

The Observed Calendar of the Second Temple Dates For 2008

The Observed Calendar of the Second Temple Era was used by the official priests of the Second Temple from at least 520 BC to 70 AD, which is about 30 generations. This is an astronomically based calendar using the visual new crescent moons and the equinoxes.

It is anticipated that the reader has read the full Calendar Presentation, minimally the files ENC202, CALNOSPO, BAB-530, and DATELINE. Without reading these documents the following information will probably not be fully appreciated.

How Far South Is Acceptable For New Crescent Sightings?:

Recently many have come to understand that the administration of an observed calendar over a 360° earth has several administrative complications. Since the earth spins on a tilted axis, and since the moon orbits on a tilted plane; when an observer seeks to see the new crescent at twilight the moon may be astronomically positioned in either the northern or southern hemisphere. When the moon is orbiting in the southern hemisphere, a northern hemisphere observer may not see the crescent because his local moon-set comes too soon, while at the same time and at the same longitude, an observer in a lower latitude (for example Baja Mexico) has more time before his local moon-set, and so he can see the new crescent. On the wall-clock it is the same time of day, but, those in the more northern latitudes may not see the crescent while those in the more southern latitudes can.

What this common astronomical lunar phenomenon magnifies is the debate over local observation versus Global Observation. Some feel that if they cannot themselves see the crescent, then it never happened. Others allow someone else to see it for them, but then they arbitrarily limit who and where that other person must be standing. Still others feel that any observation of the new crescent anywhere in the world is valid, and starts the new month day from that sighting forward. I agree with this later administration.

Here is my argument for administrating the Observed Calendar Using Global Observation

1. Consider the Sabbath. When the sun sets you start the Sabbath. Okay, some start the Sabbath as the sun rises, but it is still the same principle. You watch the sun and make a decision when to start the Sabbath.
2. Consider what happens if you live in Alaska: You cannot keep the Sabbath by using the rule of physically observing sunset. Sometimes the sun does not set for months. What do you do? You must use the wall-clock instead, and watch 24 hours tick by. By doing this you understand that sunset for “most people” living at the lower latitudes is about 6pm on Friday, so you start your Alaskan Sabbath when your clock reaches 6pm on Friday, even though the sun may be high in the Alaskan sky. **Thus, you are no**

longer observing sunset, you are understanding astronomy to make an administrative decision.

3. Consider what this administrative decision is doing astronomically: You are understanding that the earth is a slightly flattened ball, and that at the higher latitudes you cannot administer the beginning of the Sabbath using the same observation rules as everyone else. That is, **you must calculate what is happening at the lower latitudes in your same general longitude.** Even though this calculation is simple, you just look at the clock, an understanding of astronomy is still being applied for proper administration. For example, you living in Alaska understand that you want to keep the Sabbath synchronized with San Diego, and so you start your Alaskan Sabbath when those in San Diego start theirs. **An observer physically seeing the sun's setting in Alaska has nothing to do with when the Sabbath begins in Alaska. Thus you are administering the Sabbath using Global Observation.** You know that the Sabbath has started for those south of you, and so therefore the Sabbath has started for you too.

4. Consider what happens if you do not use Global Observation: Well, Alaska would be keeping Sabbaths completely differently than the rest of the earth's population. Some Alaskan Sabbaths would be quite short, some would last for months, and the Alaskan Sabbaths would never be in synchronization with most of the earth. Thus, in the more extreme regions of the earth it would be chaos to use an administration insisting upon only local observation.

5. Consider that such an unsynchronized Sabbath situation gets more and more synchronized with the rest of the earth as you travel south: The farther you get away from the north pole the more synchronized you will be with everyone else. Eventually you can travel to a lower latitude that has sunsets very common with the majority of the rest of the earth. **Thus, those living in the higher latitudes must make personal judgments as to when they can administer the start of Sabbath by either watching the wall-clock or by actual observation.**

6. Consider that the observation of the new crescent has exactly the same circumstance as does the Sabbath: Instead of talking about a sunset you are talking about the moon's faint light just before it sets, and instead of starting a Sabbath day you are starting a new month day.

7. Consider that the observation of the new crescent has exactly the same administration decision as does the Sabbath: Those in the higher latitudes, for example Oregon, Washington, and Alaska, are in the situation that the rotating flattened ball they are standing on may cause the moon to set or not set completely differently than it does for the lower latitudes. For example, in some months those living in Alaska may never see the moon at all. So, just as with the Sabbath, **they are compelled to administer the "start-rules" using an understanding of astronomy rather than a strict reliance upon personal observation.**

8. Consider that: just as when the earth spins so that the Alaskan wall-clock reaches 6pm to start the Sabbath day; so too **when the observed new crescent moon starts to sweep across the skies in the lower latitudes, those in the higher latitudes understand that the new moon day has begun on earth for them too.** You keep the Sabbath as it comes to your general longitude, and so also you start the new month day as it comes to your general longitude, even if you personally do not see the crescent.

9. **Thus, just as with the Sabbaths, administrating the new crescents using Global Observation is exactly what needs to be done, both for consistency in administration, and for synchronization of the months and Holy Days for everyone living on the 360° earth.**

Last Year, 2007, Was A Rare Year Having a Very Close Call For Intercalation:

In this year the new crescent becomes visible very close to the astronomical spring equinox. In fact, the spring equinox occurs almost exactly at midnight, 6 minutes and 30 seconds after midnight, in Greenwich England (GMT). For calendar determinations this presents a rare and significant situation.

The situation is this:

- People who see the new crescent on the evening of March 19, for example those on the west coast of the U.S., will see this event while the sun is technically still in winter. Thus, these people may consider that they should intercalate a 2nd 12th month, and would then wait until the new crescent on the evening of April 18th to begin Nissan.
- People who see the new crescent on the evening of March 20, for example those in Jerusalem, will see this event after the sun has entered into spring. Thus, these people would typically not intercalate, and would begin the month of Nisan in March.
- Thus, about half of the earth could be keeping Passover and Tabernacles one month later than the other half of the earth.. To some the idea of having half of the earth keeping Passover and Tabernacles in different months violates a sense of unity. To others this disparity is not a concern.

The above is further complicated when considering definitions of terms. For example, what is the definition of “spring”? The ancient astronomers around the world used several astronomically based methods of determining the start of spring. But, we do not care what other ancient astronomers did, we only care about what the official Second Temple priests did, as only they administered the Holy Days for all of Israel.

The Historical Evidence Of The 2nd Temple’s Close Calls:

I have discovered 34 ancient data-points which had a similar situation as we will have in 2007, that is, the equinoxes are within one-day of the rules of intercalation. Over a span of 144 years (from -521 through -377), the Second Temple priests only had 34 very close

calls, 20 close calls for Nissan and 14 close calls for Tishri. In the accompanying Excel-file, "CloseCalls.xls", these data-points are presented.

The final analysis of these ancient close calls is this:

- **For Nissan:** every time they accepted the new crescent sighting that was technically in winter, **as long as**, the spring equinox occurred that same lunar day. There are 20 data-points, and all data-points show the same thing, every single time they did not intercalate, and accepted the new crescent as Nissan 1. If the spring equinox fell on Nissan 2 or later, they would intercalate a 2nd 12th month every single time, there are no exceptions.

- **For Tishri:** every time they rejected the new crescent sighting that would result in Tishri 10, the Day of Atonement, starting while the sun was still in summer. There are 14 data-points, and all data-points show the same thing, every single time they added a 2nd 6th month, and waited until the next new crescent to proclaim that month to be Tishri.

One data-point, -464, suggests that they intercalated a 2nd 6th month in even a stricter manner, but I suggest that this is more likely due to calculation errors, and was not a deliberate deviation from the simpler rule: that the Day of Atonement must begin in autumn. Even so, all 14 data-points show that **the rule for intercalation was to ensure that Tishri 10 was in autumn**. If the autumn equinox fell on Tishri 10 or later, they would intercalate a 2nd 6th month every single time, there are no exceptions.

Therefore: The Determination for the 2007 Close Calls Was This:

The premise is that we should use the same rules of intercalation as did the priests of the Second Temple. In modern times we can calculate the astronomical spring equinox with great precision. It seems reasonable and consistent to use the astronomical equinoxes as our own definitions for the start of spring and autumn, just as did the Second Temple priests. Applying what is learned from analyzing the ancient data, we can make a modern calendar determination for the very close calls of 2007 as follows:

- **For Nissan:** the new crescent moon begins to be visible just prior to the eastern coast of the United States. By the time the moon reaches the eastern coastline of Canada to the tip of Florida the new crescent moon is visible, and starts the new month lunar day from that general longitude forward. Exactly as the ancient Second Temple priests made their determinations, this new crescent sighting **should be accepted as Nissan 1**, even though technically the sun is still in winter, **because, the spring equinox will occur on the same lunar day**. That is, Nissan 1 will still be the first day of spring.

- **For Tishri:** the new crescent moon in September which would typically begin the month of Tishri will be visible for lower Canada and all of the United States. However, exactly as the ancient Second Temple priests made their determinations, **this new crescent sighting should be rejected, and is not to be proclaimed as Tishri, because if it were, then the start of the Day of Atonement would be in summer**. Starting Atonement, which is the "New Year's Day" for the Sabbatical and the Jubilee

yearly cycles, in the summer was never allowed. Instead, a 2nd 6th month is to be proclaimed so that the festivals are kept in their proper season. **Thus the October new crescent should be proclaimed as the month of Tishri.**

The 2nd 6th Month Does Not Make The Feasts Occur In The 8th Month:

To some it seems “wrong” to insert a 2nd 6th month, as this makes the Feasts occur in the 8th month counting from Nissan. **I remind everyone that this is “western-thinking”.** We think in sequential terms of 1,2,3,4,5,6,7 because we logically want to count things. **But the ancient Temple priests did not count months, they proclaimed months, that is, they named them what they were.** We often call the 2nd 12th month the 13th month because we want to count months. But it is not the 13th month, it is the month proclaimed to be “The Second Addar”.

The ancient Temple priests declared the months to be named what they determined they should be. When the ancient priests decided they needed to intercalate, they proclaimed that month to be Addar II instead of Nissan, because that is what they decided that month was to be. The same with the 2nd 6th month. We know it is a 2nd 6th month, but then we logically count it and think it is the 7th month. But it is not the 7th month, it is a “Second Ululu”. This is because months are proclaimed, not counted. We often call Tishri the 7th month because most of the time it just so happens to be the 7th count from Nissan. But, Tishri is not the 7th month, it is that month which is proclaimed to be Tishri, because that is what has been decided it is to be.

So too in the year 2007. The September new crescent should be proclaimed to be Ululu II (a 2nd 6th month) and the October new crescent should be proclaimed to be Tishri.

For 2008: Times are relative to San Diego, California, Local Mean Time

Year:: 2008 Spring Equinox jd= 2454545.42 03/20 w5 06:00, Selucid=2318

Fall Equinox jd= 2454731.83 09/22 w2 06:00, 186 days later

01/08 w3 17:31, 25m 0.39
10> 01/09 w4 18:34, 87m 2.72 30d
11> 02/07 w5 18:29, 56m 1.03 29d SL
03/07 w6 18:22, 25m 0.22
12> 03/08 w7 19:29, 90m 2.75 30d
1> 04/06 w1 19:28, 69m 1.55 29d
05/05 w2 19:32, 53m 0.80
2> 05/06 w3 20:47, 127m 4.49 30d
06/03 w3 19:33, 35m 0.32
3> 06/04 w4 20:39, 100m 3.01 29d
4> 07/03 w5 20:10, 64m 1.70 29d
08/01 w6 19:21, 29m 0.67
5> 08/02 w7 19:54, 63m 3.90 30d SL
08/31 w1 18:51, 31m 2.01
6> 09/01 w2 19:19, 60m 6.12 30d
09/30 w3 18:17, 37m 3.35
7> 10/01 w4 18:50, 71m 7.89 30d
10/29 w4 17:25, 18m 1.31
8> 10/30 w5 18:04, 58m 4.35 29d
9> 11/28 w6 17:34, 44m 1.75 29d
12/27 w7 17:17, 20m 0.29
a> 12/28 w1 18:14, 76m 2.20 30d

2008 Calendar of Events: (dates are at NOON)

April 7 (Monday) - New Year's Day (Nissan 1, Hillel says April 6)
April 20 (Sunday Evening) - Passover (Hillel says 19th)
April 21 (Monday) - First Holy Day Unleavened Bread (Hillel says 20th)
to April 27 (Sunday) - Second Holy Day for Days of Unleavened Bread
June 10 (Tuesday) - Pentecost (from first Holy Day)
June 15 (Sunday) - Pentecost (from Saturday within)

On September 30:

Florida (tip of) has 16 minutes after twilight to see a 3% illuminated moon.

San Diego has 8 minutes after twilight to see a 3.4% crescent.

Baja, Mexico has 21 minutes after twilight to see a 3.3% crescent.

The further south the observer, the better chance of seeing this crescent. **It is very probable** that someone between the longitudes of Florida and San Diego will see this crescent.

October 1 (Wednesday) - Tishri 1 (Hillel says Sept. 30th)
October 10 (Friday) - Day of Atonement (Hillel says 9th)
October 15 (Wednesday) - Feast of Tabernacles (Hillel says 14th)
to October 22 (Wednesday)- The Eighth Day (Hillel says 21th)