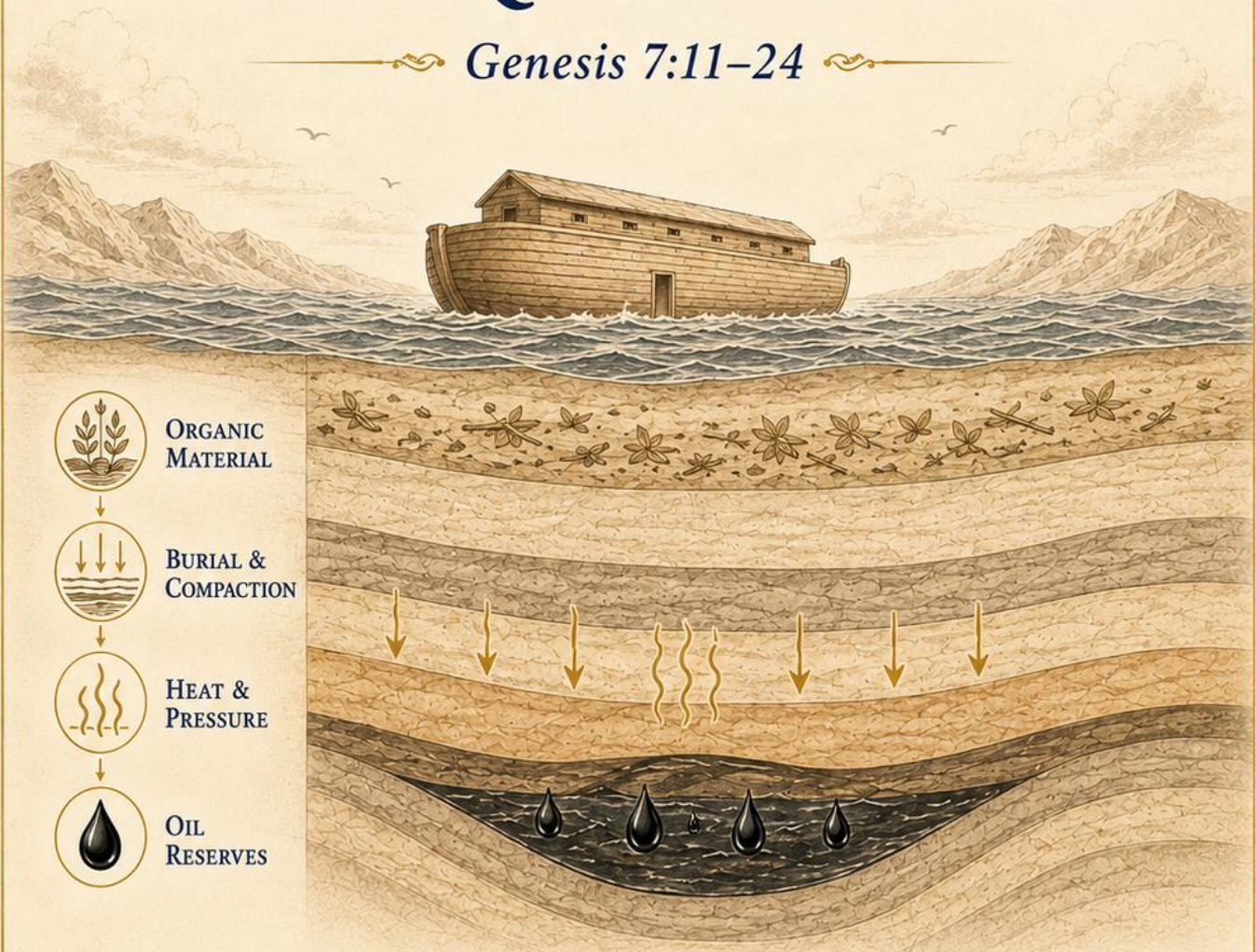


REASON TOGETHER STUDY

Noah's Flood, Natural Oil Reserves and the Question of Time

Genesis 7:11–24



REASON TOGETHER CHURCH

*Bring your questions. Open your Bible.
Let's Reason Together the Word of God.*

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SERMON TRANSCRIPT

**Noah's Flood, Natural Oil Reserves and the Question of
Time**

Genesis 7:11-24 KJV

Reason Together Church

Dr. Thomas W. Hawksley

www.ReasonTogether.Church

Bring your questions. Open your Bible. Let's Reason Together the Word of God.

Aloha,

Welcome to Reason Together Church.

I am very glad that you are here today.

Whether this is your first time with us, whether you have been here every week or whether you are joining us online from somewhere far away, thank you for taking the time to open the Word of God with us.

This is a place where sincere questions are welcome.

We do not have to be afraid of questions.

We do not have to pretend that difficult questions do not exist.

We do not have to choose between loving the Bible and looking carefully at evidence.

Our invitation is the same every week.

Bring your questions.

Open your Bible.

Let's Reason Together the Word of God.

Before we begin, let's pray.

Father, thank You for Your Word.

Thank You that truth does not fear examination.

Thank You that You are the Creator of this world and that everything that is genuinely true about Your creation will ultimately agree with everything that is genuinely true in Your Word.

Give us humility today.

Keep us from exaggerating evidence simply because we like where we think it leads.

Keep us from dismissing evidence simply because it challenges something we have assumed.

Help us to distinguish what the Bible says from what we infer.

Help us to distinguish what science observes from what scientists reconstruct about the past.

And above everything else, help us to see Christ clearly.

In Jesus' name.

Amen.

Before we get into today's question, I want to take care of a few family matters.

We do not pass a plate here at Reason Together Church.

If you are our guest today, there is absolutely no expectation that you give.

If you are a member of another church, we encourage you to continue giving faithfully through your home church.

For those who consider Reason Together Church their church home, there is a giving box in the back and there are other ways to give if the Lord leads you to do so.

There is no pressure and no compulsion.

The Bible says that God loveth a cheerful giver.

Giving is worship and it should come from a willing heart.

If you are visiting with us, we are especially honored that you are here.

We do have a guest card available.

We only ask for your first name and your email address.

That simply gives us a way to thank you for coming and to make ourselves available if you have a question after the service.

And after we finish today, please stop by the Reason Together Café.

The coffee is free.

And so are the refills on the conversations.

Now let me tell you how today's question came about.

I recently came across a scientific claim that immediately caught my attention.

The claim was that substances we normally associate with enormous periods of geological time can sometimes be produced remarkably quickly when the conditions are right.

Oil was one example.

Rocks were another.

Diamonds were another.

And that led to a question.

Because almost every one of us has been taught some version of this sentence:

Oil takes millions of years to form.

We hear that so often that the phrase begins to sound almost like a law of nature.

Water freezes at 32 degrees Fahrenheit.

Water boils at 212 degrees Fahrenheit at sea level.

Oil takes millions of years.

But are those the same kind of statement?

Does oil actually contain a chemical requirement that millions of years must pass before it can exist?

Or is the amount of time required dependent upon the conditions under which the chemical reactions take place?

And if the conditions matter, what were the conditions during Noah's Flood?

That is where we are going today.

Our title is:

Noah's Flood, Natural Oil Reserves and the Question of Time.

And our central question is:

Could the catastrophic conditions of Noah's Flood account for the formation of petroleum within a Biblical timescale?

I want to say something at the beginning so nobody misunderstands where we are going.

I am not going to claim today that science has proved that every oil field on earth formed during Noah's Flood.

Science has not proved that.

I am also not going to claim that a laboratory experiment that produces oil-like hydrocarbons automatically proves that a natural petroleum reservoir formed the same way.

That would be too much.

But I do want to examine a much narrower claim.

When somebody says:

Oil could not possibly have formed within a Biblical timescale because oil requires millions of years, is that statement actually demonstrated by chemistry?

That is a question we can investigate.

Now turn with me to Genesis chapter 7.

We are going to begin in verse 11.

The Bible says:

"In the six hundredth year of Noah's life, in the second month, the seventeenth day of the month, the same day were all the fountains of the great deep broken up, and the windows of heaven were opened."

“And the rain was upon the earth forty days and forty nights.”

“In the selfsame day entered Noah, and Shem, and Ham, and Japheth, the sons of Noah, and Noah’s wife, and the three wives of his sons with them, into the ark;”

“They, and every beast after his kind, and all the cattle after their kind, and every creeping thing that creepeth upon the earth after his kind, and every fowl after his kind, every bird of every sort.”

“And they went in unto Noah into the ark, two and two of all flesh, wherein is the breath of life.”

“And they that went in, went in male and female of all flesh, as God had commanded him: and the LORD shut him in.”

“And the flood was forty days upon the earth; and the waters increased, and bare up the ark, and it was lift up above the earth.”

“And the waters prevailed, and were increased greatly upon the earth; and the ark went upon the face of the waters.”

“And the waters prevailed exceedingly upon the earth; and all the high hills, that were under the whole heaven, were covered.”

“Fifteen cubits upward did the waters prevail; and the mountains were covered.”

“And all flesh died that moved upon the earth, both of fowl, and of cattle, and of beast, and of every creeping thing that creepeth upon the earth, and every man:”

“All in whose nostrils was the breath of life, of all that was in the dry land, died.”

“And every living substance was destroyed which was upon the face of the ground, both man, and cattle, and the creeping things, and the fowl of the heaven; and they were destroyed from the earth: and Noah only remained alive, and they that were with him in the ark.”

“And the waters prevailed upon the earth an hundred and fifty days.”

That is Genesis 7:11 through 24.

Now notice something.

When most people picture Noah’s Flood, what do they picture?

Rain.

Lots and lots of rain.

We picture Noah inside the ark.

We picture water coming down.

We picture the water slowly getting higher.

And rain certainly was part of the Flood.

Genesis says the windows of heaven were opened.

It says the rain was upon the earth forty days and forty nights.

But that is not the first thing Genesis 7:11 tells us.

Before it says the windows of heaven were opened, it says:

“All the fountains of the great deep broken up.”

Something happened involving the deep.

Something was broken up.

Something was ruptured.

Something about the physical world was not continuing in the ordinary way people had known before the Flood.

Now I want to be careful.

The Bible does not use the words plate tectonics.

The Bible does not tell us how many tectonic plates there were.

The Bible does not give us the speed at which those plates may have moved.

It does not tell us the temperature of a particular petroleum basin during the Flood.

If I tell you that Genesis 7:11 specifically teaches a complete modern model of catastrophic plate tectonics, I have gone beyond what the verse says.

But the verse absolutely does describe a catastrophic disruption associated with “the great deep.”

And if we are asking geological questions about the Flood, we are entitled to ask what kind of physical consequences such a disruption could have produced.

Especially when we already know what happens on the earth today when crustal rock fractures, moves and comes into contact with tremendous internal heat.

Before we get there, however, we need to understand oil.

What is petroleum?

At the most basic level, petroleum is a complex mixture dominated by hydrocarbons.

Hydrocarbons are molecules made primarily of hydrogen and carbon.

Where does much of the carbon in conventional petroleum science come from?

Organic material.

Tiny marine organisms.

Algae.

Plants.

Other biological material.

That organic material becomes buried in sediment.

As it is buried and chemically altered, some of it becomes a complex organic material called kerogen.

Under appropriate thermal conditions, kerogen can generate liquid and gaseous hydrocarbons.

And notice the word I just used.

Thermal.

Heat matters.

Temperature matters.

Burial matters.

Pressure can matter.

The chemical character of the source material matters.

Water can matter.

Minerals can matter.

Time matters too.

But time is not the only variable.

That distinction is essential.

Imagine that I put a piece of food in your refrigerator.

It may sit there for quite a while with comparatively slow chemical changes.

Now take the same food and put it into an oven at 400 degrees Fahrenheit.

The food changes very quickly.

Did we add time to it?

No.

We changed the conditions.

That does not mean heat can make every chemical process happen instantly.

It cannot.

It simply means reaction rates are conditional.

Chemistry does not operate by saying:

This substance must wait a million years because that is the rule.

Chemical reactions occur according to physical conditions.

And this is not a creationist invention.

Petroleum scientists know this very well.

In fact, petroleum geochemists routinely use pyrolysis.

Pyrolysis is a process in which material is heated so scientists can study its potential to generate hydrocarbons and evaluate thermal maturity.

The United States Geological Survey describes programmed pyrolysis as a rapid analytical technique used to evaluate the hydrocarbon-generating potential and thermal maturity of source rock.

Did you hear the word?

Rapid.

Why can they do it rapidly?

Because they change the experimental conditions.

Researchers also use something called hydrous pyrolysis.

That means they heat organic-rich material in the presence of water under controlled conditions.

They use elevated temperatures to accelerate reactions that they believe occur more slowly in natural geological settings.

And those experiments can generate oil.

Not imaginary oil.

Not merely a computer prediction.

Hydrocarbons can actually be generated and expelled from organic-rich material in laboratory experiments.

Now again, be careful with the conclusion.

If I produce oil in a laboratory in a short period of time, that does not prove that the oil beneath Texas formed in the same amount of time.

It does not prove that Saudi Arabia's petroleum reserves formed in a laboratory-like environment.

It does not prove Noah's Flood.

But it proves something that matters greatly to our question.

The chemistry does not have an internal stopwatch that refuses to make hydrocarbons until several million years have passed.

Change temperature.

Change pressure.

Change water chemistry.

Change the physical environment.

And the rate can change dramatically.

So when someone tells you:

Oil takes millions of years,

the careful response is:

Under what conditions?

Because what they often mean is:

Under the temperature and burial history assumed in this particular geological model, oil generation is modeled over millions of years.

That is a very different statement from:

Oil cannot form rapidly.

And we know it is different because scientists themselves accelerate the reactions in the laboratory.

Now let me give you another example.

Diamonds.

If I ask you how long it takes to make a diamond, what comes to mind?

Millions of years.

Maybe billions of years.

We associate diamonds with deep geological time so strongly that the material itself almost seems to carry an age label.

But does it?

No.

Diamond is a particular arrangement of carbon atoms.

And scientists can make diamond.

They can transform carbon under extraordinary pressure and temperature.

Even more interestingly, shock-compression experiments have observed diamond formation on nanosecond timescales.

A nanosecond is one billionth of a second.

Now please do not go home and tell somebody:

Pastor Tom proved all natural diamonds are one billionth of a second old.

That is not what I said.

The experiment does not tell us the age of a natural diamond.

It tells us something about the rate at which a carbon transformation can occur when conditions are radically different.

Diamond is a material.

It is not a stopwatch.

And petroleum is a material.

It is not a stopwatch either.

A substance can tell you a great deal about chemistry.

It may preserve evidence about pressure.

It may preserve evidence about temperature.

It may preserve evidence about its source.

But you cannot simply point to the name of the substance and announce the duration of its formation without reconstructing the process.

The same is true with rocks.

Have you ever heard somebody say:

Rocks take millions of years to form?

Some geological processes in conventional models are assigned millions of years.

But the statement “rocks take millions of years” is plainly too broad.

We watch rock form.

Lava erupts.

Lava cools.

It becomes solid igneous rock.

It does not call a meeting and say:

I am sorry.

I cannot officially become rock until the year 3,002,026.

The process occurs when the conditions permit it.

Volcanic ash can be deposited rapidly.

Mud can be deposited rapidly.

Floods can move vast quantities of sediment rapidly.

Catastrophic events can create enormous geological change in short periods of time.

That does not prove that every geological layer formed rapidly.

It does teach us an important habit.

Do not confuse the present condition of a material with an automatic measurement of how long its formation took.

Ask about the process.

Ask about the conditions.

Now come back to Genesis 7:11.

“All the fountains of the great deep broken up.”

If that language describes catastrophic rupture involving the earth’s crust, what happens to temperature?

That question is tremendously important.

The surface on which we live feels relatively cool and stable.

We walk outside.

We feel the ground.

Most of the time it does not feel particularly dramatic.

But beneath our feet is enormous heat.

The earth’s internal thermal energy is tremendous.

And when magma rises close to the surface or when seawater circulates through newly fractured hot rock, extraordinary temperatures can occur.

We can observe this today at hydrothermal vents.

Along active oceanic spreading centers, seawater penetrates cracks in the ocean crust.

It circulates downward.

It encounters intensely heated rock.

It becomes extremely hot.

Then it rises back through the crust and emerges through hydrothermal vents.

Measurements at modern hydrothermal systems have exceeded 700 degrees Fahrenheit.

Some measured vent fluids have been around 757 degrees Fahrenheit.

Think about that.

Water.

Fractured rock.

Geological activity.

Heat.

And temperatures of hundreds of degrees.

Now you may be thinking:

Wait a minute.

How can water be 700 degrees without turning into steam?

Pressure.

At great ocean depth, the pressure is tremendous.

That elevated pressure changes the physical behavior of water.

Again, the conditions matter.

Temperature.

Pressure.

Water.

Rock.

They work together.

Now consider what that means for our Flood question.

If Genesis 7:11 reflects massive rupture associated with the deep, and if a Flood geology model includes widespread crustal movement, volcanism or rapid formation of hot crust, then the Flood was not simply a cold bathtub filling with rainwater.

There could have been extraordinary local and regional thermal conditions.

There could have been tremendous circulation of hot water through fractured rock.

There could have been radically elevated temperatures underground.

And temperature is one of the most powerful variables controlling the maturation of organic matter.

This is where the argument becomes much more interesting.

Someone says:

Noah's Flood was only several thousand years ago.

There has not been enough time for oil to form.

But that objection assumes that we are comparing the same conditions.

Suppose the present geological environment is relatively cool and chemically slow.

Suppose a catastrophic environment involved temperatures hundreds of degrees higher in some locations, intense hydrothermal circulation, rapid burial and tremendous pressure changes.

You cannot simply compare the clocks while ignoring the conditions.

That is the central scientific idea I want you to remember today.

Time is not the only clock.

Conditions matter.

Now I want to make one correction to a phrase we sometimes use casually.

We may say:

The earth split apart during the Flood.

That can be useful language for describing a catastrophic model.

But Scripture itself says:

"The fountains of the great deep" were "broken up."

So I want our confidence to correspond to the text.

We can confidently say the Flood involved catastrophic disruption of the deep because Scripture says so.

We can investigate whether that disruption included massive tectonic rupture because geology gives us reason to ask.

But we should not make our model equal to the Bible.

If tomorrow somebody produces a better geological model for how the fountains of the great deep operated, Genesis 7:11 will still be true.

Our model may change.

The Word does not.

That is an important Reason Together principle.

Never make a scientific interpretation more authoritative than Scripture.

But never be afraid to use science to investigate what the physical consequences of Biblical history might have been.

Now think about the other ingredient petroleum formation requires.

Organic material.

Did the Flood provide organic material?

Read Genesis 7 again.

“And all flesh died that moved upon the earth.”

“Both of fowl, and of cattle, and of beast.”

“And every man.”

“Every living substance was destroyed which was upon the face of the ground.”

This was death on a catastrophic scale.

And we should remember that the Biblical description focuses especially on land-dwelling, air-breathing life.

The oceans themselves also would have experienced tremendous ecological disruption.

Think about vegetation.

Forests.

Plants.

Organic matter.

Marine organisms.

All subjected to a world of violent moving water, sediment, erosion and burial.

Now what happens to organic material under normal surface conditions?

Much of it decays.

Microorganisms consume it.

Oxygen assists decomposition.

Animals eat it.

It gets broken apart and recycled.

But what if enormous quantities are buried rapidly?

Now the environment changes.

Organic material can be isolated from ordinary surface decay.

It can become mixed with sediment.

More sediment can be deposited above it.

The weight increases.

Burial deepens.

Heat can increase.

Pressure changes.

And the chemistry begins moving in another direction.

This is one of the reasons catastrophic burial is important when we discuss petroleum source material.

Again, I am not saying:

Genesis 7:21 equals Exxon.

I am saying the Flood describes conditions capable of creating enormous concentrations of buried organic material.

That deserves geological consideration.

Now add the water.

Petroleum researchers use hydrous pyrolysis.

Hydrous means water is involved.

Why?

Because water can participate in the chemical environment as organic material matures.

The natural environment is complicated.

Minerals matter.

Fluid chemistry matters.

Temperature matters.

Pressure matters.

But look at the broad combination we have during a catastrophic Flood model.

Organic material.

Rapid burial.

Water.

Sediment.

Pressure.

Crustal disturbance.

Potentially enormous localized heat.

Those are not irrelevant ingredients.

They are exactly the kinds of physical variables we ought to investigate when asking how quickly organic material could mature.

Now let me pause and give the conventional geological model a fair hearing.

Mainstream petroleum geology does not say:

We found oil.

Therefore we just wrote “millions of years” on it because we like big numbers.

That would be unfair.

Petroleum geologists examine source rocks.

They examine organic geochemistry.

They study thermal maturity.

They study basin structure.

They model burial history.

They analyze biomarkers.

They consider when hydrocarbons appear to have migrated.

They look at reservoir relationships.

And they interpret that evidence within a larger geological chronology that commonly assigns millions of years to the strata involved.

So when a conventional petroleum geologist says:

This source rock matured over millions of years,
there is a model behind that conclusion.

We should represent it accurately.

Reason Together means we do not win an argument by making the other side sound foolish.

We want the strongest form of the opposing argument.

Then we ask what the evidence actually establishes.

And that brings us to a very important distinction.

There are at least three statements we could make.

Statement number one:

Petroleum can form over very long periods under moderate geological conditions.

There is no reason chemistry would forbid that.

Statement number two:

Petroleum-generating reactions can occur much more rapidly under elevated temperatures and altered conditions.

Laboratory science demonstrates that.

Statement number three:

Therefore every petroleum deposit on earth formed rapidly during Noah's Flood.

Do statements one and two prove statement three?

No.

They do not.

And I do not need them to.

Because our question today is not:

Can I prove the history of every oil reservoir in one sermon?

Our question is:

Does oil itself require millions of years in such a way that the existence of oil disproves a Biblical chronology?

And that answer is much clearer.

No.

The chemistry itself does not require millions of years.

The required duration depends upon conditions.

That is a significant conclusion.

Now return with me mentally to the beginning of the Flood.

“All the fountains of the great deep broken up.”

We said earlier that geological rupture can release or expose enormous heat.

Let us explore that a little further.

At an active mid-ocean ridge today, plates move apart.

Hot material rises.

New crust is formed.

Seawater circulates through cracks.

It can be heated to extraordinary temperatures.

Hydrothermal circulation then transports that heat.

Water becomes an efficient carrier.

So if the Flood involved rapid and widespread crustal disruption, temperature could have changed radically in affected regions.

And not merely for a few seconds.

Genesis says the waters prevailed upon the earth for 150 days.

Then Genesis 8 describes a lengthy recession process.

This was not a fifteen-minute flash flood.

The earth was undergoing a sustained catastrophe.

Let us read Genesis 8:1 through 5.

“And God remembered Noah, and every living thing, and all the cattle that was with him in the ark: and God made a wind to pass over the earth, and the waters asswaged;”

“The fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained;”

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

“And the ark rested in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat.”

“And the waters decreased continually until the tenth month: in the tenth month, on the first day of the month, were the tops of the mountains seen.”

Notice again:

“The fountains also of the deep ... were stopped.”

The deep had been actively involved in the catastrophe.

So when we think about what kind of world existed during that period, we should not simply take the quiet earth we see outside today and pour rain on top of it.

The Biblical description invites us to think catastrophically.

And geology teaches us that catastrophe can radically alter rates.

Here is another way to think about it.

Suppose you find a loaf of bread in an oven.

You ask:

How long has it been baking?

I say:

I need more information.

What temperature is the oven?

If the oven is 200 degrees, one duration may be necessary.

If it is 450 degrees, another duration may be necessary.

If you refuse to tell me the temperature and demand that I calculate the cooking time anyway, my answer is going to be unreliable.

Why?

Because time and temperature interact.

Petroleum maturation is far more complicated than baking bread, but the principle is understandable.

You cannot discuss reaction duration while pretending reaction conditions do not matter.

And that becomes especially important when comparing an ordinary geological environment to a catastrophic one.

Now there is a legitimate question someone may ask.

Pastor, if Flood-related temperatures were so high, wouldn't all the oil simply be destroyed?

Excellent question.

And the answer is that different temperature ranges produce different outcomes.

Organic matter can pass through an oil-generating window.

At greater thermal maturity, more gas can be generated.

At still more extreme conditions, hydrocarbons can be altered or destroyed.

So we are not arguing:

Hotter is always better.

We are arguing:

Temperature changes reaction rate and reaction products.

That is why a serious Flood model would need to reconstruct different basins, different depths, different thermal histories and different times.

Some regions could have been too cold for rapid maturation.

Some might have passed through conditions favorable for oil.

Some might have experienced temperatures favoring gas.

Some could have been overheated.

That complexity does not hurt the argument.

It makes it more realistic.

The point is simply that a catastrophic earth cannot be evaluated as though every buried layer stayed at today's ordinary temperatures.

Now let me bring Second Peter into the discussion.

Second Peter chapter 3, beginning in verse 3.

"Knowing this first, that there shall come in the last days scoffers, walking after their own lusts,"

"And saying, Where is the promise of his coming? for since the fathers fell asleep, all things continue as they were from the beginning of the creation."

"For this they willingly are ignorant of, that by the word of God the heavens were of old, and the earth standing out of the water and in the water:"

"Whereby the world that then was, being overflowed with water, perished:"

“But the heavens and the earth, which are now, by the same word are kept in store, reserved unto fire against the day of judgment and perdition of ungodly men.”

Now we must handle this passage carefully too.

Peter is not giving us an equation for petroleum maturation.

He is not discussing the oil window.

But he does say something important about history.

There is a danger in assuming:

“All things continue as they were from the beginning.”

Peter points to the Flood.

The world has experienced catastrophe.

Biblical history is not simply an endless continuation of ordinary conditions.

That does not mean every geological process was fast.

It means we cannot rule catastrophe out before we examine the evidence.

And for Christians, Noah's Flood is not an optional footnote.

It is part of the history Scripture gives us.

Now I want to say something else.

Some Christians become nervous when scientific evidence is discussed.

They are afraid somebody is going to produce a rock, a fossil, a laboratory result or a dating method that makes the Bible collapse.

I do not think we need to live that way.

If God created the world, then the world belongs to Him.

Chemistry belongs to Him.

Physics belongs to Him.

Geology belongs to Him.

Carbon atoms belong to Him.

Hydrocarbons belong to Him.

We should not fear genuine evidence.

But we should be careful about interpretation.

Science is extraordinarily powerful at telling us what happens under observable conditions.

We can heat source rock.

We can measure gases.

We can analyze oil.

We can measure thermal maturity.

We can observe hydrothermal vents.

We can compress carbon.

We can make diamonds.

Those are observations and experiments.

When we ask:

Exactly what happened in this basin fifty million years ago?

Now we are reconstructing history from present evidence.

That reconstruction can be sophisticated.

It can be evidence-based.

It can be very persuasive.

But it is still reconstruction.

The same is true when a creation scientist builds a Flood model.

That person also is reconstructing history from evidence.

So what should we do?

Be honest.

Say what we observed.

Say what we inferred.

Say what Scripture states.

And do not blur those categories.

I think Christians sometimes hurt our own case by making a fascinating possibility sound like a Biblical certainty.

For example:

“The fountains of the great deep prove exactly this plate velocity.”

No.

They do not.

Or:

"This laboratory experiment proves every oil field came from the Flood."

No.

It does not.

Or:

"Scientists made a diamond rapidly, therefore every diamond is young."

No.

That conclusion does not follow.

But the reverse exaggeration is also wrong.

"You can make a diamond rapidly, but natural diamonds still chemically require millions of years."

Why?

What evidence establishes that requirement?

"You can generate hydrocarbons rapidly in experiments, but petroleum itself requires millions of years."

Again, why?

The laboratory evidence demonstrates that the chemistry can proceed rapidly when the conditions change.

So let us use the evidence for what it actually establishes.

Not less.

Not more.

Now let us imagine the Flood environment again.

A world filled with living things.

Vegetation.

Animals.

Marine organisms.

A catastrophic event begins.

The fountains of the great deep are broken up.

The windows of heaven are opened.

Water rises.

Sediment moves.

Living things die.

Organic material is transported.

Some material is buried.

More sediment accumulates.

Pressure increases.

Crust is disrupted.

If significant magmatic and tectonic processes are involved, temperatures change.

Hot water circulates through fractured rock.

For 150 days the waters prevail.

Then the waters recede over additional months.

Land emerges.

Sediments compact.

Basins continue to change.

And then somebody says:

There is not enough time.

My response is:

You have not yet told me the conditions.

That is the point.

You cannot calculate a chemical clock without its physical environment.

Now can I prove from Genesis that a particular petroleum field in Alaska formed in the Flood?

No.

Can I prove from Genesis that the oil under Saudi Arabia formed in one specific month of Noah's year?

No.

Would I ever put that in a Reason Together Study as established fact?

No.

But can I say that the common statement “oil must take millions of years” is not a universal chemical law?

Yes.

Can I say that petroleum-generating reactions are strongly temperature dependent?

Yes.

Can I say scientists deliberately accelerate thermal maturation in laboratory experiments?

Yes.

Can I say hot hydrothermal fluids circulate through fractured oceanic crust today at temperatures exceeding 700 degrees Fahrenheit?

Yes.

Can I say diamond formation can occur extraordinarily rapidly when conditions permit it?

Yes.

Can I say some rocks and sediments form rapidly under catastrophic conditions?

Yes.

Can I say Genesis describes a catastrophe involving the deep, water, mass death and sustained geological disruption?

Yes.

Then is it scientifically unreasonable even to consider the Flood as a major contributor to the burial and maturation history of some petroleum deposits?

No.

It is a legitimate question.

And that is where I want us to land scientifically.

Not:

Science has proved Noah’s Flood.

Not:

Every oil well proves Genesis.

But:

Oil does not automatically disprove a Biblical timescale.

The simplistic objection fails because it treats time as though it were the only variable.

Now there is another issue.

Why does any of this matter?

Suppose we finish today and you walk out knowing more about kerogen than you did when you walked in.

Wonderful.

Suppose you know what hydrous pyrolysis is.

Wonderful.

Suppose you know hydrothermal vents can be hotter than 700 degrees Fahrenheit.

Wonderful.

But Genesis was not written primarily to explain where gasoline comes from.

The Flood is not fundamentally an oil story.

The Flood is a judgment story.

Go back one chapter.

Genesis 6:5.

“And GOD saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually.”

Verse 6:

“And it repented the LORD that he had made man on the earth, and it grieved him at his heart.”

Verse 7:

“And the LORD said, I will destroy man whom I have created from the face of the earth...”

Why did the Flood happen?

Sin.

Human wickedness.

Rebellion against God.

We may examine geological consequences.

We may examine fossils.

We may examine sediment.

We may ask about petroleum.

But do not miss what God says the catastrophe meant.

Judgment came because of sin.

Now keep reading.

Genesis 6:8.

“But Noah found grace in the eyes of the LORD.”

I love that verse.

Before we ever get to the dimensions of the ark, we get grace.

The Flood speaks of judgment.

The ark speaks of grace.

God warned Noah.

God told Noah what was coming.

God told Noah what to do.

God provided a means of deliverance.

And when Noah and his family entered the ark, Genesis 7:16 says:

“And the LORD shut him in.”

God shut the door.

Outside was judgment.

Inside was safety.

Not because Noah had constructed a personal philosophy strong enough to survive the Flood.

Not because Noah could swim better than everybody else.

Not because Noah was clever enough to outlast judgment.

God provided the ark.

Noah entered the provision God made.

And that points us toward something much greater.

Second Peter does not merely look backward at the Flood.

It looks forward to coming judgment.

Listen again to 2 Peter 3:7.

“But the heavens and the earth, which are now, by the same word are kept in store, reserved unto fire against the day of judgment and perdition of ungodly men.”

Peter says:

There was judgment.

And there will be judgment.

The question is not merely:

What happened to the earth in Noah’s day?

The question is:

What will happen to me when I stand before God?

And the answer is not:

Build yourself an ark.

The answer is Jesus Christ.

Every one of us has sinned.

Romans 3:23 says:

“For all have sinned, and come short of the glory of God;”

Sin is not merely a bad habit.

Sin places us under judgment.

Romans 6:23 says:

“For the wages of sin is death; but the gift of God is eternal life through Jesus Christ our Lord.”

There is judgment.

But there is also a gift.

There is grace.

Jesus Christ came.

He lived the sinless life we could not live.

He went to the cross.

He died for our sins.

He was buried.

And He rose again.

First Corinthians 15:3 and 4 says:

“For I delivered unto you first of all that which I also received, how that Christ died for our sins according to the scriptures;”

“And that he was buried, and that he rose again the third day according to the scriptures:”

The Gospel is not:

Become good enough that you no longer need rescue.

The Gospel is:

God has provided the rescue.

Just as Noah could not save himself from the waters of judgment, we cannot save ourselves from the judgment our sin deserves.

But Christ has done what we could never do.

Acts 16:31 says:

“Believe on the Lord Jesus Christ, and thou shalt be saved.”

If you are here today and you have never trusted Jesus Christ as your Savior, I want you to understand something.

You do not have to know anything about petroleum geology to be saved.

You do not have to settle every question about Noah’s Flood.

You do not have to agree with every scientific model I have discussed.

Salvation is not earned by passing a theology examination.

Salvation is received by trusting Jesus Christ.

And if today you recognize:

I am a sinner.

I cannot save myself.

I believe Jesus died for me.

I believe He rose again.

I want to trust Him.

You can call upon Him right where you are.

There are no magic words.

Prayer does not save you because you said the formula correctly.

Christ saves.

Faith rests in Him.

But if it would help you express that faith, you might pray something like this:

Lord Jesus,

I know that I am a sinner.

I know I cannot save myself.

I believe that You died on the cross for my sins.

I believe that You were buried and rose again.

I am trusting You, and You alone, as my Savior.

Forgive me.

Save me.

Give me the eternal life You promised.

Thank You for Your grace.

Amen.

If you prayed that today and genuinely placed your faith in Christ, please talk with me after the service.

If you are watching online, reach out to us.

We would love to pray with you, answer your questions and help you begin growing in the Word of God.

Now for those of us who already know Christ, what do we take home from a study about oil?

First:

Do not be intimidated by confident claims.

A claim may be confidently stated and still contain assumptions.

Ask:

What was actually measured?

What was experimentally demonstrated?

What was inferred?

What conditions were assumed?

Second:

Do not exaggerate evidence just because you think it supports the Bible.

Truth does not need our help that way.

If the evidence says "possible," say possible.

If it says "demonstrated," say demonstrated.

If Scripture says something directly, say Scripture says it.

If you are building a model, call it a model.

That kind of honesty does not weaken our faith.

It strengthens our witness.

Third:

Remember the central phrase from today.

Time is not the only clock.

Conditions matter.

A chemical process that is slow at one temperature can be dramatically faster at another.

A transformation that seems impossible under ordinary conditions may occur rapidly under extraordinary pressure and heat.

And if the Bible describes an extraordinary event, do not evaluate it as though nothing extraordinary happened.

Fourth:

The Flood should remind us of judgment and grace.

We can become so interested in whether Flood conditions formed oil that we forget why there was a Flood.

Human beings sinned.

God judged.

But God also provided a way of salvation.

That pattern reaches its fulfillment in Jesus Christ.

Judgment is real.

Grace is real.

Salvation has been provided.

And finally:

I want you to share this study carefully.

Do not tell your friend:

Science has proved all the world's oil formed in Noah's Flood.

Tell them:

I learned something interesting.

The chemistry that generates petroleum does not contain a built-in requirement for millions of years.

Scientists can accelerate petroleum-generating reactions by changing temperature and other conditions.

So if we are going to ask whether a catastrophic Flood could contribute to petroleum formation, we have to ask not only how much time passed but what conditions existed.

Then open Genesis 7.

Read the text together.

Ask the question together.

Reason together.

Because that is what we are trying to do here.

We are not afraid of science.

We are not afraid of Scripture.

We are afraid of neither because all truth belongs to God.

Let's pray.

Father,

Thank You for giving us minds that can ask questions.

Thank You for giving us a world that can be studied.

Thank You for revealing Yourself in Your Word.

Help us to be people who are both confident and humble.

Confident where You have spoken.

Humble where we are constructing models and interpreting evidence.

Help us never to make weak arguments for a strong Bible.

Help us never to fear honest investigation.

And when we look at the Flood, help us remember more than water, rocks, fossils or petroleum.

Help us remember judgment.

Help us remember grace.

Help us remember the ark.

And above all, help us remember Christ.

For anyone here who has not yet trusted Him, draw that person to Yourself today.

For those of us who know You, make us faithful witnesses who speak truth carefully and graciously.

In Jesus' name.

Amen.

Before you leave today, if you have a question about this study, salvation, the Bible or something entirely different, please come talk with me.

That is one reason we are here.

And please join us at the Reason Together Café.

There is free coffee and there are free refills on the conversations.

Take what you learned today and share it with someone.

Not as a weapon.

As an invitation.

Ask them:

Does oil really contain a clock that says millions of years?

Then ask the better question:

Under what conditions did it form?

And perhaps that question will open the door to an even greater one:

If the Flood really happened, what does that tell us about God, judgment and grace?

Thank you for reasoning together with us today.

May the Lord bless thee, and keep thee:

The LORD make his face shine upon thee, and be gracious unto thee:

The LORD lift up his countenance upon thee, and give thee peace.

And to our first-time guests especially, thank you for honoring us with your presence today.

Aloha Nui Loa.

SCIENTIFIC SOURCE NOTES FOR PASTORAL REVIEW

- U.S. Geological Survey, Petroleum Geochemistry Research Laboratory: programmed pyrolysis is described as a rapid analytical technique used to evaluate source-rock hydrocarbon-generating potential and thermal maturity.
- Safaei-Farouji et al., Scientific Reports (2023): hydrous pyrolysis was used to simulate increasing petroleum thermal maturity and evaluate generated petroleum composition.
- Cao et al., Scientific Reports (2024): hydrous pyrolysis is described as a laboratory technique used to replicate petroleum generation by manipulating temperature, pressure and heating rate.
- Kraus et al., Nature Communications (2016): in-situ shock-compression experiments observed diamond formation on nanosecond timescales.
- U.S. Geological Survey studies of active mid-ocean-ridge hydrothermal systems document vent-fluid temperatures above 700°F, illustrating intense heat transfer where seawater circulates through hot fractured oceanic crust.
- Scientific caution used throughout the sermon: rapid laboratory formation demonstrates that reaction rates depend upon conditions; it does not by itself establish the age or formation history of any specific natural oil or diamond deposit.

REASON TOGETHER STUDIES

PASTOR'S COMMENTARY

NOAH'S FLOOD, NATURAL OIL RESERVES AND THE QUESTION OF TIME

*Could the Catastrophic Conditions of Noah's Flood Account for Petroleum Within a
Biblical Timescale?*

Genesis 7:11-24; Genesis 8:1-5; 2 Peter 3:3-7 KJV

*the same day were all the fountains of the great deep broken up, and the windows of heaven were
opened. Genesis 7:11*

Dr. Thomas W. Hawksley

Pastor & Teacher

Commentary in Brief

CENTRAL CONCLUSION Petroleum does not contain a built-in clock requiring millions of years. Conventional petroleum geology models oil generation through organic source material, burial, thermal maturation, migration and trapping across long geological histories, but petroleum researchers themselves use elevated-temperature pyrolysis to accelerate maturation reactions in the laboratory. The scientific point is therefore narrower and stronger than a slogan: the rate depends upon conditions, especially temperature. A long timescale may be part of one geological reconstruction, but millions of years are not a chemical ingredient in oil.

Genesis 7 adds a second dimension. The Flood is not described as ordinary rain falling upon an otherwise quiet earth. The text first says that 'all the fountains of the great deep' were 'broken up.' Scripture does not define that phrase as modern plate tectonics and does not give plate speeds, magma volumes or basin temperatures. Nevertheless, if a catastrophic Flood model interprets the verse as involving large-scale crustal rupture, then heat becomes unavoidable. Modern oceanic spreading centers show that seawater circulating through fractured, volcanically heated crust can emerge at temperatures above 700°F. That observation does not prove Flood temperatures, but it demonstrates the physical mechanism by which crustal disruption can move enormous heat through water and rock.

The most important scientific guardrail is equally clear: hotter is not always better for oil. Organic matter passes through thermal maturity stages. Appropriate heating can accelerate oil generation, further heating can crack oil toward gas and still more extreme conditions can destroy hydrocarbons. A credible catastrophic model therefore needs spatially different thermal histories rather than one global temperature. This nuance strengthens the study because it treats petroleum as real chemistry rather than as an apologetic slogan.

Diamonds and rapidly formed rocks are supporting illustrations, not independent proofs of Flood geology. Shock-compression experiments have documented diamond formation on nanosecond timescales, showing that a material commonly associated with deep time can form almost instantaneously under radically different pressure and temperature conditions. Likewise, lava can solidify into rock on observable human timescales. These examples teach one methodological lesson: material identity is not itself a stopwatch.

The theological center remains larger than petroleum. Genesis presents the Flood as judgment upon human wickedness and Noah's preservation as an act of grace. Second Peter uses the Flood as a historical reminder that the world has not simply continued unchanged from the beginning and then points forward to future judgment. The study therefore moves from a scientific question about rates and conditions to the greater Biblical question of judgment, grace and salvation in Jesus Christ.

1. The Title and the Real Question

The title deliberately joins three ideas: Noah's Flood, natural oil reserves and time. The study is not attempting to write a complete petroleum-geology textbook. Its task is to examine the popular

assertion that a Biblical chronology cannot accommodate oil because petroleum supposedly requires millions of years to form.

The governing question is therefore not, 'Can we prove every modern oil field formed during the Flood?' That would require basin-by-basin geological work well beyond a sermon. The more precise question is, 'Does petroleum chemistry itself require millions of years, or can the relevant reactions proceed rapidly under different physical conditions?' Once that distinction is made, the conversation becomes much more productive.

2. What Conventional Petroleum Geology Actually Says

A fair study must begin with the conventional model in its strongest form. Petroleum geologists do not generally teach that time alone magically converts dead organisms into gasoline. They study source rocks, organic matter type, burial history, temperature, pressure, thermal maturity, migration pathways and reservoir traps.

In conventional models, organic matter deposited in sediment can be transformed into kerogen. With increasing burial and thermal maturity, kerogen can generate liquid hydrocarbons and later increasing proportions of gas. The history assigned to a basin may extend across millions of years because the surrounding geological chronology is interpreted that way and because relatively moderate natural temperatures imply slower reaction rates.

The study's disagreement is therefore not with the proposition that heat and burial matter. Those are precisely the points that make the study possible. The issue is whether the long duration is an experimentally required property of the chemistry or an element of the historical model.

3. The Difference Between Observation and Reconstruction

Petroleum science contains both direct observation and historical reconstruction. A chemist can heat a sample, measure gases, identify generated hydrocarbons and determine thermal-maturity indicators. A geologist can examine a basin, collect source-rock data and reconstruct a probable burial and heating history.

Those are not identical kinds of knowledge. Laboratory results describe what happened under measured conditions. Basin history describes what is inferred to have happened in the unobserved past from evidence that remains. Historical reconstruction can be rigorous and well supported, but it is still reconstruction.

Reason Together Studies should never misuse this distinction to imply that historical science is worthless. Instead, it should remind the listener to ask what part of a conclusion was measured, what part was modeled and what assumptions connect the two.

4. Petroleum Is Chemistry, Not a Calendar

Crude oil is a complex mixture dominated by hydrocarbons. Hydrocarbon molecules do not know what year it is. Their formation and alteration are governed by chemical kinetics and the physical environment.

Temperature is especially important because reaction rates generally accelerate as temperature rises. Pressure, mineral surfaces, fluid chemistry, water and the character of the original organic matter can also influence the pathway. Time remains important because reactions need time to proceed at whatever rate the conditions allow. But time cannot be separated from rate.

The pastoral illustration of an oven works because it is familiar. Food changes slowly under cool conditions and rapidly under hot conditions. Petroleum chemistry is vastly more complicated, but the principle is the same: a duration statement is incomplete unless the conditions are known.

5. Programmed Pyrolysis: Petroleum Science Already Uses Accelerated Heating

The U.S. Geological Survey describes programmed pyrolysis as a rapid analytical technique used to evaluate the hydrocarbon-generating potential and thermal maturity of source rock. A small sample is heated under a controlled temperature program and the released hydrocarbons and carbon-bearing products are measured.

The importance of this method for the study is conceptual. Petroleum geologists themselves obtain useful information about maturation by deliberately changing temperature and observing accelerated responses. Nobody claims that the seconds or minutes of a Rock-Eval instrument reproduce an entire natural basin history. The method instead demonstrates that thermal reactions respond predictably to changed conditions.

This is why the statement 'petroleum requires millions of years' is too absolute. A better statement is that a particular geological model may require a long history under its reconstructed temperature path.

6. Hydrous Pyrolysis: Artificially Maturing Organic-Rich Rock

Hydrous pyrolysis goes farther by heating organic-rich sedimentary rock in the presence of water. USGS researcher Paul Hackley describes hydrous pyrolysis as a laboratory method used to thermally mature organic-rich sedimentary rocks and simulate petroleum generation in a close available analogue to a natural system.

Recent peer-reviewed work uses hydrous pyrolysis to advance immature kerogen through higher maturity stages and then studies the generated and expelled petroleum products. The experiments do not settle the age of natural petroleum. They establish that the chemistry can be made to proceed on laboratory timescales when temperature and other conditions are changed.

That result directly addresses the study's narrow scientific question. Millions of years are not a reagent placed into the vessel. The reaction pathway is controlled by physical chemistry.

7. Why Temperature Deserves Special Emphasis

Temperature changes associated with catastrophic disruption during the Flood deserve special attention. That emphasis is scientifically appropriate as long as the wording remains careful. Petroleum maturation is thermally controlled, so any Flood model involving major crustal disruption must address heat.

If the Flood merely meant heavy rainfall over a geologically quiet surface, the petroleum argument would be much weaker. Genesis 7:11, however, gives a more violent picture: the fountains of the great deep were broken up. The Hebrew narrative does not supply a technical geophysical model, but the wording permits serious consideration of geological disruption rather than rain alone.

8. What Genesis 7:11 Says and What It Does Not Say

The KJV reads: 'the same day were all the fountains of the great deep broken up, and the windows of heaven were opened.' The verse explicitly joins disruption of the deep with the opening of the heavens at the beginning of the Flood.

The text does not say 'tectonic plates accelerated.' It does not describe mid-ocean ridges, mantle convection or continental velocities. Those concepts belong to geological models proposed to explain the physical event.

This distinction must remain visible throughout the Commentary. The sermon can say confidently that the deep was broken up because Scripture says it. It can say conditionally that if this involved large-scale crustal rupture and magmatism, major heat transfer would follow because physics and modern geological analogues support that inference.

9. Modern Hydrothermal Vents Show What Fractured Hot Crust Can Do

Modern oceanic spreading centers provide a powerful physical analogue. Seawater enters fractures in oceanic crust, circulates near very hot rock or magma, becomes intensely heated and returns through hydrothermal vents.

USGS descriptions commonly place high-temperature vent fluids in the neighborhood of 660°F to 750°F. Measurements from the East Pacific Rise have reached approximately 403°C, or about 757°F. At great ocean depth, high pressure permits water-rich fluids to remain in unusual physical states at temperatures far above the ordinary sea-level boiling point.

The apologetic use of this evidence must be precise. It does not tell us that Noah's Flood water was 757°F. It demonstrates that when water, fractured crust and magmatic heat interact, extraordinarily hot hydrothermal circulation is physically real.

10. The Flood Was Not Necessarily a Thermally Uniform Event

A common mental picture imagines one global Flood temperature. Real geology argues against such simplicity. Even today, surface seawater may be cold while hydrothermal fluids a short distance

away are hundreds of degrees hotter. Temperature varies strongly with depth, location, permeability, fluid flow and proximity to heat sources.

A catastrophic Flood model should therefore expect thermal heterogeneity. Some basins could remain comparatively cool. Others could experience rapid heating. Some zones could be influenced by hot fluids without being exposed directly to magma. Others could be overheated.

This matters because petroleum generation is also a windowed process. The right thermal history can generate oil. A more advanced history can favor gas. Excessive heat can degrade or destroy hydrocarbons. The model must therefore explain not merely heat, but appropriate heat histories.

11. The Heat Problem Should Not Be Hidden

Any model involving rapid, large-scale crustal movement faces a serious heat-budget question. Friction, deformation, magmatism, cooling of newly formed crust and rapid radioactive or chemical processes can introduce enormous thermal energy. Young-earth catastrophic tectonic models have proposed mechanisms for moving or dissipating heat, but the issue remains technically demanding.

The Commentary should record this challenge rather than pretend it does not exist. A model gains credibility when it acknowledges its hardest unresolved questions. The same heat that potentially accelerates maturation can become a problem if the model predicts temperatures incompatible with preserved life, sediments or hydrocarbons.

In this study, the heat issue is used only to establish that catastrophic conditions could radically change reaction rates. A future technical study could examine the full Flood heat budget in detail.

12. Mass Death and Organic Source Material

Genesis 7:21-23 describes catastrophic death among land-dwelling air-breathing creatures. A global catastrophe of the scale described would also devastate vegetation and disrupt marine ecosystems, even though the narrative's death formula focuses especially on dry-land life.

Petroleum source rocks require abundant organic matter and conditions favorable to preservation. Organic material left at the surface is commonly consumed, oxidized or decomposed. Rapid burial can isolate a portion of that material from ordinary surface processes and place it into a sedimentary environment where later maturation can occur.

The Flood therefore supplies a plausible mechanism for sudden large-scale burial. It does not follow automatically that every buried organism became oil, nor that every oil field is a Flood deposit. Most organic material never becomes petroleum. The argument is about potential source material and burial conditions, not a one-to-one conversion.

13. Sediment, Overburden and Pressure

Catastrophic water movement can erode, transport and deposit sediment rapidly. As sediment accumulates, the weight of overlying material increases. Deeper water also creates hydrostatic pressure. Tectonic deformation can change pore pressure and create migration pathways.

Pressure should not be preached as a magical substitute for time. Its importance is that Flood conditions could differ dramatically from ordinary surface conditions and that pressure affects fluids, compaction and some chemical equilibria. When combined with heat and burial, it becomes part of the physical environment that must be reconstructed.

14. Water Is Not an Incidental Detail

The Flood provides water in abundance, and petroleum researchers intentionally include water in hydrous pyrolysis because water can affect the artificial maturation environment. The chemistry is complex; water can participate in reactions, influence hydrogen availability and interact with minerals and organic matter.

The study should resist turning this into the claim that 'water makes oil.' That would be inaccurate. The responsible point is that a water-rich environment is not incompatible with maturation chemistry and that modern experiments deliberately investigate organic maturation in the presence of water.

15. Generation Is Not the Same as Migration and Trapping

One of the most important technical distinctions for a mature Commentary is that making hydrocarbons is only part of the petroleum-system story. Generated oil must often leave the source rock, migrate through permeable pathways and accumulate in a reservoir beneath an effective seal.

Therefore a rapid-generation experiment cannot by itself explain a complete modern oil field. A Flood model also needs mechanisms for migration, reservoir development and trapping. Catastrophic faulting and fluid movement could potentially accelerate some of those processes, but each must be evaluated separately.

This distinction protects the sermon from an easy criticism. The claim is not 'science made oil quickly, therefore every oil reservoir formed quickly.' The claim is that the generation chemistry can be accelerated and therefore time objections must be tied to a full physical model rather than to the word oil itself.

16. Diamonds: A Powerful but Limited Illustration

The diamond example is memorable because popular culture often equates diamond with immense age. Yet a 2016 Nature Communications experiment used shock compression of graphite and in-situ X-ray diffraction to observe diamond formation on nanosecond timescales.

A nanosecond is one billionth of a second. The experiment therefore shows that the crystal structure can form extremely rapidly when pressure and temperature conditions are radically different from ordinary surface conditions.

It does not establish the age of a natural diamond. Natural diamonds may record complex mantle histories and later transport. The experiment serves only to expose a faulty logical shortcut: the identity of a material does not automatically determine how long the formation reaction took.

17. Rocks Can Also Form Rapidly

The word rock carries no universal age. Lava can cool into igneous rock on humanly observable timescales. Volcanic ash and debris can be deposited rapidly. Floods can move large volumes of sediment in hours or days.

Other geological transformations can be much slower under ordinary conditions. The correct lesson is not 'all rocks formed quickly.' It is that geological rates vary dramatically according to process and conditions. The same disciplined reasoning applied to rocks should be applied to petroleum.

18. Catastrophe Changes Rates

Catastrophism is not automatically a young-earth concept. Modern geology accepts that earthquakes, volcanic eruptions, landslides, tsunamis and impact events can produce enormous changes rapidly. The disagreement concerns the scale, frequency and historical role assigned to particular catastrophes.

The Biblical Flood introduces a catastrophe of unique scale. If that event occurred as Genesis describes, then any reconstruction of earth history that simply excludes it at the outset will necessarily produce a different story. The question is whether the physical evidence can accommodate the event and what processes it could plausibly accelerate.

19. Second Peter 3 and the Limits of Continuity

Second Peter 3:4 records the scoffing claim, 'all things continue as they were from the beginning of the creation.' Peter then points to the world that was overflowed with water and perished.

The passage should not be reduced to a modern technical debate over uniformitarianism. Peter's subject is eschatological skepticism and Divine judgment. Yet his argument plainly uses the Flood as a historical discontinuity that the scoffers fail to reckon with.

The pastoral application is legitimate: Biblical history does not permit the Christian to assume that every past condition was always identical to ordinary present conditions. Catastrophic judgment belongs to the history God has revealed.

20. What the Conventional Model Can Explain Well

A fair Commentary should acknowledge why long-age petroleum models remain scientifically influential. They integrate stratigraphic relationships, source-rock maturity, basin subsidence, burial histories, geochemical biomarkers, reservoir timing and regional tectonics into coherent models.

The existence of rapid laboratory reactions does not erase those lines of evidence. A critic of conventional timescales must engage the full system rather than point to one accelerated experiment and declare the whole model defeated.

This study therefore does not attempt to overthrow petroleum geology. It challenges one popularized overstatement: that petroleum itself requires millions of years regardless of conditions.

21. What Rapid Experiments Actually Establish

Rapid experiments establish capability under defined conditions. They show that organic matter can be artificially matured and can generate petroleum products when sufficiently heated. They show that chemical rate can be changed by changing the environment.

They do not establish that nature used the identical temperature, pressure or heating rate. They do not date a natural sample. They do not automatically reproduce migration and trapping. Their apologetic value is therefore strongest when kept narrow.

The sermon line 'millions of years are not an ingredient in oil' captures this properly. Time describes duration; it is not a chemical substance.

22. A Better Way to State the Disagreement

Instead of saying, 'Scientists are wrong because oil can form fast,' the Commentary recommends a more accurate formulation: conventional geology interprets many petroleum systems as the result of long geological histories under reconstructed temperature conditions, while laboratory studies demonstrate that the underlying maturation chemistry can proceed much faster when conditions change.

That statement does not settle the historical question by itself. It does remove the simplistic claim that rapid formation is chemically impossible. The remaining task is geological: what conditions actually existed in the relevant basin?

23. Could Flood Conditions Produce Petroleum?

A Flood model potentially brings together several ingredients: abundant organic material, rapid burial, sediment loading, water, major fluid movement, crustal disruption, changing pressure and potentially high regional temperatures.

Those ingredients make petroleum generation plausible in principle. Whether they explain a particular reservoir requires additional work. The source material must be appropriate, temperatures must pass through suitable maturity ranges, generated hydrocarbons must survive, migration must occur and traps must exist at the right time.

The responsible answer to the study question is therefore 'plausible and worthy of investigation,' not 'proved for every reservoir.'

24. Could Flood Heat Be Too Much?

Yes. This question should be welcomed, not avoided. If a model places source rock at extremely high temperature for too long, liquid hydrocarbons can crack into lighter hydrocarbons and gas. At still more extreme exposure, petroleum can be destroyed.

This means a successful Flood petroleum model must be thermally selective. Heat must reach some source rocks in the right range for the right duration while other regions remain cooler or follow different histories. Modern hydrothermal systems demonstrate that such thermal gradients can be steep, which makes spatial diversity physically reasonable.

The nuance is important: the temperature argument is not 'the Flood was hot, therefore oil formed.' It is 'the Flood may have created radically different thermal environments, and reaction rates must be calculated from those environments rather than assumed from present-day surface conditions.'

25. Why 4,000 Years Versus Millions of Years Is the Wrong Comparison

The popular objection often compares a few thousand years to millions of years as if both scenarios share the same temperature and chemistry. They do not necessarily do so.

A reaction proceeding at a low natural temperature may require a very long duration. The same reaction network under a much higher temperature can proceed far faster. This is why petroleum kinetics commonly use temperature-time relationships rather than time alone.

The correct comparison is therefore not simply clock against clock. It is one complete thermal and geological history against another.

26. Why the Sermon Avoids Precise Flood Temperature Claims

It would be tempting to take a modern vent temperature such as 757°F and declare that Flood waters reached the same number. The evidence does not allow that.

Modern hydrothermal vents are analogues demonstrating a mechanism, not thermometers inserted into Genesis 7. Flood temperatures would depend upon the amount and location of crustal rupture, magma movement, ocean depth, circulation, mixing and many other factors.

The Commentary therefore preserves the number as an observable modern example and labels Flood-temperature extrapolation as model-dependent.

27. The Fountains of the Great Deep Are More Than Rain

One of the strongest Biblical contributions of this study is simply restoring Genesis 7:11 to the popular picture of the Flood. Children's illustrations often focus almost exclusively on rain. Scripture begins with both the deep and the heavens.

Genesis 8:2 later says the fountains of the deep and the windows of heaven were stopped. The deep therefore participates in the event from onset through cessation.

Whatever physical model one adopts, the Biblical Flood should not be reduced to forty days of rainfall. The waters prevail 150 days and then recede over additional months. The event has a sustained geological dimension.

28. The Flood's Duration Gives Time for a Sequence of Processes

The Flood year itself contains distinct phases: onset, forty days of rain, 150 days of prevailing waters, recession, ark grounding and gradual exposure of land. This matters because catastrophic does not mean instantaneous.

A process can be rapid relative to conventional geological ages while still unfolding over days, weeks or months. Burial can occur early, heating can continue, hydrothermal circulation can persist and later migration or cooling can follow.

The sermon should therefore avoid portraying the model as 'oil formed in a few seconds.' The point is accelerated process within a catastrophic timescale.

29. The Difference Between Biocrude and Natural Crude Oil

Some modern technologies convert wet biomass into biocrude rapidly through hydrothermal liquefaction. These experiments are useful for proving that biological carbon can be converted into oil-like products quickly, but the products are not automatically identical to every naturally occurring crude oil.

For this reason, the final sermon gives greater weight to petroleum-source-rock pyrolysis research than to popular headlines about 'making oil in minutes.' The closer the experimental material and process are to petroleum geochemistry, the stronger the comparison.

Hydrothermal liquefaction may still be mentioned in future research, but it should be labeled as a technological conversion process rather than a direct reconstruction of a natural petroleum basin.

30. The Difference Between Source-Rock Maturity and Reservoir Age

A petroleum reservoir can contain oil generated elsewhere and later migrated into the reservoir rock. The age assigned to a reservoir rock is not automatically the duration of oil generation, and the age assigned to source sediment is not automatically the duration of the chemical transformation.

This distinction is important because popular explanations often compress several separate events into one sentence. A technical discussion should separate deposition, burial, maturation, expulsion, migration, accumulation and later alteration.

31. Biomarkers and Geochemical Fingerprints

Petroleum often contains molecular compounds that geochemists use to correlate oil with source rocks and infer biological origins and maturity. Flood geology does not need to deny such evidence. In fact, biological source signatures are compatible with a catastrophe that buries enormous quantities of organic material.

The debate concerns the history assigned to that material, not whether petroleum can preserve chemical evidence of biological precursors. This is another place where unnecessary conflict should be avoided.

32. Why 'Oil Came from Dinosaurs' Is a Poor Popular Explanation

Children are sometimes told that gasoline came from dinosaurs. That is an oversimplification. Much petroleum is conventionally linked to microscopic marine organisms, algae and other organic matter rather than primarily to dinosaur carcasses.

This correction helps the Flood discussion because a global catastrophe need not concentrate only large terrestrial animals. Marine productivity, vegetation and microscopic organisms can provide enormous quantities of organic carbon.

33. The Role of Sedimentary Basins

Large petroleum accumulations commonly occur in sedimentary basins where source rocks, reservoir rocks, seals and structural traps can develop. A serious Flood model therefore has to explain basin-scale architecture, not merely the existence of dead organisms.

Catastrophic tectonic models attempt to generate rapid subsidence, sedimentation, deformation and uplift. Whether a specific model succeeds is a technical question. This Commentary records the need without pretending to solve every basin.

34. Why the Study Does Not Need to Prove a Young Earth

The sermon can make its central point without claiming that one experiment proves an entire chronology. Rapid oil-generating chemistry is compatible with a short timescale, but compatibility is not proof of the whole system.

This restraint is pastorally valuable. The Bible should not be tied to an argument stronger than the evidence supports. A listener can accept the experimental point even while remaining unconvinced by a young-earth geological model. The study still succeeds if it has shown that the popular 'oil itself proves millions of years' claim is too simple.

35. Claims Discipline: What Can Be Said with High Confidence

High confidence: Genesis says the fountains of the great deep were broken up and that the waters prevailed upon the earth 150 days.

High confidence: petroleum maturation is temperature dependent and petroleum scientists use programmed and hydrous pyrolysis to study and artificially advance thermal maturity.

High confidence: modern hydrothermal systems can circulate water through fractured hot oceanic crust at temperatures above 700°F.

High confidence: shock experiments have observed diamond formation on nanosecond timescales.

High confidence: these facts demonstrate that rates depend upon conditions; they do not by themselves date a particular natural oil field or diamond.

36. Claims Discipline: What Must Remain Conditional

Conditional: the breaking up of the fountains of the great deep involved catastrophic plate tectonics in the detailed modern sense.

Conditional: a particular modern oil field was generated during the Flood.

Conditional: a specific Flood basin passed through the right thermal history for rapid oil generation and preservation.

Conditional: particular post-Flood mountain building, faulting or hydrothermal systems correspond to specific phases of a catastrophic tectonic model.

These may be reasonable research proposals, but they should be preached as models or possibilities unless Scripture or direct evidence permits stronger language.

37. Claims Discipline: What Should Be Rejected

Reject: 'Scientists have proved all oil formed quickly.' They have not.

Reject: 'Natural oil is identical in every respect to rapidly manufactured biocrude.' It is not necessarily so.

Reject: 'The Bible gives the temperature of the Flood.' It does not.

Reject: 'The 757°F vent measurement is the temperature of Noah's ocean.' It is a modern analogue only.

Reject: 'Diamonds forming in nanoseconds proves all natural diamonds are young.' The experiment establishes rate capability under shock conditions, not natural-diamond chronology.

38. The Greater Biblical Lesson: God Has Acted Catastrophically in History

Second Peter's use of the Flood reminds the church that Divine judgment is not merely an idea. God has acted in history. The world described before the Flood did not simply continue untouched into the world after it.

This theological fact does not answer every geological question. It does require the Christian interpreter to leave room for catastrophe in earth history and to resist philosophies that exclude Biblical events before the evidence is considered.

39. Judgment Is the Meaning of the Flood

Genesis 6:5 says that God saw the wickedness of man was great in the earth. The Flood is therefore not first a story about sediment, fossils, climate or petroleum. It is a moral event in which a holy God judges sin.

A scientific study can become spiritually distorted if the congregation leaves fascinated by hydrothermal vents but untouched by the reason the Flood occurred. The geological consequences are secondary to the theological cause.

40. Grace Appears Before the Ark

Genesis 6:8 says, 'But Noah found grace in the eyes of the LORD.' The narrative introduces grace before giving the construction details of the ark.

Noah's deliverance does not minimize judgment. It shows that the God who judges also provides rescue. Genesis 7:16 adds the striking statement that 'the LORD shut him in.' Security rests ultimately in God's provision.

41. From Noah's Ark to Christ

The sermon does not teach that every detail of the ark is a direct allegorical symbol of Christ. The theological analogy is simpler: judgment is real, human beings cannot rescue themselves and God provides salvation.

The Gospel presentation therefore moves to Romans 3:23, Romans 6:23, 1 Corinthians 15:3-4 and Acts 16:31. Christ died for our sins, was buried and rose again. Salvation is received by faith rather than earned by surviving judgment through human effort.

42. Why Scientific Humility Is a Christian Virtue

Christians do not strengthen Scripture by overstating scientific evidence. If an experiment shows that a process can happen quickly, say exactly that. If a geological model remains uncertain, say that too.

Humility does not mean indecision about revelation. Where Scripture speaks clearly, the pastor may speak clearly. Humility concerns the boundary between revelation and our attempts to explain physical mechanisms that Scripture does not detail.

43. Why Intellectual Courage Is Also a Christian Virtue

The other error is fear. Some believers assume that scientific investigation is dangerous because it might challenge a familiar interpretation. A Biblical worldview should produce the opposite response. If God created reality, genuine facts cannot ultimately overthrow genuine revelation.

The church can therefore examine petroleum chemistry, geology, diamonds, hydrothermal systems and competing models without panic. The goal is truth, not protection of a favorite diagram.

44. How the Study Should Be Shared

The recommended public summary is careful: 'Petroleum-generating chemistry does not contain a built-in requirement for millions of years. Scientists accelerate maturation reactions by changing temperature and other conditions. Therefore, when considering Noah's Flood, the question is not merely how much time passed but what physical conditions existed.'

That formulation invites conversation rather than overstating certainty. It also naturally leads back to Genesis 7 and allows a listener to inspect the Biblical text for himself.

45. Final Commentary Conclusion

This Commentary should leave the reader with a refined answer. Conventional petroleum geology has a developed evidentiary framework for long basin histories and should be represented fairly. Yet the chemistry of petroleum generation is demonstrably rate-sensitive. Elevated-temperature laboratory methods can artificially advance maturity and generate petroleum products far faster than the natural histories assigned in conventional models.

Genesis describes a Flood involving not only rain but the breaking up of the fountains of the great deep. Scripture does not define the geophysical mechanism, but a catastrophic crustal interpretation would necessarily raise serious questions of heat, pressure, fluid circulation, burial and changing reaction rates. Modern hydrothermal systems show that fractured volcanically active crust can heat circulating water above 700°F. That observation makes temperature a legitimate and important part of the Flood discussion.

The evidence does not prove that every oil field formed during Noah's Flood. It does remove the simplistic objection that petroleum is chemically incapable of forming rapidly. The strongest conclusion is therefore methodological as well as scientific: material is not a stopwatch. To ask how long a process took, we must also ask what conditions controlled its rate.

The final Biblical destination is judgment and grace. The Flood demonstrates that God has acted in history against sin. Noah's preservation demonstrates that God provides salvation. The Gospel

points to Jesus Christ as God's provision for sinners facing a judgment greater than any petroleum question can answer.

46. Principal Biblical Texts for Teaching and Further Study

Genesis 6:5-8 - human wickedness, Divine judgment and Noah finding grace.

Genesis 7:11-24 - the fountains of the great deep, the windows of heaven, the scale of the Flood, mass death and the 150 days of prevailing waters.

Genesis 8:1-5 - the stopping of the fountains of the deep and the extended recession of the waters.

Psalms 104:5-9 - the earth, waters and God's sovereign boundaries; useful with care in creation/Flood discussions.

Job 38:8-11 - God's authority over the sea and its boundaries.

2 Peter 3:3-7 - the Flood as past judgment and the warning of future judgment.

Romans 3:23; 6:23; 1 Corinthians 15:3-4; Acts 16:31 - Gospel texts used in the sermon.

47. Scientific Sources for Further Study

U.S. Geological Survey, Petroleum Geochemistry Research Laboratory, 'Programmed Pyrolysis Method.' USGS describes programmed pyrolysis as a rapid analytical technique for evaluating hydrocarbon-generating potential and thermal maturity of source rock.

Paul C. Hackley, U.S. Geological Survey, research profile and hydrous-pyrolysis work. USGS describes hydrous pyrolysis as a method used to thermally mature organic-rich sedimentary rocks and simulate petroleum generation.

Safaei-Farouji et al., Scientific Reports 13 (2023), 'The role of water in the laboratory thermal advancement of immature type I kerogen from the Cretaceous Qingshankou Formation in China.' The study uses hydrous pyrolysis to examine artificial thermal advancement and generated products.

U.S. Geological Survey publications on East Pacific Rise and other oceanic hydrothermal systems documenting high-temperature fluids at approximately 660°F to 750°F, with reported measurements around 403°C (757°F).

Kraus et al., Nature Communications 7, 10970 (2016), 'Nanosecond formation of diamond and lonsdaleite by shock compression of graphite.' The experiment documents ultrafast diamond formation under shock compression.

These scientific sources establish methods and observed physical processes. They do not constitute Biblical authority and they do not independently prove a Flood chronology.

48. Final Pastoral Summary

The congregation should leave able to answer the original objection more carefully than before. If someone says, 'Oil takes millions of years, so Noah's Flood could not have produced it,' the response should not be a counter-slogan. Ask what conditions are assumed. Ask how temperature affects reaction rates. Ask what laboratory maturation shows. Ask what Genesis actually describes.

Then preserve the boundaries. Scripture tells us the fountains of the great deep were broken up. Modern geology shows that fractured hot crust can generate extraordinary hydrothermal temperatures. Petroleum science shows that maturity reactions accelerate with heat. Those facts make rapid formation scientifically possible in principle, but they do not identify the history of every reservoir.

That is a good Reason Together answer because it is neither afraid nor careless. It opens the Bible, examines the evidence, marks the difference between certainty and inference and refuses to ask science to prove more than it has proved.

And when the discussion is finished, the greatest lesson of Noah's Flood is still not how petroleum formed. It is that God judges sin, God provides grace and salvation is found in the provision He has made through Jesus Christ.