One of the most perplexing problems for Biblical chronologists is explaining the calendar data given in Genesis 7-8. The flood began on the 17th day of the 2nd month. The ark rested on the 17th day of the 7th month, five months to the day. Genesis describes this period as 150 days, (Gen. 7:11,24, 8:3-4). Therefore, these five months on Noah’s calendar consisted of exactly 30 days each, (30x5=150). Noah’s lunar months (30 days) were about a half day longer than the present lunar months (29.53 days). If you extrapolate Noah’s lunar calendar for the full 12 months of the year, it is apparent he knew a 360 day lunar year, (30x12=360).

Noah’s calendar was different from both the present lunar calendar (354.53 days), and present solar calendar (365.24 days). Something occurred about the time of the flood that altered the calendar, making it necessary to add an intercalary month every 2 or 3 years to keep the lunar calendar in sync with the seasons. I have not previously heard an adequate explanation that could account for the apparent separation of the lunar – solar year from the pre-flood calendar. In this paper I will present a hypothesis which may answer this question. Please keep in mind that this is only a hypothesis, and is subject to correction if the mathematical data proves it false.

**No Solar Year Before the Flood**

The earth’s tilt on its axis is what gives us the seasons. If the earth’s axis was perpendicular to the ecliptic, (0 degree tilt), there would be no seasons at all, and no such thing as a “solar year.” The earth’s temperature at each latitude would be constant year round. The weather would be extremely mild and non-violent. With no seasons and a very mild, stable climate, crops could be planted and harvested year round. Food storage would be completely unnecessary. Remember, people prior to the flood were vegetarians, (cf. Gen. 1:29-30 & 9:1-4). Around the 30 – 40 degree latitudes, every day would be comfortable, perhaps in the mid 60s to mid 70s year round. Remember, Adam and Eve were naked prior to the fall, with absolutely no provision for warm clothing in winter.

With no inclination of the earth’s axis, there would be no such thing as a “solar year” because no seasonal changes would occur to measure it by. The days would not get longer and shorter throughout the year. The sun would not appear to drift in its ark across the sky, but would follow precisely the same path year round.
The idea that the four seasons, with yearly oscillations of cold and heat, did not exist before the flood is supported by the Genesis data. There is no mention of any of the four seasons, weather, changing climate, or changing temperature until the flood. Immediately after the flood, God introduced the four seasons to Noah, characterizing them by the terms, “cold” and “heat.”

Gen 8:20-22 LXX
20 And Noe built an altar to the Lord, and took of all clean beasts, and of all clean birds, and offered a whole burnt–offering upon the altar.
21 And the Lord God smelled a smell of sweetness, and the Lord God having considered, said, I will not any more curse the earth, because of the works of men, because the imagination of man is intently bent upon evil things from his youth, I will not therefore any more smite all living flesh as I have done.
22 All the days of the earth, seed and harvest, cold and heat, summer and spring, shall not cease by day or night.

The “curse” on the ground in verse 21, and “smiting” the earth, both refer to what God did to the earth on account of the sin of mankind in Noah’s day. Verse 22 makes no sense in this context unless the four seasons described were just being introduced for the first time. Had they been occurring all along, what would be the point of telling Noah that the four seasons would continue perpetually? The only logical reason for including such a statement was to let Noah know that a new situation had arisen, the earth having four seasons varying from cold to hot. Noah should expect this to be permanent, not just a temporary aberration from the flood. Therefore, the only reasonable explanation of this passage from a scientific point of view is that the earth tilted on its axis, from 0 degrees prior to the flood, to its present 23.5 degrees.

The Shortened Lunar Year
As was pointed out previously, the pre-flood lunar month was 30 days, and the lunar year was 360 days. This is established by the text. The tilting of the earth on its axis explains how the seasons began, and consequently made it necessary to keep a 365.24 day solar calendar for the agricultural cycle.

If this theory is correct, we would expect the tilting of the earth on its axis to also explain the shortening of the lunar month from 30 days to 29.5 days, (making the lunar year 354.37 days instead of 360 days). If the same physical change (tilting the earth’s axis) also shortens the lunar year, this explanation becomes highly probable.

What would it take to shorten the number of days in a lunar month that involves a physical change to the earth only? The only possibility is to slow the earth’s rotation.
Since the moon’s revolutions do not change, a slowing of the earth’s rotation would make the days slightly longer, and there would be slightly fewer days in a single lunar cycle. Therefore, for this theory to work, the effect of tilting the earth’s axis must also slow its rotation.

If God disrupted the earth’s tilt by applying an outside force, two important phenomena would occur. First, the shift of the earth’s axis would generate tremendous turbulence and internal friction within the earth’s molten core as it struggled to reorient to a different angle of rotation. The net effect of this internal friction would be a significant braking of the earth’s speed of rotation until the molten core realigned itself to the new axis. The energy of the core’s momentum would be converted to heat.

The second effect from tilting the earth’s axis concerns the earth’s crust. We know from Genesis that the earth originally had only one super continent, and one super ocean.

Gen 1:9 NASB
9 Then God said, “Let the waters below the heavens be gathered into one place, and let the dry land appear”; and it was so.

Tilting the spinning earth would create an enormous gyroscopic torque effect on the earth’s crust, tearing this super continent apart. John Baumgardner, PhD., of Los Alamos National Laboratory, has done pioneering work with computer models demonstrating how catastrophic plate tectonics accounts for the present state of the earth, and Noah’s flood. Yet, his theory lacks a specific trigger for the thermal runaway necessary to begin the subduction process. The gyroscopic torque effect on the earth’s crust could easily provide such a trigger. A chain reaction of rapid continental shifting would result. The law of the conservation of energy, (first law of thermodynamics), requires that the enormous heat energy in Baumgardner’s model must have been converted from kinetic energy. The kinetic energy of the earth’s rotation being converted to heat therefore provides a significant braking effect on the earth’s rotation.

The slower rotation would make for slightly longer days and nights. The moon’s cycles and phases would not change. But longer days mean slightly fewer days would elapse during a single lunar cycle. Consequently, the lunar month went from 30 days to 29.5 days. The lunar year went from 360 days (12 lunar months) to 354.37 days per lunar year. This is the direct result of a decreased rotation speed of the earth.

Once the seasons began after the flood, it quickly became necessary to correct the lunar calendar every 2 or 3 years by adding an intercalary month to synchronize it with the new seasons for agricultural purposes.
The Future Result of the Shift in the Earth’s Axis

Isaiah indicates that the earth’s axis will once again be greatly disturbed just prior to Jesus’ return. There is currently a slight wobble in the earth’s rotation. However, this wobble will apparently become much faster and much greater in magnitude (like an out of balance tire on your car), creating havoc. Below is the LXX rendering of Isaiah 24:18-20, with my literal translation following.

Isaiah 24:18-20 LXX
18b... For windows from heaven were opened, and the foundations of the earth shall be shaken.
19... By disturbance the earth shall be disturbed, and by perplexity the earth shall be perplexed.
20... It has tilted, and the earth shall wobble like a storehouse, like one intoxicated and dizzy, and it shall fall and not be able to rise up. For lawlessness shall grow strong upon it.

Note the changes in verb tense. The clause, “windows from heaven were opened” in verse 18 clearly refers to Noah’s flood. The ultimate consequence will be the future shaking of the foundations of the earth.

There is a clear parallel structure to these verses. Verses 18-19 are parallel to verse 20. In both, the past event of the flood is mentioned first: “windows of heaven were opened” & “[the earth] has tilted.” The future result follows in both: “the foundations of the earth shall be shaken” & “the earth shall wobble …like one intoxicated and dizzy.”

Now, let’s consider another critical prophecy, this time from Psalm 102:25-26. This passage was quoted in Hebrews 1:10-12 verbatim from the LXX. Below is the LXX rendering followed by my literal translation.

Psalm 102:25-26 LXX (Hebrews 1:10-12)
25... For the foundations of heaven have been established, and the works of thy hands are with thee.
26... He will cut them off, and they will not be, and the heavens will pass away like an ancient garb.

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Psalm 102:25-26 (Hebrews 1:10-12) Literal Translation
25 At the beginning, You, Lord, laid the foundation of the earth, and the heavens are the works of Your hands.
26 They shall self-destruct, yet You remain. And all, like a garment, shall become aged. And as a thrown around garment You shall whirl them, and they shall be altered.

The verb rendered “self-destruct” is in the middle voice, meaning the destruction is performed by the created bodies upon themselves. However, the verb rendered, “become aged” is in the passive voice. This indicates that the created bodies are passive in their aging and obvious decay. Finally, note the curious language of verse 26. Two different words for “garment” are used. When speaking of growing old, the normal word for garment is used. However, when God gets involved, the word for “garment” refers to a cloak that is thrown around the body. The word literally means, “something thrown around.” That is, a cape or cloak that one spins to one side while its momentum brings it around the back to the other side. This strongly implies an accelerated spinning of the object. Additionally, the clause, “You shall whirl them,” clearly has this idea in view.

From this passage we see that the bodies of our solar system will deteriorate and wind down. At some point things will become unstable and the system will begin to self-destruct. The stable motions will become chaotic. This is a perfect description of the violent “wobble” of the earth on its axis found in Isaiah 24. Finally, when God steps in at the second coming of Jesus, He will correct the chaos, and spin the created bodies, altering (and correcting) their motion. This is, of course, what is meant by “the new heavens and new earth” mentioned by Isaiah (65-66) and Peter (2 Peter 3), which will occur at the second coming of Jesus.

This predicted violent wobble in the earth’s axis explains all of Jesus’ predictions of world-wide catastrophes immediately prior to His second coming. Consider the following amazing prophecy of Jesus, all of which would result from the violent wobble of the earth on its axis prophesied by Isaiah.

Luke 21:11-12, 25-33 NKJV
11 And there will be great earthquakes in various places, and famines and pestilences; and there will be fearful sights and great signs from heaven. …
25 And there will be signs in the sun, in the moon, and in the stars; and on the earth distress of nations, with perplexity, the sea and the waves roaring; 26 men’s hearts failing them from fear and the expectation of those things which are coming on the earth, for the powers of the heavens will be shaken. 27 Then they will see the Son of
Man coming in a cloud with power and great glory. 28 Now **when these things begin to happen**, look up and lift up your heads, because your redemption draws near."

29 Then He spoke to them a parable: "Look at the fig tree, and all the trees. 30 When they are already budding, you see and know for yourselves that summer is now near. 31 So you also, **when you see these things happening**, know that the kingdom of God is near. 32 Assuredly, I say to you, this generation will by no means pass away till all things take place. 33 Heaven and earth will pass away, but My words will by no means pass away.

The observable phenomenon in the heavens will be that the sun, moon, planets, and stars will no longer follow their prescribed paths across the sky. The earthquakes and seas roaring will result from the erratic stresses on the earth from the wobble of its axis. Famines and pestilence will be the result of the regular seasons becoming chaotic. Yet, God’s people have no cause for alarm. He has promised to restore all things for the sake of Jesus’ elect, (Isaiah 65-66, Acts 3:19-21, Rom. 8:18-25). While the world is in panic, we will rejoice, because these are the signals that our redemption, and the Kingdom of Christ, is drawing near. Everything will be restored.

A Second Coming Early Warning System
There is one thing very clear from the passages we have discussed above. The earth’s future chaotic wobble, that will create all of the observable signs mentioned by Jesus, is the result of something that occurred a very long time ago, back in the days of Noah.

Jesus intended to give His faithful followers an early warning system in Luke 21. And He said to “look up,” not when all the events are taking place, but when they “begin to take place.” That is, at the first sign. We are not to “look up” to see His coming, because that will not be until after all the signs have taken place. Rather, we are to observe the heavens, and the apparent movement of the heavenly bodies, all of which are related to the earth’s axial tilt. Things will begin slowly, with a slight shifting of the earth’s inclination. Then, the effects will begin to accelerate, until all of the things Jesus mentioned will occur, and people will be in a panic.

It is no coincidence that Jesus’ used the parable of the changing of the seasons to illustrate His point, since this is a direct result of the earth’s inclination. But, the changing of seasons is very gradual at first, and hardly noticeable. His parable indicates that we should look for the very first telltale signs that the “season” of His coming is approaching. And that sign will be a slight change in the earth’s tilt. Notice also that Jesus gave us the length of time in which all of these things will occur, one generation. That is, the generation that sees the beginning of these things will see the completion of them as well.
Notes:
1. We highly recommend the work of Answers in Genesis. They claim Christians should not use this argument (that the earth’s axis was not tilted before the flood), [http://www.answersingenesis.org/get-answers/topic/arguments-we-dont-use](http://www.answersingenesis.org/get-answers/topic/arguments-we-dont-use). Their stated reason is not scientific, but textual. “Genesis 1:14 reveals seasons did exist prior to the Flood.” But they are mistaken on this point. The word “seasons” in Genesis 1:14 is “moed.” It has nothing to do with the four seasons (winter, spring, fall, and summer). It means “appointed time,” (Gen. 17:21; 18:14; 21:2; Ex. 9:5). In the Torah, it most often refers to the Jewish feast days that were calculated by the new moon (Ex. 13:10; 23:15; Lev. 23:2,4; 23:37,44; Num. 9:2-3,7,13; 10:10; 15:3; 28:2; 29:39; Deut. 16:6; 31:10). This Hebrew word is never used in the books of Moses to refer to any of the four seasons. The point of Genesis 1:14 was that the heavenly bodies were given partly for calculating the feasts of the Lord, and keeping a calendar (primarily by the lunar cycle). The objection of Answers in Genesis to this point is therefore unfounded.


3. In the same article, Baumgardner explains the lack of a specific trigger as follows: “What about the triggering mechanism for the runaway of the mantle’s boundary layers? In my opinion the simplest possibility is that the initial state from which the runaway emerged was built into the Earth as God originally formed it. In fact, I believe this almost certainly had to have been the case. It is also plausible that the Earth’s mantle had been grinding inexorably toward catastrophe during all the 1650 or so years from when Adam disobeyed until “all the fountains of the great deep were broken up,” such that no separate trigger immediately prior to the Flood event itself was even necessary. For lack of any more specific information about how the cataclysm was triggered, I personally prefer this simple hypothesis.”