

# ACTS & FACTS

INSTITUTE FOR  
CREATION RESEARCH

ICR.org

APRIL 2021

VOL. 50 NO. 4

## Extinct Radionuclides

*page 9*

Stronger Together: ICR's  
Education Outreach with CTI

*page 5*

Some Marine Extinctions  
Were Caused by the Flood

*page 13*

The Fossils Still Say No:  
Missing Early Evolution  
of Land Vertebrates

*page 10*

The Painted Desert: Fossils  
in Flooded Mud Flats

*page 16*



**SAVE  
50%**

# HOMESCHOOL RESOURCES

Get Ready for Next School Year with the Best Value in Homeschool Creation Resources!

Buy all 32 items on this page as a giant Homeschool Pack for \$287.36 and save 50%!

Shipping and handling is capped at \$30 for this special order—total price is only \$317.36!

Use product code **PRFH2**

Visit [ICR.org/homeschool](http://ICR.org/homeschool) for a PDF of our 36-week creation unit outline.

\*Offer for U.S. orders only

## Pack Includes 19 Books!

- *Clearly Seen*
- *Made in His Image*
- *Twenty Evolutionary Blunders*
- *Dinosaurs and the Bible*
- *Creation Q&A*
- *Guide to Creation Basics*
- *Guide to Dinosaurs*
- *Guide to Animals*
- *Guide to the Human Body*
- *Guide to the Universe*
- *Dinosaurs: God's Mysterious Creatures*
- *Space: God's Majestic Handiwork*
- *Animals by Design: Exploring Unique Creature Features*
- *Earth: Our Created Home*
- *Big Plans for Henry*
- *God Made Gorillas, God Made You*
- *Unlocking the Mysteries of Genesis*
- *Creation Basics & Beyond, 2nd ed.*
- *Unlocking the Mysteries of Genesis Student Guide*

## Pack Includes 33 DVD Disks!

- *Unlocking the Mysteries of Genesis* (12-episode series)
- *Made in His Image* (4-episode series)
- *Uncovering the Truth about Dinosaurs* (4-episode series)
- *The Universe: A Journey Through God's Grand Design* (4-episode series)
- *What You Aren't Being Told About Astronomy*
  - Vol. 1: *Our Created Solar System*
  - Vol. 2: *Our Created Stars and Galaxies*
  - Vol. 3: *Our Created Universe*
- *That's a Fact*
- *That's a Fact 2*
- *The Book of Beginnings*
- *The Human Body: Divine Engineering*
- *Discovering Dinosaurs*
- *Scientific Evidences for Creation*

Call **800.628.7640** or visit [ICR.org/store](http://ICR.org/store)

Please add shipping and handling to all orders.  
Offer good through April 30, 2021, while quantities last.



Published by  
**INSTITUTE FOR CREATION RESEARCH**

P. O. Box 59029  
Dallas, TX 75229  
214.615.8300  
ICR.org

*Acts & Facts* is a free publication.  
For subscription information,  
call 800.337.0375,  
visit [ICR.org/subscriptions](http://ICR.org/subscriptions),  
or write to ICR at the above address.

**EXECUTIVE EDITOR**

Jayne Durant

**SENIOR EDITOR**

Beth Mull

**EDITORS**

Michael Stamp  
Christy Hardy  
Lori Fausak

**DESIGNER**

Dennis Davidson

No articles may be reprinted in whole or in part without obtaining permission from ICR.

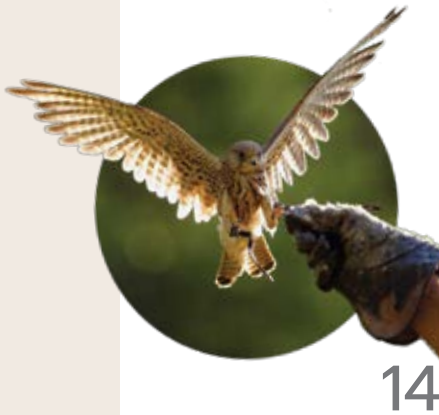
Copyright © 2021

Institute for Creation Research

All Scripture quotations are from the New King James Version unless otherwise indicated.



Front cover: Deep space nebula  
Image credit: Bigstock



## feature

### 5 Stronger Together: ICR's Education Outreach with CTI

RANDY J. GULIUZZA, P.E., M.D.

## research

### 9 Extinct Radionuclides

VERNON R. CUPPS, PH.D.

## impact

### 10 The Fossils Still Say No: Missing Early Evolution of Land Vertebrates

JEFFREY P. TOMKINS, PH.D.

## back to genesis

### 13 Some Marine Extinctions Were Caused by the Flood

TIM CLAREY, PH.D.

### 14 Building a Perfectly Optimal Flying Machine

MICHAEL STAMP

## creation q & a

### 15 Does Recent Research Support Human Evolution?

FRANK SHERWIN, M.A.

## park series

### 16 The Painted Desert: Fossils in Flooded Mud Flats

BRIAN THOMAS, PH.D., AND TIM CLAREY, PH.D.

## apologetics

### 20 Beware Sinkholes and Other Failing Foundations

JAMES J. S. JOHNSON, J.D., TH.D.

## stewardship

### 21 Pleasure in Our Purpose

HENRY M. MORRIS IV

## creation kids

### 22 Bees

CHRISTY HARDY AND SUSAN WINDSOR



# Road Trip!

We hope you've been having as much fun reading our park series in *Acts & Facts* as we've had preparing the articles each month. So far, ICR researchers have introduced us to Grand Canyon, Arches National Park, and Black Canyon of the Gunnison National Park in the January, February, and March issues. In this month's *Acts & Facts*, Drs. Brian Thomas and Tim Clarey take us to the Painted Desert.

When I saw the photos in layout for "The Painted Desert: Fossils in Flooded Mud Flats" (pages 16-19), I immediately went back in my mind to a childhood road trip. I remember the long days sharing a backseat with two brothers and finding creative ways to occupy ourselves during hours of travel. I recall how my mom was enthralled with the history of the places we visited and the awe I saw on her face as she witnessed the beauty of Jesus' creation. I also remember visiting the Petrified Forest National Park, which is found in the Painted Desert, and it was fascinating to see that trees (or parts of trees) could actually be changed into stone.

In this article, Drs. Thomas and Clarey explain how that transformation happens—and it's not the explanation you'd hear from most park tour guides. When viewing the evidence from a biblical perspective, our scientists conclude that "silica-rich (quartz) minerals from widespread volcanic activity helped petrify them....Volcanic blasts and tsunami waves that occurred during the Flood year help explain the Painted Desert's petrified trees." They also point out how the features in this desert park "paint a picture of the reliability of Genesis."



That's always our goal here at ICR—to show how science affirms Scripture in countless ways. And this summer, we want to equip you to do the same! Dr. Randy Guliuzza's article "Stronger Together: ICR's Educational Outreach with CTT" (pages 5-7, see also page 8) provides details for upcoming events that ICR has planned, including our collaborative conference in June with Creation Training Initiative (CTI). This in-person event will prepare attendees to confidently present the evidence for biblical creation to those within their circle of influence.

As Dr. G says, "The job of teaching Christians the basics of creation science never ends." He talks about an ICR creation seminar he attended in his young adult days and says, "The training I received from ICR empowered me to have an important impact in my church....I believe there is still a hunger in Christians for an education that will equip them to teach creation science in their own church."

Many of you are striving to teach creation truth to your children or grandchildren,

and we have resources that can help with that. We've put together a comprehensive homeschool pack that can meet the needs of your family, and it's available for 50% off retail for a limited time (page 2).

For those who want to get equipped with biblical answers

to questions about the Ice Age or climate change, we're excited to announce the release of Dr. Jake Hebert's newest book, *The Ice Age and Climate Change: A Creation Perspective* (page 24). In this book, Dr. Hebert addresses issues, data, and perspectives related to climate change and presents his own creationist perspective on the topic—and it's presented with hundreds of stunning illustrations in a beautiful layout designed by ICR graphic designer Susan Windsor.

Whether you're examining petrified trees, learning about creation at an ICR event, teaching your children about science, or approaching cultural concerns like climate change, we encourage you to view it all through the lens of our magnificent Creator's Word and wisdom. And if you decide to take that road trip and explore some of these park masterpieces for yourself, you'll create lifetime memories for your family, all while discovering the marvels of God's creation.

*Jayme Durant*

**Jayme Durant**  
EXECUTIVE EDITOR

# STRONGER TOGETHER: ICR's Education Outreach with CTI

R A N D Y J . G U L I U Z Z A , P . E . , M . D .

Intensive training in creation science can change your life. One of the most important experiences for June and me in our young married life happened in the summer of 1983 when we attended an intensive week of training in creation science at the ICR Summer Institute in El Cajon, California. We had anticipated that training time with ICR for weeks.

What made it all possible was that earlier in the spring I entered a special program with the U.S. Navy. I was put on active duty while in college in exchange for four years of service as an engineer. Having been con-

ferred the rank of E-3, I suddenly became rich. My new E-3 salary was three times what I made at my work-study job. June and I could think of no better way to use our new bounty than to drive from the Black Hills to El Cajon and fulfill our long-held dream of going to the ICR campus for training.

It was a glorious week. Soon after arriving we met another couple with a passion for creation, Dave and Mary Jo Nutting. They went on to start Alpha Omega Institute and have been ministering creation truth—especially to college students—for decades. We were given a notebook full of the week's

## article highlights

- The doctrine of creation is foundational for believers because it highlights Christ's central role as Creator.
- Creation training changes peoples' lives by equipping and empowering them to be creation advocates.
- In cooperation with Creation Training Initiative, the Institute for Creation Research is offering an immersive creation seminar June 8-11, 2021, at the ICR Discovery Center for Science & Earth History in Dallas, Texas.



ICR President Dr. Randy Guliuzza speaking at the ICR Discovery Center

lecture notes. We opened it and found this:

Congratulations! You are about to enter one of the most challenging and informative weeks of your life. This notebook has been prepared for your convenience *as you attend* this ICR SUMMER INSTITUTE ON SCIENTIFIC CREATIONISM and *as a future* reference work.

Obviously, I still have that reference notebook. But more importantly, it was a major event that equipped me for a valuable ministry. I have a working knowledge of creation science that I've used to minister to Christians in every church that I've attended and at every duty station I was assigned to since the Summer Institute.

### Teaching the Fundamental Doctrine of Creation

I'm convinced that the doctrine of creation is *the* fundamental basis for the doctrine of God. Why? Because the Creator of all things is—by definition—God. I have a calling to exalt the Lord Jesus Christ as Creator. How? By giving Him the rightful credit He's due for His incredible workmanship on clear display in the natural realm *and* by opposing selectionism's personification of nature as an idolatrous substitute creator. Dedication to education in creation science is true for many long-time supporters of ICR who have a hard time thinking of a mission that could be more important than this.

When it comes to education in creation science, it has been a long time since ICR has offered a multi-day training seminar. However, if you think those days are long gone, please think again. Today, one of ICR's sister ministries, the Creation Training Initiative (CTI), very likely has the preeminent training programs in the creation science community. In my estimation, no other training programs for Christian lay audiences come even close. CTI was started by Mr. Mike Riddle, who was a very popular speaker on ICR's staff for many years. Together, our ministries think that believers these days should have the opportunity for the life-transforming

training that Christians like me had from ICR in the 1980s.

### ICR and CTI Train Christians to Support the Church

It's a joy to let our readers know that for four days on June 8-11, 2021, ICR will both host and participate in an intensive training seminar at the ICR Discovery Center for Science & Earth History. This training seminar is a joint venture between CTI and ICR.

As I detailed in my February *Acts & Facts* article, ICR exists to support the local church.<sup>1</sup> A church's mission is accomplished through worship, edification (building up) of believers, and evangelism. Thus, ICR can wholeheartedly come alongside CTI, whose mission is:

To equip Christians worldwide to be effective teachers and speakers on the subjects of biblical creation and apologetics, so that, the next generation can be trained to stand firm on biblical truth and defend their faith. This mission is based on 2 Timothy 2:2 "And the things that you have heard from me among many witnesses, commit these to faithful men who will be able to teach others also."<sup>2</sup>

The desired product or result of a fulfilled mission is usually spelled out in a vision statement. ICR is delighted to contribute our resources of research materials and creation scientists to help obtain the shared lofty vi-

sion of CTI, which is "to have a teacher in every Christian school and church who can teach biblical creation and apologetics."<sup>2</sup> We trust that many of our readers would enthusiastically agree.

### What Attendees Will Learn

The Christian Educator's Conference in June will be different from other ICR events. ICR scientists will contribute their technical expertise, but this seminar will not be a series of lectures in which every speaker is presenting their preferred talk. In this training seminar, the topics will build on each other to *train attendees* to teach creation science. We chose to work with Mr. Riddle because for over 35 years he's been training teachers in creation apologetics.

At the end of the conference, attendees will know:

- What makes up the biblical worldview
- Critical thinking skills: how to ask a power question, how to identify fuzzy words and magic words, the application of critical thinking in biology
- Biblical apologetics: what the word apologetics means, Scripture and the use of apologetics, how the Lord Jesus and the apostle Paul used apologetics, the types of apologetics, answering biblical challenges
- Christian education: educating for suc-



CTI President Mike Riddle



CTI speaker Dr. Anthony Silvestro

cess, the Sunday school program—what is a win?

- Basic foundations in science: the origin of life, the mechanisms for change, four things to know about dating rocks and fossils, examining the past—the fossil record
- The Bible and the issue of time: basic hermeneutics, 10 evidences the days were literal days
- Handling common objections, part 1: dinosaurs and the Bible—four things to know about dinosaurs
- Handling common objections, part 2: biblical objections to literal days
- Christ's amazing creatures: why they show incredible evidence of engineering

## Creation Education Empowers Christians to Serve

In January ICR conducted an internet-based intensive course intended to bring attendees up to speed on the latest advanced research in creation science. ICR scientists had been busy, and there was a lot of stockpiled information to be discussed. This course was received very well, and we plan on repeating it.

But the job of teaching Christians the basics of creation science never ends. Since ICR's beginning we have been working closely with people whom the Lord Jesus has strategically positioned in His local churches. These folks perceive the vital importance of the doctrine of creation. They recognize how skeptics advance spiritual attacks—masquerading as settled facts of evolutionary “science”—against the foundational truths of Christian faith. They feel called to teach Sunday school classes or other courses in their church.

I am one of those Christians, and the training I received from ICR empowered me to have an important impact in my church. Decades later I meet former students who tell me how they crammed Saturday night to prepare for the quizzes in my Sunday school class on creation. I believe there is still a hunger in Christians for an education that will equip them to teach creation science in their own church.

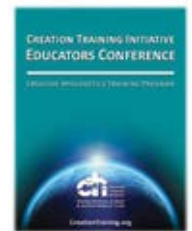
Early on, ICR was the only provider of creation science education. Today, CTI is the specialist ministry in training Christians in creation. CTI's materials are the best. Why should ICR re-invent the wheel or needlessly duplicate resources when both minis-

tries can have a far bigger impact by working together? This allows us to direct more support from ICR's donors into scientific research and developing a powerful organism-focused theory of biological design.

If you feel that the Lord Jesus has given you a deep desire to highlight the doctrine of creation in your local church or in a Christian school, then I encourage you to consider attending the Christian Educator's Conference. The conference will start June 8, 2021, at 2:00 p.m. and end June 11 at noon. We will conduct it in the Founder's Hall of the ICR Discovery Center in Dallas, Texas. We'd love to see you there.<sup>3</sup> 📧

### References

1. Guliuzza, R. J. 2021. The Mission of the Institute for Creation Research. *Acts & Facts*. 50 (2): 5-7.
2. CTI Mission/Vision, posted on [creationtraining.org](http://creationtraining.org).
3. For more information, go to [ICR.org/educators-conference](http://ICR.org/educators-conference) or visit [CreationTraining.org/CEC-ICR](http://CreationTraining.org/CEC-ICR).



Dr. Guliuzza is President of the Institute for Creation Research. He earned his M.D. from the University of Minnesota, his Master of Public Health from Harvard University, and served in the U.S. Air Force as 28th Bomb Wing Flight Surgeon and Chief of Aerospace Medicine. Dr. Guliuzza is also a registered Professional Engineer and holds a B.A. in theology from Moody Bible Institute.



ICR's prized mosasaur fossil will be on display when the ICR Discovery Center for Science & Earth History reopens on May 4, 2021. This marine reptile specimen is four feet long and was unearthed in Morocco.



Luke and Naomi Windsor, children of ICR graphic designer Susan Windsor, stand next to the new Camarasaurus leg bone exhibit. The rear leg of this giant sauropod dinosaur was 10 feet tall!

APRIL 7-11

Redding, CA

**Shasta Bible College  
Alpha Omega Conference**

(R. Guliuzza) Shasta.edu



APRIL 18

Mustang, OK

**Creation Sunday at  
First Baptist Church**

(C. Morse, T. Clarey)  
ICR.org/MustangOK



APRIL 24-25

Surprise, AZ

**Calvary Chapel FourteenSix**

(B. Thomas)  
FourteenSix.com/events



APRIL 23-25

**UNLOCKING  
THE MYSTERIES  
OF GENESIS  
CONFERENCE**



Randy Guliuzza, P.E., M.D.

**Dale Evangelical Free Church | Harris, MN | ICR.org/HarrisMN**

SAVE THE DATE

JUNE 8-11

Dallas, TX

**ICR Discovery Center for Science & Earth History  
Christian Educator's Conference**

(ICR and CTI Staff)  
ICR.org/Educators-Conference



SAVE THE DATE

JULY 7-11

Billings, MT

**Yellowstone Valley Creation  
Conference and Field Trips**

(B. Thomas, F. Sherwin)  
ICR.org/YellowstoneValley



For the latest ICR Discovery Center live science presentations, check our schedule at [ICRdiscoverycenter.org/Live-Presentations](https://www.icrdiscoverycenter.org/Live-Presentations)

Providing a safe and enjoyable experience is a priority for ICR, and we are closely monitoring the COVID-19 situation. Since the public health recommendations are changing on a frequent basis, please check [ICR.org/events](https://www.icr.org/events) for the most up-to-date event information. If you have questions about a specific event, please send an email to [events@icr.org](mailto:events@icr.org) or call **800.337.0375** and press 6.



# Extinct Radionuclides

## article highlights

- When we hear the word extinct, we usually think of creatures that died off long ago.
- Some radioisotopes should be extinct if our solar system is billions of years old, but they are found in Earth's lithosphere.
- Their existence places an upper limit on Earth's age of about 15 million years, a tiny fraction of the time secular scientists hypothesize.

What do you think of when you hear the word extinct? Dinosaurs, perhaps? Maybe saber-toothed cats, mammoths, or short-faced bears? We might also include the more recent Bali tiger, passenger pigeon, and West African black rhinoceros.

There are a group of radioisotopes that are typically termed “extinct” (Table 1). They are defined as radionuclides that formed by stellar nucleosynthesis before the formation of the solar system about 4.6 billion years ago.<sup>1</sup> These radionuclides were somehow injected into the molecular cloud from which our solar system supposedly originated. They were thought to have decayed to an unmeasurable presence in solar system objects. It has long been believed that their daughter isotopes can be used to gain information about the early stages of the solar system's formation. Specifically, the short decay time for <sup>26</sup>Al (aluminum) has been used to measure the time between its supposed injection into the molecular cloud and the cloud's subsequent collapse.

There are at least four significant problems with this hypothetical scenario. First, it assumes the classical deep time model for the solar system's origin. Second, it has been shown that the formation of elements with atomic numbers above iron in the periodic table in a supernova is unlikely.<sup>2</sup> Third, it doesn't present a viable mechanism for how the extinct radionuclides were transported

from a nearby supernova to the supposed molecular cloud that generated our solar system. Fourth, the so-called extinct radionuclides still display measurable abundance ratios for Earth rocks (Table 1).

Radionuclide	Half-life (Ma)	Decay Mode	Daughter Nucleus	Abundance Ratio
<sup>10</sup> Be	1.5	β	<sup>10</sup> B	<sup>10</sup> Be/ <sup>9</sup> Be ~ 7.5x10 <sup>-4</sup>
<sup>26</sup> Al	0.73	β	<sup>26</sup> Mg	<sup>26</sup> Al/ <sup>27</sup> Al = 5.2x10 <sup>-6</sup>
<sup>36</sup> Cl	0.301	β	<sup>36</sup> Ar	<sup>36</sup> Cl/ <sup>35</sup> Cl ~ 1.7x10 <sup>-6</sup>
<sup>41</sup> Ca	0.15	β	<sup>41</sup> K	<sup>41</sup> Ca/ <sup>40</sup> Ca ~ 1.4x10 <sup>-8</sup>
<sup>53</sup> Mn	3.7	β	<sup>53</sup> Cr	<sup>53</sup> Mn/ <sup>55</sup> Mn = 6.3x10 <sup>-6</sup>
<sup>60</sup> Fe	1.5	β	<sup>60</sup> Ni	<sup>60</sup> Fe/ <sup>58</sup> Fe ~ 5.8x10 <sup>-8</sup>
<sup>107</sup> Pd	9.4	β	<sup>107</sup> Ag	<sup>107</sup> Pd/ <sup>108</sup> Pd ~ 5.9x10 <sup>-4</sup>
<sup>129</sup> I	16	β	<sup>129</sup> Xe	<sup>129</sup> I/ <sup>127</sup> I ~ 1.2x10 <sup>-4</sup>
<sup>146</sup> Sm	68	β	<sup>146</sup> Nd	<sup>146</sup> Sm/ <sup>144</sup> Sm = 0.0094
<sup>182</sup> Hf	8.9	β	<sup>182</sup> W	<sup>182</sup> Hf/ <sup>180</sup> Hf = 9.7x10 <sup>-5</sup>

**Table 1. Radionuclides thought to be absent from Earth and solar system objects due to their relatively short half-lives (Ma = millions of years)**

<sup>26</sup>Al was also found in meteoritic material in 1977.<sup>3,4</sup> The most likely nuclear reactions for generating <sup>26</sup>Al from <sup>27</sup>Al are <sup>27</sup>Al (p,d) <sup>26</sup>Al and <sup>27</sup>Al (n,2n) <sup>26</sup>Al.<sup>5</sup> Cross-sections for each reaction are not particularly large: 26 mb for the first and 116 mb for the second.<sup>6</sup> In addition, both reactions exhibit very sharp production cross-section peaks, the first at ~27 MeV and the second at ~20 MeV. While the production cross-sections for <sup>26</sup>Al make its production in meteoritic material containing <sup>27</sup>Al possible under the right conditions, it's not probable. So, its presence in meteoritic material presents a problem for secular science's dating of the solar system.

From Table 1, it's clear that the so-called extinct radionuclides exist in Earth's lithosphere at measurable levels. This means that either they must be continually produced in the near surface rocks, as is hypothesized for <sup>26</sup>Al in meteorites, or Earth is much younger than secular science demands. The existence of measurable amounts of <sup>60</sup>Fe, <sup>53</sup>Mn, <sup>26</sup>Al, <sup>36</sup>Cl, or <sup>41</sup>Ca in Cambrian and Precambrian rock layers makes the argument of continuous production problematic for secular science and supports a recent creation by imposing an upper limit of ~1.5 x 10<sup>7</sup> years on the age of the earth.<sup>7</sup> ☞

### References

1. Extinct radionuclide. *Wikipedia*. Posted on en.wikipedia.org.
2. Cupps, V. R. 2018. Stellar Nucleosynthesis: Where Did Heavy Elements Come From? *Acts & Facts*. 47 (1): 10-12.
3. Lee, T., D. A. Papanastassiou, and G. J. Wasserburg. 1977. Aluminum-26 in the Early Solar System: Fossil or Fuel? *The Astrophysical Journal*. 211: L107-L110.
4. Clayton, D. D. 1994. Production of <sup>26</sup>Al and other extinct radionuclides by low-energy heavy cosmic rays in molecular clouds. *Nature*. 368: 222-224.
5. The nuclear reaction nomenclature (p,d) on a target nucleus, such as <sup>27</sup>Al, represents an incident proton picking up a neutron from the target nucleus. The (n, 2n) reaction represents an incident neutron knocking out a neutron from the target nucleus. In both cases the residual nucleus is missing a neutron but remains an isotope of the target nucleus family, i.e., they have the same number of protons.
6. The abbreviations mb and MeV stand for one millibarn (1 x 10<sup>-28</sup> square centimeters) and one million electron volts (1.6022 x 10<sup>-13</sup> joules).
7. The half-life (amount of time for half of the radioactive isotope to decay) of <sup>60</sup>Fe is ~1.5 x 10<sup>6</sup> yrs. A general rule of thumb when measuring radioisotope concentrations is that they become unmeasurable using current technology after about 10 half-lives have passed, i.e., when their concentration is reduced by 2<sup>10</sup>. In the case of <sup>60</sup>Fe, that time interval would be ~1.5 x 10<sup>7</sup> years.

Dr. Cupps was Research Associate at the Institute for Creation Research and earned his Ph.D. in nuclear physics at Indiana University-Bloomington.





# The Fossils Still Say No: Missing Early Evolution of Land Vertebrates

One of the biggest hurdles for evolution to overcome is the transition of creatures from living in water to living on land. In the previous article, I showed how all of the alleged aquatic ancestors that were supposedly evolutionary precursors of terrestrial creatures were nothing more than unique types of fish-like creatures that couldn't have lived on land.<sup>1</sup> But the secular story gets even more implausible due not only to a huge absence of transitional fossils during the period of time in which the early land vertebrate evolution supposedly took place, but also to an explosion of complex terrestrial life at the beginning of the Carboniferous (Mississippian system).

During the mid-1900s, Alfred Romer, a Harvard vertebrate paleontologist, candidly noted that about 30 million years of time following the end of the Devonian (Age of Fishes) and extending into the overlying Carboniferous contained no transitional fish-to-tetrapod fossils to help the evolutionary cause.<sup>2</sup> This glaring lack of land-evolving tetrapod fossils became widely known among paleontologists as Romer's Gap.

Jennifer Clack, one of the leading vertebrate paleontologists of the modern era, candidly spoke of this huge evolutionary problem. In a 2009 publication she stated, "The fossil record of post-Devonian

## article highlights

- The fossils claimed as evolutionary water-to-land transitional creatures have either been fish or fully terrestrial.
- A lack of transitional fish-to-land vertebrate fossils, as well as a sudden explosion of land creatures in the fossil record, negates the evolutionary story.
- The fish and land creatures found in the fossil record are easily explained by the progressive nature of the Genesis Flood.

tetrapods is notoriously sparse for about 30 million years after the Devonian/Carboniferous (Mississippian system) boundary." She also said, "The origin of limbed tetrapods did not coincide with the acquisition of full terrestriality, an outcome that probably arose in the Early Carboniferous. This later part of the story is documented by few fossils."<sup>3</sup>

According to the evolutionary timeline, Romer's Gap ran from about 360 to 330 million years ago, corresponding to the first 30 million years of the Carboniferous, known as the early Mississippian or lower Carboniferous. Based on extensive research by ICR geologist Dr. Tim Clarey, these Early Carboniferous sediments likely represent

deposits from violent tsunami-like waters as the Flood rose higher and began to inundate the outer edges of land in the latter part of the Kaskaskia Megasequence.<sup>4</sup>

Not only do these deposits contain both aquatic and land animal fossils, they also include the first deposits of plant material from lowland coastal environments. While the global Flood model expects this rock record scenario, evolutionists see an enigmatic gap yielding a glaring discontinuity between the vast fossil deposits of diverse fishes found at the end of the Devonian and the sudden emergence of fully terrestrial creatures in the Carboniferous.

### Has Romer's Gap Been Shortened?

In recent years, evolutionists have claimed they've shortened Romer's Gap by about 15 million years (Ma) through two different fossil discoveries in Carboniferous sediments. The first animal claimed to have helped close the gap is *Crassigyrinus* (meaning "thick tadpole"), a distinctly fish-like creature with a streamlined tadpole-shaped body up to six feet in length (Figure 1). Paleontologist Michael Benton described it as "an elongate Moray eel-like animal with a massive head."<sup>5</sup> Its limbs were tiny and totally incapable of allowing it to live on land. In fact, the general consensus among paleontologists is that it was almost completely aquatic.<sup>5,6</sup> It had very large jaws with two rows of sharp teeth and could open its mouth as wide as 60°. Its very large eyes may have helped it see in dark murky waters in coastal swamps.



Figure 1. *Crassigyrinus scoticus*

Image credit: Nobu Tamura

Combined together, its bodily features suggest it was a fast swimmer and ideally suited for catching fish. The main reason evolutionists like to claim *Crassigyrinus* helps to close Romer's Gap is that it was discovered in Early Carboniferous strata during a time period in which a transitional form was desperately needed. However, this creature was clearly a full-time aquatic animal and not a transitional form at all.

The other major fossil finding thought to help close the gap is known as *Pederpes* (Figure 2). This extinct type of land tetrapod supposedly dated to about 348 Ma in the Carboniferous (Lower Mississippian), which would place it close to the middle of Romer's

Gap.<sup>7</sup> *Pederpes* was about three feet long, and the shape of the skull combined with forward-facing feet (rather than outward-facing) indicates it walked on land.

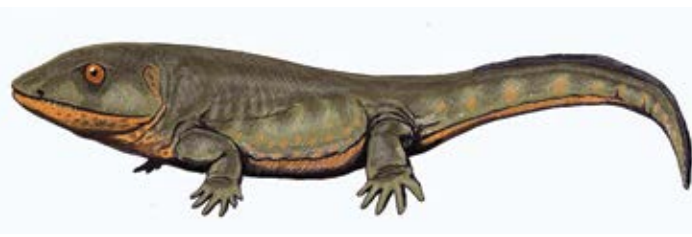


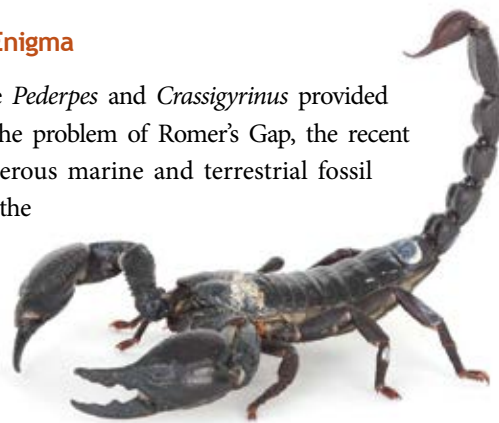
Figure 2. *Pederpes*

Image credit: DiBgd

In addition it had a narrow skull, suggesting that it breathed air using a muscular action similar to many living tetrapods instead of pumping air through its lungs using a throat pouch like amphibians do. Thus, it's believed that *Pederpes* was not only a fully terrestrial creature, it wasn't even categorized as an amphibian, which some evolutionists consider to be a potential transitional state. However, even amphibians are a complete enigma to evolutionists since they are extremely diverse and many have very complex life cycles.

### The Tournaisian Enigma

Not only have *Pederpes* and *Crassigyrinus* provided little resolution to the problem of Romer's Gap, the recent excavation of numerous marine and terrestrial fossil creatures in strata at the very beginning of the Carboniferous system known as the Tournaisian Stage has upset all sorts of evolutionary theories from the Devonian extinction to tetrapod evolution in general.<sup>8,9</sup> In the global Flood-based model of progressive burial by ecological zonation, the Tournaisian strata perfectly represent the first pulses of the tsunami-like floodwaters as they hit land.



These rock layers exhibit a distinct marine geochemistry and contain the first fossils of coastal land plants, lots of marine fish and fish-like aquatic creatures, and a variety of coastal terrestrial fauna. In fact, fully legged animals like arthropods (e.g., scorpions), amphibians, and even several different types of lizard-like creatures have been documented in these strata. In a paper on the subject, Clack and her coauthors say, "The new taxa and specimens suggest that tetrapod diversification was well established by the Tournaisian.... Tetrapods were probably living on vegetated surfaces."<sup>9</sup> As a result of these new fossil data at the base of the Carboniferous, any potential time for an evolutionary transition from water to land has now vaporized.

Not only has the water-to-land evolutionary story taken a huge

hit by the lack of transitional fossils and zero time for evolution to occur, even the Devonian extinction theory has become muddled. Clack and her coauthors state, “The early tetrapod fauna is not easily divisible into Devonian and Carboniferous faunas, suggesting that some tetrapods passed through the end Devonian extinction event unaffected.”<sup>8</sup> Indeed, fish fossils from Tournaisian sites around the world tend to be very similar in content, containing common and similar species of ray-finned fishes, lobe-finned fishes, acanthodians, sharks, and holocephalans.<sup>10</sup>

While evolutionary theory struggles to explain why some fish would have survived the Devonian extinction while others (e.g., armored fish like the placoderms) did not, the Flood model fits the data well. The global Flood itself would have killed significant numbers of all types of fish and largely buried them based on ecological zonation.

Furthermore, many of the unique pre-Flood marine ecological environments would have been destroyed, thus eliminating certain classes of fish that simply couldn't adjust to the less hospitable marine environments of the post-Flood world. The reason there is a mixing of marine animals with coastal creatures is because the sediment-laden floodwaters violently pushed up onto land, carrying marine fauna and mixing and depositing it with terrestrial fauna as represented by the top of the Kaskaskia Megasequence. This continual mixing of marine fossils with land creatures continued as the floodwaters progressed even farther to finally cover every landmass and terrestrial ecosystem. For example, in the Hell Creek Formation in Montana sharks are buried with dinosaurs in the highest level of the Flood (Cretaceous) marine sediments.<sup>11,12</sup>

## Conclusion

From an evolutionary standpoint, Romer's Gap still holds true in regard to a lack of transitional forms between fish and legged land tetrapods. However, there is no true distinct gap in the fossil record and no period of time for water-to-land tetrapod evolution to even take place. The initial layers of sediments in the rock record after the Devonian (Age of Fishes) in the Lower Carboniferous are chock-full of land-based animals and plants.

While none of these data either support or make sense in light of evolution, the global Flood-based model of progressive burial by ecological zonation over the year-long period described in Genesis fits the fossil and rock record closely. ❧

## References

1. Tomkins, J. P. 2021. The Fossils Still Say No: The Fins-To-Feet Transition. *Acts & Facts*. 50 (3): 10-13.
2. Romer, A. S. 1956. The early evolution of land vertebrates. *Proceedings of the American Philosophical Society*. 100 (3): 151-167.
3. Clack, J. A. 2009. The Fish-Tetrapod Transition: New Fossils and Interpretations. *Evolution: Education and Outreach*. 2: 213-223.
4. Clarey, T. 2020. *Carved in Stone: Geological Evidence of the Worldwide Flood*. Dallas, TX: Institute for Creation Research, 234-255.
5. Benton, M. J. 2015. Early Tetrapods and Amphibians. In *Vertebrate Paleontology*. West Sussex, UK: John Wiley & Sons Ltd.
6. Clack, J. A. 2012. Emerging into the Carboniferous: The First Phase. In *Gaining Ground: The Origin and Evolution of Tetrapods*. Bloomington, IN: Indiana University Press.
7. Clack, J. A. and S. M. Finney. 2005. *Pederpes finneyae*, an Articulated Tetrapod from the Tournaisian of Western Scotland. *Journal of Systematic Palaeontology*. 2 (4): 311-346.
8. Anderson, J. S. et al. 2015. A Diverse Tetrapod Fauna at the Base of 'Romer's Gap'. *PLoS ONE*. 10 (4): e0125446.
9. Clack, J. A. et al. 2016. Phylogenetic and Environmental Context of a Tournaisian Tetrapod Fauna. *Nature Ecology & Evolution*. 1: 0002.
10. Sallan, L. C. and M. I. Coates. 2010. End-Devonian extinction and a bottleneck in the early evolution of modern jawed vertebrates. *Proceedings of the National Academy of Sciences*. 107 (22): 10131-10135.
11. Clarey, T. 2015. Dinosaurs in Marine Sediments: A Worldwide Phenomenon. *Acts & Facts*. 44 (6): 16.
12. Clarey, T. 2019. Marine Fossils Mixed with Hell Creek Dinosaurs. *Acts & Facts*. 48 (4): 10.

Dr. Tomkins is Director of Research at the Institute for Creation Research and earned his Ph.D. in genetics from Clemson University.



Hell Creek formation in Montana  
Image credit: Makoshika State Park

# Some Marine Extinctions Were Caused by the Flood

Genesis describes a one-time global catastrophe that completely inundated the world, destroying all air-breathing land animals. God made provision through Noah and the Ark to preserve all dry-land creature kinds during this tumultuous judgment. Genesis 6:20 tells us, “Of the birds after their kind, of animals after their kind, and of every creeping thing of the earth after its kind, two of every kind will come to you to keep them alive.” Clearly, two of every kind of land animal were taken on the Ark. But did God make any special provision for the ocean life?

Paleontologists have found many extinct forms of life fossilized in the rock strata—virtually all of them buried during the Flood. Some of these animals went extinct over many centuries after getting off the Ark, including the land-dwelling dinosaurs.<sup>1</sup> But what about marine reptiles like ichthyosaurs, mosasaurs, and plesiosaurs? They weren’t on the Ark, and yet they also disappear in the rocks near the top of the Mesozoic, just like the Flood-fossilized dinosaurs do. Did these marine reptiles survive the Flood?

Then there are the many shallow marine forms of life that no longer populate today’s waters. There are trilobites, fusulinids, and rugose and tabulate corals, as well as many of the brachiopods and bryozoans.<sup>2</sup> All of these animals disappear in the rock record near the end of the Paleozoic. There are also ammonoids, rudist clams, and even many planktonic foraminifera.<sup>2</sup> These animals all vanish in the rocks near the end of the Mesozoic, just like some of the larger marine reptiles mentioned above.

Were these disappearances caused by mass extinction events as secular scientists have proposed?<sup>2</sup> It doesn’t appear so. These so-called extinctions are actually just the last appearance of a fossil in the rock record. The progressive destruction and burial of pre-Flood biomes likely formed many marine fossils, just like the land animals entombed later. Higher water levels would naturally destroy higher ecological zones and produce distinctive fossils. This was most likely true for the oceans as well. The earliest floodwaters would have buried marine life in the lowest elevations of the shallow seas, like many trilobites and brachiopods. But why don’t we see these same animals alive today?

Stromatolites, a form of algal deposit, are fairly common fossils in pre-Flood sedimentary rocks. Up until 1956, scientists believed they were extinct. But today they are found in a couple of places in



*Mosasaurus*

the world—in areas that have a special water chemistry.<sup>3</sup> It’s likely that shallow marine animals like trilobites, brachiopods, and rugose and tabulate corals also required an environment with a vastly different water chemistry—environments that were completely destroyed in the Flood.<sup>3</sup> With their natural environment destroyed, many of the animals that inhabited these shallow seas went extinct.

Larger marine reptiles—like ichthyosaurs, mosasaurs, plesiosaurs, and the free-swimming ammonites—may have required large areas of warmer ocean water than we find today. It’s also possible they required lower salinity in their water. It seems reasonable to conclude that the pre-Flood oceans had lower salinity levels than modern ocean water.<sup>3</sup> Post-Flood changes in temperature and salinity may have adversely affected some marine animals and ultimately caused their extinction, just like changes in climate after the Flood likely caused the dinosaurs to slowly die off.<sup>1</sup>

God preserved many life forms in the oceans. Many animals found refuge in the deeper water and were largely unaffected by the tsunami-like waves passing through. By His mercy, our oceans today are teeming with life. But the message of His wrath is still there for us to see. The many extinct marine animals, like the trilobites, should serve as reminders of the global Flood. Their fossils are evidence of a “world that then existed perished” (2 Peter 3:6), being completely destroyed by a watery judgment. ☞

## References

1. Thomas, B. 2016. Were Dinosaurs on Noah’s Ark? *Acts & Facts*. 45 (2): 20.
2. Wicander, R. and J. S. Monroe. 2016. *Historical Geology: Evolution of Earth and Life Through Time*, 8th ed. Boston, MA: Cengage Learning.
3. Clarey, T. 2020. *Carved in Stone: Geological Evidence of the Worldwide Flood*. Dallas, TX: Institute for Creation Research, 152-171.

*Dr. Clarey is Research Associate at the Institute for Creation Research and earned his Ph.D. in geology from Western Michigan University.*

## article highlights

- Land-dwelling creatures boarded the Ark, but some animal kinds went extinct after the Flood.
- If oceans protected marine life during the Flood, why did some ocean-dwelling creatures go extinct afterward?
- Pre-Flood oceans might have been warmer and had lower salinity, and post-Flood changes could have caused some ocean creatures to die off.

# Building a Perfectly Optimal Flying Machine

For thousands of years, people have dreamed of flying because they witnessed birds and knew it was possible. Inspired by a study of birds, the Wright brothers created the first functional flying machine in 1903.<sup>1</sup> What does it take to build a plane, and what can that tell us about creation?

Let's run a thought experiment to compare human design processes to creation. All design efforts start with a purpose. Say our goal is to build the world's safest, most efficient 200-passenger aircraft capable of 7,000-mile nonstop flights, and money is no object.

We'll begin by recruiting the most talented and experienced aeronautical designers, pilots, engineers, machinists, technicians, and computer experts available. Only specific applicable skill sets will suffice.

## Top-Down Design

We start the design effort with the clear objective stated above regarding safety, efficiency, passenger capacity, and flight range. Existing world-class aircraft will be our benchmarks—our new flying machine must exceed their capabilities.

Beginning with that specific goal, our team then establishes the overall functional requirements the craft needs to meet the objective. Then we determine the required subsystems supporting each of those basic functions. Only after laying out all the systems and subsystems does the team determine the parts needed for each.

Our team then designs, plans, and models to the required specifications and selects the model best suited to meet the objective. We test, analyze, and adjust that model to the predetermined objective, i.e., to exceed the safety and efficiency levels of the benchmark airplanes. This kind of top-down design is described by Dr. Stuart Burgess in a YouTube video on creation engineering.<sup>2</sup>

## No Dice Allowed

In Darwinian evolution, bottom-up design is proposed. Evolutionists claim they have a mechanism to explain creature design, but it's the opposite of human engineering.<sup>3</sup> Random chance processes are claimed to somehow drive forces that build and cobble together parts, tinker with the simplest forms of living creatures, and slowly mold them into extraordinary creatures...like birds.

But intricate creatures and complex mechanical machines have systems that must efficiently work together. Many of these systems are wholly dependent on each other. Each part is planned and placed exactly where it fulfills a requirement so that systems achieve functional coherence.<sup>3</sup> Aircraft pieces seamlessly fit together because a team of expert sentient beings with volitional intent designed them to fit together. Each piece is consciously suited for a specific task. In both the living bird and the flying machine, every system and every piece

## article highlights

- Creating anything as intricate as a flying machine requires a clear objective, expert top-down design, and purposeful action at every step of the development process.
- Evolution claims that the opposite approach—chance processes over time—achieves the same result, but that scenario won't fly.
- Comparing a human building effort to evolution affirms the marvelous intricacy and optimal engineering reflected in Christ Jesus' creation.

must be in place and working for successful flight to occur.

The end goal is top-of-mind in each team member's effort at every step of the design and building process. One clearly-defined common objective drives the operation—nothing is left to chance. On the contrary, every effort is made to *eliminate chance* from the process. Building something even modestly intricate is never a random procedure.

## Conclusion

What did we learn from our thought experiment? Function (in this case, optimal safety and efficiency in flight) only occurs when all the proper pieces are in place, integrated and operating at the same time. Bottom-up design doesn't work. Random processes can't create anything complex, much less something functionally intricate and irreducibly complex like a living creature or a jet airplane.

Comparing a human building effort to evolution shows the great weakness of Darwin's theory and opens our eyes to the majesty of Christ Jesus' creative process. He knew exactly which creatures He wanted to create, suited each one from the top-down, and placed them exactly where He wanted them.

Christ reveals Himself in creation, and one reason He placed birds in the air might be so we would seek to fly ourselves. Only God can create a perfect flying machine because only He is all-knowing. And in our efforts to fly, we follow His lead. ✞

## References

1. Bergman, J. 2018. Bioinspiration: The Birds Will Tell You. *Acts & Facts*. 47 (9): 16.
2. Burgess, S. How is the Creation Engineered for Life? From *Is Genesis History*, posted on youtube.com August 19, 2018.
3. Guliuzza, R. 2012. *Clearly Seen: Constructing Solid Arguments for Design*. Dallas, TX: Institute for Creation Research. This book explains in detail many of the design and engineering concepts addressed in this article.

Mr. Stamp is an editor at the Institute for Creation Research.



# Q. Does Recent Research Support Human Evolution?

**A:** In 1997, the Institute for Creation Research ran an *Acts & Facts* article on the lack of compelling evidence regarding our supposed evolution from ape-like ancestors.<sup>1</sup> Years have passed, and it's time to see how the case for human evolution has fared since then.

It turns out, not so well. To begin with, secular publications are refreshingly blunt: “The past 15 years have called into question every assumption about who we are and where we came from. Turns out, our evolution is more baffling than we thought.”<sup>2</sup> Another article admitted, “Because fossils are so scarce, researchers do not know what the last common ancestors of living apes and humans looked like or where they originated.”<sup>3</sup>

The work of ICR geneticist Dr. Jeff Tomkins shows that chimpanzee and human genomes are not nearly as close as the 98%+ traditionally touted by Darwinists.<sup>4</sup> The most recent data show that the human and chimpanzee genomes are no more than about 85% similar.

Even studies comparing the saliva of man and ape fail to make an evolutionary connection. According to a secular publication, “We discovered unique protein profiles in saliva of humans that were distinct from those of non-human primates.”<sup>5</sup>

Anagenesis is an evolutionary term meaning “speciation,” a process in which numerous species originate along a single line of descent. Since 1996 (and well before), the “ancestor-descendant sequence” (anagenesis)

of human evolution has been plagued with the problem of the child being born before the parent—or grandparent. Satisfying progressions from ape-like creatures to more human-like beings were—and are—constantly challenged by serious out-of-place fossil discoveries. Examples abound, such as two species of *Australopithecus*.

We further demonstrate that *A. anamensis* and *Australopithecus afarensis* differ more than previously recognized and that these two species overlapped for at least 100,000 years—contradicting the widely accepted hypothesis of anagenesis...Most importantly, MRD [a newly discovered cranium] shows that despite the widely accepted hypothesis of anagenesis *A. afarensis* did not appear as a result of phyletic [evolutionary] transformation.<sup>6</sup>

In 2015, evolutionists introduced a fossil named *Homo naledi* that was immediately embraced as a human ancestor. Being comfortable with a date of three million years, “Prof [Lee] Berger [said] *naledi* could be thought of as a ‘bridge’ between more primitive bipedal primates and humans.”<sup>7</sup> But alas, it has now been shown to be much younger than previously thought, overlapping with anatomically modern humans.<sup>8</sup>

And there's more bad news. In 2002 *Sahelanthropus tchadensis* was discovered and declared an early human relative, but it “may not have been a hominin at all, but rather was more closely related to other apes like chimps.”<sup>9</sup>

When we turn to more recent human ancestors, we see they are 100% people. Secular scientist Michael Denton stated:

Neanderthals and Denisovans must be classed as subspecies or races of *Homo sapiens*, and this would suggest that they may

## article highlights

- Scientific research continues to fail in uncovering evidence for human evolution.
- Humans and chimps are about 10 times more genetically different than evolutionists usually claim—15% rather than 1.5%.
- Out-of-place fossils keep disrupting supposed evolutionary lines of descent.
- Rather than supporting Darwinian evolution, recent research throws serious doubt on the theory.

also have had language and relatively high intelligence.<sup>10</sup>

Language and relatively high intelligence? Most of your neighbors would fit that description.

Vain efforts by evolutionary naturalists continue as they attempt to connect people with chimpanzees and shattered hominid fossils. Regardless, the message of the Bible is clear—man has been created in God's image since the beginning. ✎

### References

1. Sherwin, F. 1997. “Human Evolution” An Update. *Acts & Facts*. 26 (9).
2. Barras, C. Who are you? How the story of human origins is being rewritten. *New Scientist*. Posted on newscientist.com August 23, 2017, accessed February 5, 2021.
3. New Study Suggests That Last Common Ancestor of Humans and Apes Was Smaller than Thought. American Museum of Natural History press release. Posted on amnh.org October 12, 2017.
4. Tomkins, J. P. 3-D Human Genome Radically Different from Chimp. *Creation Science Update*. Posted on ICR.org January 7, 2021, accessed February 5, 2021; Tomkins, J. P. 2018. Separate Studies Converge on Human-Chimp DNA Dissimilarity. *Acts & Facts*. 47 (11): 9.
5. Thamadilok, S. et al. 2019. Human and Non-Human Primate Lineage-Specific Footprints in the Salivary Proteome. *Molecular Biology and Evolution*. 37 (2): 395-405; Tomkins, J. P. Ape Spit Radically Different from Human. *Creation Science Update*. Posted on ICR.org November 12, 2019, accessed February 11, 2021.
6. Haile-Selassie, Y. et al. 2019. A 3.8-million-year-old hominin cranium from Woranso-Mille, Ethiopia. *Nature*. 573: 214-219.
7. Ghosh, P. New human-like species discovered in S Africa. *BBC News*. Posted on bbc.com September 10, 2015, accessed February 12, 2021.
8. Rincon, P. Primitive human ‘lived much more recently.’ *BBC News*. Posted on bbc.com April 25, 2017, accessed February 12, 2021.
9. Marshall, M. Our supposed earliest human relative may have walked on four legs. *New Scientist*. Posted on newscientist.com November 18, 2020, accessed February 12, 2021. Tomkins, J. P. *Sahelanthropus* Femur Likely Makes It a Chimp. *Creation Science Update*. Posted on ICR.org December 10, 2020, accessed February 11, 2021.
10. Denton, M. 2016. *Evolution: Still a Theory in Crisis*. Seattle, WA: Discovery Institute Press, 198.

Mr. Sherwin is Research Associate at the Institute for Creation Research and earned his M.A. in zoology from the University of Northern Colorado.





# THE PAINTED DESERT: FOSSILS IN FLOODED MUD FLATS

BRIAN THOMAS, P.H.D., AND TIM CLAREY, P.H.D.

## article highlights

- Extensive water activity created Arizona's gorgeous Painted Desert rock layers.
- Its petrified trees needed violent volcanic origins.
- Something big brought sea creatures onto land and mixed them with terrestrial creatures in fossil graveyards.
- The Painted Desert's main features paint a picture of the reliability of the Genesis Flood account.



The Painted Desert stretches across 120 miles of northern Arizona. Its sedimentary rocks show bright orange, gold, white, and even purple layers (Figure 1). Amidst this desert lies Petrified Forest National Park, named after its famed stone tree trunks. Here, sands and muds covered both strange and common creatures. Fossils include armored reptiles like aetosaurs, agile dinosaurs like *Revueltosaurus*, and clams.

What happened on the earth to trap these animals and plants in single layers of sediment that sprawl from Idaho to Texas? Some explanations fit these facts better than others.

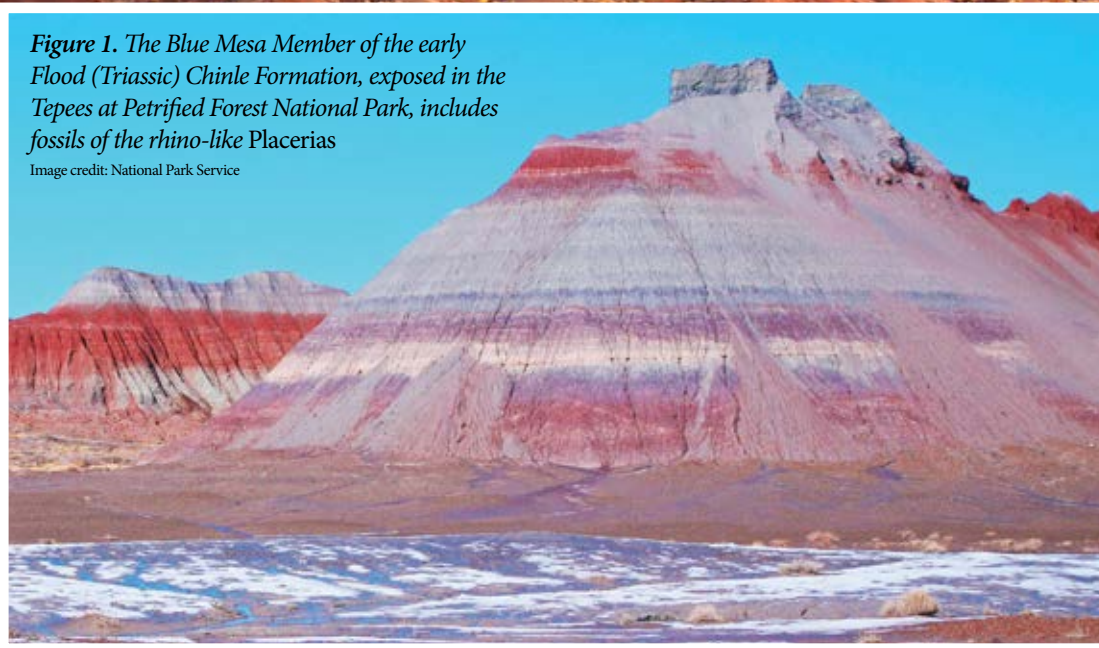
### Fictional Rivers

It's hard to avoid seeing copies of the book *Dawn of the Dinosaurs* in the Painted Desert Visitor Center.<sup>1</sup> Although the Painted Desert receives little rain today, its rock layers paint the picture of a watery start. *Dawn of the Dinosaurs* calls upon fast-flowing water to explain these rocks and fossils.

The Chinle Formation placed in the early phases of the Flood (Upper Triassic) contains the many petrified trees in the park. It extends from Wyoming to Texas and from Oklahoma to Nevada.<sup>2</sup> *Dawn of the Dinosaurs* says this area formed when “ener-

**Figure 1.** The Blue Mesa Member of the early Flood (Triassic) Chinle Formation, exposed in the Tepees at Petrified Forest National Park, includes fossils of the rhino-like *Placerias*

Image credit: National Park Service





**Figure 2.** ICR’s Dr. Brian Thomas faces winter winds at the Painted Desert  
 Image credit: Rob Wegner

getic, sediment-rich rivers moved across the region.”<sup>2</sup> What about burying big amphibians? The book explains that perhaps “a river seasonally flooded over its banks.”<sup>3</sup>

But today’s seasonal floods don’t result in fossils, so why should we believe they did so in the past? We would need massive sheets of water, not little rivers, to make the colorful layers that blanket such enormous regions.

Secular geologists recognize sheet erosion, a process the book doesn’t mention.<sup>4</sup> Enough water can clear everything in its path. At the Painted Desert, fluid has carried and buried sediment and creatures across a vast, flat area (Figure 2). In contrast, rivers stay near their channels. Look at how the rocks in the park extend continuously for hundreds of square miles without clear river channels. Do some uniformitarian geologists misidentify sheet flow features as ancient rivers? The same rock layers seen at the Painted Desert and far beyond Arizona demand unimaginably more floodwater and force than regular rivers can deliver.

New Mexico’s Ghost Ranch, north of Santa Fe, exposes more of the same sediments. There, dinosaurs and other fossils (Figure 3) pooled in place “after floods.”<sup>5</sup> Certain Ghost Ranch quarries contain hundreds of *Coelophysis* dinosaur skeletons that

“look as if they were deposited in a single event, probably a massive flood.”<sup>6</sup> It’s hard to envision the colossal scale and depth of water these deposits imply.

**Fictional Soils**

Typical tales tell of ancient soils that accumulated on river floodplains to explain colorful banded layers visible across the Painted Desert.<sup>3</sup> However, these look nothing like soil horizons we see today. Real soil profiles reveal roots and a gradual increase in organic material toward the top. The Painted Desert’s distinct, not gradual, layers lie continuous for miles in all directions.

**Petrified Trees from Catastrophes**

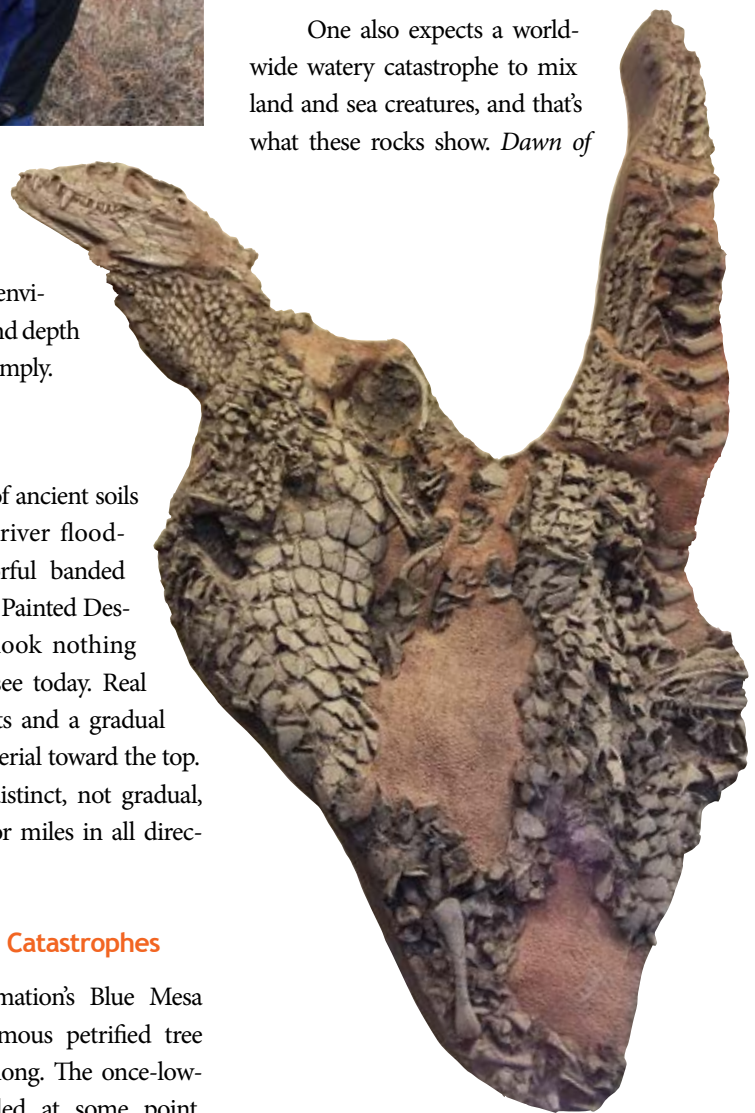
The Chinle Formation’s Blue Mesa Member has world-famous petrified tree trunks up to 180 feet long. The once-low-lying area “was flooded at some point, drowning the trees.”<sup>2</sup> But the simple drowning of trees doesn’t break trunks off their roots. Petrified trees in the Painted Desert rarely have roots (Figure 4). Silica-rich

(quartz) minerals from widespread volcanic activity helped petrify them.

What force could have sheared trees at ground level, ripped off all their limbs, and buried the logs in sediment? Forty years ago, in mere minutes the main Mount St. Helens volcanic explosion stripped thousands of tree trunks of bark, roots, and branches. When massive tsunami waves come onshore, they also shear off vegetation en masse. Much bigger volcanic blasts and tsunami waves that occurred during the Flood year help explain the Painted Desert’s petrified trees.

**Land and Sea Collide**

One also expects a world-wide watery catastrophe to mix land and sea creatures, and that’s what these rocks show. *Dawn of*



**Figure 3.** The Ghost Ranch quarries contain dragon-like *Vancleavea* skeletons like this example that preserves skin scale structure  
 Image credit: Fanboyphilosopher (Neil Pezzoni)

the *Dinosaurs* says, “The Blue Mesa Member preserves a variety of aquatic and terrestrial creatures,”<sup>7</sup> and the same words apply to other formation members. Table 1 shows fossil animals and plants from mixed environments in the Chinle Formation.

Fossils include mammals; reptiles like turtles, lizards, dinosaurs, and crocodylians; frogs; and birds.<sup>8</sup> Shark and coelacanth fossils show up too. Coelacanths live today at about 500 feet or more deep in the sea.<sup>9</sup> Most sharks are also marine. It takes a cataclysm to slam ocean onto land.

### Key Lessons from the Painted Desert

ICR’s scientists interpret the geologic layers exposed in the Painted Desert as major episodes of the rising waters during Noah’s global Flood. The Absaroka Megasequence of rock layers looks similar on all of Earth’s continents.<sup>10</sup> During this phase, wa-



**Figure 4.** The fossil trees got their color from quartz-rich ground water percolating through volcanic ash. This process replaced much of the original wood with quartz and agate. Impurities like iron, copper, and carbon made the beautiful mixtures of yellow, red, green, blue, and the black hues.

General Creature Type	Specific Creature Kind	Creature’s Setting
Dicynodonts	<i>Placerias</i>	land
Amphibians	Frogs	water + land
Birds	<i>Protoavis</i>	air + land
Lizards	<i>Trilophosaurus</i>	land
Reptiles	<i>Aetosaurus</i> (var. sp.)	land
	<i>Dromomeron</i>	land
Crocodylomorphs	<i>Pseudosuchus</i>	water + land
	<i>Phytosaurs</i> (var. sp.)	water + land
	<i>Revueltosaurus</i>	water + land
	<i>Vancleavea</i>	water
Arthropod	Mite (plant galls)	land
	Bark beetle (bore holes)	land
Crustaceans	Clam shrimp	water
	Crayfish	wetland
Chondrichthyan	Shark teeth	water
	Coelacanth	water
Osteichthyan	Fish scales, bones	water
Bivalves	Unionoid clams	water
Gastropods	Snails	water
Dinosaurs	<i>Coelophysis</i>	land
	<i>Chindesaurus</i>	land
Mammals	Treeshrews	land
Conifers	<i>Agathoxylon</i>	land
Cycads (Sago palms)	<i>Sammiguelia</i>	wetland
	<i>Charmargia</i>	wetland
Lycopods	(var. sp.)	wetland
Tree-ferns	<i>Itopisdema</i>	wetland

**Table 1.** Plant and animal fossils in the Chinle Formation and its equivalents

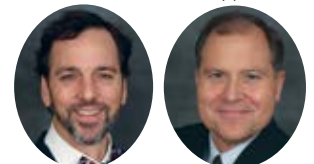
ters flooded broad pre-Flood lowlands and coastal regions. Tsunami-like waves carried in marine animals like coelacanths and sharks and mixed them with wetland animals like crocodylians. Every continent has land and marine fossils buried together—powerful evidence for the global Flood.<sup>11,12</sup>

River systems and soils today look nothing like the Painted Desert’s rocks and fossils. The enormity of the Flood explains the wide spread of each rock layer. Volcanic eruptions during the Flood contributed ash and silica to petrify violently buried trees. Draining floodwaters carved the landforms. Since the Flood explains the Painted Desert’s main features, this park in Arizona paints a picture of the reliability of Genesis. ☞

#### References

- Sadler, K., W. Parker, and S. Ash. 2015. *Dawn of the Dinosaurs*. Petrified Forest, AZ: Petrified Forest Museum Association.
- Ibid, 35.
- Ibid, 45.
- Plummer, C. C., D. McGeary, and D. H. Carlson. 2005. *Physical Geology*, 10th ed. New York: McGraw Hill, 230.
- Sadler et al, *Dawn of the Dinosaurs*, 86.
- Ibid, 92.
- Ibid, 48.
- Chatterjee, S. 2015. *The Rise of Birds: 225 Million Years of Evolution*, 2nd ed. Baltimore, MD: Johns Hopkins University Press.
- Tomkins, J. P. 2021. The Fossils Still Say No: The Fins-To-Feet Transition. *Acts & Facts*. 50 (3): 10-13.
- Clarey, T. 2020. *Carved in Stone: Geological Evidence of the Worldwide Flood*. Dallas, TX: Institute for Creation Research, 256-281.
- Clarey, T. 2015. Dinosaurs in Marine Sediments: A Worldwide Phenomenon. *Acts & Facts*. 44 (6): 16.
- Clarey, T. 2019. Marine Fossils Mixed with Hell Creek Dinosaurs. *Acts & Facts*. 48 (4): 10.

Dr. Thomas and Dr. Clarey are Research Associates at the Institute for Creation Research. Dr. Thomas earned his Ph.D. in paleochemistry from the University of Liverpool, and Dr. Clarey earned his Ph.D. in geology from Western Michigan University.



# BEWARE SINKHOLES AND OTHER FAILING FOUNDATIONS



The sudden falling of some Christian schools can be compared to tiankengs, the geological term used for sinkholes that are at least 300 feet deep.<sup>1,2</sup> Smaller sinkholes are more common, such as those found in karst-limestone-dominated lands, such as the cenotes that permeate the cavernous areas of Mexico's Yucatan Peninsula.<sup>3</sup> America has its own sinkhole regions in Florida, Georgia, Wisconsin, Missouri, and regions bordering the Chesapeake Bay.<sup>3</sup>

What is a sinkhole, geologically speaking?

A sinkhole is an area of ground that has no natural external surface drainage—when it rains, all of the water stays inside the sinkhole and typically drains into the subsurface.... Typically, sinkholes form so slowly that little change is seen in one's lifetime, but they can form suddenly when a collapse occurs.... Sinkholes form in what geologists call "karst terrain"... a region where the bedrock [usually limestone, dolomite, or gypsum] can be dissolved by ground water.<sup>3</sup>

As we examine nature closely, parallels can be found between what we observe physically and what we observe spiritually (Matthew 7:24-27). Recently, one ICR scientist met with leaders of a well-known Christian education institution. In previous generations, this prestigious seminary was famous for training men and women in God's truth and equipping them to serve Him responsibly all over the world.<sup>2</sup> Although the number of students at this school has grown impressively over recent decades, the school's distinctively Christian educational quality has diminished just as noticeably.

Sadly, that school is now compromised theologically, socially, and academically. It flies a flag of Bible-based Christian education, yet its programs now deliver predominantly worldly wisdom (1 Corinthians 3:19-20). Its educational courses focus on the academic equivalent

of what C. S. Lewis called "being like [secular] folks."<sup>4</sup>

Institutional scandals—unbefitting any Christian school—have become so common that they no longer are reported as news. What caused this downward trend? In other words, how did the once standing-tall-for-Christ school drop deeply into a sinkhole?

Like disintegrating soft limestone, unseen, the underlying foundation of the above-noted school's teaching eroded away gradually, without anybody noticing.<sup>2</sup> The school's trust in the Word of God was slowly dissolved, being washed away by contra-biblical compromises here and there, often failing to affirm and adhere to the authority and relevance of Genesis (John 5:44-47).

Christian schools need to teach God's truth—and real truth is recognized with certainty when it's grounded on the specific teachings of Scripture (John 17:17). The Bible must be the bedrock foundation for all informational instruction,<sup>2</sup> and the often-neglected creation account is a Bible basic. Christ's role and actions as Creator must be taught alongside His identity as the death-conquering Son of God.

When that scriptural foundation disappears, unseen by those who only view surface activities, what will happen? When we examine the foundations of biblical education, earth science provides us with a helpful lesson: if accumulating subsurface dissolution isn't remedied in time, the ground above will soon cave in, its weight falling in upon an eroded foundation, leaving a sinkhole of hazardous wreckage. ☹

## article highlights

- Despite successful appearances, some historically Christian schools have lost their original stability and strength by caving in to worldly education influences.
- These schools are like sinkholes in that the collapse begins with subtle erosion of the underlying foundation.
- Erosion happens when the school accepts unbiblical theories instead of repelling such errors as foundation-compromising intrusions.
- Christ's creatorship is a foundational Bible doctrine, so when it is downplayed or ignored in Christian schools, the resulting education is undermined and fails.

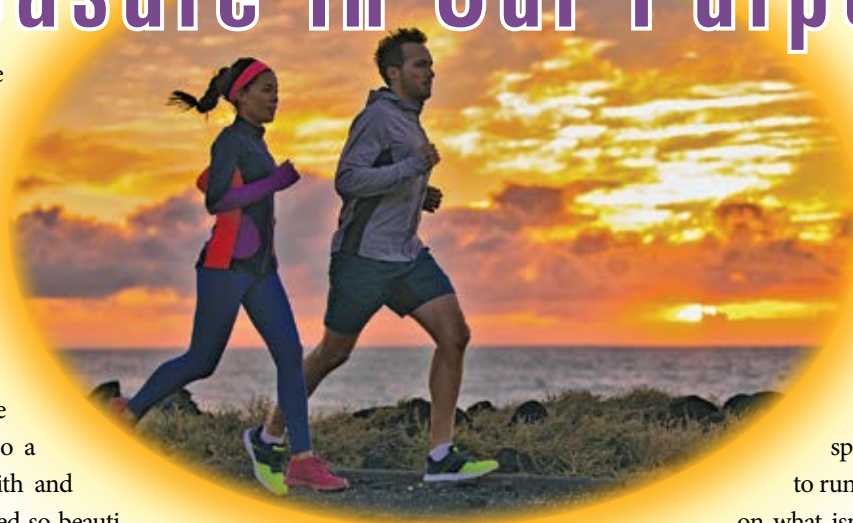
## References

1. Rare species of plants and animals discovered in sinkholes in China. Associated Press, May 7, 2018.
2. Matthew 7:24-27; Psalm 11:3. Christian education institutions, as they teach God's truth, can benefit from biblical apologetics, which involves verifying that God's truth is true, i.e., how we can know what is God's truth (and why it is reliable as truth). Some readers may try to guess which once-integrity-filled schools are described here. Actually, this article was written to describe the common/composite experience of five such schools. Sadly, this article describes many more such "Christian" institutions.
3. Kaufmann, J. E. 2007. Sinkholes. Fact Sheet 2007-3060, U.S. Geological Survey. Numbers 16 reports how God once used a sinkhole to swallow up Korah and his rebel allies. This author first observed a cenote at Chichen Itza (in the Turquoise-browed Motmot habitat) in Mexico's Yucatan Peninsula during a 1998 excursion of the *Norwegian Star*. For more on sinkhole geology, see Silvestru, E. 2008. *The Cave Book*. Green Forest, AR: Master Books, 75-76.
4. Lewis, C. S. 1977. *The Screwtape Letters—Screwtape Proposes a Toast*. New York: Macmillan Publishing, 76-79. Compare John 5:44.

Dr. Johnson is Associate Professor of Apologetics and Chief Academic Officer at the Institute for Creation Research.



# Pleasure in Our Purpose



Eric Liddell was one of the most famous athletes of the 20th century and perhaps the greatest that Scotland ever produced. An international rugby player, Olympic champion, and world-record-holding sprinter, the “Flying Scotsman” was also a man of deep Christian faith and conviction—a story captured so beautifully in the 1981 Oscar-winning film *Chariots of Fire*.

During the 1924 Olympics, Liddell made international headlines when he withdrew from the 100-meter race—his best event—because the qualifying heats were held on Sunday. He suffered much ridicule at the time but refused to compromise his conviction to honor God. Unknown to most, Liddell had set his sights on full-time ministry in China. But his desire to compete was also strong, a position he explained to his sister in a pivotal scene in the film: “Jenny, you’ve got to understand. I believe God made me for a purpose—for China. But He also made me fast! And when I run, I feel His pleasure. To give it up would be to hold Him in contempt.”

Liddell would later compete in the 400-meter race—an event in which he was not favored—and surprised the world by winning Olympic gold. Overnight he became the most famous man in the British Empire and the world of athletics, and his testimony and fame greatly aided his missionary work in China. Without question, Eric Liddell was a born athlete. God made him fast, but God also used his speed for a

## article highlights

- Christ Jesus made each of us for a purpose, and we find pleasure in that calling.
- He equips each person for the purposes He chooses for them.
- ICR’s purpose is to proclaim Christ’s creation and the truth of God’s Word.
- Please prayerfully support us as we run the race together.

far greater purpose.

The Old Testament prophet Jeremiah was also born for a purpose. “Before I formed you in the womb I knew you; before you were born I sanctified you; I ordained you a prophet to the nations” (Jeremiah 1:5). But unlike the Flying Scotsman, Jeremiah won no races, no gold medals, and he never experienced the glory and adulation of fame. Instead, tears of anguish dampened his cheeks as the “weeping prophet” spent decades calling God’s people to repentance. Jeremiah suffered great persecution and ridicule throughout his ministry (e.g., Jeremiah 20:1-7), but his sense of divine purpose drove him to fulfill God’s calling, and he felt God’s pleasure when doing what he was born to

do. Even in the darkest days of apostasy, he could rest in the assurance that God’s “compassions fail not” for “the LORD is my portion...therefore I hope in Him!” (Lamentations 3:22-24).

There’s a saying in sports that “you can’t teach speed.” You can coach a man to run faster, but you can’t improve on what isn’t already there. Such is the case with Liddell and Jeremiah. We’d never expect God to call a man to be an Olympic sprint champion without outfitting him first with speed, nor would God call a man to be a prophet without equipping him for the task. God not only gave Jeremiah the words to speak, but He also strengthened his resolve, promising to protect and deliver him from the fight to come (Jeremiah 1:7-10, 18-19). And armed with these assurances, Jeremiah faced his foes and ran the race God called him to run.

Few are born to be athletic champions. Fewer still are born to be prophets of national repentance. But we were all born to be something. And believers especially must be sensitive to God’s purpose for their lives. ICR was born to study and proclaim the veracity of God’s Word—from Genesis to Revelation—and to disciple God’s people and strengthen their walk and witness for Him. God has equipped ICR for this purpose. We invite like-minded believers to join us. Feel His pleasure as we run the race until Christ returns. ✨

Mr. Morris is Director of Donor Relations at the Institute for Creation Research.



Prayerfully Consider Supporting **ICR** Online Donations Stocks and Securities IRA Gifts Matching Gift Programs CFC (Federal/Military Workers) Gift Planning • Charitable Gift Annuities • Wills and Trusts

ICR is a recognized 501(c)(4) nonprofit ministry, and all gifts are tax-deductible to the fullest extent allowed by law.

Visit [ICR.org/donate](http://ICR.org/donate) and explore how you can support the vital work of ICR ministries. Or contact us at [stewardship@ICR.org](mailto:stewardship@ICR.org) or **800.337.0375** for personal assistance.

# Bees



Bumblebees, honeybees, stingless bees—yes, please! Jesus designed bees with tiny brains, but they are very smart. Jesus made bees and plants to work together. Get the buzz on brainy bees below! Did you know...

- ✓ Bees help flowers. As bees eat the flowers' pollen, they spread it around so more flowers can grow.
- ✓ Flowers help bees. When bees can't find pollen, they nibble on the leaves of a flowering plant. The plant responds by blooming early!
- ✓ Bees dance! Their movements tell other bees where to find food.
- ✓ Bees support life. They transform flower nectar into honey that people and animals can eat.
- ✓ Bees do math. They can also learn new skills and teach them to other bees.
- ✓ Bees sometimes sting—but that wasn't always the case. The Bible tells us that everything in creation was "very good" before Adam and Eve sinned. You can read about it in Genesis 1!



Unscramble the words below.

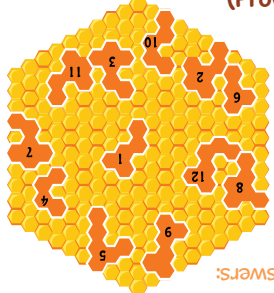
1. nadec \_\_\_\_\_
2. vehi \_\_\_\_\_
3. lelopn \_\_\_\_\_
4. hmcboonye \_\_\_\_\_

Complete the honeycomb puzzle.

Fill in the blank.

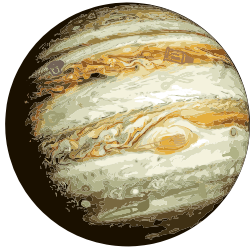
“\_\_\_\_\_ words are like a \_\_\_\_\_, Sweetness to the \_\_\_\_\_ and health to the \_\_\_\_\_.”

(Proverbs 16:24)



Puzzle answers:

Word scramble answers: 1. dance, 2. hive, 3. pollen, 4. honeycomb, Fill in the blank answers: Pleasant, honeycomb, soul, bones.



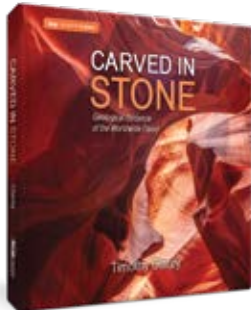
Thank you very much for the Creation Kids [page]. Bobby, my nephew, enjoyed working through it.

— A. C.



Thanks for standing for truth, ICR! I'm almost done with *Carved in Stone*, and it's a wonderful testament to how God's handiwork shows us He is real and how powerful He is. It's forever changed the way I think about the Flood event and how He works His plan into both the most minute and magnanimous details.

— C. H. R.



I am so pleased with the books you sell. Very high-quality publications in hardcover.

— G. H.

**ICR By the Numbers**

In the last 12 months, the ICR distribution center, Discovery Center, and customer service staff processed **14,798** orders.



True story: I once helped a blind guy who came to the [ICR Discovery Center for Science & Earth History] solely to feel the bas relief of the *Stegosaurus* on the wall.

— B. K.

**Editor's note:** The *Stegosaurus* in the ICR Discovery Center is an exact replica of a Cambodian temple sculpture from the 12th century.



So beautiful! This made me think of Romans 1:20. Thank you so much for what all of you do at ICR! I'm sure there have been many people affected by what you do. God is so awesome. Once someone reads your posts it is forever imprinted in their memory—the best thing is that it's true! ICR's post after post could very well lead to Scripture after Scripture, which would be the ultimate blessing. Hopefully, starting with John 1:1.

— S. P. B.



Thank you for your lead article for the January [2021] *Acts & Facts* "Unity Worthy of Our Creationist Heritage." How refreshing! This is something I've been praying for!

— R. D.

Dear Randy,  
Thank you for writing the "Unity Worthy of Our Creationist Heritage" article [in the January 2021 *Acts & Facts*]....You and ICR have a significant leadership role in the creation science community, and we are honored to work with you to advance the truth of supernatural creation and proclaim the gospel of Jesus Christ.

Your humble and gracious leadership style is clearly visible through the article, and we agree with your many perspectives. In particular, creationists need each other. We also agreed that all should bring their respective strengths to the table so that we can accomplish more together than separately, all to the Lord's glory.

— J. S.



**NEW!**

**ICR IN-DEPTH SCIENCE**

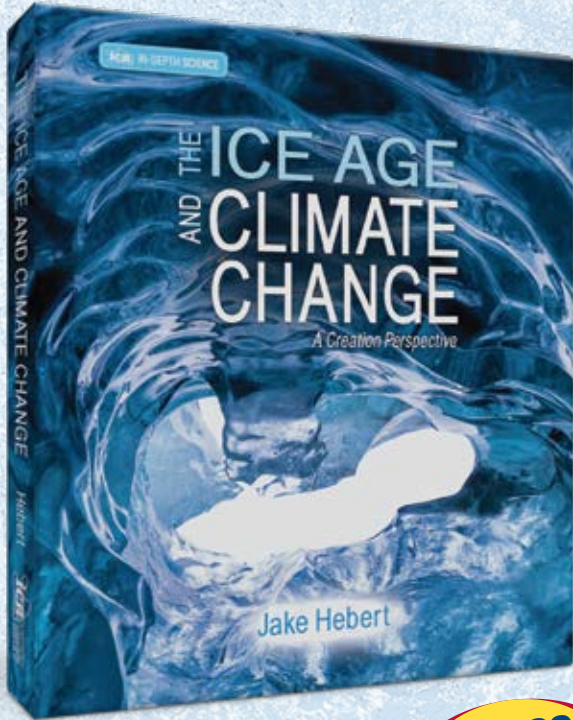
**ICR** INSTITUTE FOR CREATION RESEARCH

P. O. Box 59029 | Dallas, TX 75229  
ICR.org

# THE ICE AGE AND CLIMATE CHANGE

*A Creation Perspective*

Dr. Jake Hebert



**\$34.99**  
BTIAACC

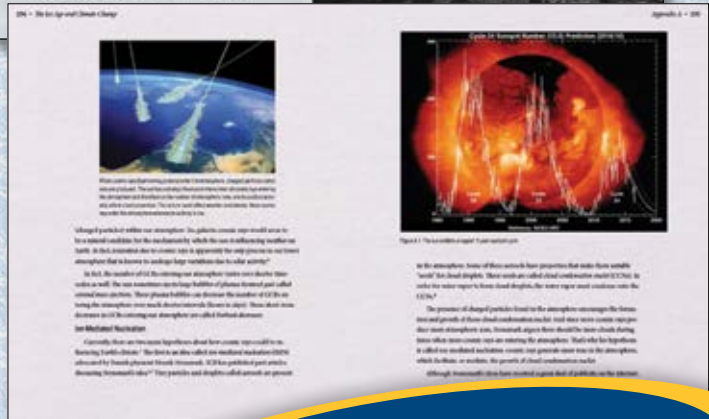
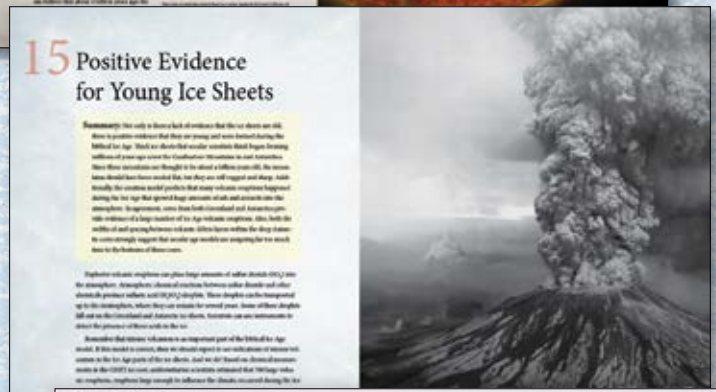
Should Christians be alarmed over climate change? Both secular and Christian voices urge them to heed the "all-but-unanimous scientific consensus" on the issue.

But is that consensus based on solid science? What is the climatological evidence? Do we need to take drastic action to stave off impending disaster?

ICR physicist Dr. Jake Hebert examines climate science and research and finds flawed theories, circular reasoning, and conclusions based on outdated data and uniformitarian preconceptions. He also finds a key in the Bible for understanding where we are in the debate.

Secular scientists point to climate swings over billions of years that resulted in several major Ice Ages. But instead of multiple Ice Ages, the evidence points to one Ice Age that resulted from the global Flood and lasted just hundreds of years.

*The Ice Age and Climate Change: A Creation Perspective* explores the evidence and argues that Christians have good biblical and scientific reasons to reject climate change alarmism.



Call **800.628.7640** or visit **ICR.org/store**  
Please add shipping and handling to all orders. Offer good through  
April 30, 2021, while quantities last.