in lime mud. Perhaps the most famous example includes fossils of the bird *Archaeopteryx* from the Solnhofen, a lithographic limestone of Germany. The "world's most perfect fossils" may come from the fine-grained limestone of the Santana Formation of northeast Brazil. One geologist, describing the fossil fish of the Santana Formation wrote, instantaneous and fossilization may even have been the cause of death."¹⁹ Clearly, catastrophic processes are needed to make these fine-grained limestones." -Austin,

Oard - Location 2975

The limestone could easily have been transported laterally by mass flows, such as has been observed when hurricanes in the Florida - Bahamas erode, transport, and redeposit large quantities of lime mud. ¹⁴

Where did the Sediments come from to create such huge, widespread rock layers? (Origin of the Sediments)

- 200,000 sq miles of Coconino could not have been derived from the underlying Hermit Shale and silt-stones.
 - Instead it must have been transported from hundreds of miles from the North
 - “Continent-sized deposition implies continent-wide geologic processes.”
 - Same composition (sediment), for so far and so thick
 - What modern processes would be like this?
- Quartzites originated from high on Rockies (in Northern Idaho and Northwest Montana) – chert clasts that make the quartzite boulders – CMI’s recent magazine article
 - Transport distance is up to 800 miles from their source (Yellowstone Guide, p. 152-154)
 - 11,000 ft deep accumulations
 - Gravel Mountain – NE of Moran Junction
 - See also road cut 12 miles east of Moran Junction on Highway 26
 - Found on top of Teton Mountains – so must have been transported there (at least 150 miles from central Idaho) before uplift of the Tetons
 - Teton Fault Change – 14,000 ft in Wind River Mountains correlate with 31,000 ft below sea level in Hanna Basin = 45,000 ft of vertical change!!
 - Compare that to around 30,000 ft uplift of Himalayas (Yellowstone Guide, p. 144)
 - rounded with pressure solution marks – “caused by compression of the contact points of one rock against another under the extreme pressure of thousands of feet of accumulation.. Fractures through the rock also indicate high pressure.”
 - Percussion Marks
 - Quartzite is a very hard rock
 - “The scars [percussion marks] are evidence of ferocious pounding against other boulders as it was carried along by a swift powerful river...”
 - probably water velocities over 50 mph – twice as fast as modern flash floods
 - Glaciers also pushed them around.

How Did the Grand Canyon Carve?

Oard - Location 320

Mainstream scientists periodically reach a “consensus” about the canyon’s formation (the last one was in 2010), but then a new observation or hypothesis shatters the consensus, which leaves hanging another tantalizing, yet ultimately unsatisfactory hypothesis.

Oard - Location 326

In a popular book on the geology of Grand Canyon, Greer Price admitted: “But while the principles of erosion, like so much of geology, are simple, the detailed history of the Colorado River and its canyons remains elusive and difficult to grasp.” 6 In another popular book, mainstream geologist Wayne Ranney repeatedly noted how little is actually known about the origin of Grand Canyon: The canyon’s birth is shrouded in hazy mystery, cloaked

in intrigue, and filled with enigmatic puzzles. And although the Grand Canyon is one of the world's most recognizable landscapes, it is remarkable how little is known about the details of its origin. 7

Oard - Location 332

The lack of a viable hypothesis for the origin of Grand Canyon is an embarrassment to uniformitarian geologists⁸ because they have always considered the easily accessible canyon to be a showcase for uniformitarian geology, in contrast to explanations having to do with the Flood. 9

Oard - Location 341

What is holding up a real explanation for the canyon? In short, it is because of mainstream geology's assumptions that undergird all of the hypotheses.

Oard - Location 344

Grand Canyon's origin requires a catastrophic explanation — a great inundation by water — as will be shown. Their stubborn refusal to recognize the history found in Genesis has resulted in a framework that will always end in confusion.

Oard - Location 791

it seems that no two geologists agree about any of the other details of its origin. 7

Observations

- There has been an enormous amount of erosion!

Oard - Location 627

Another unusual feature of the Grand Canyon area is that for about 15 miles (24 km) on the southeast edge of the Kaibab Plateau, erosion is extensive. Why would this side be eroded so heavily? One would have expected major erosion only on the southwest side, which there is. Another mystery is that the tributary streams of Marble Canyon enter the Colorado River at an obtuse angle to the southwest flow of the river. Normally, tributary streams enter at an acute angle.

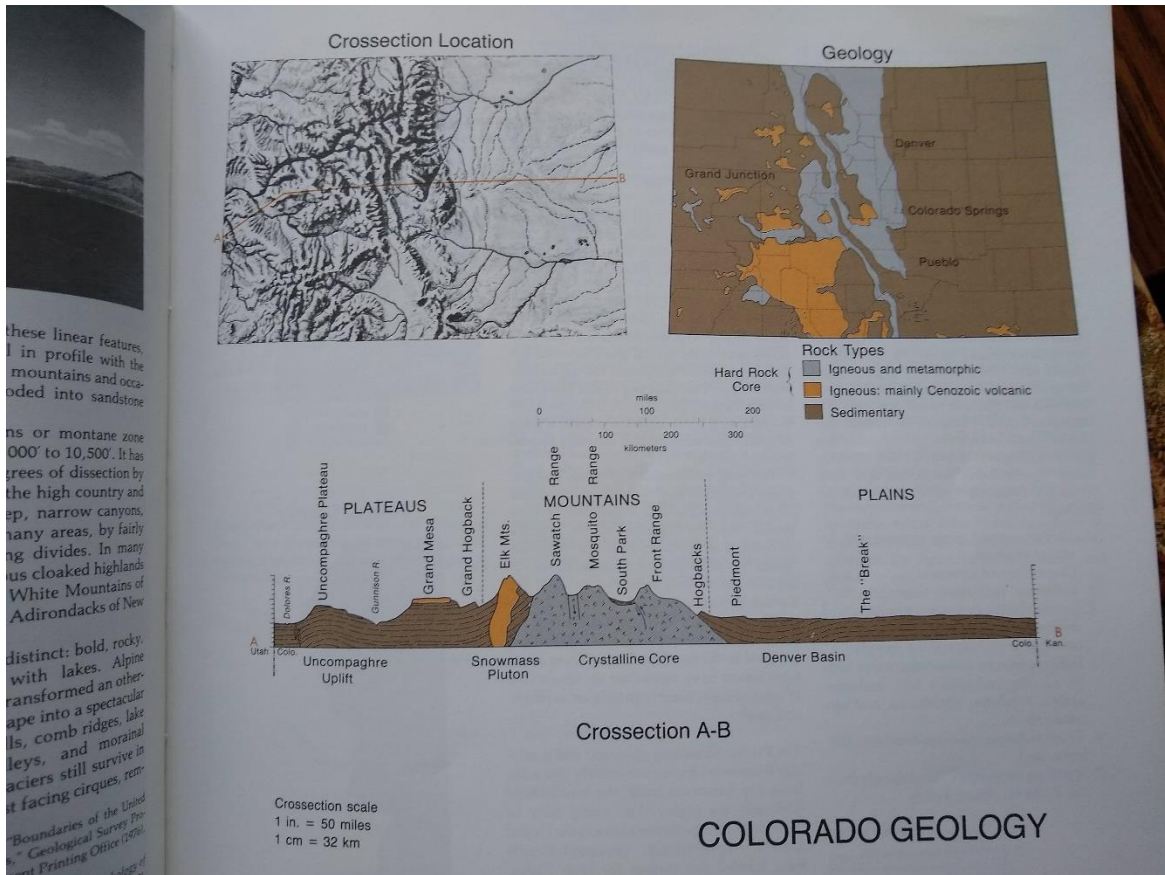
- No major fault along the course of the river, some faulting perpendicular (N-S) to the river. (Oard, Location 542)

- The Colorado river cuts through the Colorado plateau and the Kaibab Uplift/Upwarp!

- The Colorado River flows through many of the western states and makes a right turn and cuts (initially uphill) through the Kaibab Plateau (3,000 ft above the adjacent Marble Platform, which seems to be an unusual circumstance contrary to the laws of nature. (see Oard, Location 606)

- When did the Kaibab plateau uplift? The Uplift must have occurred before erosion!

- Laramide Orogeny – uplifted Rocky Mountains (and Colorado Plateau) – 70 million years ago (John Morris, The Young Earth, 2008, Master Books, Green Forest, AR, p. 92-93.)



Are Catastrophic Floods of that Scale Even Possible?

-Mt. St. Helens, Lake Bonneville, and Lake Missoula (forming the Channeled Scablands) are modern (accepted) examples of erosion carving large, vast canyons quickly.

-J Harlen Bretz – first started proposing water as the main agent for Washington, Oregon, Idaho topography

-Ice Age Glacial Dam – damming the Clark Ford river creating a lake and then a tremendous overflow.

-Because his ideas were too much like a flood of a Biblical proportions, he was ridiculed, mocked, and disregarded. (Evidence Overlooked!)

-1965 – secular scientists finally looked over all the evidence and went to sites and finally “became catastrophists”

-YOUR ASSUMPTIONS AND THEREFORE WORLDVIEW AFFECT YOUR CONCLUSIONS!

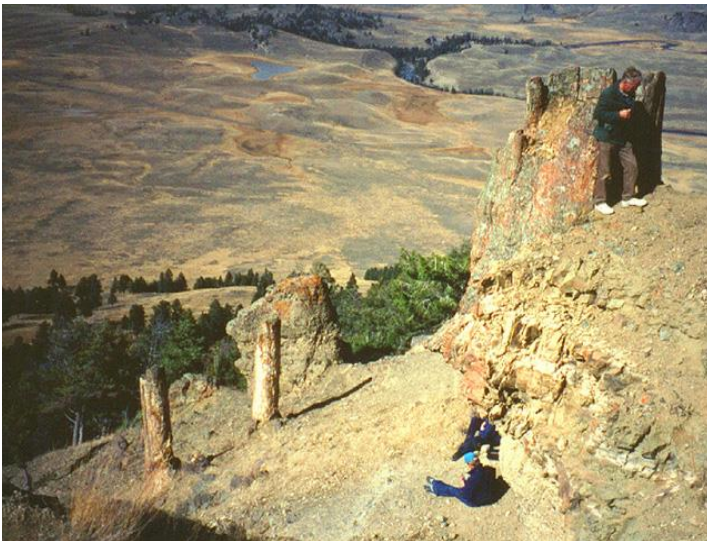
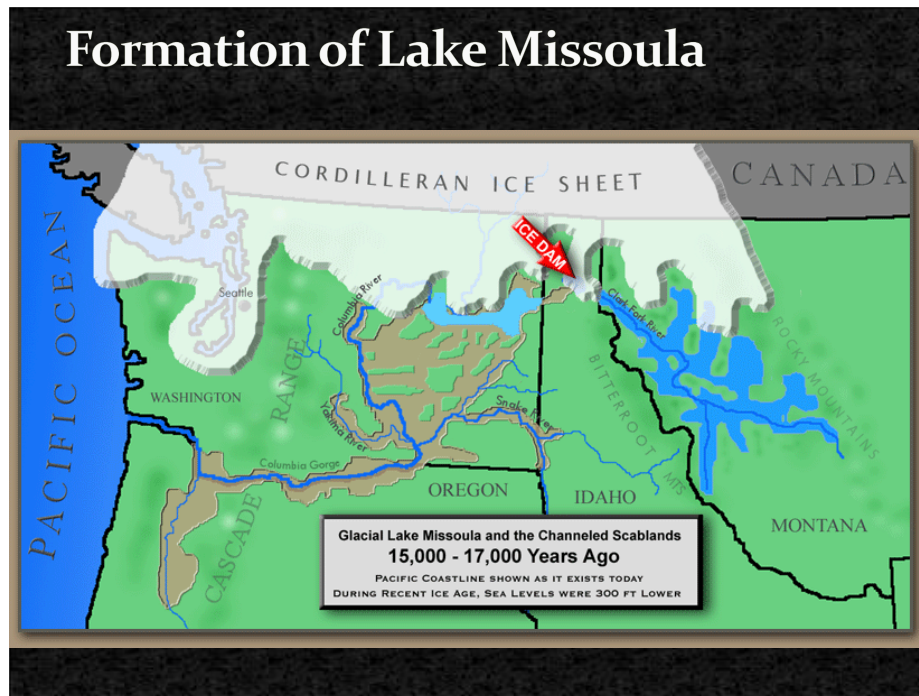
Oard - Location 2923

The reason uniformitarians see so much time is mainly a matter of training and expectations.

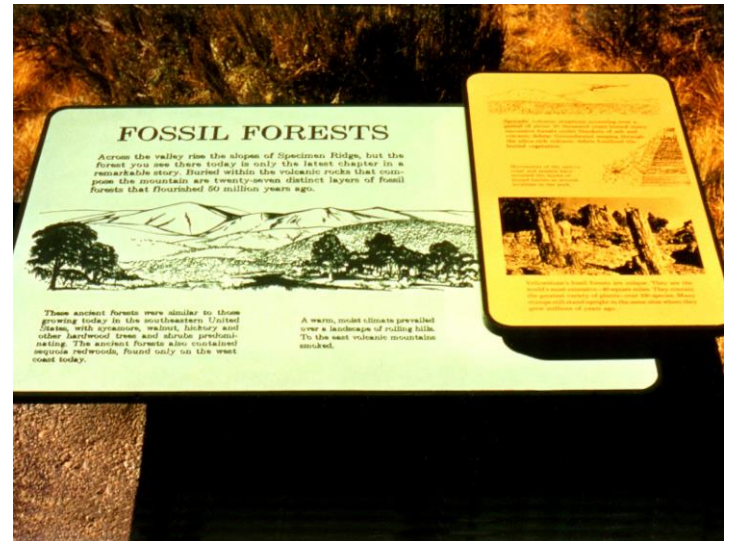
Oard - Location 2923

As noted by a number of scientists and philosophers, for instance sleep researcher William Dement and writer Christopher Vaughan, researchers will see only what they want to see, and will not see any evidence for a concept which they reject, like the Flood:

... even when they are looking, people usually see only what they expect to find and they do not see what they assume for whatever reason could not exist. 6



1



2

"I vividly remember the evening I attended an illustrated lecture on the famous sequence of fossil forests in Yellowstone National Park and then stayed up much of the night with a biologist friend of like mind, Joe Willey, first agonizing over, then finally accepting, the disturbing likelihood that the earth was at least thirty thousand years old..."

Ronald Numbers, *The Creationists*, 1992
Alfred Knopf, Inc., New York, p.16

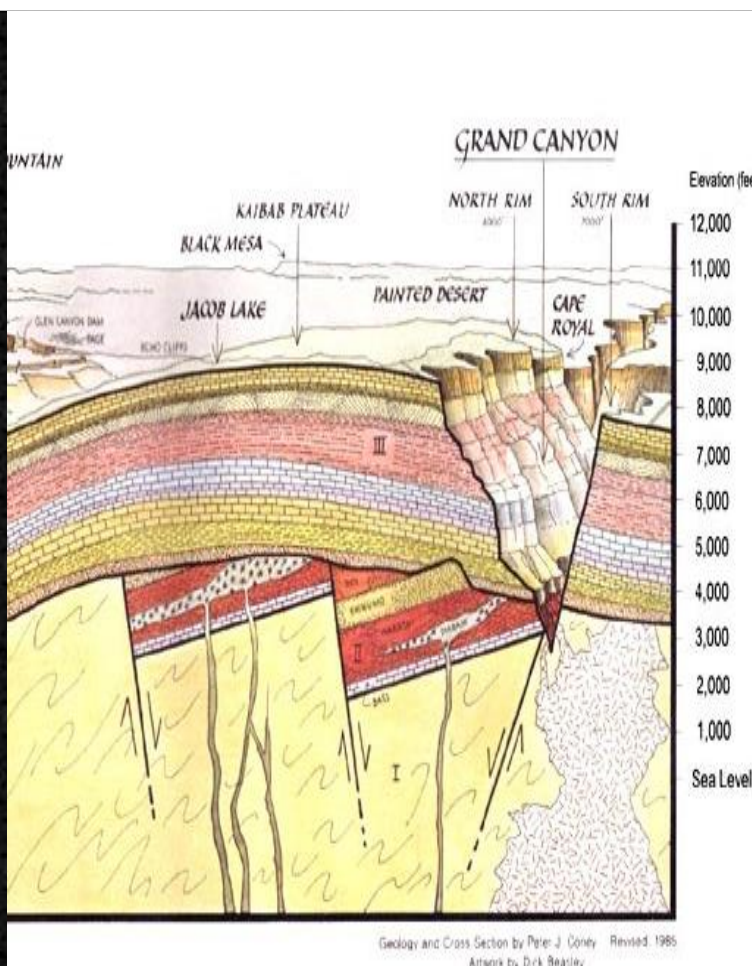
"...Having thus decided to follow science rather than Scripture on the subject of origins, I quickly, though not painlessly, slid down the proverbial slippery slope toward unbelief."

Ronald Numbers, *The Creationists*, 1992
Alfred Knopf, Inc., New York, p.16

3

4

Faulting in the Grand Canyon



Grand Canyon Forming and Eroding Review!!

Quickly Deposited, not Slowly Deposited

1. Flat Contacts – No Evidence of Erosion
2. Widespread and Flat
3. Transport over Long Distances
4. Cross Bedding and other Evidence of Quick Formation

Quickly Eroded, not Slowly Eroded

1. Steep Cliffs
2. Very Little Tallus
3. Barbed Side Canyons
4. U Shaped Canyons
5. Erosional Remnants

Radiometric (Radioisotope) Dating

-metamorphic and igneous rocks, fossils used to date sedimentary rocks

-“index fossils” – used to date the rocks - “but the age of a fossil is determined by the layer in which it is found.”

-Assumptions

- 1) starting quantities, ratios of parent and daughter
- 2) decay rates do not change
- 3) “closed” system – no leaching in or out

-Dave’s example of water and lead and other things through tight oil-shale rocks...etc

-Bad date examples

-Cardenas Basalt – 516 my – 1.6 by old

-Volcanic flow above – 1.3 by old

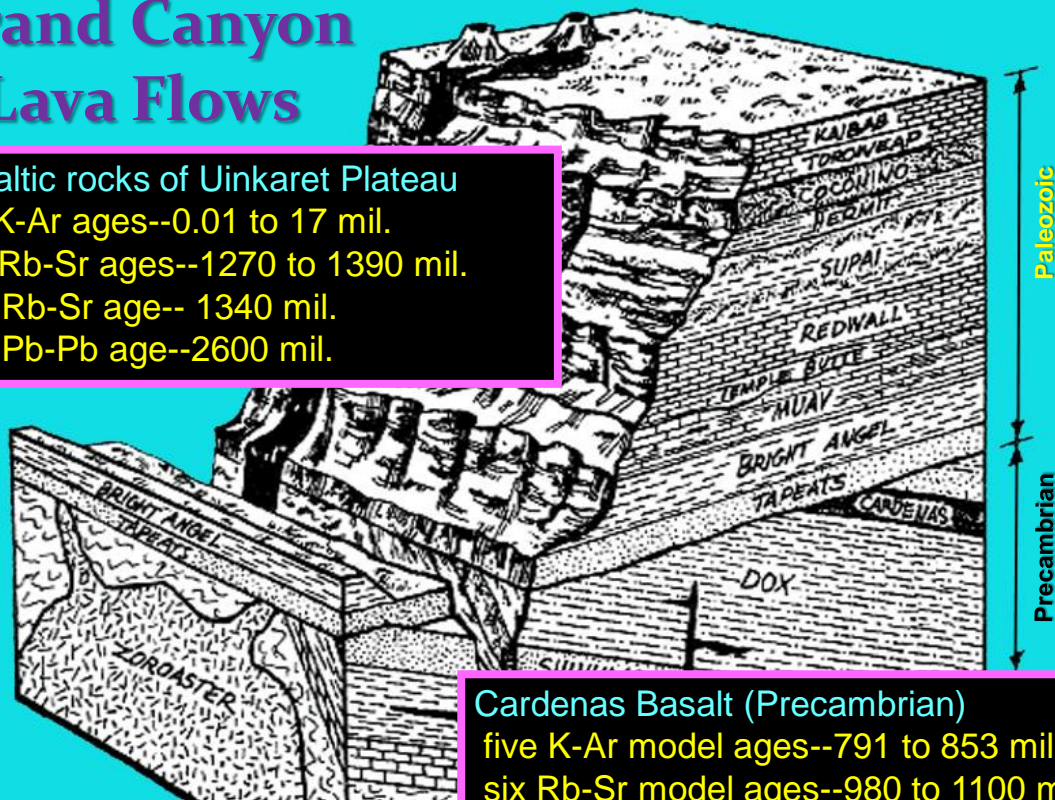
-Uinkaret Plateau – many volcanoes along this N-S fault

-Vulcan’s Throne – cinder cone on North Rim – formed lava flows that went into the Canyon and dammed the river till it eroded

-Lava flows can date usually Rb/Sr method as nearly the same (still flipped) – relates likely to same chemistry of the magma/lava

Grand Canyon Lava Flows

Basaltic rocks of Uinkaret Plateau
Six K-Ar ages--0.01 to 17 mil.
five Rb-Sr ages--1270 to 1390 mil.
one Rb-Sr age-- 1340 mil.
one Pb-Pb age--2600 mil.



Cardenas Basalt (Precambrian)
five K-Ar model ages--791 to 853 mil.
six Rb-Sr model ages--980 to 1100 mil.
one K-Ar isochron age--715 mil.
one Rb-Sr isochron age--1070 mil.

Steven A. Austin, Andrew A Snelling, DISCORDANT CARDENAS BASALT (MIDDLE PROTEROZOIC) AND ARIZONA, Presented at the Fourth International Conference, Pittsburgh, PA, August 3-8, 1998, http://www.icr.org/research/index/researchnp_sa_r03/, accessed October 3, 2010.

LOCATION	EXPECTED	MEASURED
Hualapai basalt	200 yrs.	1.6 my
Mt. Etna basalt	2,100 yrs.	.25 my
Mt. Etna basalt	29 yrs.	.35 my
Mt. Lassen basalt	85 yrs.	.11 my
Sunset Crater basalt	950 yrs.	.27 my
Kilauea basalt	<200 yrs.	21 my
Kilauea basalt	<1,000 yrs.	3 my
Kilauea basalt	<1,000 yrs.	30 my
Kilauea Iki basalt	40 yrs.	8.5 my
Mt. Stromboli	38 yrs.	2.4 my
Hualalai basalt	200 yrs.	22.8 my
Rangitoto basalt	<800 yrs.	15 my
Mt. Erebus	17 yrs.	1.6 my
Mt. Etna basalt	37 yrs.	.7 my
Medicine Lake obsidian	<500 yrs.	12.6 my

Historical volcanos that have extruded “datable” lavas. When dated by the standard technique, all date millions of years older than their actual ages.²⁸

Fossils

“The fossil record, as held in all the world’s major museums, government organisations, universities and private collections, now tallies close to **a billion fossil specimens.**”

Long, J. & Schouten, P. (2008). Feathered Dinosaurs: The Origin of Birds. New York: Oxford University Press, Inc. p. 2.



What’s the Evidence – regarding fossils?

1,000,000,000 + Fossils

~750,000,000	Invertebrates
~500,000	Fish
~200,000	Birds
~100,000	Dinosaurs (3,000 Full!)
~100,000	Turtles
~75,000	Horses
~5,000	Seals
~4,000	Whales
~1,000	Bats
~1,000	Pterosaurs
~1,000,000	Plants
~1,000,000	Insects

Werner, Dr. Carl (2014-04-01). Evolution: The Grand Experiment (3rd Edition) (Kindle Locations 4136-4254). New Leaf Press. Kindle Edition. More specific references in notes section of this slide.

200,000 Trilobite fossils – complex, compound eyes

1. Complexity Everywhere
2. Same as Today
3. No Transitions

Are Fossils in order according to the Evolutionary Theory???

- “Perhaps most astonishingly, [pollen fossils](#)—evidence of flowering plants—were found in the Precambrian strata. According to evolutionists, flowering plants first evolved 160 mya, but the Precambrian strata is older than 550 mya.
- Dinosaurs are supposed to have evolved into birds. But [Confuciusornis](#) was a true beaked bird that predates the ‘feathered’ dinosaurs that it allegedly came from. It also has been found in the [stomach of a dinosaur](#).
- [Grass](#) which has been found in fossilized dinosaur coprolites (fossilized dung). But grass is not supposed to have evolved until at least 10 million years after the dinosaurs went extinct.
- A dog-like mammal fossil was found with remains of [dinosaurs in its stomach](#)—but no mammals large enough to prey on dinosaurs were supposed to exist alongside them.
- A [mammal hair was found in amber](#) supposed 100 million years old. Once again, this is smack in the middle of the alleged ‘age of dinosaurs’ when no such mammals existed.”

Excerpt taken from "Are there out-of-sequence fossils that are problematic for evolution?" by [Gary Bates](#) and [Lita Cosner](#)

To Read More, Continue here: <http://creation.com/fossils-out-of-order>

Plants and Insects in layers 400 million years older than they should be in:

<https://www.youtube.com/watch?v=fSqMqSiiKIO>

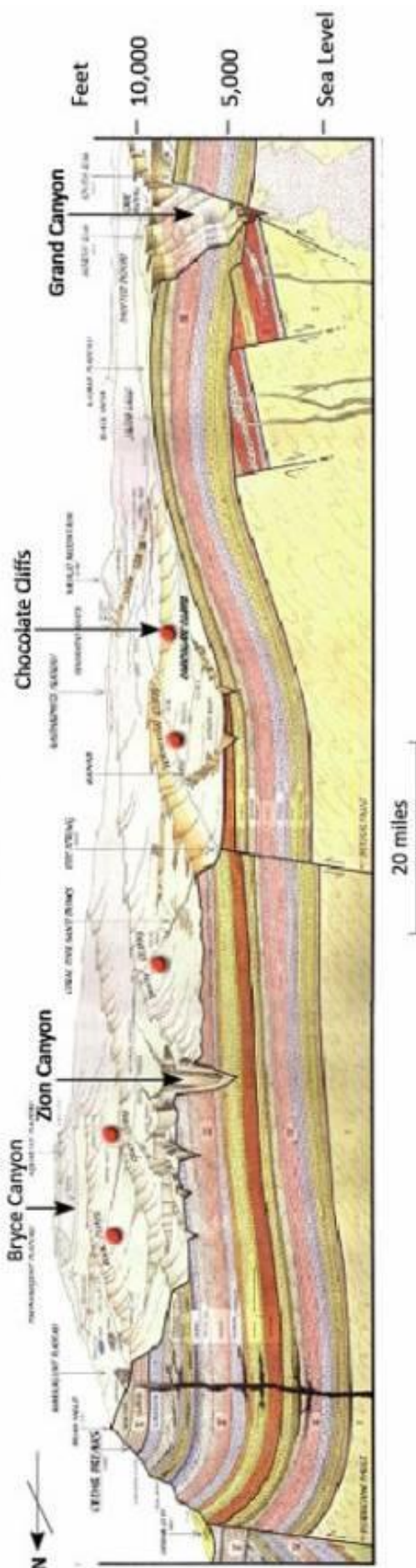
Similar Layer Sequences – Worldwide:

“Correlation of rock units between non-adjointing Precambrian terranes has primarily depended upon lithological similarities. For example, granite-greenstone belt terranes are typical of, and are confined to, the Precambrian shields in every continent. These can be demonstrated to be the basement to other adjoining and nearby Precambrian terranes, making these granite-greenstone belt terranes the first-formed and oldest rock unit sequences in the Precambrian geologic record. Thus, it seems eminently reasonable to equate all these granite-greenstone belt terranes worldwide as belonging to the same section of the Precambrian geologic column. Another example of similar lithology used for correlation among Precambrian terranes are the highly distinctive, banded-iron formations that are found in the Hamersley Basin of Western Australia, the Transvaal Group of South Africa, and the Mesabi Iron Range of northern Minnesota, for example, all in rock unit sequences overlying granite-greenstone belt terranes.

Further up the Precambrian geologic column are rock units with a scattered worldwide occurrence called *diamictites*, which contain large angular boulders and rock fragments supported in a very fine matrix. These have been conventionally interpreted as evidence of globally widespread glaciation, but which could all reasonably be interpreted as the result of submarine debris flows. Again such a correlation worldwide is quite logical and proves to have useful ramifications. Furthermore, such a global correlation of these diamictite units in the Precambrian does have a precedent in the Cambrian-Recent part of the geologic column, where there are similar diamictite units, for example, in Permian rock sequences.”

-Snelling, p. 324-325.

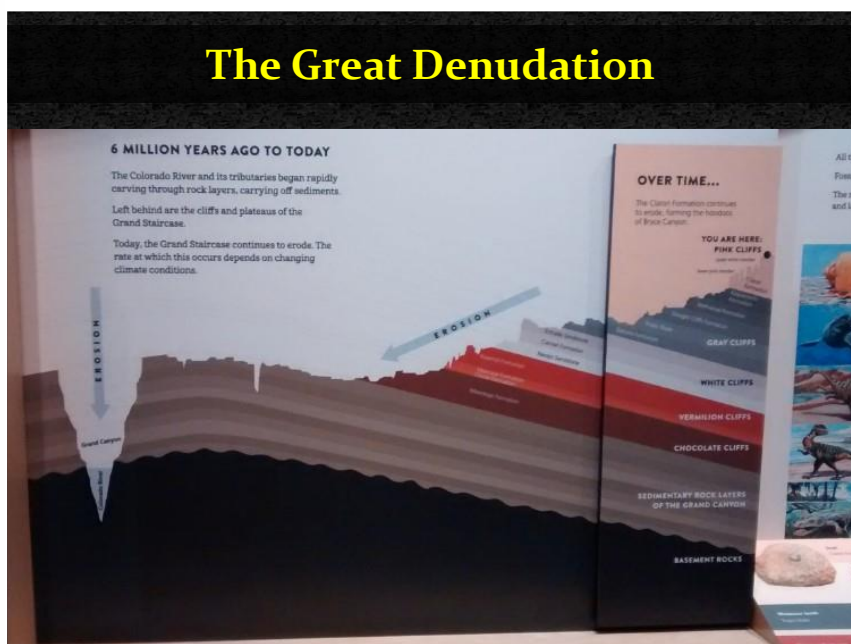
The Grand Staircase



Great Denudation – Grand Staircase

- **Missing Layers on Top** – This area is one huge planation surface with 6,000 – 10,000 ft (1-2 miles of sedimentary rock removed above the Grand Canyon (and from off of much of the Colorado Plateau)! (Oard, Location 301)
 - Picture the Grand Canyon being filled in – What a huge flat surface!
 - Red Butte is an erosional remnant that stand as evidence that there were many layers washed off the top of the Grand Canyon.
 - “The eroded sediments are estimated to have had a total volume 100 times that of the rock removed from Grand Canyon itself!” (Oard - Location 2277)
 - We don’t see this scale of horizontal erosion happening today.
 - “A little bit of water over a long time” – that means meandering rivers have to meander entire regions eroding it down without getting trapped in their own canyons. Long-age geology “has no mechanism for such massive horizontal erosion and subsequent removal of the sediments.”
 - “It is claimed that portions of the Canadian Shield experienced about 5,000 m of erosion mostly during the Neoproterozoic, deduced from the exposure of the lower portion of the Sudbury Impact Structure in Ontario, Canada.”
- (Michael J. Oard, March 11, 2022, <https://creation.com/snowball-earth-and-great-unconformity>, accessed March 17, 2022.)

The Great Denudation



Oard - Location 2317

If we closely follow what Crickmay is saying, we see that the hard volcanic rock of the Aquarius Plateau eroded first, exposing the soft strata of the Wasatch Formation (now the Claron Formation). Then about 4,000 ft (1.21 km) of strata below and south of the Claron Formation, capping the top of the Table Cliffs Plateau, was eroded forming the other stairs of the Grand Staircase. During all this time, the soft Claron Formation, capping the Table Cliffs Plateau, was hardly eroded at all. **If the erosion occurred over millions of years, the soft Claron Formation would also have been greatly eroded after the overlying lava was eroded.** Erosion should be greater at higher elevations of the Table Cliffs Plateau, since precipitation is higher and erosion greater at high elevations. Figure 6.9 illustrates the huge contrast in erosion as seen by Crickmay. **The only way such an erosional pattern can occur is if erosion of the lava happened rapidly, not over many tens of millions of years as envisioned by uniformitarian geologists. This implies that the entire Grand Staircase was eroded rapidly.**

Oard - Location 2330

This erosion must have been rapid, or else Navajo Mountain would not be left standing nearly as tall, since mountains erode much faster than does a rolling plateau.

Oard - Location 2393

Force - Fitting the Great Denudation to Uniformitarianism Although uniformitarian geologists cannot explain the Great Denudation, they still attempt to explain it by the erosion of lazy streams flowing toward the northeast. 4,16 But the idea that streams caused the Great Denudation is pure speculation, and poor speculation at that. Streams and rivers today cut downward and, even when they migrate laterally, they do not plane off a broad area. Why would streams first horizontally strip away a broad swath of sediments and then suddenly begin to cut canyons?

Coconino Sandstone (275 mya)

-Bath-tub ring of the Grand Canyon

- 375-650 ft thick (up to 1000 ft thick to the south)
- Cross-bedding created from old windblown sand dunes (Uniformitarian Geology) – pure quartz sand
- There is also cross-bedding in conglomerate with pebble sized pieces in other places.
 - Water-dunes in Coconino
 - Dry sand dunes – 33-34 degrees
 - Underwater sand dunes – 25 degrees or less
 - sand quality more matches underwater formation
 - rounded sand grains
 - tracks of drifting amphibians (salamanders) – by research
 - Critter swept sideways – toes turned with respect to the direction of the tracks

Trackways



-We so often find footprints before the creatures that made them above. (worldwide tendency from Grand Canyon: Monument to Catastrophe, p. 150)

“Numerous vertebrate trackways have been described in Grand Canyon strata, but **no vertebrate-body fossils of these trackmakers have been reported in Grand Canyon.** This observation would seem to be at odds with the uniformitarian view of Grand Canyon strata. If the strata represent many geologic ages, we would expect the highest probability of vertebrate body fossils in the strata deposited during the life and death of these vertebrates. Those strata containing trackways should contain the corresponding body fossils.

Leonard Brand surveyed the geologic literature, and documented the worldwide tendency for body fossils of amphibians and reptiles to occur in strata above their trackways. A flood model was suggested by Brand to explain these data. He proposed that the trackways were made in actively forming sediments, and that they were buried and preserved immediately after they were made. The animals continued to live, and escaped burial in the same layers as their footprints. If an animal died, its bloated body would tend to float. A dead animal would, therefore, be carried away, and have a higher probability of being fossilized in strata above its footprints.”

-Austin, p. 150.

-No fossils other than invertebrate tracks, fossilized burrows, raindrop

-impressions, footprints preserved on backside of the dune

-trackways often stop and continue to the side (like being swept up and transported sideways)

-Amphibian and Reptile Trackways going uphill on slopes, they begin and end abruptly, like “fighting” a current.

-footprints scientifically studied and depth and style of impressions match underwater moving uphill

Trackways

Drifting Trackways

- No fossils other than invertebrate tracks, fossilized burrows, raindrop impressions, and amphibian tracks.
- Footprints preserved on backside of the dune.
- Toes turned with respect to the direction of the tracks.
- Trackways often stop and continue to the side (like being swept up and transported sideways)

Patterns in the Burial Order of Fossils

Trilobite trails in the Tapeats



Fossil trilobite higher in the Bright Angel/Tapeats transition zone

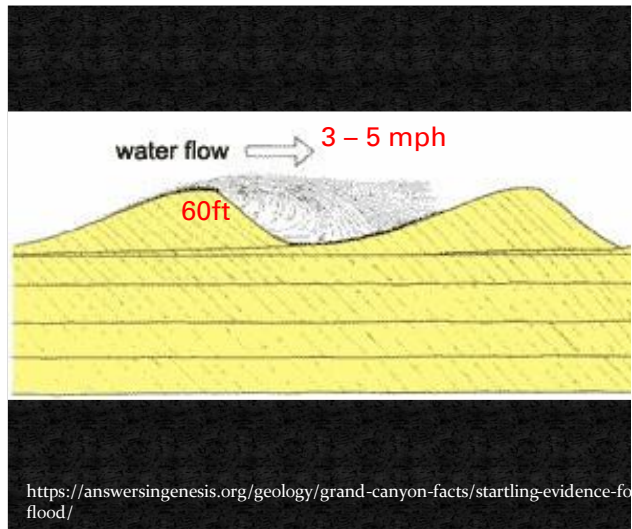
Tracks Before Creatures- a Worldwide Tendency

- The angles of the cross-bedding show the direction of deposition.
- From North like most other sandstones on the Colorado Plateau
- Similar patterns currently found in delta deposits laid down by currents
 - Empirical test – San Francisco Bay and laboratory experiments
 - Water velocities and depth of water can be correlated

- Cross-beds are usually half the height of the original sand wave
 - In Australia, Crossbeds 50' high – means original wave is 100' high

Source of the sand in Coconino and for Navajo (from Appalachians (formed at the beginning of the flood))

-Flow – NE/E to SW/W



"The **thickest sets of cross beds** in the Coconino Sandstone so far reported are **30 feet (9 metres)** thick. **16** Cross beds of that height imply **sand waves at least 60 feet (18 metres) high and a water depth of around 300 feet (between 90 and 95 metres)**. For water that deep to make and move sand waves as high as 60 feet (18 metres) the minimum current velocity would need to be over 3 feet per second (95 centimetres per second) or 2 miles per hour. The maximum current velocity would have been almost 5.5 feet per second (165 cm or 1.65 metres per second) or 3.75 miles per hour. Beyond that velocity experimental and observational evidence has shown that flat sand beds only would be formed."

Snelling, Andrew A. and Austin, Steve, Startling Evidence for Noah's Flood, December 1, 1991, Answers in Genesis, <https://answersingenesis.org/geology/grandcanyon-facts/startling-evidence-for-noahs-flood/>, accessed May 1, 2017.

In Australia, Crossbeds 50' high – means original wave is 100' high

Moving Sand

"...Now to have transported in such deep water the volume of sand that now makes up the Coconino Sandstone these current velocities would have to have been sustained in the one direction perhaps **for days**. Modern tides and normal ocean currents do not have these velocities in the open **ocean...Thus catastrophic events [tsunamis] provide the only mechanism**, which can produce high velocity ocean currents over a wide area."

Snelling, Andrew A. and Austin, Steve, Startling Evidence for Noah's Flood, December 1, 1991, Answers in Genesis, <https://answersingenesis.org/geology/grandcanyon-facts/startling-evidence-for-noahs-flood/>, accessed May 1, 2017.

Moving Sand

“Yet the evidence is overwhelming that the water was flowing in one direction. More than half a million measurements have been collected from 15,615 North American localities, recording water current direction indicators throughout the geologic record. The evidence indicates that water moved sediments across the entire continent, from the east and northeast to the west and southwest throughout the so-called Paleozoic. (6) This general pattern continued on up into the Mesozoic, when the Navajo Sandstone was deposited. How could water be flowing across the North American continent consistently for hundreds of millions of years? Absolutely impossible!”

Ham, Ken . The Global Flood: A biblical and scientific look at the catastrophe that changed the earth (Answers in Genesis Pocket Guides) . Answers in Genesis S. Kindle Edition.

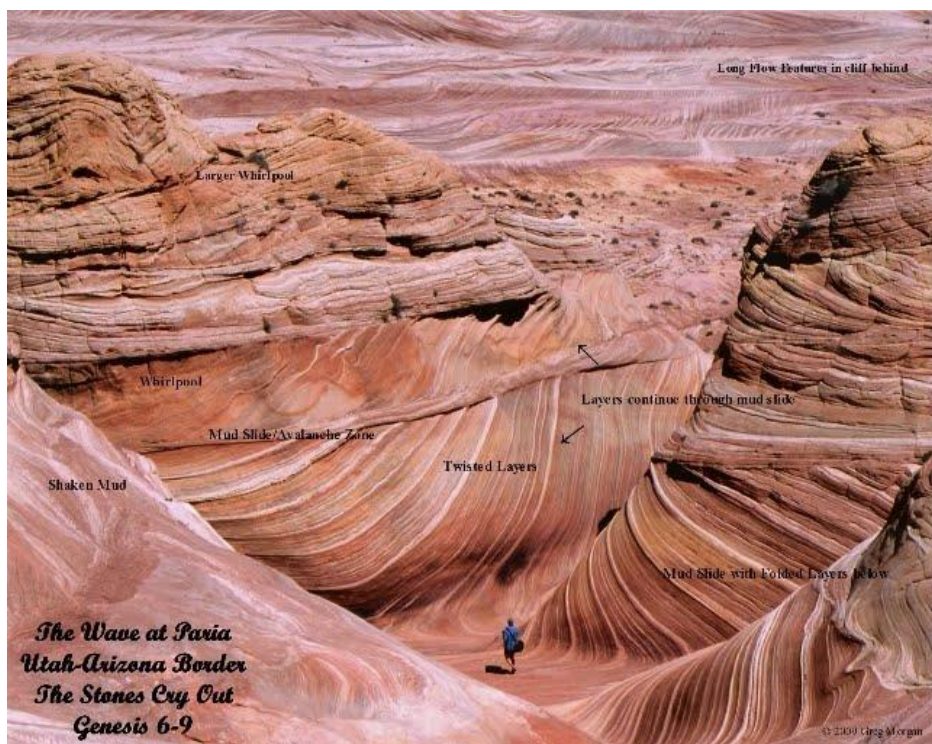
6) A.V. Chadwick, “Megatrends in North American Paleocurrents,” <http://origins.swau.edu/papers/global/paleocurrents/default.html>, 2007.

“Just how large were these water currents, leaving behind huge “waves” preserved in stone? The cliffs behind the Wave show flow patterns that stretch for 5 miles (8 km). And the Wave is only a small part of the White Cliffs, which form the next step of the Grand Staircase, just above the Vermillion Cliffs. The White Cliffs are actually part of an even larger layer of sandstone, known as Navajo Sandstone, which extends throughout the Southwest portion of the United States, covering at least 135,000 square miles (350,000 sq. km), or about 370 miles by 370 miles (600 km by 600 km).”

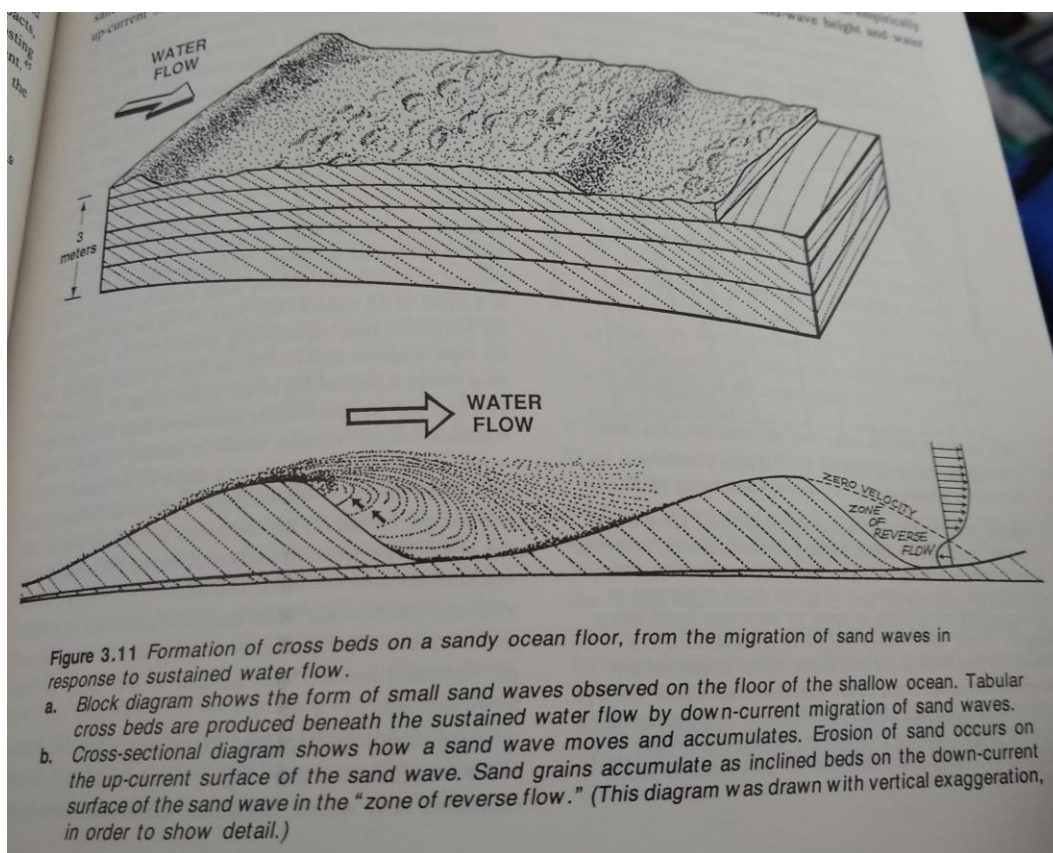


Greg Morgan, Flood Currents Frozen in Stone, January 1, 2012, Answers in Genesis,

<https://answersingenesis.org/geology/sedimentation/flood-currents-frozen-in-stone/>, accessed October 12, 2017.



<http://gregmorgan123.blogspot.com/>



- Dry sand dunes – 33-34 degrees
- Underwater sand dunes – 25 degrees or less
- Smaller angles have been measured in Coconino, Navajo, and Wingate Sandstones
- There is also cross-bedding in conglomerate with pebble sized pieces in other places.

Figure 3.11 Formation of cross beds on a sandy ocean floor, from the migration of sand waves in response to sustained water flow.

- Sand quality (rounded sand grains) matches underwater formation

Source of Sand?

“A natural question to ask is, “From where did the sand come, which forms Grand Canyon sandstones?” We recognize that quartz and feldspar grains, which constitutes most of the Grand Canyon sandstones, could not have been precipitated from water. **These grains were derived by erosion of crystalline basement rocks (granite, gneiss, or schist), or by reworking from earlier sand deposits. These two sources of grains need to be evaluated for Grand Canyon formations.**”

Source: *Grand Canyon: Monument to Catastrophe* by Steven Austin, p. 35.

Source of Sand?

“In the case of the Tapeats Sandstone in Grand Canyon, grains appear to have been derived from both sources. This sandstone rests directly, with erosional contact, on crystalline basement (Zoroaster granites and gneisses of the Vishnu Group) and beveled sandstones (Nankoweap, Dox, and other sandy formations). **We can visualize deep erosion to both the crystalline and sedimentary rocks as being especially dominant near the beginning of the Flood.** Such erosive processes would create great sources of sand grains. The mechanics of erosion and deposition of the Tapeats Sandstone is...”

Source: *Grand Canyon: Monument to Catastrophe* by Steven Austin, p. 35.

-Secular science assumes it to be a Desert sand deposit

-A desert sand dune invalidates the Flood model – you can't have a dry desert for a long enough time during a worldwide flood!

Oard - Location 3238

Another strange feature of the Coconino Sandstone, if it really were a wind - blown deposit, is that the paleocurrent directions point strongly toward the south. 18 Some have considered such features to be indicative of underwater deposition. 19 Furthermore, the direction of transport is the same as the general transport of practically all the supposed eolian sandstones on the Colorado Plateau. 11,20 Such consistent directions over a supposedly 100 - million - year period make little sense for an eolian origin. Why wouldn't there have been changes in wind direction, toward the north for instance, which resulted in some dunes showing a northerly direction of transport?

-Layer above it: Toroweap Limestone - a marine deposit

-“How could marine waters spread over a desert realistically produce such a flat upper contact over such a large area?”

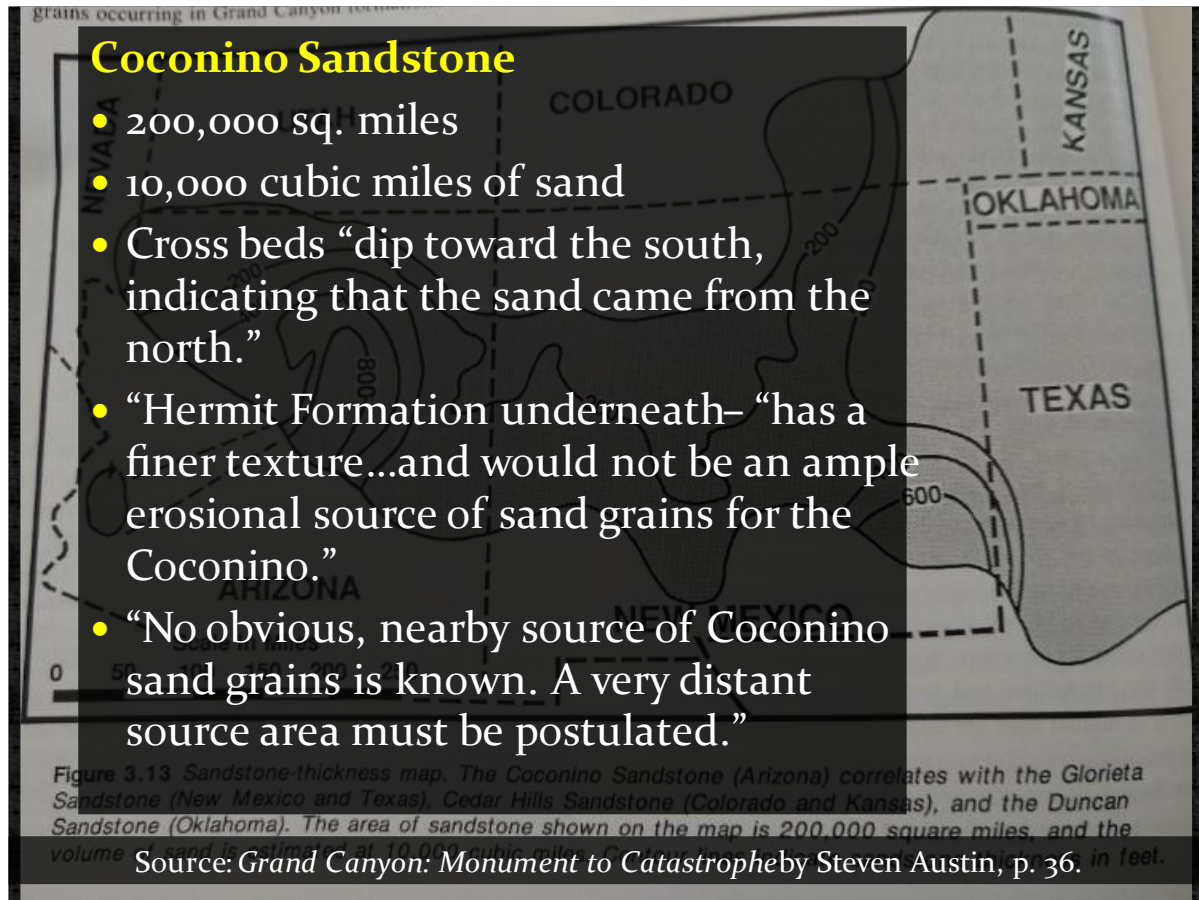
-In some places, the desert and marine environment interfinger – how can they interfinger?

-Coconino Sandstone: Supposed Desert Sand Dune

-Layer below it: Hermit Shale– migrating beach dunes would not form flat layers and no modern desert has such a flat lower surface

-“If the delta was uplifted to host a desert, it would have undergone extensive erosion, but the flatness of the contact between the strata belies this interpretation.” (Global Flood, p. 120)

-no erosion features at contact



-Widespread – “can be traced eastward into Texas, Oklahoma, and Kansas. There are about 10,000 cubic miles of almost pure sand spread over an area of about 200,000 square miles.”

-Glorietta Sandstone in NM and TX, Cedar Hills Sandstone in CO and KS, and Duncan Sandstone in OK

-named in each location before they knew it was the same

-connected to Navajo???

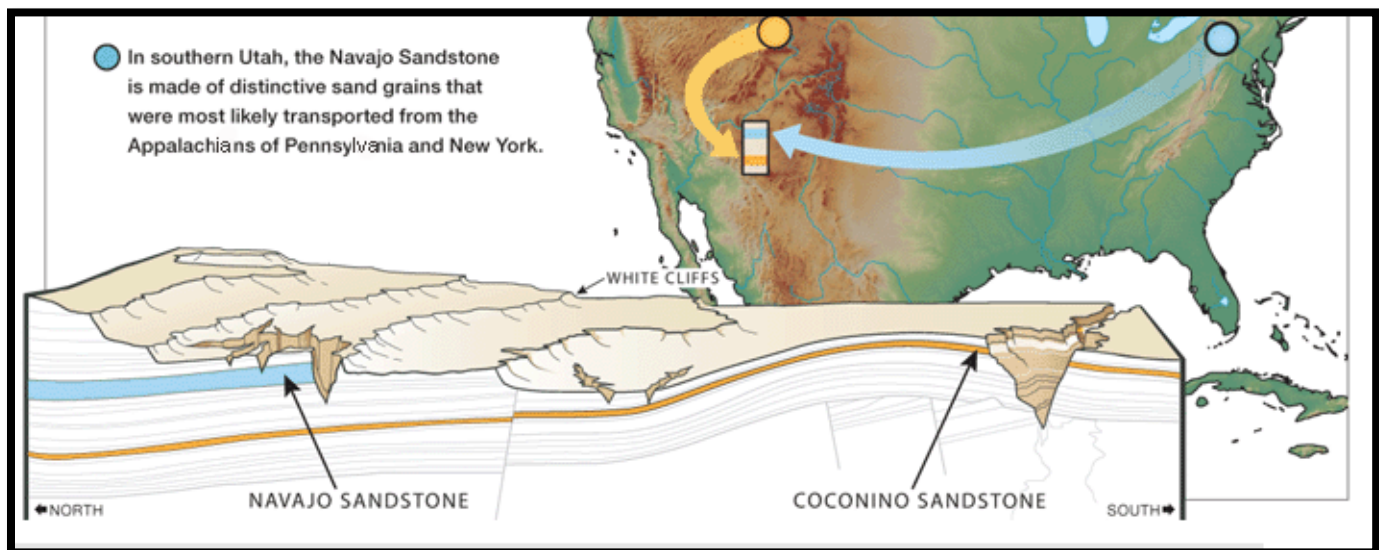
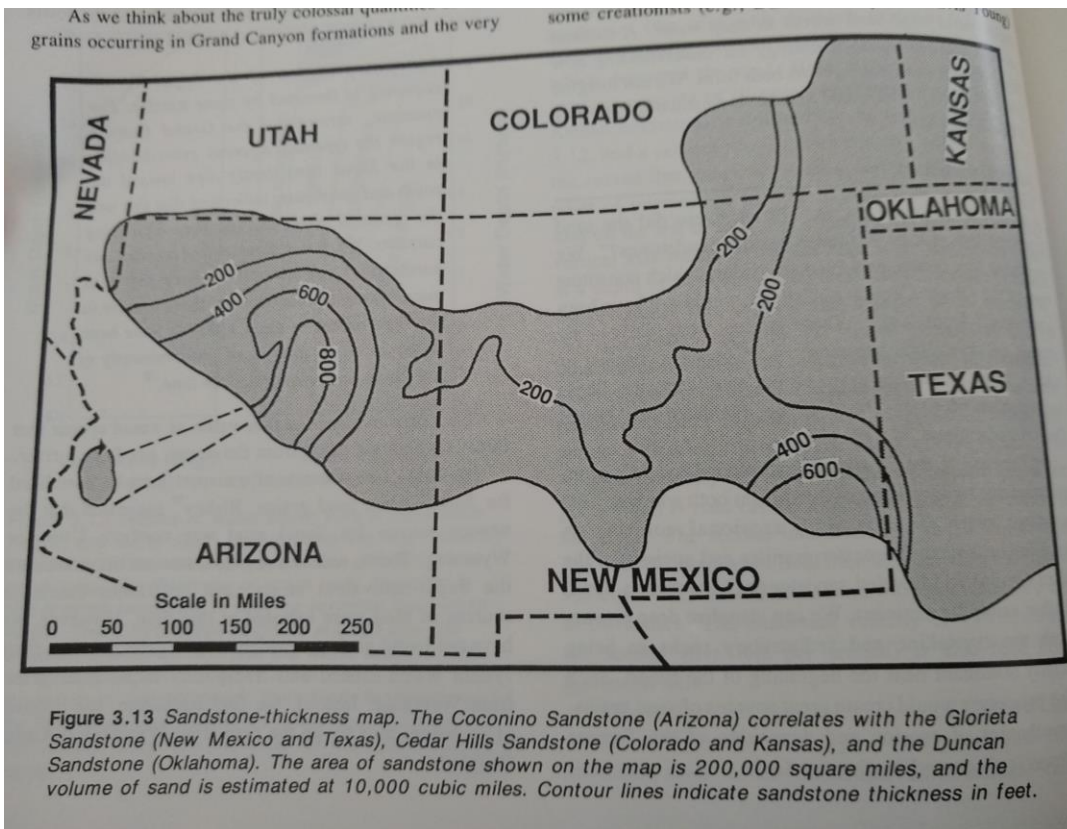
“The source of the Coconino Sandstone presents a similar problem. Figure 3.13 shows that the Coconino Sandstone is part of a vast blanket of sand extending eastward from Arizona into New Mexico, Colorado, Kansas, Oklahoma, and Texas. Drill data obtained by the oil industry has helped produce this map. The map area underlain by the Coconino and its correlating sandstones is 200,000 square miles, and the sand volume is estimated at 10,000 cubic miles! That’s a colossal quantity of sand distributed over an incredibly extensive area. Cross beds within the Coconino Sandstone (and the Glorieta Sandstone of New Mexico and Texas) dip toward the south, indicating that the sand came from the north. Along its northern occurrence, the Coconino rests directly on the Hermit Formation. This formation has a finer texture than the Coconino and would not be an ample erosional source of sand grains for the Coconino.

Thus, we cannot look *underneath* the Coconino for a colossal quantity of sand, we must look *northward*. However, in Southern Utah, where the Coconino thins to zero, the underlying Hermit Formation (and its lateral equivalent, the Organ Rock Shale) continues northward. No obvious, nearby source of Coconino sand grains is known. A very distant source area must be postulated.

As we think about the truly colossal quantities of sand grains occurring in Grand Canyon formations and the very distant source areas for those grains, we come to consider the Flood as an excellent mechanism for distributing those

grains. A flood model for catastrophic, interregional erosion, transport, and sedimentation explains the evidences for long distances of sediment transport better than uniformitarian models of river erosion, transport and sedimentation.”

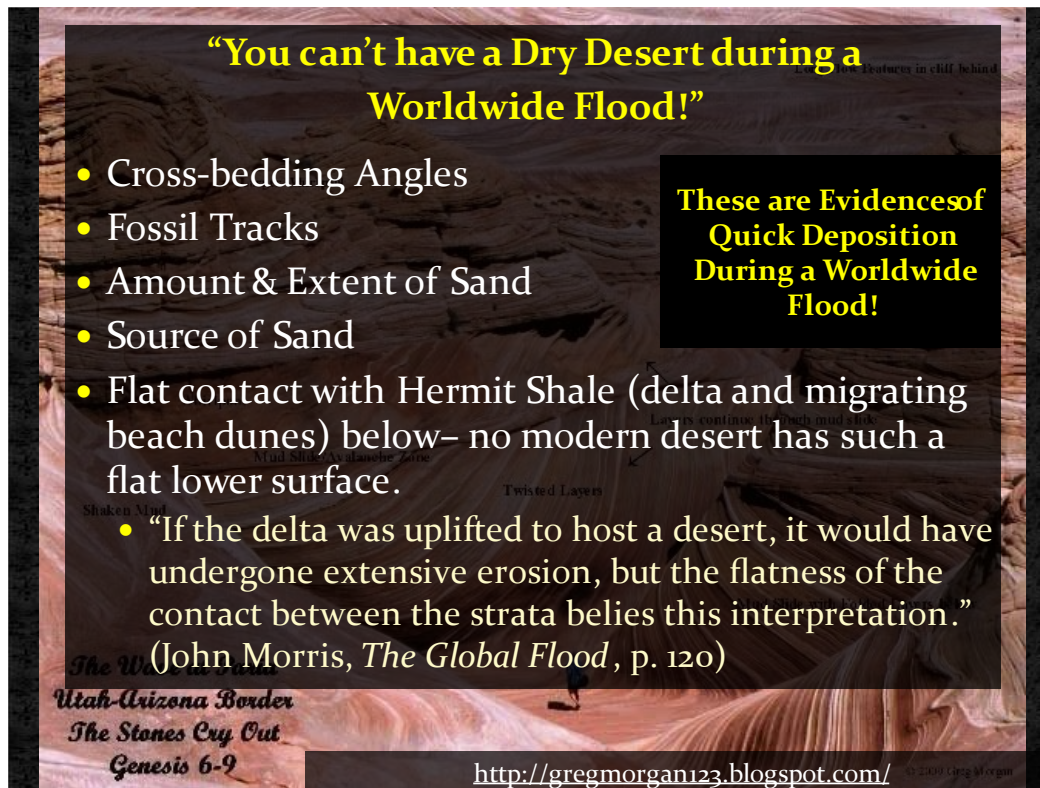
Austin, p. 36.



The sediments in the strata had to come from distant sources and this is what we find it is a global flood. - Navajo sandstone of Southern Utah – Zion National Park. High above Kaibab Limestone – rim rock of GC. Like IGC sandstones it is a pure quartz sand – white. Also contains sand “waves”. Within this sandstone – we have grains of the mineral Zircon. These grains help us to locate source. From Appalachians of PA & NY and also farther north in Canada. Zircon, which is relatively easy to trace to its source because zircon usually contains radioactive uranium.

By “dating” these zircon grains, using the uranium-lead (U-Pb) radioactive method, it has been postulated that the sand grains in the Navajo Sandstone came from the Appalachians of Pennsylvania and New York, and from former mountains further north in Canada. **If true, transported 1250 miles** (citation Loc 745) Diagram at this location as well. **This discovery poses problems – no known geologic protests in uniformitarianism. Their solution – transcontinental river, but it could not have lasted millions of years.**

Citation - J.M. Rahl, P.W. Reiners, I.H. Campbell, S. Nicolescu, and C.M. Allen, “Combined Single-Grain (U-Th)/He and U/Pb Dating of Detrital Zircons from the Navajo Sandstone, Utah,” *Geology* 31.9 (2003): 761–764; S.R. Dickinson and G.E. Gehrels, “U-Pb Ages of Detrital Zircons from Permian and Jurassic Eolian Sandstones of the Colorado Plateau, USA: Paleogeographic Implications,” *Sedimentary Geology* 163 (2003): 29–66.



“You can’t have a Dry Desert during a Worldwide Flood!”

- Cross-bedding Angles
- Fossil Tracks
- Amount & Extent of Sand
- Source of Sand
- Flat contact with Hermit Shale (delta and migrating beach dunes) below– no modern desert has such a flat lower surface.
 - “If the delta was uplifted to host a desert, it would have undergone extensive erosion, but the flatness of the contact between the strata belies this interpretation.” (John Morris, *The Global Flood*, p. 120)

These are Evidences of Quick Deposition During a Worldwide Flood!

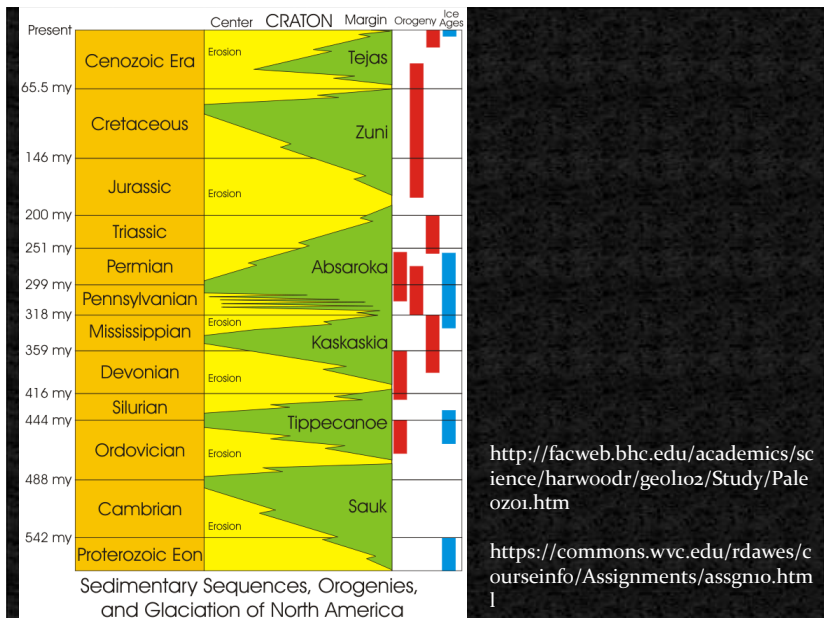
The World as We Know It
Utah-Arizona Border
The Stones Cry Out
Genesis 6-9

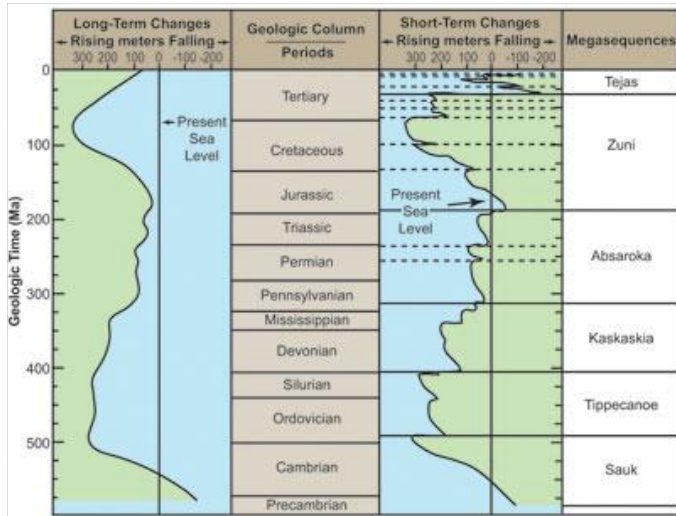
<http://gregmorgan123.blogspot.com/>

Oard - Location 3207

No desert today has such a flat lower contact. And, if marine waters inundated a desert, the upper contact would not be flat either. In fact, much of the sand would have been eroded and re-deposited in a marine environment. Such flat contacts are obvious evidence that the Coconino Sandstone was laid down in water. It is difficult to imagine even a make-believe environment where such flat contacts over large areas could form above and below desert sand.

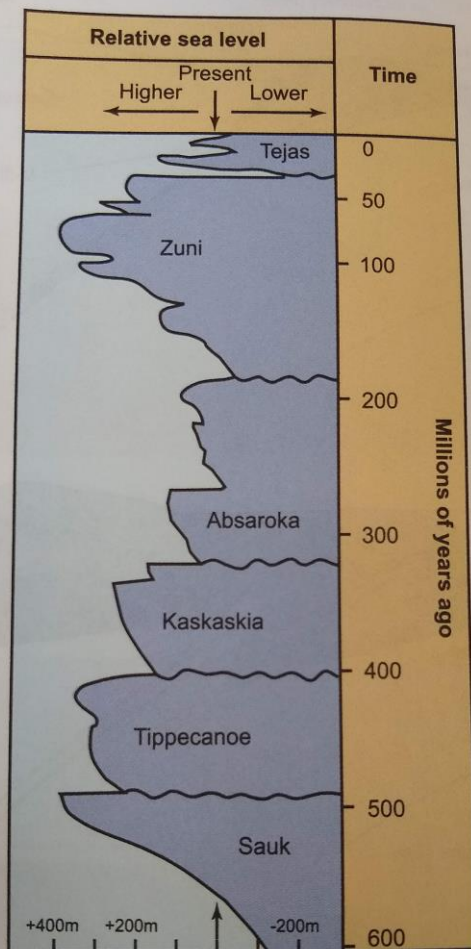
Rock Layers Cover a Large Part of the Earth





Sea level changes over geologic "time," with transgressions swinging to the left and regressions back to the right. Notice that the sea level changes ignore geologic periods but define the megasequences. Modified after Sloss and Vail.²

<http://www.icer.org/article/d raining-floodwaters-geologic-evidence/>



~~~~~ = Widespread unconformity

**Figure 38.** Variations in global relative sea level as reflected in the sedimentary record, showing the six named unconformity-bounded megasequences of the geologic record, representing major sedimentary depositional cycles and sequences.

“On the short term, the level of the sea rises and falls, whether lunar orbitally-induced or regionally weather-related. **Sea level also possesses a long-term oscillation that typically lasts hundreds of millions of years, related to celestial parameters (that trigger glaciation cycles) and planetary tectonic events (that change the holding capacity of ocean basins).**”

“Six times in the Phanerozoic, the level of the sea substantially rose and fell, flooding low-lying regions of the continents globally. With each landward advance (transgression) and withdrawal (regression), the seas deposited continental-scale, unconformity-bounded, sedimentary sequences. Centered on the Cambrian, the earliest was the Sauk sequence from the latest Proterozoic through the early Ordovician.”

[http://written-in-stone-seen-through-my-lens.blogspot.com/2014\\_01\\_01\\_archive.html](http://written-in-stone-seen-through-my-lens.blogspot.com/2014_01_01_archive.html)

1

## Genesis 8:3

And the waters **returned** from off the earth **continually**: and after the end of the hundred and fifty days the waters were abated.

2

- “The next two Hebrew words, *halôkh vashûbh*, provide a verbal picture of the draining waters swaying in a rhythmic mega-wave movement. Although the King James Version translates this two-word phrase with the one word “**continually**,” the Hebrew phrase contains more information than that. The Hebrew wording connotes the water motion as being “continual,” yet it also denotes a directional movement that matches the English phrases “**to and fro**” and “**back and forth**.” Specifically, the phrase *halôkh vashûbh* is a linkage of two Hebrew verb participles\*\*, one derived from the verb *halak* and the other derived from the verb *shûb*.”

John D. Morris, James J.S. Johnson, The Draining Floodwaters: Geologic Evidence Reflects the Genesis Text, Institute for Creation Research, <http://www.icr.org/article/draining-floodwaters-geologic-evidence/>, accessed April 3, 2017.

3

## Transgression – Regression Creation Perspective

- “Each of these sequences begins with a record of violent incursion of the ocean over the land, **first depositing a basal coarse sand, then smaller grains, and then chemical precipitation as the energy levels lessened, ending with the water rushing back seaward with a mighty erosion episode**. Each transgression landward followed each regression seaward in a continuous cycle of floods, until all was totally destroyed. **These were not separate floods but one unimaginable super-flood, with repeated pulses of terror.**”

John D. Morris, James J.S. Johnson, The Draining Floodwaters: Geologic Evidence Reflects the Genesis Text, Institute for Creation Research, <http://www.icr.org/article/draining-floodwaters-geologic-evidence/>, accessed April 3, 2017.

4

“The advent of the seismic reflection method has revolutionized the analysis of strata sequences and correlation of them across and between sedimentary basins. Because the seismic reflection method can “see” through enormous thicknesses and lateral extents of rock units and sequences, it has been possible to analyze sedimentation patterns on regional and continental scales. As a result, various orders of stratigraphic cycles in the geologic column have been recognized, ranging in scale from transgression-regression cycles to the megasequences recognized by Sloss in North America as early as 1963. These are major rock-stratigraphic units defined as being larger than a group or supergroup, of inter-regional scope, and traceable over large areas of the continent, being separated, delimited, and bounded by unconformities of inter-regional scope. Six of these megasequences have been recognized across North America, each separated by demonstrable regional unconformities that can be traced from the Cordilleran region in the west to the Appalachian Basin in the east. Each megasequence represents a major cycle of transgression and regression. Recognition of these megasequences is based on physical relationships among the rock units. Thus, for example, the Tonto Group in the Grand Canyon, comprising the Cambrian Strata of the Tapeats Sandstone, the Bright Angel Shale, and the Muav Limestone (Figure 3), represents in this region the Sauk megasequence. To the extent that these megasequences physically exist on such a large scale must be significant, given also that they represent the rising and falling of the waters responsible for deposition of their sedimentary rock units.”

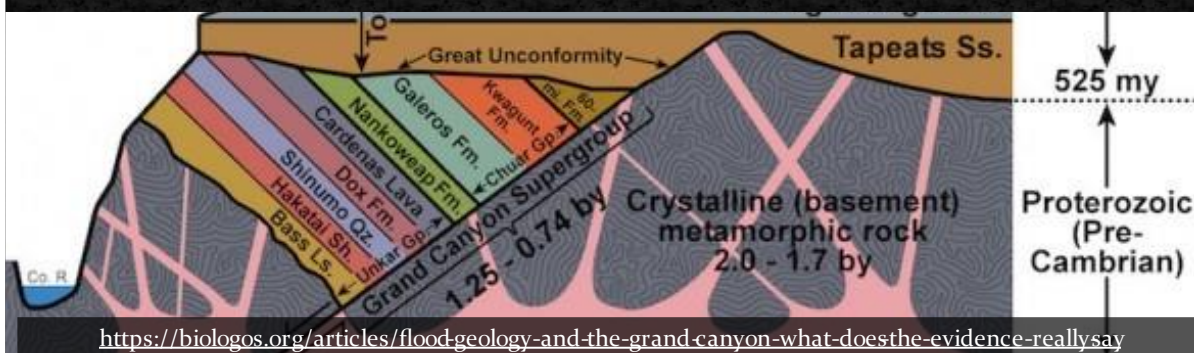
-Snelling



# How could such huge quantities of rock metamorphose??

## Regional Metamorphosism

- Heat and Pressure from being buried deep.
- Only very local areas are currently being metamorphosed today.



## Large Regional Metamorphism:

“So, for example, under what conditions does metamorphism occur regionally over hundreds and thousands of square kilometers? Careful mapping in regional metamorphic terranes has demonstrated that they are generally zoned, with the metamorphic rocks in each zone characterized by different mineral assemblages, as demonstrated in the Scottish Highlands as early as 1893 (Figure 9 on page 444). Experimental data on these metamorphic mineral assemblages indicate they formed in response to progressively higher temperatures and pressures having been applied to the precursor sedimentary and volcanic rocks. The highest grade mineral assemblages of the sillimanite zone appear to have reached temperatures and pressures of about 650 C and 6 kb, respectively. The simplest way to have reached these temperatures and pressures is for the precursor sedimentary and volcanic rocks to have been buried to depths of 15 to 20 kilometers. This in turn implies that more than 15 kilometers of erosion have subsequently occurred for these metamorphic rocks to now be exposed at earth's surface. Of course, some aspects of this scenario are inferred, but the pressure and temperature conditions are consistent with experimental data for high-grade mineral assemblages.” -Snelling

“Large-scale deformation seems to have often accompanied metamorphism and/or magnetism. Strata over extensive areas have suffered intensive folding, and faulting, in some cases drastically shortening the dimensions of the original sedimentary and volcanic rock units so that the folding and faulting have caused the upthrusting of huge blocks of deformed rocks to produce mountain ranges. Sometimes the deformation has been so intense that overthrusting has occurred so that enormous blocks of rocks have sometimes been pushed up over other deformed rocks and moved along a fault plane up to tens of kilometers. As with the episodes which

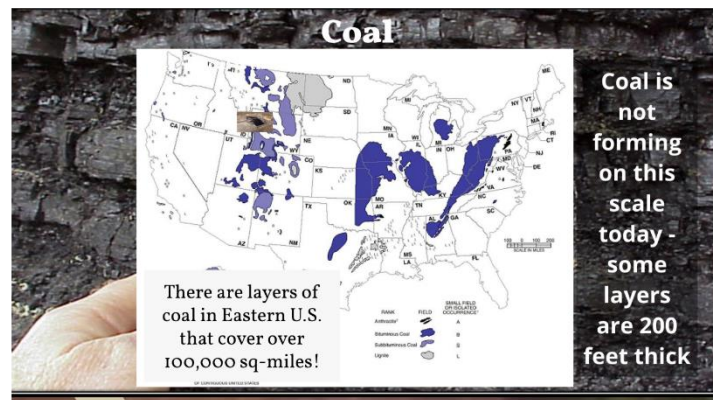
repeatedly produced metamorphic rocks, and sometimes also granitic and other intrusions, deformation events appear to have occurred at many different levels of the geologic column, in rock unit sequences at different locations around the globe. Thus, for example, the American Appalachians are the result of the deformation and uplift of Paleozoic rock strata, whereas the Rockies are deformed and uplifted Mesozoic rock strata. This difference signifies that the respective deformation and mountain-building events occurred at different levels, and therefore at different times, in the rock record. Consequently, any model of earth history needs to account for these different and often large-scale, high-intensity deformation events with the relative time sequence.” - Snelling

- Morrison – averages 100 ft thick
  - “most common fossil at Dinosaur National Monument in the Morrison Formation is that of an articulated clam.” (p.112, Global Flood)
  - Tremendous amount of water-worked volcanic ash from central California
  - Dinosaurs mixed up with “aquatic reptiles, fish of numerous types, sharks, crocodiles, clams – clearly marine fauna”
  - “all” dinos of full skeletons have died due to asphyxiation (Global Flood, p. 124)
- Shinarump Conglomerate
  - averages 50 ft thick
  - “Large boulders and coarse grains require rapid water flow, following extensive erosion. Abundant petrified wood is present. No modern process can account for this.”
  - pic from p. 112
- Charles Lyell – trying to prove uniformitarianism – claimed that Niagara Falls was receding 1 ft per year and thus must have been carving the river gorge in 35,000 and disproving the Biblical timescale, although farmers (and observations) suggested that it was retreating upriver 5 ft per year. (Global Flood, p. 131)
- **Overthrusts** – “older” rock layers sliding over “younger” rock layers (Yellowstone Guide, p. 90-93, 154-155)
  - **Heart Mountain overthrust in Wyoming** – slide on nearly flat terrain at speeds approaching 60 mph
    - 425 sq mile block of sedimentary rock, 1,650 ft thick of mostly limestone, tore loose and slid 30 miles SE, then broke into 50 pieces and spread out over 1,300 sq mile area.
      - Most distinctive of the pieces is Heart Mountain – North of Cody
    - The slide plane shows little to no erosion
    - overlying Absaroka Volcanics were laid down at same time or soon after
    - up to 500 mph and over in 4 minutes???
    - 30 miles down a very flat slope (2 degrees or less)
    - would have happened underwater – lubricating the sliding rock, similar to giant slides that have occurred off the island of Hawaii.
  - In Glacier, an overthrust block was supposedly 900 million years old and so there should be a lot of broken rock between the lower contact unless lubricated to slide easier – observations show that the rubble layer is rather thin
    - The rock could possibly be somewhat saturated when moved
- Turbidites



- These are underwater landslides that occur even on gentle slopes but at great speed and laying down widespread sediment.
- In 1929, near Grand Banks, New Foundland, a turbidite occurred that was at least 60 mph – they found about this phenomenon, because it snapped transatlantic telephone cables!
- many sedimentary layers now characterized as turbidites
- Mega-breccia
  - large angular pieced conglomerate-type
- Impact craters – chart on p.134

- **Coal Beds** – very widespread at 100,000 square miles??
- Could widespread coal beds have formed from slow accumulations of forests over that same area for millions of years – and somehow be buried such that the material didn't all rot away or could it have formed in a huge flood?



## Volcanic History - What Can We Learn About Volcanic Eruptions of the Past?

- Bill Hoesch – Supervolcanoes (paper at icr?, email Dave – Steve Austin involved in this)
- Morrison and Chinle originated from California (maybe Owens Valley (N Central CA))
- Yosemite – Granitic Uplift – rock layers upended to the East (Part of the Sierra Nevadas maybe)
- Redwall Limestone tilted up (and other layers)
- Owen's Valley east of Yosemite – Mona Lake – Salt
  - A lot of volcanism in Owen's Valley (still active)
  - Chemical signature of Morrison Formation at Owen's Valley
  - Size Distribution
  - What caused this hot spot
  - Tremendous amount of heat causing the granitic uplift
  - Uplift of Yosemite, Owen's Valley Volcanism and Morrison Formation interconnected?
  - Enigma – Yosemite uplift old
    - Morrison 140-180 mya
    - Owen's Valley Volcanism - recent
- Washboard rock – volcanic plug (like Devil's Tower)
  - near Cimarron – during purchase of the property – lake moved to YWAM property
- La Sal Peaks – Lacolith peaks – volcanic material pushed up but did not break the surface
- Huge Basalt Flows
  - Grand Mesa near Grand Junction, CO
  - Central Utah?
  - Karoo Supergroup (of layers) in southern Africa and extending all the way to southern Australia!!

-These igneous rocks “represent one of the largest continental flood basalt events (by volume) on Earth.” (Jonathan O’Brien, The firewalkers, March 23, 2022, Creation Ministries International, <https://creation.com/karoo-trackways>, accessed March 24, 2022.)

-“‘Flood basalt’ means that the lava was so widespread that it was like a very broad lava flood over huge areas of land. The lava flows covered entire regions in igneous rock, like a blanket. These lava flows contain abundant characteristic pillow-shaped formations that indicate underwater deposition. The Karoo tracks are associated with ripple marks said to imply they were deposited in “shallow, ephemeral water currents.” In short, evolutionary paleontologists also recognize that all this occurred in unison with water flooding and sedimentation.” (Jonathan O’Brien, The Firewalkers, March 23, 2022, Creation Ministries International, <https://creation.com/karoo-trackways>, accessed March 24, 2022.)

-Through Idaho and Washington (Columbia Plateau Basalts)

-Huge Flows of Materials



-up to a mile thick

-Mt St Helens doesn't compare

-Columnar Basalt flows have no modern examples of formation

-100,000 square miles covered – 40,000 cubic miles of material

-Largest historic lava flow – Iceland – 1783 – 200 square miles, less than 3 cubic miles of material

-Spread really quickly so as not to cool off

-Days or Hours of travel

-Columnar Basalt



- 17-14 Million Years Ago
- The “flows exhibit essentially uniform chemical properties through the bulk of individual flows suggesting rapid placement”
- **500 km Ginkgo flow – in roughly a week**
- “The basalt had an upper melting temperature of  $1095 \pm 5$  °C and a lower temperature to  $1085 \pm 5$  °C; this indicates that the maximum temperature drop along the Ginkgo flow was 20 °C. The lava must have spread quickly to achieve this uniformity. Analyses indicate that the flow must remain laminar, as turbulent flow would cool more quickly. This could be accomplished by sheet flow..”

[https://en.wikipedia.org/wiki/Columbia\\_River\\_Basalt\\_Group](https://en.wikipedia.org/wiki/Columbia_River_Basalt_Group)

- “Shaw and Swanson (1970) proposed that high eruption rates were required. Great volumes of turbulent lava would reach the ocean in only a few days, thus staying hot. **The fronts of these flows might be 50 m high and 100 km long.** They would move at rates of 3 to 5 km per hour, down the gentle slope to the west. The eruption rate would need to be high, 1 cubic km/day/linear kilometer of fissure, about **1000-10,000 the eruption rates of Hawaiian and Iceland eruptions** (mid-ocean ridges produce only 3 cubic km of lava each YEAR)(Swanson et.al., 1975).”

<http://volcano.oregonstate.edu/book/export/html/486>

- Yellowstone Hot Spot
  - Yellowstone Eruptions 2 million years ago, 1.3 million years ago, and 640,000 years ago.
  - Craters of the Moon, Island Park, next is Red Lodge, MT
  - Bottom of Yellowstone Lake rising – 2007ish?
- San Francisco Peaks – volcanic uplift from lava flows
  - Flagstaff on Southern flanks
  - Humphrey's peak – highest
  - last episode – 600,000 years ago for lava flow
  - Archaeologist Hannah Rush – found remnants of Ancient Native American Villages under West Flanks of lava flows???
  - Tour Guide with ICR
  - Top completely missing – painted desert east of there – Chinle – not supposed to be connected...

#### -Grand Mesa

- Petrified Trees in Yellowstone (Yellowstone Guide, p. 160-161)
  - Specimen Ridge and Amethyst Mountain
  - most upright – thought to be successive forests over tens of thousands of years
  - “The stumps are usually barkless and limbless and most of the roots are broken off abruptly. The trees appear to have been broken off from their roots, transported, and deposited (often upright) in beds one above another.

Additionally, matching tree ring patterns for trees on several different levels have been found, indicating the trees lived at the same time. Similar growth ring patterns suggest the different levels were deposited in rapid succession over a short time period.

If each level represented a separate volcanic episode, we would expect the mineral content of each level to be quite different. But the mineral content is actually consistent throughout the whole sequence, indicating there was only one major volcanic event occurring within a fairly short time frame.

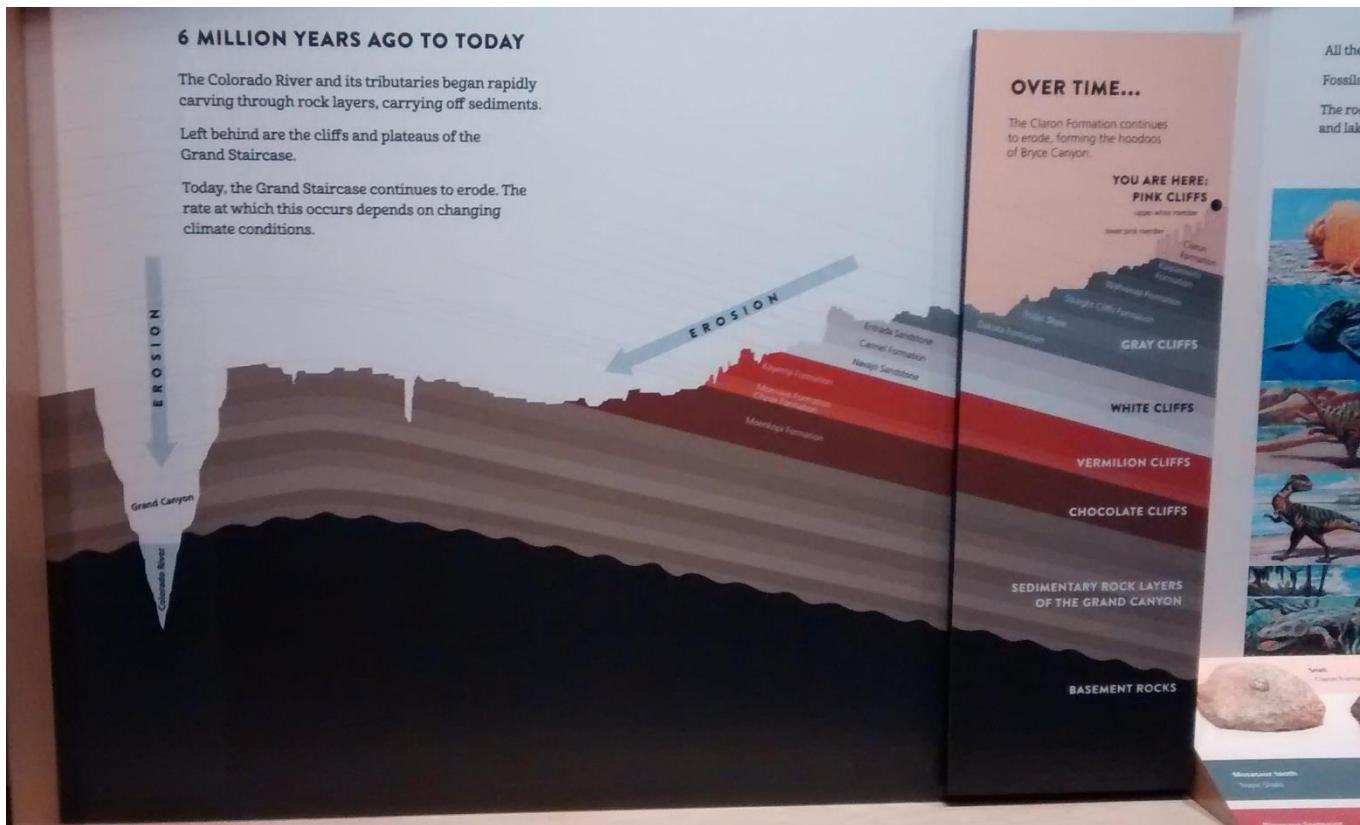
Every modern forest has its complement of plants, animals, and soils that make up a supportive ecosystem. Yet the petrified “forests” of Yellowstone lack all of these...

...In fact, there are about 200 species of trees, ranging from tropical to cool temperate climates, mixed throughout the layers.”

### **Huge Catastrophic Geologic Event Evident at Black Canyon of the Gunnison**

“Secular and biblical perspectives both acknowledge that crustal rock was cooked and squeezed under pressure. Later, molten material mixed with extremely hot water was injected into cracks and fissures, putting the painted look on the stunning cliffsides. This once-forceful injection implies much higher energy was at work here than we find today.

Genesis speaks of “all the fountains of the great deep” bursting upward until waters covered the earth “under the whole heaven” (Genesis 7:11, 19). Catastrophic plate motion during Noah’s year-long Flood would have supplied plenty of energy, heat, and water.”<sup>5</sup>



<sup>5</sup> Brian Thomas and Tim Clarey, *Gunnison's Black Canyon: The Mysterious Missing Time*, February 26, 2021, <https://www.icr.org/article/gunnison-black-canyon-flood-solves-mysterious-time>, accessed March 25, 2022.

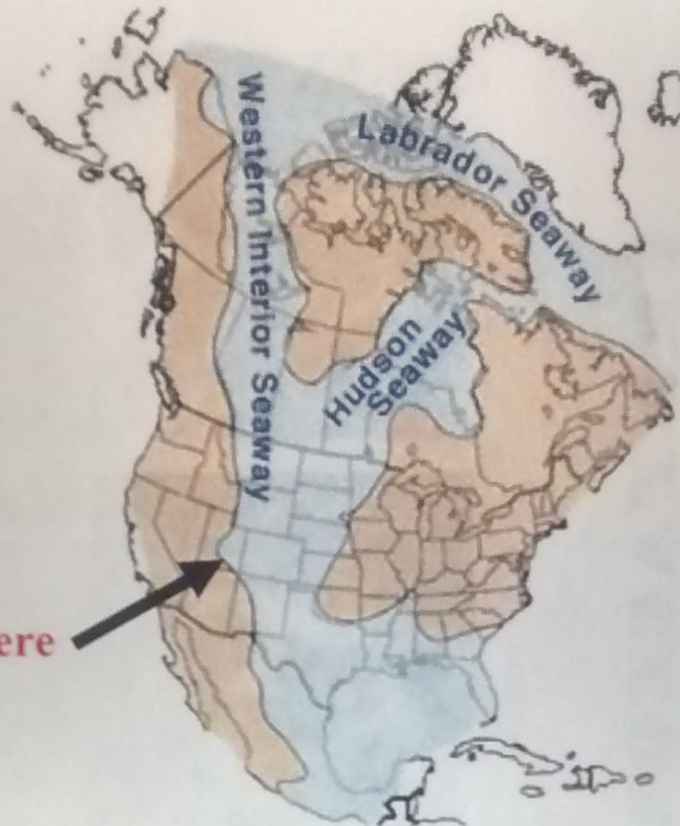


## Chinle Formation - Shinarump Conglomerate Member

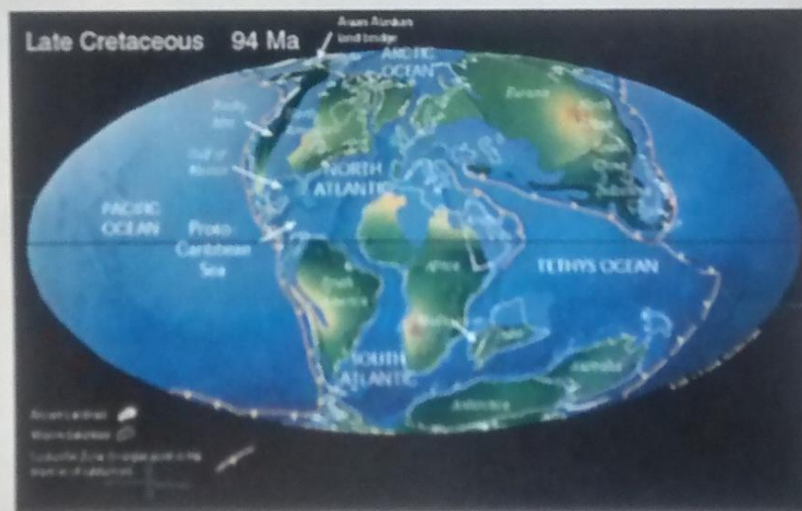
- “Consisting of an enormous layer of hard, chert pebbles that have **no local source** and thus must have been brought in **from afar, it baffles researchers.**”
- Averages **50 feet thick** and covers **over 100,000 square miles in area. 2,000 cubic miles of pebbles!!**
- “Hydrologists can only postulate rapid sheet flow of gravel-bearing water, depositing its load as the **velocity slowed.**”
- Supposedly 15 million years between the Moenkopi and this, but **no evidence** for it at their contact.

94 million years ago the interior of North America was covered by a shallow salt seaway from the Arctic to the Gulf of Mexico. Locally, the remains of this seaway are recorded in the gray-blue benched layers of the Tropic Shale (also known in other areas as the Mancos Shale).

**You Are Here**



Within the layers of the Tropic Shale are found oysters, clams, worms, fish vertebrae, As well as the bones of huge marine reptiles (plesiosaurs), shark's teeth, turtle shell and other evidence of sea life.



©2000 C.R. Scotese, PALEOMAP project

**Western Interior Seaway  
94 million years ago**





140 mya



130 mya



115 mya



100 mya



85 mya



75 mya



65 mya

## **CRETACEOUS INTERIOR SEAWAY**

### **65 TO 140 MILLION YEARS AGO**



## Agate, Chert, and other Concretions!

- Rocks are made up primarily of silicon dioxide! These specific types of rock are significant because they are more compact, harder lumps, clumps, chunks, masses, nodules, often spherical or mostly spherical because they have more dense concentrations of minerals.
  - **Significance**
    - “What three agents must be present for cementation to occur?”
    - The agents like mineral, water, and sediments are present for the sedimentation to occur.” Cementing agents include silica, calcite, iron oxide, “pyrite, barite and gypsum.”<sup>6</sup> (FYI: Lime “is helpful to form the silicates and aluminates of calcium.”<sup>7</sup>)
    - If layers formed slowly over long periods of time, these cementing agents should have evenly mixed or saturated the layers of sediment and thus should cause more even consistency without as much of the lumps and clumps. If the sediments built up the layers quickly during a huge flood scenario, different areas and different layers likely would have gotten different amounts of cementing agents. For instance, imagine underwater volcanoes erupting large amounts of material and minerals into the flow of water that will eventually lay down those minerals – this might be a really good example of why some rock is really red in color – due to a lot of iron (possibly from those volcanic vents), but yet some rock (Navajo Sandstone) is very white in color. This quick deposition of sediments would allow there to be more hardened clumps and lumps and even some possible “bubbles of sand” that got very little cementing agent – think of the tefani or holes of rock described in the Moab area in this guide.

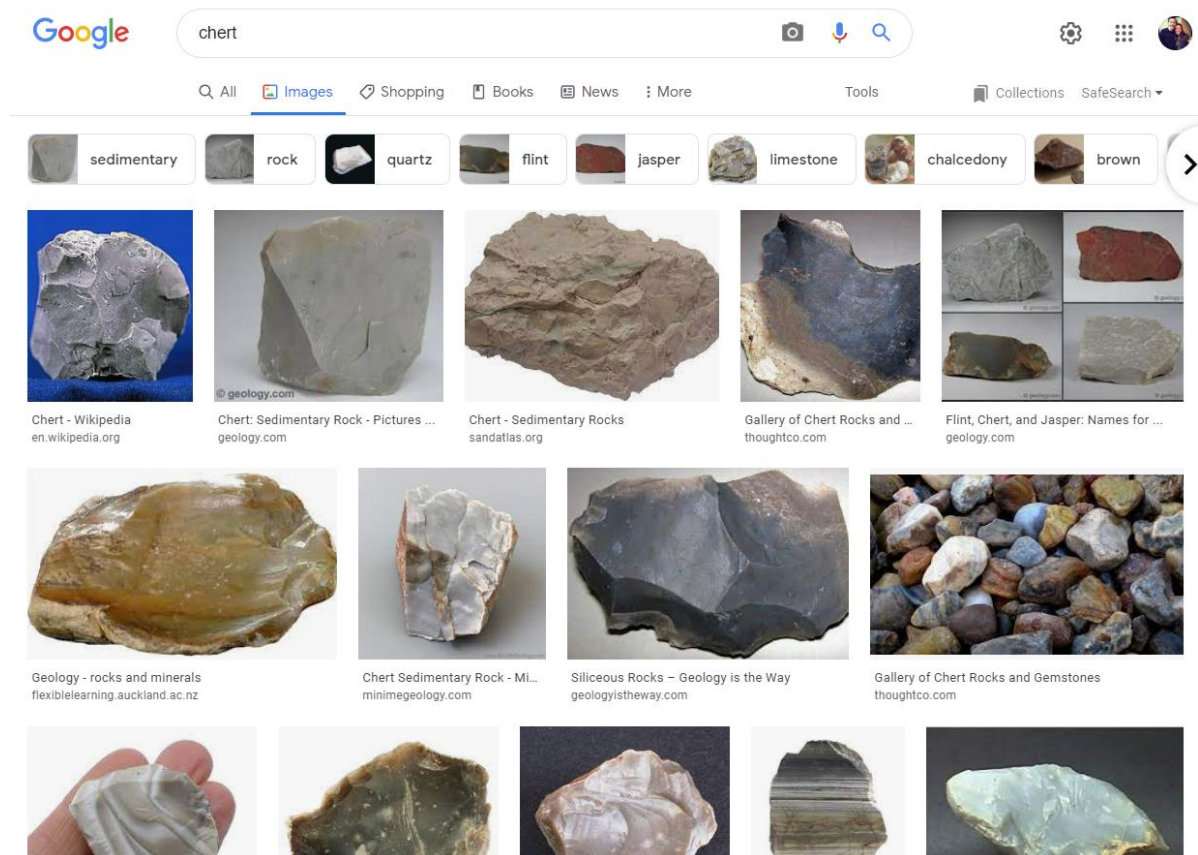
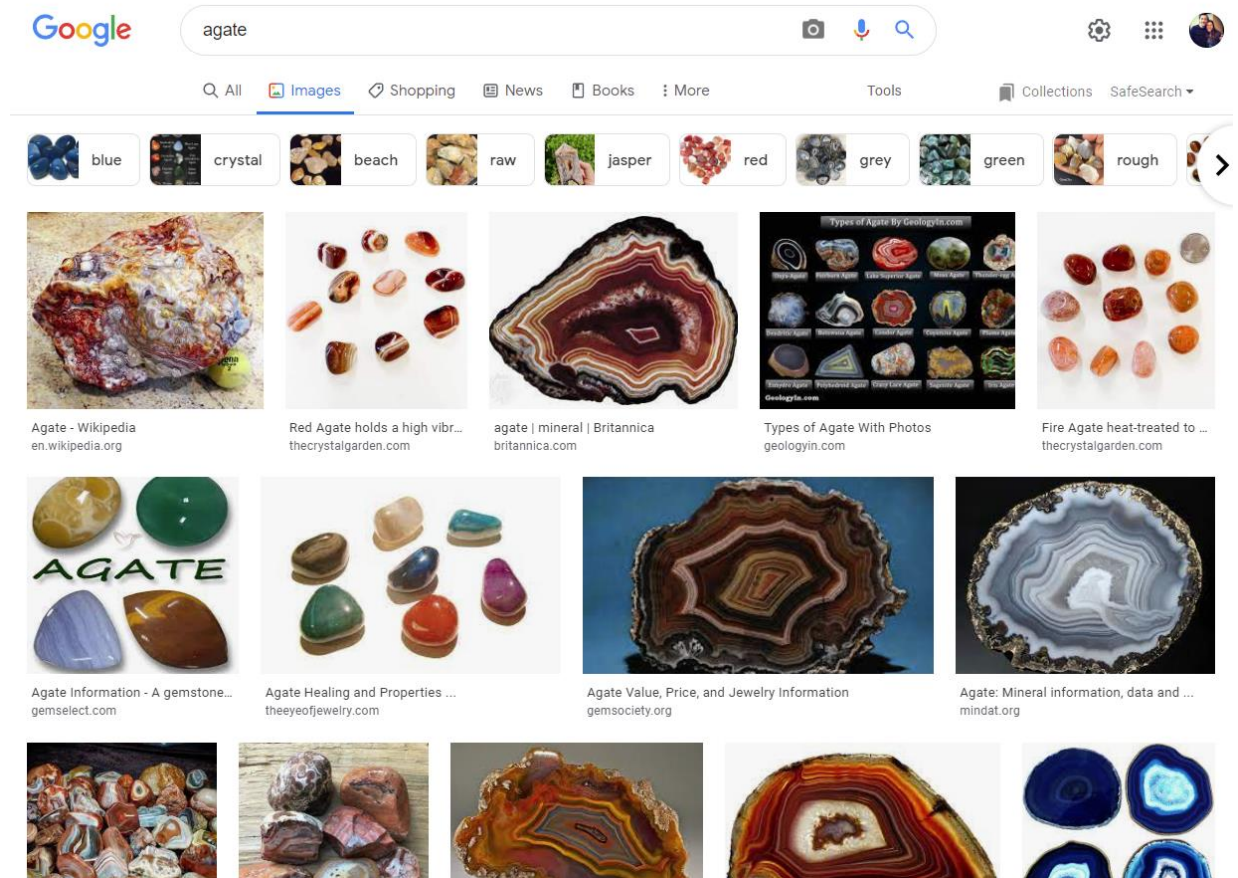
## Agate vs Chert

- **Similarities**

These tend to be more crystallized, mineralized. They are typically glassy and/or waxy in appearance and “fracture conchoidally (breaking in a way that does not follow natural lines of separation).”
- **Differences**
  - Google Agate Images then Google Chert Images to see the difference in appearance – shown here:

<sup>6</sup> Michael E Carpenter, What Are the Three Most Common Cementing Agents for Sandstones?, April 24, 2017, <https://sciencing.com/ingredients-jointing-sand-8396657.html>, accessed March 25, 2022.

<sup>7</sup> AskingLot, What is the role of lime in cement?, April 28, 2020, <https://askinglot.com/what-is-the-role-of-lime-in-cement>, accessed March 25, 2022.



- “On a human level, agate is more highly prized than chert. It is considered a minor gemstone, and ‘agate’ is often used to name single-coloured stones

of gem quality.  
 Chert is bland and unappealing to the human eye.  
 Because of impurities, chert is often multicolored.”<sup>8</sup>

### Concretions

- These are not as crystalized, but often found in sandstone and other sedimentary layers.
- “A concretion is: “A hard, compact mass or aggregate of mineral matter, normally subspherical but commonly oblate, disk-shaped, or irregular with odd or fantastic outlines; formed by precipitation from aqueous solution about a nucleus or center, such as a leaf, shell, bone, or fossil, in the pores of a sedimentary or fragmental volcanic rock, and usually of a composition widely different from that of the rock in which it is found and from which it is rather sharply separated.”...They range in size from pellets to spheroidal bodies up to 3 m or more in diameter.”
- Concretions “have not been observed in modern sediments (Raiswell and Fisher, 2000). Indeed, Colman and Raiswell (1993) cite this discrepancy as a fundamental challenge to uniformitarianism.”
- Scientists “determined the rate of growth to be greater than 3–4 orders of magnitude (1,000 to 10,000 times) as fast as originally thought. This resulted in a rate of growth of about 0.5 to 50 cm/yr.” And likely 10 times faster even than that in unconsolidated sediment in a flood scenario.
- “Ubiquitous calcareous concretions across the earth indicate that much dissolved calcite was in the floodwater sediments. Calcite is one of the major cementing agents for sedimentary rocks, and the formation of calcareous concretions indicates actively flowing calcite-rich water within the pores of the sediment. Thus, the sediments laid down during the Inundatory Stage would be easily and quickly cemented by calcite cement, though there are other possible cementing agents.”<sup>9</sup>

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<sup>8</sup> YesDirt, Agate vs Chert: What Are They, And What’s The Difference?, <https://yesdirt.com/agate-vs-chert/>, accessed March 25, 2022.

<sup>9</sup> Michael J. Oard, A case for rapid formation of calcareous concretions, *Journal of Creation* 33(2):7-9, August 2019, <https://creation.com/rapid-concretions>, accessed March 25, 2022.